

# Crystal Falls Forest Management Unit Compartment Review Presentation

Compartment # 115 Entry Year: 2014

Compartment Acreage: 1511 (GIS calculated) County: Iron

**Revision Date:** 05/04/12

**Stand Examiner:** Ed Rice

**Legal Description:** T44N R 31W Sections 13, 14, 15, 24

**RMU** (if applicable):

**Management Goals:** Optimize sustainable timber production while enhancing and protecting wildlife habitat. Continue to sustainably balance the aspen age class acres. Get the hardwood stands on a 20 year alternating cutting cycle towards regulation. Protect the riparian areas and transition zones during management activity.

**Soil and Topography:** Soils are generally fine sandy loams areas of muck soils in the low ground areas. The topography ranges from fairly steep rolling to flat and low swamp land.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The west side of the compartment is broken in state ownership. The remainder is contiguous state ownership. Large blocks of private ownership border the compartment. Active forest management has occurred and will continue within and surrounding the compartment. Deer hunting by far dominates the recreational use patterns.

Unique, Natural Features: None identified

Archeological, Historical, and Cultural Features: None identified

Special Management Designations or Considerations: None identified

**Watershed and Fisheries Considerations:** The compartment is near but not immediately adjacent to the Michigamme River (Way Dam) backwaters. Crescent Pond Outlet cuts through the extreme Northeast part of the compartment.

**Wildlife Habitat Considerations:** Deer numbers are fair in the area. Wolves also use the compartment and the surrounding area. Only a small portion in the west end of the compartment falls within the identified 1977 deer wintering area. However, the entire compartment is heavily utilized as a deer wintering area as evidenced by actual observed winter deer use. Upland conifers should be promoted and lowland conifer stands should be maintained and enhanced to continue providing good winter cover.

### Mineral Resource and Development Concerns and/or Restrictions:

**Vehicle Access:** Good access overall. The west blocks are limited in access due to private land but still remain open to use. Access is severely limited during spring breakup.

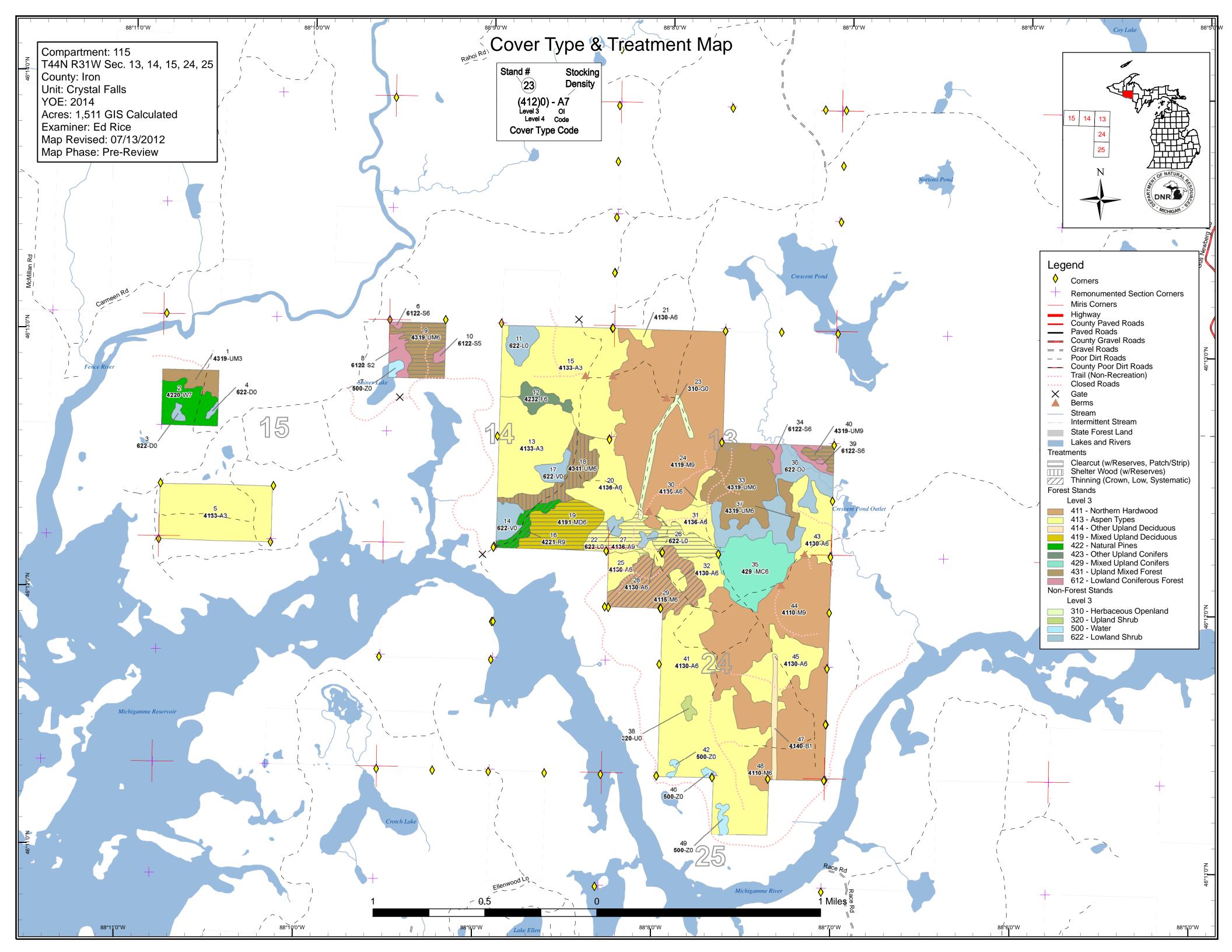
**Survey Needs:** Corners are needed in sections 13, 14, and 24

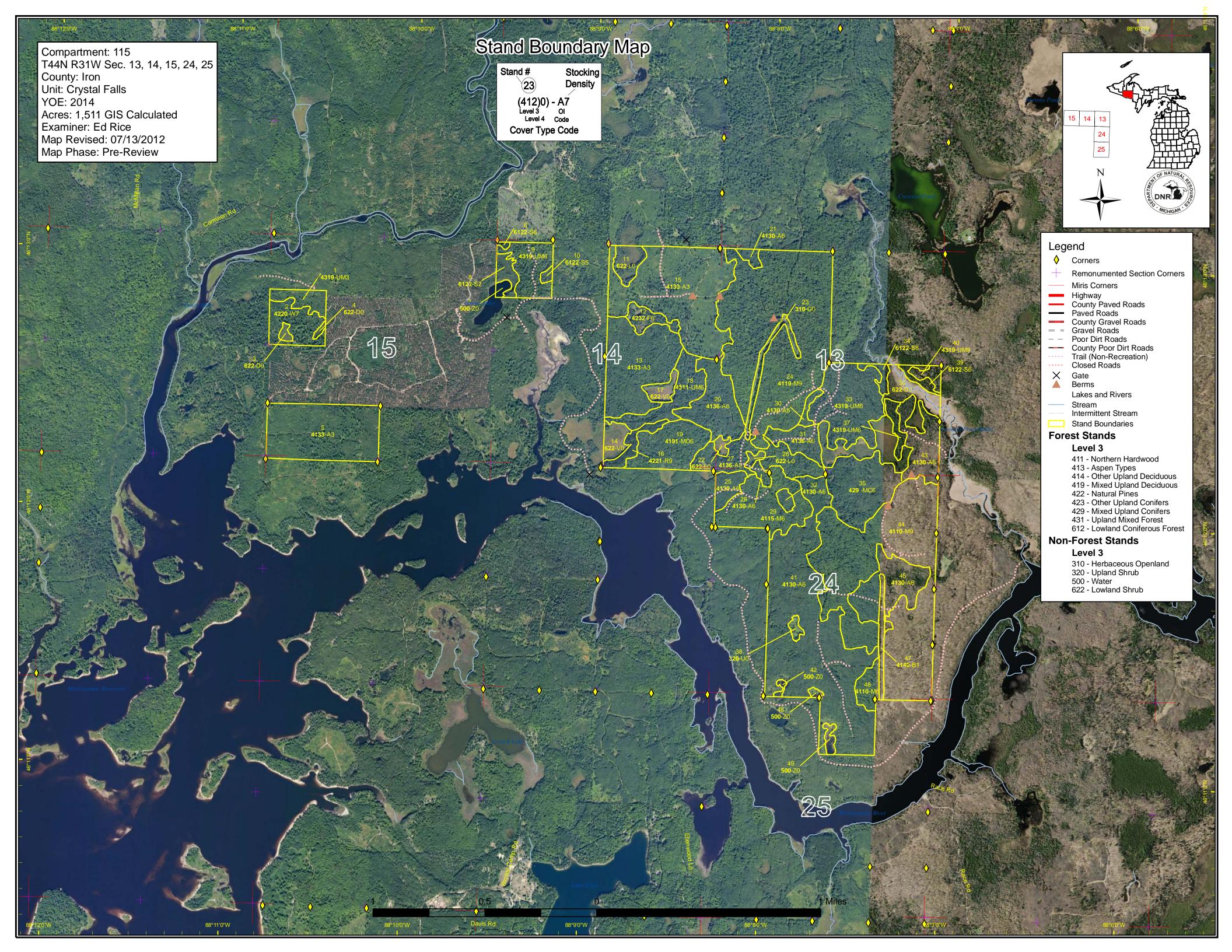
Recreational Facilities and Opportunities: None

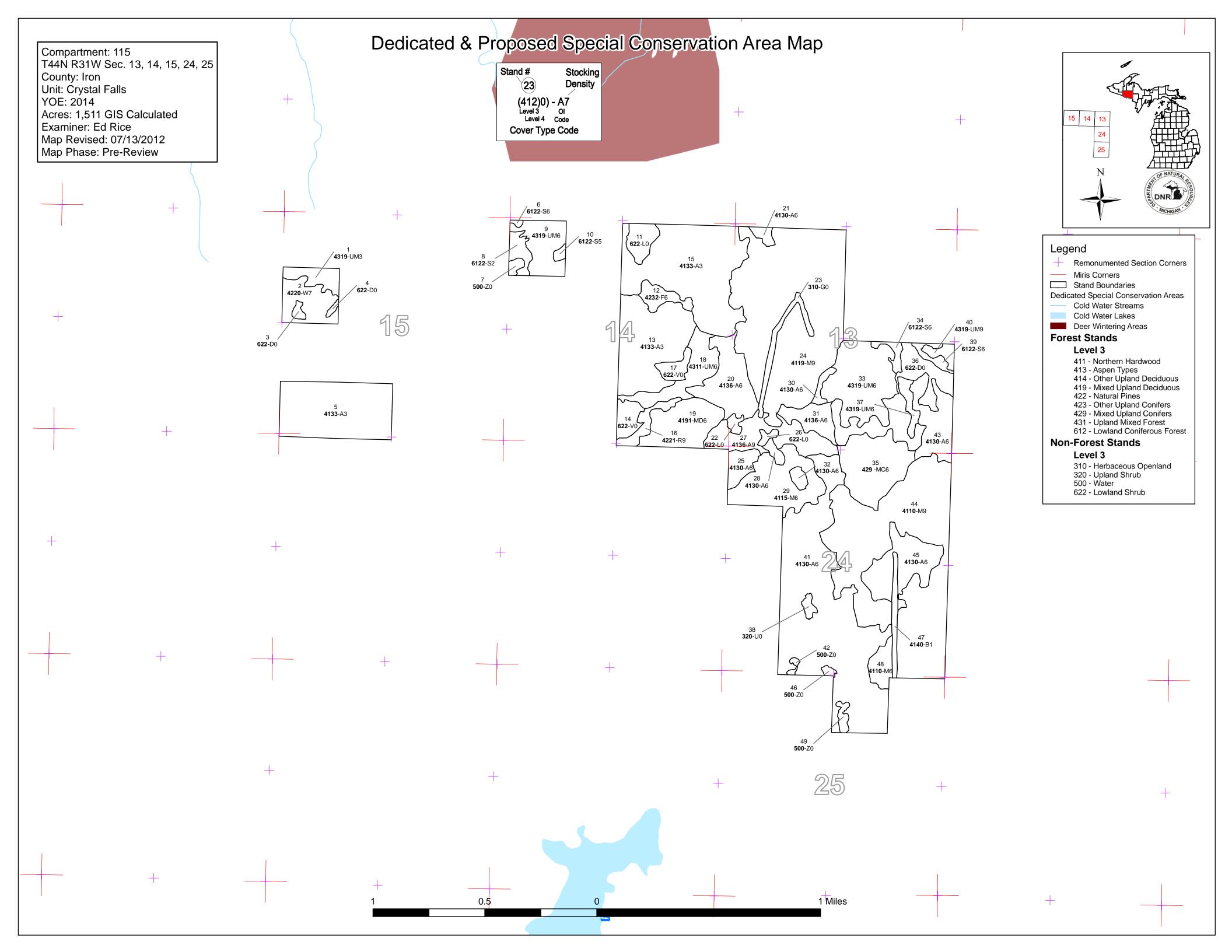
**Fire Protection:** Much of the compartment is composed of aspen timber types with balsam fir and hazel understory. Northern hardwoods and mixed upland conifers also predominate. Access for fire suppression is excellent overall. There are multiple private camps immediately adjacent to the compartment.

## **Additional Compartment Information:**

- **➤** 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







Compartment 115 Year of Entry 2014

Crystal Falls Mgt. Unit

Ed Rice : Examiner



						Age	Class									
		6.0	0.79	, c. ,		AD PO	\$5.0g	89.09	S. jo	\$ 6.	85.7	00,00	70,70	, ex / 3"	8 / A	
Aspen	112	80	263	22	85	44	38	0	0	0	0	0	0	0	642	ĺ
Bog	18	0	0	0	0	0	0	0	0	0	0	0	0	0	18	ĺ
Herbaceous Openland	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11	ĺ
Lowland Shrub	17	0	0	0	0	0	0	0	0	0	0	0	0	0	17	ĺ
Lowland Spruce/Fir	0	0	0	0	0	18	0	2	0	0	0	0	0	0	20	ĺ
Mixed Upland Deciduous	0	0	0	0	0	0	0	37	0	0	0	0	0	0	37	ĺ
Northern Hardwood	0	0	0	0	0	0	0	463	0	0	0	0	0	0	463	ĺ
Paper Birch	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8	ĺ
Red Pine	0	0	0	0	0	0	0	9	0	0	0	0	0	0	9	ĺ
Treed Bog	52	0	0	0	0	0	0	0	0	0	0	0	0	0	52	ĺ
Upland Conifers	0	0	0	0	50	0	0	0	0	0	0	0	0	0	50	ĺ
Upland Mixed Forest	0	12	0	0	0	59	7	60	0	0	0	0	0	0	138	ĺ
Upland Shrub	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	ĺ
Upland Spruce/Fir	0	0	0	0	0	0	10	0	0	0	0	0	0	0	10	ĺ
Water	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9	ĺ
White Pine	0	0	0	0	0	0	0	0	0	24	0	0	0	0	24	ĺ
Total	221	100	263	22	134	121	55	571	0	24	0	0	0	0	1511	



## **Table 2 – Proposed Treatment Summaries**

Crystal Falls Mgt. Unit

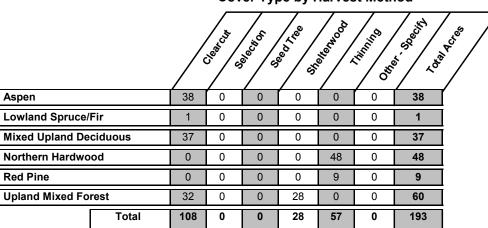
Compartment 115 Year of Entry 2014 **Total Compartment Acres: 1511** 

**Acres by Treatment Type** 

Commercial Harvest - 193 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**



Crystal Falls Mgt. Unit

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

Com Yes

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DNR

t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
9	12115009-Cut	26.5	4319 - Mixed Upland Forest	High Density Pole	78		Harvest	Clearcut with Reserves	4139 - Aspen, Mixed Deciduous	Cmpt. Review Proposal

Specs:

S

Prescription remove merchantable aspen, r maple, w birch. remove spruce/fir 6" dbh and larger. leave w pine/r pine, hemlock, oak. protect advanced maple regen. leave small conifers and occasional w birch. MO is aspen, r maple and mixed softwood regen also acceptable.

\* need permission from WE for access.

Other Comments:

aspen is mature - starting to fall out, conks present. S 3/4 of stand has sparse mature aspen, heavier to r maple saplings. Along SW of stand adjacent to bog opening, r pine inclusion 10 - 18" dbh. Aspen was cut out of this area in the past, very susceptible to windthrow off of adjacent bog if furthur thinned - avoid this area during sale set up. SE corner of stand is very poor quality, open b cherry saplings, small aspen 4 - 6" dbh. heavy deer usage 2/13/12\* need permission from WE for access.

<u>Next</u> Steps:

Proposed

10/01/2013 Start Date:

12115016-Cut 9.3 42210 - Natural High 73 141-170 Harvest Systematic 42210 - Natural Cmpt. Review Red Pine Red Pine Density Log Thinning Proposal

Prescription thin removing 1/3 BA. try to remove pole quality trees and move new trees into pole quality category. remove associated aspen and j pine.

Specs: remove w pine only if needed for equipment manuverability, otherwise leave w pine, w birch.

Other\_ well formed r pine 6 - 18" dbh, nice clear boles. associated w pine 18" + , good w pine seedlings/saplings throughout

Comments:

<u>Next</u> Steps:

<u>Proposed</u>

10/01/2013 Start Date:

12115018-Cut 28.3 4311 - Pine, Aspen 72 Harvest Shelterwood 42290 - Natural Cmpt. Review High Density Mixed Pine Proposal Mix Pole

Prescription remove merchantable aspen, mixed softwood. leave w pine/r pine. control aspen regen through herbicide treatment if needed. mechanically

Specs: scarify to promote pine regen. MO is w pine/r pine. aspen, mixed softwood can be acceptable though not preferred.

low quality site for aspen - sand component. associated b spruce 4 - 8" dbh. well formed w pine/r pine. far W end of stand is heavier to pine Other |

Comments: stocking.

**Next** herbicide aspen, monitor for pine regeneration and aspen encrochment

Steps:

**Proposed** 

10/01/2013 Start Date:

12115019-Cut 37.4 4191 - Mixed 72 4136 - Aspen, Cmpt. Review 19 High Harvest Clearcut with **Upland Deciduous** Density Reserves Mixed Conifer Proposal

with Conifer Pole

Prescription remove merchantable aspen, w birch, mixed hardwood. cut spruce/fir 8" stump and larger (2 sticks +). leave a w birch component especially where aspen is lacking. leave w pine/r pine, cherry, oak, hemlock if present. MO is aspen, w birch, mixed hardwood, and mixed softwood is Specs:

Aspen 10 - 16" dbh. associated w birch - showing prevalent top die back. very low quality M7 component in NE of stand, aspen is associated in Other\_

Comments: this area.

Next Steps:

Proposed

10/01/2013 Start Date:

Crystal Falls Mgt. Unit

# Table 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 115
Year of Entry 2014

DNR DNR

a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
27	12115027-Cut	37.5	4136 - Aspen, Mixed Conifer	High Density Log	67 3		Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal

<u>Prescription</u> remove merchantable aspen, mixed hardwoods. remove spruce/fir 8" stump and larger (2 stick trees +). leave b cherry, w birch component. <u>Specs:</u> leave pine, hemlock and oak if found. MO is aspen and mixed hardwood - species compostion to current stand.

Other Comments:

s

Aspen 10 - 14" dbh.  $\,$ r maple saplings throughout. associated large w pine

Next

Steps: Proposed

Proposed

Start Date: 10/01/2013

29 12115029-Cut 47.9 4115 - Y.Birch, High 72 111-140 Harvest Systematic 4110 - Sugar Maple Cmpt. Review Hemlock NH Density Thinning Association Proposal Pole

Prescription thin to 70 - 90 BA or remove 1/3 BA whichever occurs first. create scattered regeneration gaps adjancent to cull trees. leave all conifers and oak

Specs: if present

Other fair quality h maple. r maple low quality - defects prevalent. b cherry has blacknot. stand appears to have 2 ages - large cull tree overstory with Comments: poletimber. scattered upland cedar. rolling hills

Next Steps:

Proposed

Start Date: 10/01/2013

**Total Treatment** 

Acreage Proposed: 187.0

Crystal Falls Mgt. Unit Table 4 -- Treatments Prescribed with Compartment: 115 a Limiting Factor s Year of Entry 2014 t а **Treatment** Acres CoverType Size Stand BA **Treatment Treatment** Cover Type **Approval** n Method Status Name Density Objective Age Range Type d 39 12115039-Cut 0.6 6122 - Black Spruce Harvest Clearcut with 6121 - Tamarack Cmpt. Review High 57 Density Reserves Proposal Pole Prescription remove tamarack in S central of the stand, tie in harvest with adjacent aspen cut. leave any associated pine or cedar. leave remainder of the stand as transition area to uplands. \*access may be an issue with stand landlocked by private. Specs: Other b spruce along creek/marsh. transition from swamp grass to upland aspen ridge. heavy deer usage 2/24/12, very good pure tamarack inclusion in S central of the stand 8 - 14" dbh. Comment: <u>Next</u> Steps: **Proposed** Start Date: 10/01/2013 Limiting Factor and No 2B: Unknown if access through adjacent landowner(s) is possible **Treatment Reason** 70 40 12115040-Cut 5.5 4319 - Mixed High Harvest Clearcut with 4134 - Aspen, Cmpt. Review **Upland Forest** Density Log Spruce/Fir Proposal Reserves Prescription remove merchantable aspen and maple. remove spruce/fir 8" stump and larger (2 stick +). leave birch, pine, and any associated cedar, hemlock. \*access may be an issue - landlocked between private. Specs: mature aspen 12 - 16" dbh in decline. stand lies along a ridgetop for the most part. windthrow on fir prevalent. **Other** Comment:

<u>Next</u> Steps:

Proposed

Start Date: 10/01/2013

<u>Limiting Factor and No</u>
<u>Treatment Reason</u>

2B: Unknown if access through adjacent landowner(s) is possible

Total Treatment

Acreage Proposed: 6.0

### 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 Specs:

devastation. Create canopy gaps for regeneration

<u>Other</u> Comments:

<u>Next</u> Regen check according to certification

Steps:

**Proposed** 

10/01/2013 Start Date:

> **Total Treatment** Acreage Proposed:

31.4

s t	Crystal Falls	s Mgt. Unit		5 – Fo	orested Sta	Compartment: 115 Year of Entry: 2014
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4319 - Mixed Upland Forest	High Density Sapling	12.2	15		Aspen 2 - 4" dbh 16 - 25' feet tall. associated highly stocked fir/spruce saplings
2	42200 - Natural White Pine	Low Density Log	24.5	90	51-80	Aspen saplings under w. pine. heavy associated fir/spruce saplings. pockets heavier to A3 where pine canopy is not as closed. scattered w pine saplings
5	4133 - Aspen, Mixed Pine	High Density Sapling	80.1	15		Aspen 30 - 35' tall, 2 - 4"dbh. fir in small pockets throughout. scattered w pine/r pine sawtimber throughout, areas with heavier pine overstory. w birch saplings mainly along road edge, with thick w pine/r pine saplings also along road edges.
6	6122 - Black Spruce	High Density Pole	0.8	56		b spruce 40 - 45' tall, sphagnum
8	6122 - Black Spruce	Medium Density	8.1	56		b spruce 40 - 45' tall, 3 - 6" dbh. sphagnum. inclusions of spruce saplings.
9	4319 - Mixed Upland Forest	High Density Pole	26.5	78		aspen is mature - starting to fall out, conks present. S 3/4 of stand has sparse mature aspen, heavier to r maple saplings.  Along SW of stand adjacent to bog opening, r pine inclusion 10 - 18" dbh. Aspen was cut out of this area in the past, very susceptible to windthrow off of adjacent bog. SE corner of stand is very poor quality, open b cherry saplings, small aspen 4 - 6" dbh. heavy deer usage 2/13/12
10	6122 - Black Spruce	Medium Density Pole	1.8	71		better quality b spruce at edge and 50 - 70' into stand. deeper in b spruce fades out to saplings, stunted b spruce and tamarack. stand runs roughly 8 cords/acre.
12	42320 - Upland Spruce	High Density Pole	10.4	64		spruce 3 - 12" dbh, appears to have two age classes. associated aspen 6 - 12" dbh. very widely scattered j pine. heavy deer usage 2/14/12 - stand acting as thermal cover break between A3 stands.
13	4133 - Aspen, Mixed Pine	High Density Sapling	71.5	20		aspen saplings 2 - 3" dbh, 25 - 35' tall. associated w pine/r pine - short trees with low limbs. scattered pine inclusions.
15	4133 - Aspen, Mixed Pine	High Density Sapling	111.6	7		aspen 1 - 2" dbh 10 - 16' tall. w pine/r pine sawtimber and poletimber scattered throughout with areas of well stocked pine 60 -70 BA. associated w spruce/fir saplings and small poletimber. widely scattered b cherry 6 - 8" dbh
16	42210 - Natural Red Pine	High Density Log	9.3	73	141-170	well formed r pine 6 - 18" dbh, nice clear boles. associated w pine 18" + , good w pine seedlings/saplings throughout
18	4311 - Pine, Aspen Mix	High Density Pole	28.3	72		low quality site for aspen - sand component. associated b spruce 4 - 8" dbh. well formed w pine/r pine. far W end of stand is heavier to pine stocking.
19	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	37.4	72		Aspen 10 - 16" dbh. associated w birch - showing prevalent top die back. very low quality M7 component in NE of stand, aspen is associated in this area.

S t	Crystal Falls Mgt. Unit			5 – Fo	orested Sta	nds Compartment: 115 Year of Entry: 2014
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
20	4136 - Aspen, Mixed Conifer	High Density Pole	38.4	48		Aspen 6 - 8" dbh, occassional 10" dbh. very widely scattered w pine, associated r maple.
21	4130 - Aspen	High Density Pole	3.8	30		aspen 40 - 50' tall, 3 - 6" dbh. scattered spruce/fir small pole sized. occasional large w pine 18 - 20" dbh
24	4119 - Mixed Northern Hardwoods	High Density Log	208.7	70	51-80	fair to good form, clear boles to 20 - 25', 2 - 2 1/2 log heights. H maple saplings 2 - 4' tall throughout. widely scattered upland cedar and large w pine. widely scattered w birch, notably on S end. SW corner heavier to ironwood and holds lower quality maple in transition to adjacent aspen stand. No successful maple regen evident from recent thinning. Heavy deer browse on stump sprouts
25	4130 - Aspen	High Density Pole	10.7	36		aspen 3 - 6" dbh. good h maple sapling understory
27	4136 - Aspen, Mixed Conifer	High Density Log	37.5	67		Aspen 10 - 14" dbh. r maple saplings throughout. associated large w pine
28	4130 - Aspen	High Density Pole	3.4	36		aspen small poletimber 3 - 6" dbh. associated w spruce saplings. w birch saplings along road edges
29	4115 - Y.Birch, Hemlock NH	High Density Pole	47.9	72	111-140	fair quality h maple. r maple low quality - defects prevalent. b cherry has blacknot. stand appears to have 2 ages - large cull tree overstory with poletimber. scattered upland cedar. rolling hills
30	4130 - Aspen	High Density Pole	3.8	58		aspen 8 - 12" dbh. stand is a transition area from aspen/mixed softwood into mixed hardwoods.
31	4136 - Aspen, Mixed Conifer	High Density Pole	16.3	49	aspen 8 - 12" dbh. many areas very thick to spruce 20 - 25' tall, notably the E end of stand. scattered larger spruce windthrow. stand cut in 1964, areas aspen were left creating a 2 aged stand, overall stanold.	
32	4130 - Aspen	High Density Pole	3.6	36		aspen 3 - 6" dbh
33	4319 - Mixed Upland Forest	High Density Pole	59.0	51	aspen 4 - 8" dbh, scattered 12 - 14" dbh - isolated incl mature aspen left as residual from previous cut. thick regen, small poletimber 4 - 7" dbh.	
34	6122 - Black Spruce	High Density Pole	4.5	50		good transition buffer between upland aspen spruce/fir to open marsh grass.
35	429 - Mixed Upland Conifers	High Density Pole	49.7	49		aspen 6 - 12" dbh with larger diameters scattered throughout from residual left from previous cut. pockets of w pine/r pine sawtimber. w pine is dispersed throughout stand with scattered j pine at the N end. areas of highly stocked spruce/fir saplings 2 - 4" dbh with the W end heavier to F3 understory. heavily browsed h maple seedlings.

s t	Crystal Fall	ls Mgt. Unit		5 – Fo	orested Sta	nds Compartment: 115 Year of Entry: 2014
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
37	4319 - Mixed Upland Forest	High Density Pole	6.8	69		aspen 8 - 16"dbh. good w pine/r pine sawtimber. spruce windthrow along bog edges
39	6122 - Black Spruce	High Density Pole	4.9	57		b spruce along creek/marsh. transition from swamp grass to upland aspen ridge. heavy deer usage 2/24/12, very good pure tamarack inclusion in S central of the stand 8 - 14" dbh.
40	4319 - Mixed Upland Forest	High Density Log	5.5	70		mature aspen 12 - 16" dbh in decline. stand lies along a ridgetop for the most part. windthrow on fir prevalent.
41	4130 - Aspen	High Density Pole	191.1	29		aspen 3 - 6" dbh, w birch 3 - 8" dbh along road edges. w spruce saplings scattered throughout and along old road edges. M6 inclusion in SE of the stand - 7" dbh mainly h maple with associated h maple saplings 10 - 20' tall.
43	4130 - Aspen	High Density Pole	29.8	49		aspen 8 - 12" dbh. very little understory stocking. scattered spruce/fir saplings. edges along bog heavier to b spruce - left as transition buffers to lowland in the previous cut.
44	4110 - Sugar Maple Association	High Density Log	194.7	72	81-110	H maple 6 - 18" dbh, scattered pockets of 3 - 4' saplings. very widely scattered large w pine and hemlock. small pockets of weak aspen regen from previous harvest. moderate raspberry where canopy is more open. Little to no h maple regen. rolling hills
45	4130 - Aspen	High Density Pole	39.9	55		aspen 6 - 7 sticks tall, scattered spruce/fir. W end has little spruce/fir, very heavy hazel

4140 - Other Upland

Deciduous

4110 - Sugar Maple Association

47

48

Low Density

Sapling

High Density Pole 7.9

11.2

15

72

81-110

old ELF line growing into balm 2 - 4" dbh. edges have spruce/fir saplings. portions remain open to grass/low upland brush

low to fair quality maple. W end of stand heavier to w birch

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Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
3	6224 - Treed Bog	2.1	No	Unspecified	leatherleaf with scattered, stunted tamarack, b spruce.
4	6224 - Treed Bog	1.2	No	Unspecified	leatherleaf bog with scattered, stunted b spruce, w pine
7	50 - Water	2.5	No	Unspecified	small pond ringed by leatherleaf bog
11	622 - Lowland Shrub	11.6	No	Unspecified	leatherleaf bog with associated b spruce seelings/saplings. scattered w pine poles 4 - 6" dbh. associated buffer strip along edges - b spruce, aspen, w pine.
14	6225 - Bog	10.2	No	Unspecified	leatherleaf bog, scattered stunted b spruce
17	6225 - Bog	7.6	N\A	Unspecified	leatherleaf bog, scatterd, stunted b spruce.
22	6229 - Mixed lowland shrub	2.8	No	Unspecified	leatherleaf bog
23	3102 - Grass	10.6	No	Unspecified	old ELF row clearing. grass opening. associated w spruce, fir saplings along edge.
26	622 - Lowland Shrub	2.3	No	Unspecified	leatherleaf bog, stunted b spruce 3 - 8' tall
36	6224 - Treed Bog	48.9	N\A	Unspecified	leatherleaf bog with stunted b spruce 5 - 10' tall
38	320 - Upland Shrub	2.8	No	Unspecified	raspberry opening. scattered b cherry saplings. open grown spruce saplings 3 - 4" dbh
42	50 - Water	1.3	N\A	Unspecified	small isolated pond. used by beaver in the past - heavy cutting around pond edges.
46	50 - Water	1.4	No	Unspecified	small isolated pond. used by beaver in the past - heavy cutting around pond edges.
49	50 - Water	3.5	N\A	Unspecified	pond

Crystal Falls Mgt. Unit

Compartment: 115
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### 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

Crystal Falls Mgt. Unit Compa

# Compartment: 115 Year of Entry 2014



#### **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.

Conservation Type Description
Area

ERA = Ecological Reference Area

HCVA = High Conservation Value Area

SCA = Special Conservation Area