



**Crystal Falls Forest Management Unit
Compartment Review Presentation
Compartment #193 Entry Year: 2012
Compartment Acreage: 1258 County: Iron**

Revision Date: June 15, 2010

Stand Examiner: Linda Lindberg

Legal Description: T44N, R31W Sections 4, 5, 6, 7, 8, 9 and 10

Identified Planning Goals ('Management Area' or 'RMU', if applicable): Text

Management Goals: : The management goals in this compartment include sustaining and renewing wetlands especially along creeks and the Fence River, working toward greater age class diversity in the aspen stands and moving the hardwood stands toward regulation. Maintain a good relationship with adjacent landowners to continue harvesting opportunities for the future. There must also be a focus on renewing the streams to a conifer buffer to avoid beaver infestation which is present.

Soil and Topography: Mildly rolling terrain but very spread out. There is everything from Wabeno silt loams and Pence fine sandy loams along the Fence River to Lupton– Cathro soil in the lower areas.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The State has broken ownership in this area but they are valuable, diverse parcels. Most of the surrounding land is owned by industry with a few camp owners also present.

Unique, Natural Features: McMillan and Margeson creeks are in this compartment and the Fence River makes the east boundary of the compartment.

Archeological, Historical, and Cultural Features: None known.

Special Management Designations or Considerations: None

Watershed and Fisheries Considerations: Returning McMillan and Margeson creeks to their original makeup by removing beaver dams and other setbacks.

Wildlife Habitat Considerations: Compartment 193 is in the Deerfoot Lodge deeryard, north of the Michigamme Reservoir. This area has been altered significantly in the last 30 years. Mead Paper converted large tracts of aspen/northern hardwoods to red pine or larch. International Paper, State of Michigan and private landowners have also harvested significant amounts of timber. A high priority for wildlife is the maintenance and restoration of travel corridors. Aspen old enough or large enough to benefit cavity nesters and raptors have been greatly reduced. Any existing aspen should be held if possible. If harvest takes place, care should be taken to protect the drainages, travel corridors and transition zones.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. There is insufficient data to determine the glacial drift thickness. The Precambrian Hemlock Formation, Randville Dolomite and Archean granite/gneiss subcrop below the glacial drift. The Randville is quarried for marble/stone nine miles to the south. The Michigan discovery of kimberlite was near Lake Ellen, approximately four miles to the south. The Porter and Warner abandoned iron mines are located eleven miles to the west. This compartment was previously leased for metallic exploration. The nearest gravel pit is located five miles to the southwest. There is no economic oil and gas production in the UP.

Vehicle Access: There is a fairly good road system with maintenance to access the State land but not much in the way of roads on the state land.

Survey Needs: Some corners will be needed to continue harvest operations in this fiscal year.

Recreational Facilities and Opportunities: Barring access problems, there is a great potential for hunting, fishing, hiking and several other recreational opportunities.

Fire Protection: Crystal Falls Protection Area

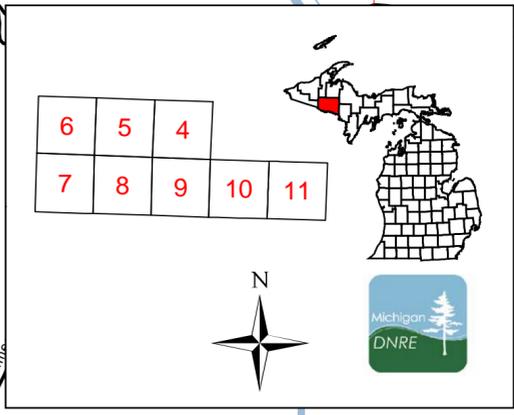
Additional Compartment Information: None

- **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**

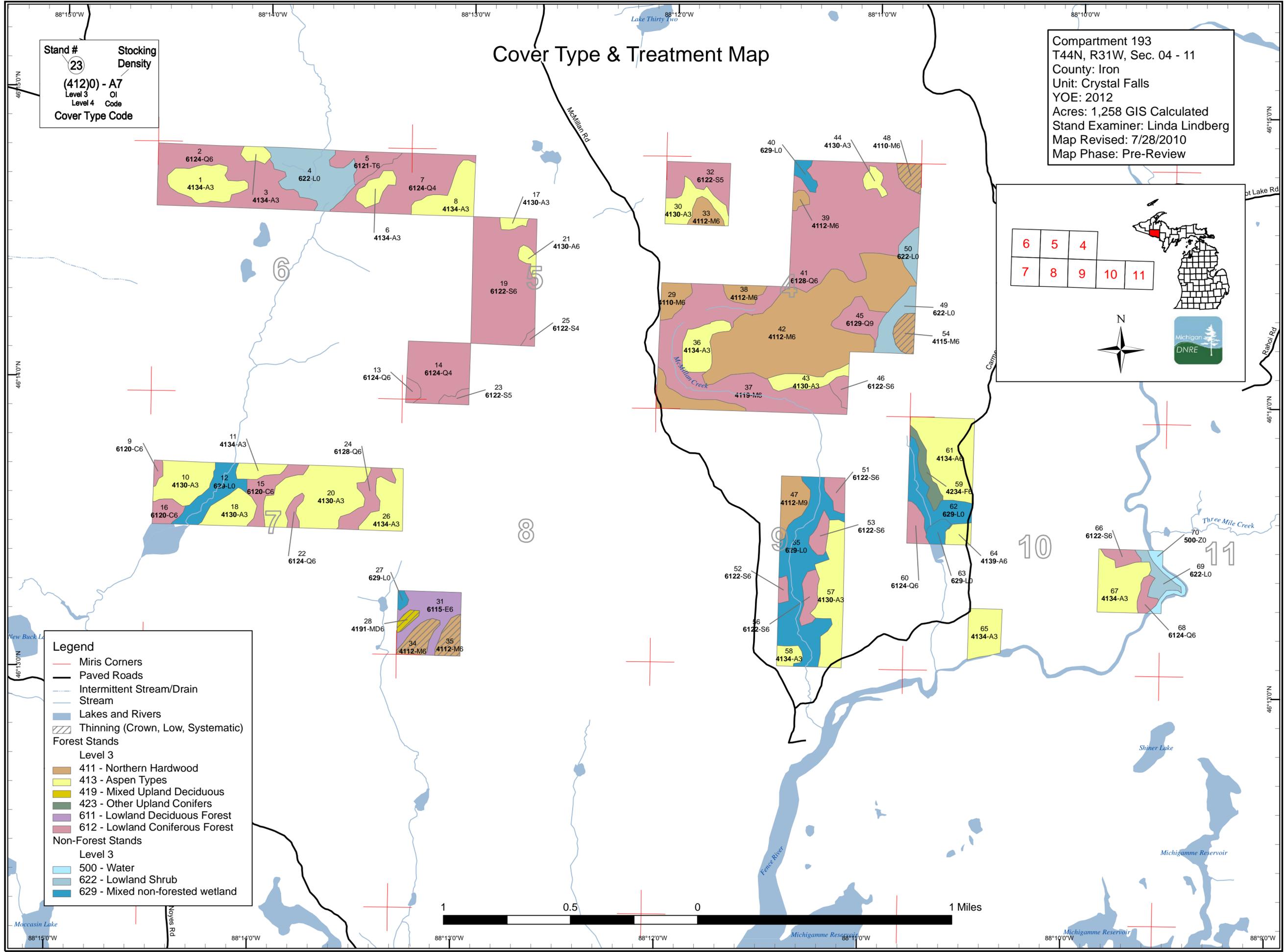
Cover Type & Treatment Map

Compartment 193
 T44N, R31W, Sec. 04 - 11
 County: Iron
 Unit: Crystal Falls
 YOE: 2012
 Acres: 1,258 GIS Calculated
 Stand Examiner: Linda Lindberg
 Map Revised: 7/28/2010
 Map Phase: Pre-Review



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

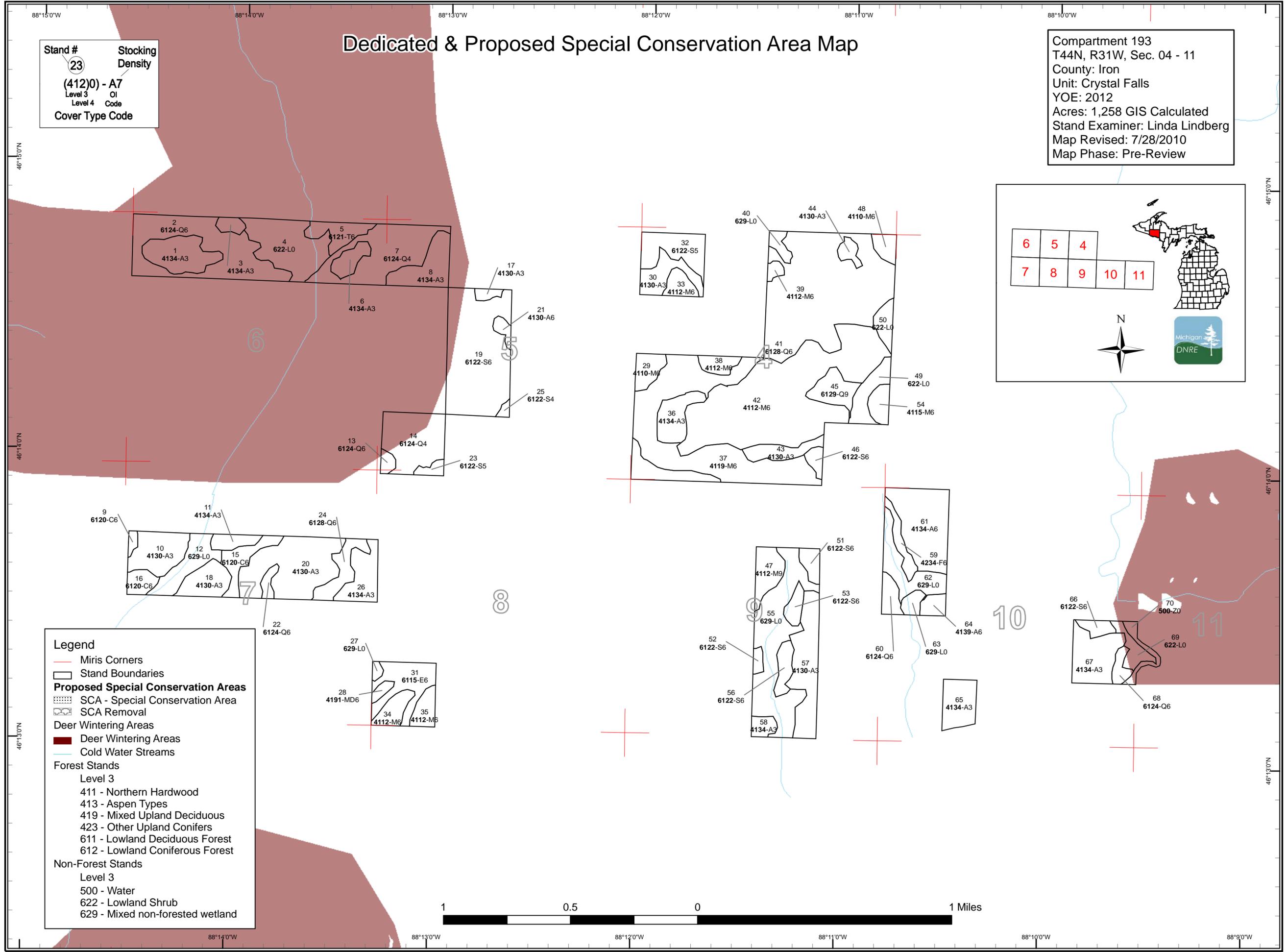
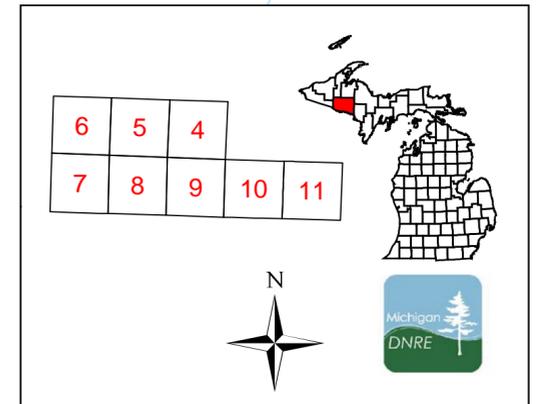
- Legend**
- Miris Corners
 - Paved Roads
 - Intermittent Stream/Drain
 - Stream
 - Lakes and Rivers
 - ▨ Thinning (Crown, Low, Systematic)
 - Forest Stands**
 - Level 3
 - 411 - Northern Hardwood
 - 413 - Aspen Types
 - 419 - Mixed Upland Deciduous
 - 423 - Other Upland Conifers
 - 611 - Lowland Deciduous Forest
 - 612 - Lowland Coniferous Forest
 - Non-Forest Stands**
 - Level 3
 - 500 - Water
 - 622 - Lowland Shrub
 - 629 - Mixed non-forested wetland



Dedicated & Proposed Special Conservation Area Map

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

Compartment 193
 T44N, R31W, Sec. 04 - 11
 County: Iron
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Legend

- Miris Corners
- Stand Boundaries
- Proposed Special Conservation Areas**
- ▨ SCA - Special Conservation Area
- ▩ SCA Removal
- Deer Wintering Areas**
- Deer Wintering Areas
- Cold Water Streams
- Forest Stands**
- Level 3
- 411 - Northern Hardwood
- 413 - Aspen Types
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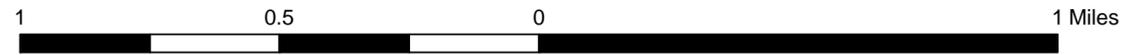


Table 1 – Total Acres by Cover Type and Age Class



	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	40	198	38	0	39	0	0	5	0	3	0	0	0	0	324
Cedar	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	20
Lowland Conifers	0	0	0	0	0	0	0	0	0	359	13	0	0	0	0	372
Lowland Deciduous	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	20
Lowland Shrub	161	0	0	0	0	0	0	0	0	0	0	0	0	0	0	161
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	13	110	4	0	0	0	0	127
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
Northern Hardwood	0	0	0	0	0	0	0	7	70	131	0	0	0	0	0	208
Tamarack	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	12
Upland Spruce/Fir	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7
Water	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	166	40	198	38	0	39	0	7	92	658	20	0	0	0	0	1258



Table 2 – Proposed Treatment Summaries

Crystal Falls Mgt. Unit
Year of Entry 2012

Compartment 193
Total Compartment Acres: 1258

Acres by Treatment Type

Commercial Harvest - 31	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
Mixed Upland Deciduous	0	0	0	0	3	0		3
Northern Hardwood	0	0	0	0	29	0		29
Total	0	0	0	0	31	0		31



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
28	12193028-Cut	2.5	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	75	Harvest	Crown Thinning	Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal

Prescription Thin stand from 70-90 Basal Area leaving diversity and best tree in place. Thin around crop trees according to specs and consider wildlife trees
Specs: where appropriate.

Other
Comments:

Next
Steps:

34	12193034-Cut	8.4	4112 - Maple, Beech, Cherry Association	High Density Pole	75	Harvest	Crown Thinning	Maple, Beech, Cherry Association	Cmpt. Review Proposal
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Prescription Thin stand from 70-90 Basal Area leaving diversity and best tree in place. Thin around crop trees according to specs and consider wildlife trees
Specs: where appropriate.

Other
Comments:

Next
Steps:

35	12193035-Cut	7.6	4112 - Maple, Beech, Cherry Association	High Density Pole	75	Harvest	Crown Thinning	Maple, Beech, Cherry Association	Cmpt. Review Proposal
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Prescription Thin stand from 70-90 Basal area leaving diversity and best tree in place. Thin around crop trees according to specs, and consider wildlife trees
Specs: where appropriate.

Other
Comments:

Next
Steps:

48	12193048-Cut	5.7	4110 - Sugar Maple Association	High Density Pole	70	Harvest	Crown Thinning	Sugar Maple Association	Cmpt. Review Proposal
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Prescription Thin stand from 70-90 Basal area leaving diversity and best tree in place. Thin around crop trees according to specs. Consider wildlife trees
Specs: where appropriate.

Other
Comments:

Next
Steps:

54	12193054-Cut	7.0	4115 - Y.Birch, Hemlock NH	High Density Pole	70	Harvest	Crown Thinning	Y.Birch, Hemlock NH	Cmpt. Review Proposal
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Prescription Thin stands from 70-90 Basal Area leaving diversity and best tree in place. Thin around crop trees according to specs. Consider wildlife trees
Specs: where appropriate.

Other
Comments:

Next
Steps:

**Total Treatment
Acreage Proposed: 31.2**

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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: 193	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012	
1	4134 - Aspen, Spruce/Fir	High Density Sapling	21.1	14			
2	6124 - Lowland Spruce-Fir	High Density Pole	54.4	85			
3	4134 - Aspen, Spruce/Fir	High Density Sapling	3.9	14			
5	6121 - Tamarack	High Density Pole	11.6	85			
6	4134 - Aspen, Spruce/Fir	High Density Sapling	7.7	17			
7	6124 - Lowland Spruce-Fir	Low Density Pole	41.3	85	51-80		
8	4134 - Aspen, Spruce/Fir	High Density Sapling	19.3	14			
9	6120 - Lowland Cedar	High Density Pole	1.9	85			
10	4130 - Aspen	High Density Sapling	20.5	17			
11	4134 - Aspen, Spruce/Fir	High Density Sapling	6.4	17			
13	6124 - Lowland Spruce-Fir	High Density Pole	2.9	85			
14	6124 - Lowland Spruce-Fir	Low Density Pole	32.7	86	81-110		this does go to less volume as you go farther into the stand
15	6120 - Lowland Cedar	High Density Pole	11.6	85			
16	6120 - Lowland Cedar	High Density Pole	6.5	86			
17	4130 - Aspen	High Density Sapling	2.7	17			
18	4130 - Aspen	High Density Sapling	14.1	17			
19	6122 - Black Spruce	High Density Pole	73.4	85			
20	4130 - Aspen	High Density Sapling	47.5	17			The spots where the aspen was cut regenerated well. The spots that were clearcut into the swamp have little to no regeneration.



S t a n d	Crystal Falls Mgt. Unit		5 – Forested Stands			Compartment: 193	Michigan DNRE
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012	
						General Comments:	
21	4130 - Aspen	High Density Pole	3.2	90			
22	6124 - Lowland Spruce- Fir	High Density Pole	3.4	85			
23	6122 - Black Spruce	Medium Density Pole	3.2	85			
24	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	12.2	85			
25	6122 - Black Spruce	Low Density Pole	1.5	85			
26	4134 - Aspen, Spruce/Fir	High Density Sapling	16.6	17			
28	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	2.5	75	111-140		
29	4110 - Sugar Maple Association	High Density Pole	8.6	70	81-110	Aspen inclusion cut at the same time as stand 35	
30	4130 - Aspen	High Density Sapling	13.4	25			
31	6115 - Lowland Ash	High Density Pole	20.3	85	81-110		
32	6122 - Black Spruce	Medium Density Pole	19.7	85			
33	4112 - Maple, Beech, Cherry Association	High Density Pole	6.7	60			
34	4112 - Maple, Beech, Cherry Association	High Density Pole	8.4	75	111-140		
35	4112 - Maple, Beech, Cherry Association	High Density Pole	7.6	75	111-140		
36	4134 - Aspen, Spruce/Fir	High Density Sapling	14.6	22			
37	4119 - Mixed Northern Hardwoods	High Density Pole	12.2	70	81-110	One little sprig of Canada Yew in this stand	
38	4112 - Maple, Beech, Cherry Association	High Density Pole	6.3	75			
39	4112 - Maple, Beech, Cherry Association	High Density Pole	2.5	70	81-110	This stand can probably be cut with stand 29 in 10 years	

Stand	Crystal Falls Mgt. Unit		5 – Forested Stands			Compartment: 193	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Inventory Method: IFMAP	
41	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	200.6	85			
42	4112 - Maple, Beech, Cherry Association	High Density Pole	130.6	80			
43	4130 - Aspen	High Density Sapling	10.1	26			
44	4130 - Aspen	High Density Sapling	4.2	6			
45	6129 - Mixed Coniferous Lowland Forest	High Density Log	12.5	90	81-110		
46	6122 - Black Spruce	High Density Pole	3.9	90			
47	4112 - Maple, Beech, Cherry Association	High Density Log	12.3	70			
48	4110 - Sugar Maple Association	High Density Pole	5.7	70	111-140	There are rocks and this is small but can be cut with stand 31 to the south	
51	6122 - Black Spruce	High Density Pole	5.6	75			
52	6122 - Black Spruce	High Density Pole	2.5	75			
53	6122 - Black Spruce	High Density Pole	5.4	76			
54	4115 - Y.Birch, Hemlock NH	High Density Pole	7.0	70	111-140	Variable cut can be cut and it is rocky to the north	
56	6122 - Black Spruce	High Density Pole	7.2	80			
57	4130 - Aspen	High Density Sapling	31.5	6			
58	4134 - Aspen, Spruce/Fir	High Density Sapling	4.7	6			
59	42340 - Upland Spruce/Fir	High Density Pole	7.2	80			
60	6124 - Lowland Spruce-Fir	High Density Pole	6.6	85	51-80		
61	4134 - Aspen, Spruce/Fir	High Density Pole	38.9	40			



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Crystal Falls Mgt. Unit

5 – Forested Stands

Compartment: 193

Inventory Method: IFMAP

Year of Entry: 2012



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
64	4139 - Aspen, Mixed Deciduous	High Density Pole	5.1	75	81-110	
65	4134 - Aspen, Spruce/Fir	High Density Sapling	15.8	17		Everything was cut here...upland, lowland and down to the river
66	6122 - Black Spruce	High Density Pole	4.6	85		
67	4134 - Aspen, Spruce/Fir	High Density Sapling	22.9	14		Lots of conifers mixed in.
68	6124 - Lowland Spruce- Fir	High Density Pole	4.7	80		



Stand	Cover Type	Acres	Gen Cmts:
4	6220 - Alder/willow	35.5	
12	629 - Mixed non-forested wetland	16.6	Lowland and creek
27	629 - Mixed non-forested wetland	1.6	This is the bog from the creek to the west of this 40 acres
40	629 - Mixed non-forested wetland	4.2	There is a little water left but most has dried up
49	6229 - Mixed lowland shrub	12.1	
50	6229 - Mixed lowland shrub	6.8	
55	629 - Mixed non-forested wetland	53.4	McMillan Creek and floodplain
62	629 - Mixed non-forested wetland	18.9	there is a creek and a culvert and road across this creek and wetland
63	629 - Mixed non-forested wetland	4.3	Most water has dried up
69	6229 - Mixed lowland shrub	7.3	Buffer along Fence River
70	50 - Water	5.4	The Fence River



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	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.