



**Crystal Falls Forest Management Unit**  
**Compartment Review Presentation**  
**Compartment #89**                      **Entry Year: 2013**  
**Compartment Acreage: 1149 (GIS calculated)**    **County: Dickinson**

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**Revision Date:** 6-22-11

**Stand Examiner:** Andy Church

**Legal Description:** T41N R28W Sections 26,27,34,35

**Management Goals:** Optimize sustainable timber production while maintaining species diversity, offering recreation opportunities and protecting wildlife habitat.

**Soil and Topography:** Soils range from wet Cathro muck to dry Emmet fine sandy loams. Topography also differs from flat lowlands to rolling hardwood ridges.

**Ownership Patterns, Development, and Land Use in and Around the Compartment:** Compartment 89 is separated by large blocks of private ownership. Deer hunting is evident in and around this compartment. Fishing opportunities are present with a boat launch site in Section 27. This launch provides access to the West Branch of the Sturgeon River. The snowmobile trail #115 is operating in several sections of this compartment.

**Unique, Natural Features:** West Branch of Sturgeon River.

**Archeological, Historical, and Cultural Features:** None known.

**Special Management Designations or Considerations:** None known.

**Watershed and Fisheries Considerations:**

**Wildlife Habitat Considerations:** Upland conifer types, particularly white pine and hemlock have declined substantially. Upland and lowland conifer components should be restored, and maintained where present and enhanced whenever possible. This area has the tendency to regenerate to red and white pine, naturally. All species of wildlife need to be considered and a full range of habitat conditions should be provided. Conditions from early-successional to old growth must be provided to meet these needs. Lowland hardwood types and drainages are sensitive areas that provide excellent wildlife habitat in this intensively managed area. Riparian and transition zones were set aside in prior years of entry to provide some of these habitat requirements. Large aspen types should be harvested in smaller acreages to increase age class diversity.

**MINERAL, OIL AND GAS CONSIDERATIONS:**

Sections 26, 27, 34 and 35, T41N-R28W, Dickinson County

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium and medium-textured glacial till. There is insufficient data to determine the glacial drift thickness. The Cambrian Munising Group and the Precambrian Michigamme Formation outcrops beneath the glacial drift. There is not a current economic use for these rocks. The Hancock iron mine is located approximately one and one-half miles to the east. Part of this compartment was previously leased for metallic exploration and potential may still exist. A

gravel pit is located three miles to the southeast and another one just to the east. There appears to be some gravel potential in the compartment. There is no economic oil and gas production in the UP.

**Vehicle Access:** Access is fair to good with the Browns Lake Rd, and Kirkland road providing entry points into this compartment.

**Survey Needs:** None necessary for this year of entry.

**Recreational Facilities and Opportunities:** Hunting, camping, fishing, trapping, hiking, canoeing, and snowmobiling.

**Fire Protection:** Felch protection area. Access to most upland stands is fair. Access to swamp types would be difficult.

**Additional Compartment Information:**

- **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**
  
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# Cover Type & Treatment Map

Compartment 089  
 T48N, R21W, Sec. 26, 27, 34, 35  
 County: Dickinson  
 Unit: Crystal Falls  
 YOY: 2013  
 Acres: 1,149 GIS Calculated  
 Stand Examiner: Andy Church  
 Map Revised: 7/28/2011  
 Map Phase: Pre-Review

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

**Legend**

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

**Treatments**

- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Thinning (Crown, Low, Systematic)

**Forest Stands**

Level 3

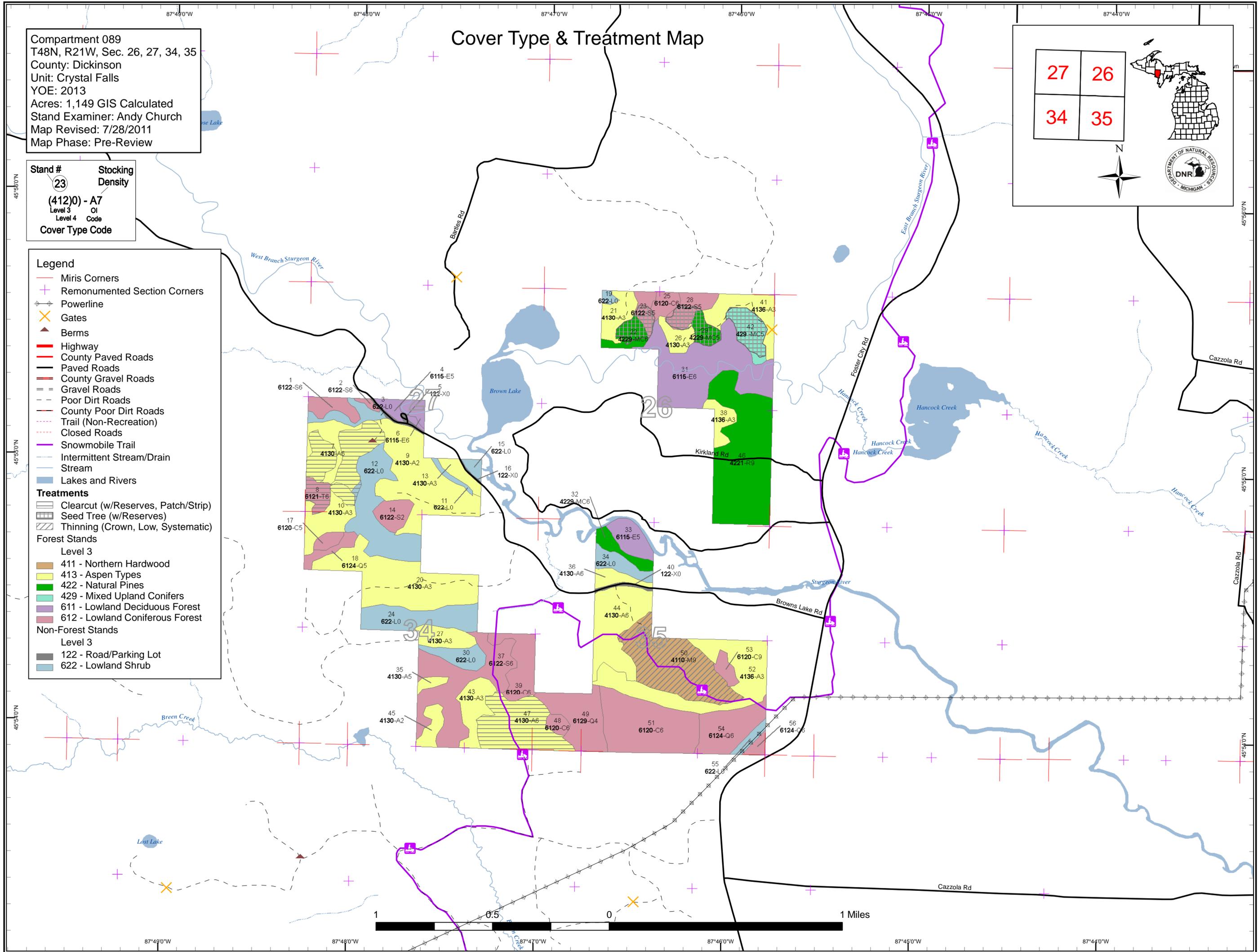
- 411 - Northern Hardwood
- 413 - Aspen Types
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest

**Non-Forest Stands**

Level 3

- 122 - Road/Parking Lot
- 622 - Lowland Shrub

27	26
34	35



Map coordinates: 87°49'0"W to 87°44'0"W (Longitude) and 45°58'0"N to 45°50'0"N (Latitude).





**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 +		Unretn Age
Aspen	0	0	100	204	59	0	90	0	0	4	0	0	0	0	0	456
Cedar	0	0	0	0	0	0	0	0	0	0	101	0	0	0	0	101
Lowland Conifers	0	0	0	0	0	0	0	0	0	7	64	0	0	0	0	70
Lowland Deciduous	0	0	0	0	0	0	0	0	0	11	85	0	0	0	0	96
Lowland Shrub	119	0	0	0	0	0	0	0	0	0	0	0	0	0	0	119
Lowland Spruce/Fir	0	0	0	11	0	0	0	0	0	56	32	0	0	0	0	99
Natural Mixed Pines	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	26
Northern Hardwood	0	0	0	0	0	0	0	0	0	63	0	0	0	0	0	63
Red Pine	0	0	0	0	0	0	0	0	0	89	0	0	0	0	0	89
Tamarack	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	8
Upland Conifers	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	16
Urban	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
<b>Total</b>	<b>125</b>	<b>0</b>	<b>100</b>	<b>215</b>	<b>59</b>	<b>0</b>	<b>132</b>	<b>0</b>	<b>0</b>	<b>237</b>	<b>281</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1149</b>



## Table 2 – Proposed Treatment Summaries

**Crystal Falls Mgt. Unit**  
**Year of Entry 2013**

**Compartment 089**  
**Total Compartment Acres: 1149**

### 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

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
<b>Aspen</b>	83	0	0	0	0	0	83
<b>Natural Mixed Pines</b>	0	0	24	0	0	0	24
<b>Northern Hardwood</b>	0	0	0	0	63	0	63
<b>Tamarack</b>	8	0	0	0	0	0	8
<b>Upland Conifers</b>	0	0	14	0	0	0	14
<b>Total</b>	<b>91</b>	<b>0</b>	<b>39</b>	<b>0</b>	<b>63</b>	<b>0</b>	<b>193</b>



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
7	12089007	38.4	4130 - Aspen	High Density Pole	53	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription Final Harvest with Reserves. Use 2" spec to promote sprouting and insure a fully stocked Aspen stand in the future. Protect drainage in middle of stand. Leave all Hemlock, Oak, and Cedar if found. RETENTION: Island in middle, Hemlock, Oak, Cedar. ACCEPTABLE ALTERNATIVE  
Specs: REGEN: Maple/Fir.

Other  
Comments:

Next  
Steps:

8	12089008-Cut	8.1	6121 - Tamarack	High Density Pole	80	Harvest	Clearcut with Reserves	6121 - Tamarack	Cmpt. Review Proposal
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Prescription Final Harvest with Reserves. Leave all Cedar. Harvest Tamarack type extending into adjacent compartment approximately 1 additional acre.  
Specs: Winter cut only due to wet soil. Shortwood only for browse protection, and seed source. RETENTION: Cedar ACCEPTABLE ALTERNATIVE  
REGEN: Swamp Hardwoods/Fir

Other  
Comments:

Next If regen fails, follow up with TMS for regen plan.  
Steps:

22	12089022-Cut	10.6	42290 - Natural Mixed Pine	High Density Pole	55	Harvest	Seed Tree with Reserves	42290 - Natural Mixed Pine	Cmpt. Review Proposal
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Prescription Reserve 10-20 BA of Pine. Cut all other species to a 2" spec due to insect concerns except: Cedar, Hemlock, and Oak if found. Whole tree skid during summer only for scarification. Buffer Hancock Creek 200 feet. Reflected in treatment boundary. RETENTION: Residual Pines, Buffer, Cedar, Hemlock, and Oak. ACCEPTABLE ALTERNATIVE REGEN: Aspen/Fir

Other Spruce Budworm damage throughout stand. Stand is currently two aged. Sparse overstory of Pine, with thick understory of younger Spruce, Fir, and Aspen.  
Comments:

Next  
Steps:

29	12089029-Cut	13.7	42290 - Natural Mixed Pine	Medium Density Pole	55	Harvest	Seed Tree with Reserves	42290 - Natural Mixed Pine	Cmpt. Review Proposal
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Prescription Reserve an average of 10-20 BA of Pine. Summertime whole tree skid. More Pine to South. Cut all other species to 2" spec due to insect concerns. Leave all Cedar, Hemlock, and Oak if found. Some wetter areas. Protect drainage in Northwestern portion of stand. RETENTION: Residual Pines, drainage, Cedar, Hemlock, and Oak. ACCEPTABLE ALTERNATIVE REGEN: Aspen/Fir

Other Spruce Budworm damage throughout stand. Stand is currently two aged. Sparse overstory of Pine, with understory of younger Spruce, Fir, and Aspen. Aspen regen thicker in Southeastern portion.  
Comments:

Next  
Steps:

42	12089042-Cut	14.5	429 - Mixed Upland Conifers	Medium Density Pole	55	Harvest	Seed Tree with Reserves	42290 - Natural Mixed Pine	Cmpt. Review Proposal
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Prescription Reserve 10-20 BA of Pine. Cut all other species to 2" spec due to insect concerns. Leave all Cedar, Hemlock, and Oak if found. Whole tree skid during summer for scarification. 5 chain no-cut Buffer for MNFI occurrence found on GDSE along Hancock Creek. Buffer creek itself a minimum of 200 feet. Buffers reflected in treatment boundary. RETENTION: Buffers, Residual Pines, Cedar, Hemlock, and Oak. ACCEPTABLE ALTERNATIVE REGEN: Aspen/Fir

Other Stick Nest identified on GDSE near south edge of stand. Nest is located along Hancock Creek.  
Comments:

Next  
Steps:

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
47 12089047-Cut	44.5	4130 - Aspen	High Density Pole	58	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription: Final Harvest with Reserves. Use 2" spec to promote optimum sprouting and a fully stocked Aspen stand in the future. Winter harvest due to wetter soils. Reserve drainage areas. Leave all: Cedar, Hemlock, and Oak if found. RETENTION: Drainages, Cedar, Hemlock and Oak.  
Specs: ACCEPTABLE ALTERNATIVE REGEN: Maple/Fir.

OtherComments:NextSteps:

50 12089050-Cut	63.2	4110 - Sugar Maple Association	High Density Log	88	Harvest	Low Thinning	4110 - Sugar Maple Association	Cmpt. Review Proposal
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Prescription: Thin to an average residual BA of 80. Leave Cedar, Hemlock and Oak if found for diversity of under represented species.

Specs:Other

Private survey along North side.

Comments:NextSteps:

**Total Treatment  
Acreage Proposed: 192.9**

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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

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**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:

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**Total Treatment  
Acreage Proposed: 6.0**



Stand	Crystal Falls Mgt. Unit		5 – Forested Stands		Compartment: 089 Year of Entry: 2013	
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6122 - Black Spruce	High Density Pole	9.6	93		
2	6122 - Black Spruce	High Density Pole	1.6	93		
4	6115 - Lowland Ash	Medium Density Pole	5.6	80		River flood plain.
6	6115 - Lowland Ash	High Density Pole	5.1	80		
7	4130 - Aspen	High Density Pole	45.3	53		
8	6121 - Tamarack	High Density Pole	8.1	80		
9	4130 - Aspen	Medium Density	66.2	16		
10	4130 - Aspen	High Density Sapling	22.6	25		Scattered mature aspen left from 1985 cut.
13	4130 - Aspen	High Density Sapling	7.2	19		
14	6122 - Black Spruce	Medium Density	11.0	20		
17	6120 - Lowland Cedar	Medium Density Pole	4.5	93		
18	6124 - Lowland Spruce- Fir	Medium Density Pole	6.6	80		Drainage
20	4130 - Aspen	High Density Sapling	68.9	25		Well stocked with a good site.
21	4130 - Aspen	High Density Sapling	14.2	22		Dense and uniform stocking.
22	42290 - Natural Mixed Pine	High Density Pole	10.3	55		
23	6122 - Black Spruce	Medium Density Pole	7.5	93		
25	6120 - Lowland Cedar	High Density Pole	6.9	93		Dense, uniform cedar.
26	4130 - Aspen	High Density Sapling	8.7	22		

S t a n d	Crystal Falls Mgt. Unit		5 – Forested Stands		Compartment: 089	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	
27	4130 - Aspen	High Density Sapling	13.1	25		
28	6122 - Black Spruce	Medium Density Pole	12.9	93		
29	42290 - Natural Mixed Pine	Medium Density Pole	7.5	55		
31	6115 - Lowland Ash	High Density Pole	71.8	93		Sturgeon river flood plain.
32	42290 - Natural Mixed Pine	High Density Pole	8.5	55		
33	6115 - Lowland Ash	Medium Density Pole	13.5	93		Sturgeon river flood plain.
35	4130 - Aspen	Medium Density Pole	3.5	88		
36	4130 - Aspen	High Density Pole	7.4	35		
37	6122 - Black Spruce	High Density Pole	55.9	83		
38	4136 - Aspen, Mixed Conifer	High Density Sapling	8.8	35		Many wet areas. Not very high site quality.
39	6120 - Lowland Cedar	High Density Pole	21.1	93		
41	4136 - Aspen, Mixed Conifer	High Density Sapling	21.1	22		
42	429 - Mixed Upland Conifers	Medium Density Pole	15.9	55		
43	4130 - Aspen	High Density Sapling	18.1	17		
44	4130 - Aspen	High Density Pole	42.6	35		Wet areas and uplands have tag alder. Stand is quite wet.
45	4130 - Aspen	Medium Density	8.2	17		
46	42210 - Natural Red Pine	High Density Log	88.7	86		
47	4130 - Aspen	High Density Pole	44.5	58		Wet area drainage east and west in center. Wet aspen site.



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## Crystal Falls Mgt. Unit

## 5 – Forested Stands

Compartment: 089  
Year of Entry: 2013

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
48	6120 - Lowland Cedar	High Density Pole	4.5	93		
49	6129 - Mixed Coniferous Lowland Forest	Low Density Pole	31.7	93		
50	4110 - Sugar Maple Association	High Density Log	63.2	88		Select cut. Remove paper birch.
51	6120 - Lowland Cedar	High Density Pole	57.9	93		
52	4136 - Aspen, Mixed Conifer	High Density Sapling	55.9	25		Wet potholes scattered in stand.
53	6120 - Lowland Cedar	High Density Log	5.6	93		
54	6124 - Lowland Spruce- Fir	High Density Pole	28.6	93		
56	6124 - Lowland Spruce- Fir	High Density Pole	3.6	93		



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
3	622 - Lowland Shrub	9.3	N/A	Unspecified	
5	122 - Road/Parking Lot	2.9	N/A	Unspecified	
11	622 - Lowland Shrub	2.8	N/A	Unspecified	
12	622 - Lowland Shrub	44.8	N/A	Unspecified	
15	6229 - Mixed lowland shrub	3.2	No	Unspecified	
16	122 - Road/Parking Lot	0.8	N/A	Unspecified	
19	6229 - Mixed lowland shrub	2.0	N/A	Unspecified	
24	622 - Lowland Shrub	30.6	N/A	Unspecified	
30	622 - Lowland Shrub	11.4	N/A	Unspecified	
34	622 - Lowland Shrub	10.7	N/A	Unspecified	
40	122 - Road/Parking Lot	2.4	N/A	Unspecified	
55	622 - Lowland Shrub	4.5	N/A	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
multiple - see	SCA Removal	12089-SCA Removal	24.5	Stands do not exhibit Type 1 or Type 2 Old Growth characteristics.



### 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	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.