



**Crystal Falls Forest Management Unit
Compartment Review Presentation
Compartment #191 Entry Year: 2013
Compartment Acreage: 1421 (GIS acres) County: Iron**

Revision Date: 6/20/2011

Stand Examiner: Linda Lindberg

Legal Description: T45N, R31W, Sections 27, 28, 32 and 34

RMU (if applicable):

Management Goals: In this compartment we would continue to work toward producing timber, managing for age class diversity in aspen and maintaining the hardwood type by harvesting sustainably every 20 years. Buffering the creeks, rivers and lake 32 and ponds with good is good for both wildlife travel and the wetlands themselves.

Soil and Topography: This compartment consists of very dark gray silt loam, fine sandy loam, with some black muck depressions. The topography varies but is rolling hills with some fairly flat areas and some steep areas as well.

Ownership Patterns, Development, and Land Use in and Around the Compartment: We have separate but large areas of ownership. Plum Creek and GMO with an occasional private ownership with a camp are mixed within the area.

Unique, Natural Features: Rock Dam is a secluded and somewhat accessible with an amount of walking required but worth the walk to a rock island in the Fence river. Our Bates Lake Special Area is across the river from this location.

Archeological, Historical, and Cultural Features: None

Special Management Designations or Considerations: None

Watershed and Fisheries Considerations: Text

Wildlife Habitat Considerations: This compartment includes core portions of the Deerfoot Lodge Deeryard. Lowland and upland conifer types are critical to the integrity of this complex and should be protected and enhanced. Riparian zones along the rivers and wetlands, in this compartment, provide mature forest characteristics for those wildlife species that have this life requisite and support a wide variety of

wildlife species. Over 96% of the aspen in this compartment is under 30 years old. This area is most popular for the hunting opportunities that it offers for deer, bear, grouse and woodcock.

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 Michigamme and Hemlock Formations, Randville Dolomite and Archean granite/gneiss subcrop below the glacial drift. The Randville is quarried for marble/stone eleven miles to the south. The Michigan discovery of kimberlite was near Lake Ellen, approximately six miles to the south. The Porter and Warner abandoned iron mines are located nine miles to the west. Some of the area around this compartment was previously leased for metallic exploration and potential may still exist. The nearest gravel pit is located four miles to the north. Gravel potential may be limited in the compartment. There is no economic oil and gas production in the UP.

Vehicle Access: The Deerfoot Lodge road is the access to this compartment and the MacMillan and Carmeen roads are the access roads to the two larger parcels to the south.

Survey Needs: One corner will need to be added in section 28.

Recreational Facilities and Opportunities: None

Fire Protection: Fair fire protection although it was a little hard to access a few years ago when there was a fire west of section 28.

Additional Compartment Information: Text

➤ **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:**

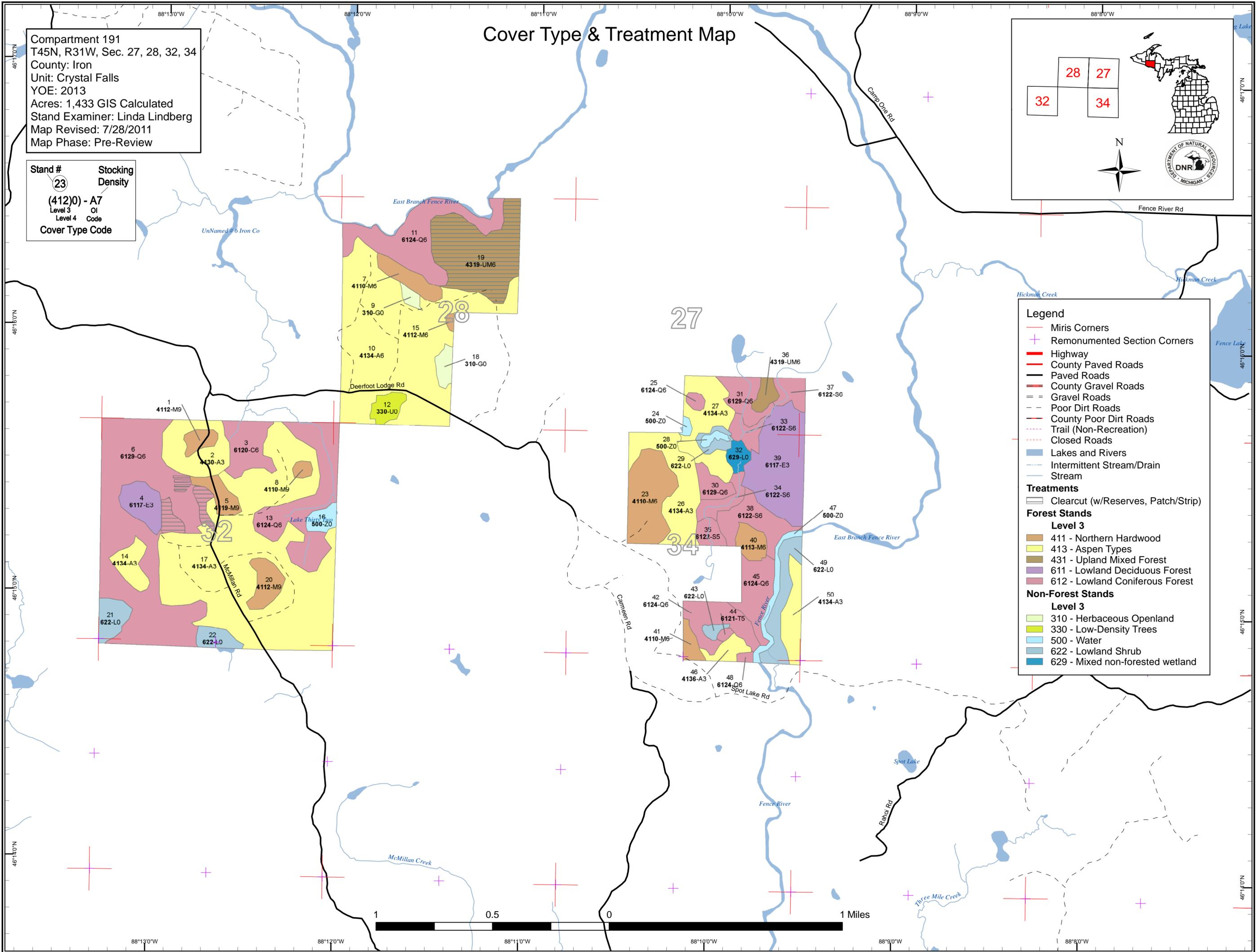
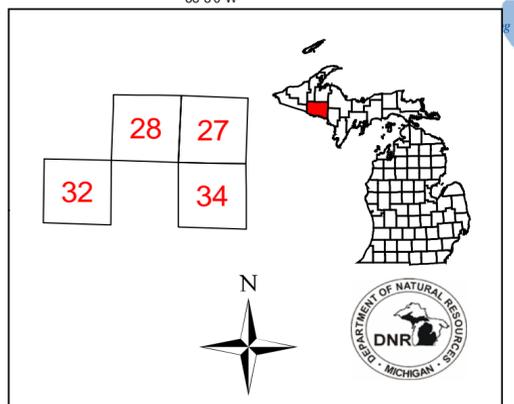
- ◆ **Base feature information, stand boundaries, cover types, and numbers**
- ◆ **Proposed treatments**
- ◆ **Details on the road access system**



Cover Type & Treatment Map

Compartment 191
 T45N, R31W, Sec. 27, 28, 32, 34
 County: Iron
 Unit: Crystal Falls
 YOE: 2013
 Acres: 1,433 GIS Calculated
 Stand Examiner: Linda Lindberg
 Map Revised: 7/28/2011
 Map Phase: Pre-Review

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



Legend

- Miris Corners
- Remonumented Section Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Lakes and Rivers
- Intermittent Stream/Drain
- Stream

Treatments

- Clearcut (w/Reserves, Patch/Strip)

Forest Stands

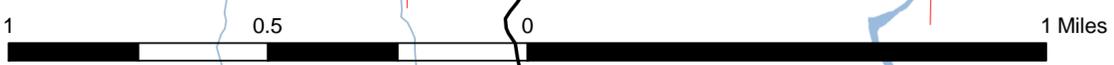
Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest

Non-Forest Stands

Level 3

- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 629 - Mixed non-forested wetland



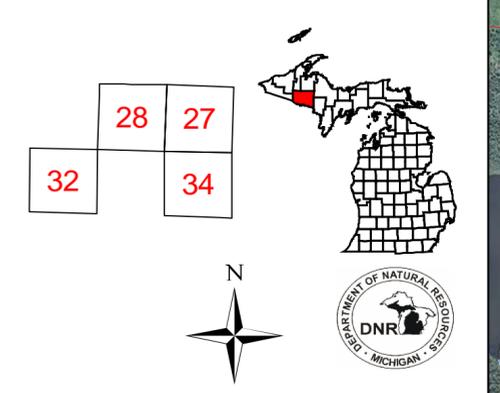
88°13'0"W 88°12'0"W 88°11'0"W 88°10'0"W 88°9'0"W 88°8'0"W

46°14'0"N 46°13'0"N 46°12'0"N 46°11'0"N 46°10'0"N 46°9'0"N

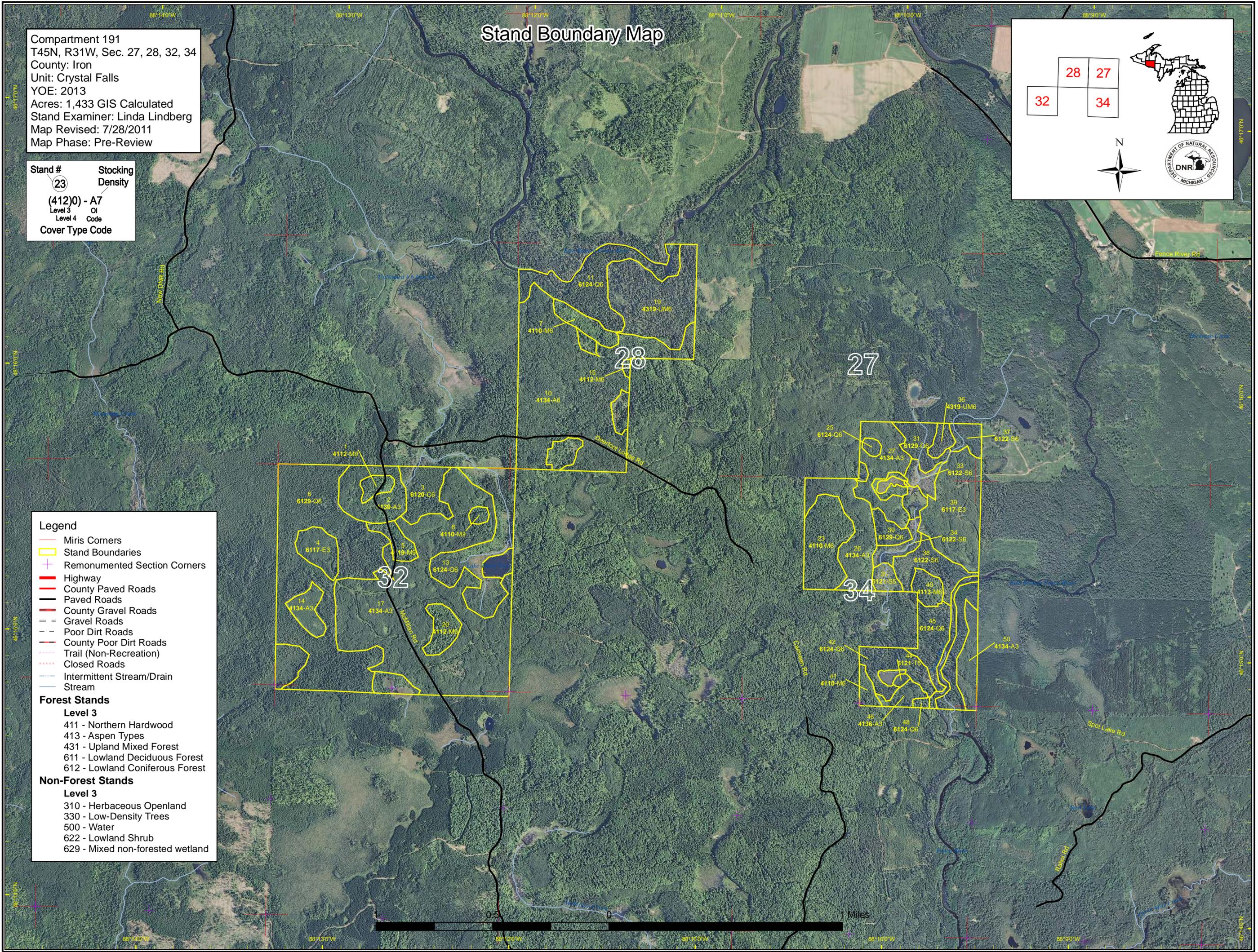
Stand Boundary Map

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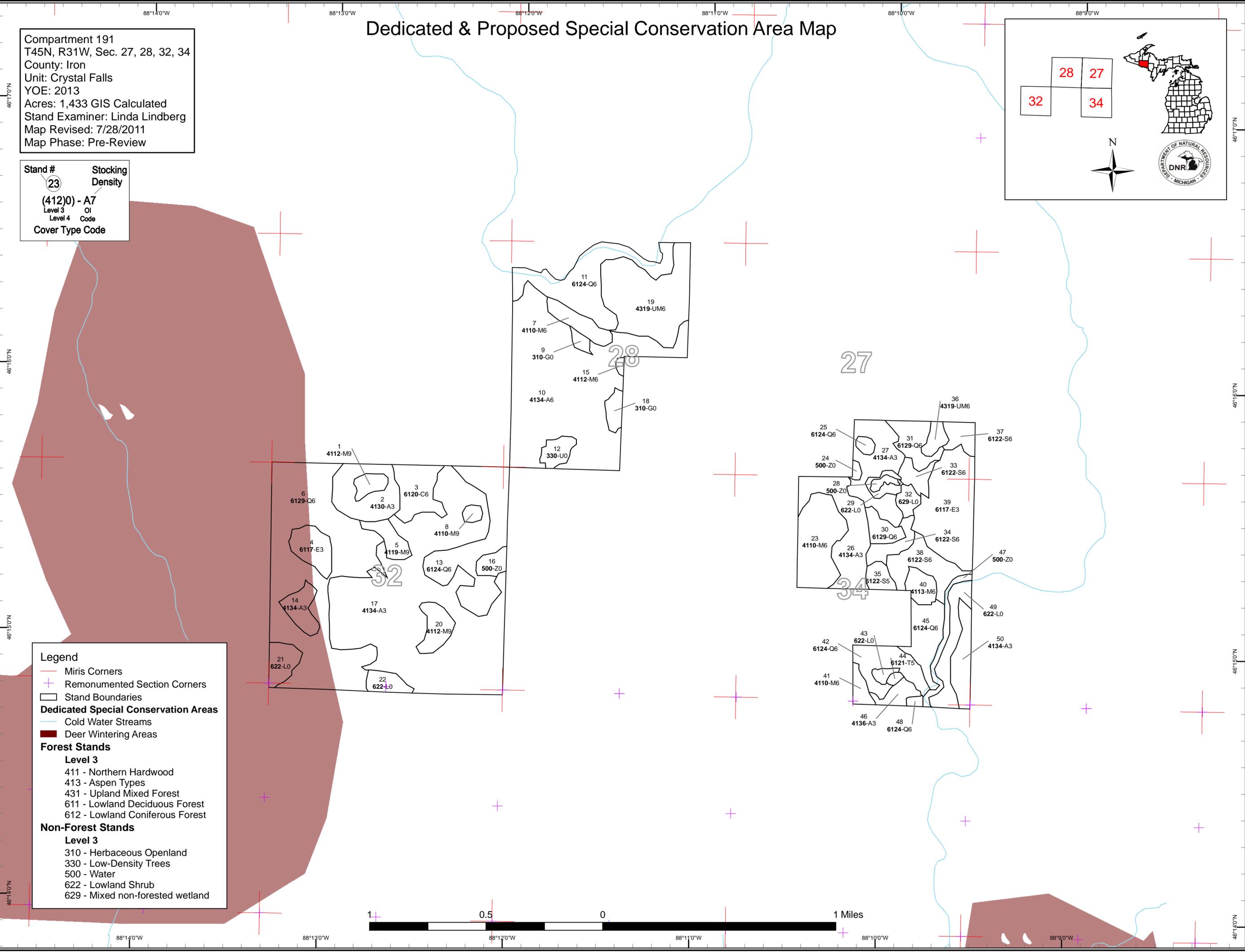
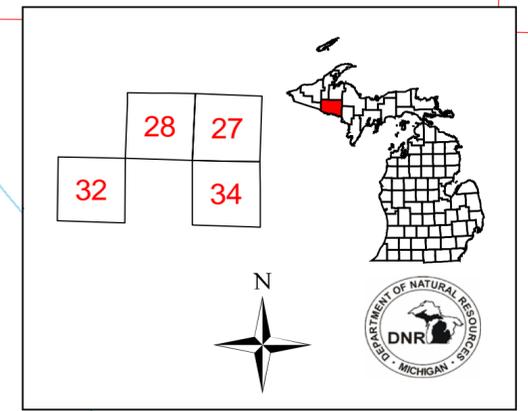
- Legend**
- Miris Corners
 - Stand Boundaries
 - + Remonumented Section Corners
 - Highway
 - County Paved Roads
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Dedicated & Proposed Special Conservation Area Map

Compartment 191
 T45N, R31W, Sec. 27, 28, 32, 34
 County: Iron
 Unit: Crystal Falls
 YOE: 2013
 Acres: 1,433 GIS Calculated
 Stand Examiner: Linda Lindberg
 Map Revised: 7/28/2011
 Map Phase: Pre-Review

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



- Legend**
- Miris Corners
 - ⊕ Remonumented Section Corners
 - ▭ Stand Boundaries
 - Dedicated Special Conservation Areas**
 - Cold Water Streams
 - Deer Wintering Areas
 - Forest Stands**
 - Level 3**
 - 411 - Northern Hardwood
 - 413 - Aspen Types
 - 431 - Upland Mixed Forest
 - 611 - Lowland Deciduous Forest
 - 612 - Lowland Coniferous Forest
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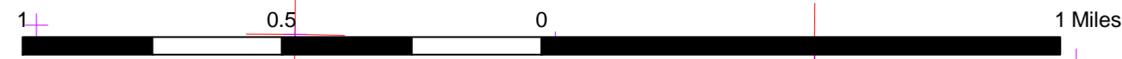


Table 1 – Total Acres by Cover Type and Age Class

Linda Lindberg : Examiner



	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 +		Unretn Age
Aspen	0	14	8	382	192	0	0	0	0	0	0	0	0	0	0	596
Cedar	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	25
Herbaceous Openland	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Low-Density Trees	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Lowland Conifers	0	0	0	0	0	0	0	3	0	52	85	0	0	0	232	373
Lowland Deciduous	0	0	64	18	0	0	0	0	0	0	0	0	0	0	0	81
Lowland Shrub	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	64	0	0	0	0	0	64
Northern Hardwood	0	0	0	0	0	0	3	34	0	74	0	0	0	0	0	111
Tamarack	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Upland Mixed Forest	0	0	0	0	0	73	0	0	0	0	7	0	0	0	0	80
Water	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
Total	102	14	72	401	192	73	3	37	0	190	92	25	0	0	232	1433



Table 2 – Proposed Treatment Summaries

Crystal Falls Mgt. Unit
Year of Entry 2013

Compartment 191
Total Compartment Acres: 1433

Acres by Treatment Type

Commercial Harvest - 87	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
Lowland Conifers	14	0	0	0	0	0	0	14
Upland Mixed Forest	73	0	0	0	0	0	0	73
Total	87	0	0	0	0	0	0	87



Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
6	12191006-CutN	1.6	6129 - Mixed Coniferous Lowland Forest	High Density Pole	86	Harvest	Patch or Strip Clearcut	6122 - Black Spruce	Cmpt. Review Proposal
<p><u>Prescription:</u> Cut east /west strips about a chain apart. Cut all species in designated strips. <u>Specs:</u></p> <p><u>Other Comments:</u> This is a patch of solid black spruce so a strip cut is prescribed. <u>Next Steps:</u> Monitor regeneration of black spruce and balsam per work instructions.</p>									
6	12191006-CutSE	5.7	6129 - Mixed Coniferous Lowland Forest	High Density Pole	86	Harvest	Clearcut with Reserves	6124 - Lowland Spruce-Fir	Cmpt. Review Proposal
<p><u>Prescription:</u> Cut all species except cherry, elm, cedar, hemlock, red and white pine. Cut all spruce and balsam that is greater than 6 inches at a 4 inch stump. <u>Specs:</u></p> <p><u>Other Comments:</u> There is red maple regeneration that is 6 feet high throughout this stand. <u>Next Steps:</u> Monitor regeneration according to work instructions. Red Maple and black spruce is acceptable regeneration.</p>									
6	12191006-CutSW	6.3	6129 - Mixed Coniferous Lowland Forest	High Density Pole	86	Harvest	Clearcut with Reserves	6112 - Lowland Aspen	Cmpt. Review Proposal
<p><u>Prescription:</u> Cut all species except cherry, elm, hemlock, cedar, red and white pine. Cut all spruce and balsam greater than 6 inches at a 4 inch stump. <u>Specs:</u></p> <p><u>Other Comments:</u> This has more aspen and will regenerate to that. <u>Next Steps:</u> Monitor regeneration per work instructions. Aspen and mixed conifer is acceptable regeneration.</p>									
19	12191019-Cut	73.0	4319 - Mixed Upland Forest	High Density Pole	49	Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal
<p><u>Prescription:</u> Clearcut this stand leaving all red and white pine, hemlock, cedar if present and also leave all spruce and balsam that is 8 inches in diameter at 4 inches above the stump. This will enhance regen in the areas where more conifers are present. Do not cut low, wet areas and leave a buffer where necessary which can be used for retention. Also, all oak, cherry and elm should be left. <u>Specs:</u></p> <p><u>Other Comments:</u> <u>Next Steps:</u> Monitor regeneration .</p>									
Total Treatment Acreage Proposed:		86.6							

Table 4 -- Treatments Prescribed with a Limiting Factor



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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

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

Year of Entry: 2013



Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
12060_OutOfYOE-Cut	6.0				Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription: Clearcut 2" dbh and above except cedar, hemlock and pine if present.

Specs:

Other:

Comments:

Next

Steps:

**Total Treatment
Acreage Proposed: 6.0**



Stand	Crystal Falls Mgt. Unit			5 – Forested Stands		Compartment: 191 Year of Entry: 2013
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4112 - Maple, Beech, Cherry Association	High Density Log	7.3	65	51-80	
2	4130 - Aspen	High Density Sapling	32.9	23		
3	6120 - Lowland Cedar	High Density Pole	25.1	104	81-110	
4	6117 - Lowland Deciduous, Mixed Coniferous	High Density Sapling	17.5	21		
5	4119 - Mixed Northern Hardwoods	High Density Log	11.0	65		
6	6129 - Mixed Coniferous Lowland Forest	High Density Pole	170.8	Uneven Age	81-110	
7	4110 - Sugar Maple Association	High Density Pole	13.7	85	81-110	
8	4110 - Sugar Maple Association	High Density Log	3.4	55	111-140	
10	4134 - Aspen, Spruce/Fir	High Density Pole	191.7	30		
11	6124 - Lowland Spruce- Fir	High Density Pole	58.2	99	51-80	
13	6124 - Lowland Spruce- Fir	High Density Pole	61.2	Uneven Age		
14	4134 - Aspen, Spruce/Fir	High Density Sapling	13.5	6		
15	4112 - Maple, Beech, Cherry Association	High Density Pole	1.4	64	51-80	
17	4134 - Aspen, Spruce/Fir	High Density Sapling	248.7	23		
19	4319 - Mixed Upland Forest	High Density Pole	73.0	49	81-110	
20	4112 - Maple, Beech, Cherry Association	High Density Log	14.4	65	81-110	
23	4110 - Sugar Maple Association	High Density Pole	43.0	85		
25	6124 - Lowland Spruce- Fir	High Density Pole	3.2	66	81-110	



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
26	4134 - Aspen, Spruce/Fir	High Density Sapling	44.5	22		
27	4134 - Aspen, Spruce/Fir	High Density Sapling	37.2	22		
30	6129 - Mixed Coniferous Lowland Forest	High Density Pole	10.1	93	51-80	
31	6129 - Mixed Coniferous Lowland Forest	High Density Pole	17.1	94	51-80	
33	6122 - Black Spruce	High Density Pole	9.2	86	51-80	
34	6122 - Black Spruce	High Density Pole	10.9	86		There is a creek running through here and the conifers are the buffer
35	6122 - Black Spruce	Medium Density Pole	7.8	86		
36	4319 - Mixed Upland Forest	High Density Pole	6.7	95	111-140	
37	6122 - Black Spruce	High Density Pole	10.1	86		
38	6122 - Black Spruce	High Density Pole	25.9	86	51-80	
39	6117 - Lowland Deciduous, Mixed Coniferous	High Density Sapling	63.8	14		
40	4113 - R.Maple, Conifer	High Density Pole	10.4	85		
41	4110 - Sugar Maple Association	High Density Pole	6.5	85	81-110	
42	6124 - Lowland Spruce-Fir	High Density Pole	25.5	86	51-80	
44	6121 - Tamarack	Medium Density Pole	1.8	25		
45	6124 - Lowland Spruce-Fir	High Density Pole	24.8	85		
46	4136 - Aspen, Mixed Conifer	High Density Sapling	8.5	14		Nice white pine left
48	6124 - Lowland Spruce-Fir	High Density Pole	1.9	86		

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Crystal Falls Mgt. Unit

5 – Forested Stands

Compartment: 191
Year of Entry: 2013



S t a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
50	4134 - Aspen, Spruce/Fir	High Density Sapling	18.8	26		



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
9	3102 - Grass	3.5	No	Unspecified	
12	3301 - Low Density Deciduous Tree	9.4	No	Unspecified	this was part of a clearcut (stand 10) but it did not regenerate probably conifers in the aspen stand
16	50 - Water	7.8	No	Unspecified	Lake 32
18	3102 - Grass	6.9	No	Unspecified	opening with some scattered trees
21	6229 - Mixed lowland shrub	12.8	No	Unspecified	
22	6229 - Mixed lowland shrub	9.3	No	Unspecified	this was cut and did not regenerate and there is water in the stand also.
24	50 - Water	1.8	No	Unspecified	beaver pond
28	50 - Water	2.9	Yes	Low (NonForested)	beaver pond part of creek
29	6220 - Alder/willow	5.5	No	Unspecified	
32	629 - Mixed non-forested wetland	6.6	No	Unspecified	
43	6220 - Alder/willow	3.1	No	Unspecified	
47	50 - Water	9.9	No	Unspecified	East Branch of the Fence River
49	6220 - Alder/willow	22.3	No	Unspecified	



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



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.