



Crystal Falls FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT #11 ENTRY YEAR: 2008
Compartment Acreage: 2891 County: Dickinson

Revision Date: April 5, 2006

Stand Examiner: Thomas Seablom

Legal Description: T44N R29W Sec. 13, 22-27, 34-36

RMU (if applicable):

Management Goals:

There are several goals in this compartment. Timber goals include developing and maintaining age class distribution in the aspen timber type, maintain species diversity and increase sawlog quality in the northern hardwood timber type, maintain the swamp conifer timber type and the diversity in them, and to increase the mesic conifer component of this compartment where possible. The aspen age class is weighted to the younger age classes (0-19 years) and lacking in the middle and mature age classes (40-100 years). The majority of this type in the surrounding landscape is also weighted similarly. As these stands age, active management before maturity will be necessary in the future to help balance the age class and structure distribution across the surrounding landscape. Northern hardwood stands are still predominantly even-aged to two-aged, though some have uneven-age structure characteristics, but are slowly moving toward uneven-age stands in all aspects. Tree quality in the majority of the hardwood stands is good, with some poorer quality in the transitional site areas. Non-timber goals include protecting the water quality and habitat of the North Branch of the Fence River, its tributaries, McGregor Creek, and the surrounding lowlands through proper BMP's. Maintaining and expanding transition zones, thermal cover cover types, and to maintain existing wildlife openings are also department goals in this compartment.

Soil and Topography:

The topography of this compartment ranges from nearly level to hilly with some minor exposed rock an eastern portion of the compartment. The major soil associations in this compartment are the Pemene-Emmet-Cathro (PEC) and Rubicon-Cathro (RC). Soils in the PEC association (well drained and very poorly drained) were formed in ice-contact drift, glacial till, and organic deposits. Pemene soils, located on flats, knolls, ridges and hills in the uplands, have a surface layer of fine sandy loam with a subsurface of loamy fine sand, and a subsoil of fine sandy loam and loamy fine sand. Emmet soils, on the flats, knolls, ridges, and hills in the uplands, on the surface are loam with a subsurface layer of fine sandy loam, and subsoil layer of sandy loam to fine sandy loam. The substratum is gravelly fine sandy loam. Cathro soils are very poorly drained and occur in depressions and drainage ways on low flats and near streams on flood plains. The soil has a surface and subsurface layer of muck. The substratum is very fine sandy loam, stratified fine sandy loam and loamy sand. RC association soils (excessively drained and very poorly drained) were formed in glacial outwash and organic deposits. Rubicon soils are located on the flats, knolls, foot slopes, side slopes and ridges. It has a surface of loamy sand; subsurface is sand with a subsoil of sand, and a substratum of sand. Cathro soils in this association have the same characteristics as in the PEC association. (Soil Conservation Service. 1989. Dickinson County. pgs 5-9.) Alberts Sub-section VIII3.1

Ownership Patterns, Development, and Land Use in and Around the Compartment:

Ownership surrounding this compartment is predominately State land with scattered private individual parcels, and forest industry land. Land use on the private parcels is in camps and on industrial land is forest management. State land use is managed according to goals in the surrounding compartments determined by inventory and reviews.

Unique, Natural Features (include only non-site specific and non-sensitive information):

This compartment is bordered by the North Branch of the Ford River along the northwest, west, and south sides with a small portion along the north by McGregor Creek. In the southwest area of this compartment is a bog. This is the only one in this compartment and one of a few in the surrounding landscape; it should be protected to continue providing diversity.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information):

There are two private parcels within this compartment that are occupied by camps. They are camps that were built circa. 1880-1910, and are original logging camps. The Cleveland Homestead has a common boundary with the east side of the compartment.

Special Management Designations or Considerations:**Watershed and Fisheries Considerations:**

Maintaining adequate buffers, at least 300 feet, along with protecting and enhancing the cover types, especially cedar and lowland conifer, surrounding the N. Branch and its tributaries will help to protect the water quality of this river and promote the potential high quality trout habitat it holds.

Wildlife Habitat Considerations:**Mineral, Oil, and Gas Considerations:**

Surface sediments consist of medium-textured till. There is insufficient data to determine the glacial drift thickness. The Precambrian Michigamme Formation and Archean Granite/Gneiss subcrop below the glacial drift. There is not a current economic use for the Granite/gneiss, although it has dimension stone potential. The abandoned Republic Iron mine is located approximately fourteen miles to the northwest. Gravel pits are not located in the area, but there could be potential. Part of this Compartment was previously leased for metallic exploration and potential may still exist. There is no economic oil and gas production in the UP.

Vehicle Access:

There is decent access to this compartment. The Aimone (Cleveland Homestead) road provides access to the entire compartment (east-west) with the use of side roads (north-south). Some new roads and minor road work within the compartment will be needed to accomplish timber sale activity.

Survey Needs:

No survey needs are required at this entry period.

Recreational Facilities and Opportunities:

The Silver Lake to Floodwood Snowmobile trail is west and north of the compartment and utilizes a portion of the road used to access this compartment. It is a heavily used trail and will be affected by winter logging operations, but not in an adverse manner. Hunting occurs throughout the compartment for all game species and fishing occurs on the North Branch of the Ford River. Maintaining young stands of aspen, grassy openings, and cover types such as cedar, spruce, and lowland conifer will help to enrich the hunting and fishing opportunities in this compartment.

Fire Protection:

There are timber types that are fire susceptible within this compartment. The southwest portion of the compartment is dominated by aspen and red pine pole stands, with one stand being a mix of red and white pine. The red pine stands are fairly contiguous. The Cleveland Homestead road acts as a fire break for ground fires, but crown fires would carry across certain areas of this road in the red pine type. The remaining timber types are spruce, cedar, swamp conifer, upland hardwoods, and aspen. All timber types are accessible with minor road work, i.e. berm removal.

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**

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Michigan Department of Natural Resources - Operations Inventory System
Individual Compartment Report

COPPER COUNTRY STATE FOREST

CRYSTAL FALLS FOREST MGT UNIT

DICKINSON COUNTY

COMPARTMENT: 11

Table 3

(acres shown in boxes)

STAND AGE CLASS

COVER TYPE	Not Coded	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150-159	All Aged	Total
Aspen		120	521	272	147	4	17	86	139	88									1394
Black Spruce								45		41									86
Bog or Marsh	3																		3
Cedar												16	89						105
Grass	67																		67
Local Name	1																		1
LowInd Brush	168																		168
LowInd Poplr										10									10
Mx Swmp Cnfr									57	181		97	33						368
Paper Birch						33	21												54
Red Pine						221	57												278
Spruce Fir	23																		23
Swamp Hrdwds						32													32
Upland Hdwds								29	273										302
Total	262	120	521	272	147	290	95	160	469	320		113	122						2891

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Michigan Department of Natural Resources - Operations Inventory System
Individual Compartment Report

COPPER COUNTRY STATE FOREST

CRYSTAL FALLS FOREST MGT UNIT

DICKINSON COUNTY

COMPARTMENT: 11

Table 3A

(acres shown in boxes)

MANAGEMENT OBJECTIVE TYPE

COVER TYPE	A	S	V	C	G	H	J	I	L	P	N	Q	X	O	B	R	K	Y	F	E	T	D	U	M	Z	W	Total
A Aspen	1378	16																									1394
S Black Spruce		86																									86
V Bog or Marsh			3																								3
C Cedar				105																							105
G Grass					67																						67
I Local Name								1																			1
L LowInd Brush									168																		168
P LowInd Poplr										10																	10
Q Mx Swmp Cnfr												368															368
B Paper Birch															54												54
R Red Pine																278											278
F Spruce Fir																			23								23
E Swamp Hrdwds																				32							32
M Upland Hdwds	3																							299			302
Total	1381	102	3	105	67			1	168	10		368			54	278			23	32				299			2891

COPPER COUNTRY STATE FOREST

CRYSTAL FALLS FOREST MGT UNIT

DICKINSON COUNTY

COMPARTMENT: 11

Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS

COMPARTMENT SUMMARY

TOTAL VOLUME		CUT VOLUME	
Hardwood	18879 Cds	Hardwood	5098 Cds
Hardwood	305 Mbf	Hardwood	164 Mbf
Softwood	15551 Cds	Softwood	1115 Cds
Softwood	181 Mbf	Softwood	16 Mbf
Sum TotVol	35402 Cds	Sum CutVol	6573 Cds
Total Cmpt Acres		Acres Proposed For Cut.....	456
2891			

CRYSTAL FALLS FOREST MGT UNIT

Proposed Treatments
With NO Limiting Factors

Compartment: 11

Entry Year: 2008

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FD Status
9	M6	51	70	58	northern hardwood	two aged	thinning	1		
comnts Fmd : This stand is to be thinned to a residual basal area of 70 ft ² per acre, approximately 85-90% crown cover. Removal should be concentrated in the 6 to 8 inch diameter classes, with little removed from the sawlog size classes. There are several aspen patches within this stand. These patches should be thinned through favoring the larger diameter trees. Favoring these trees will help to balance the diameter distribution and provide for immediate future snags as this is a short lived species. Yellow birch should also be a favored species. There are few yellow birch in the stand and surrounding landscape. This will help to increase their component in both areas adding to the diversification of the area.										
17	M6	99	70	60	northern hardwood	two aged	thinning	1		stand with fdf potential
comnts Fmd : This stand is to be thinned to a residual basal area of 70 - 80 ft ² per acre, approximately 90% crown cover. This thinning will release the crowns of future crop trees and concentrate the growth on higher quality residual stems. To move toward a balanced diameter distribution, concentrate the removal of stems in the 6, 8, and 12 " diameter class. Stray away from removal of trees in the 10 and 14" dbh class. (Comments are Draft 7/12/2006)										
27	A6	36	73	45	aspen (upland)	mature	final harvest	2		
comnts Fmd : This is a mature aspen stand with a mix of white spruce, balsam fir, white birch, and scattered black spruce and cedar. It is being perscribed to clearcut this stand cutting all species greater than 2-inches in diameter at breast height regardless of merchantability, except northern white cedar. See locked comments (4/2006). There are several seeps making the transition zone on the southern edge of this stand wet. Care should be taken when setting up this sale to avoid the wet area of this stand. Where openings exist in this stand they are filled with tag alder and it is a concern that if the wet areas are cut they will regenerate as tag alder rather than aspen and spruce/fir. (7/12/2006)										
40	A6	16	78	45	black spruce-swamp	mature	thinning	2		
comnts Fmd : This stand is to be cut removing all white birch and aspen. All conifers are to be retained. The soil type associated with this stand is the Carbondale and Cathro muck series. Within this series there are knolls and ridges that contain Solona, Wainola, Rousseau, Emmet, and Pemene soils. This stand is on a slight knoll containing some of the the previously mentioned soil types. It should be winter harvested with tracked equipment to minimize rutting and damage to the roots of the retained trees. There is a fair amount of tag alder in the understory, which may hamper the regeneration of white birch and aspen, therefore spruce and fir are acceptable as regeneration species.										
48	A6	42	79	62	aspen (upland)	mature	final harvest	2		
comnts Fmd : This stand is to be clearcut removing all trees greater than 2"-dbh. The transition zone is to be protected and expanded by retaining larger conifers in the vicinity of the zone. There is a small pocket of red pine within this stand. All red pine under 8"-dbh are to be cut in this pocket. Soils in this stand range from very well drained to somewhat poorly drained. Harvesting should occur during the winter months only to avoid damaging the sensitive soils. It is recommended that a GPS unit be used when placing the southern boundary of this stand to avoid the established transition zone and buffer.										
52	R6	4	43	60	red pine	immature	thinning	1		
comnts Fmd : This stand is to be thinned removing all aspen and every third row of red pine. Rows in some places are not easily discernable, so this stand should be marked. This thinning should removed approximately 1/3 of the basal area in this stand.										
55	R6	6	43	60	red pine	immature	thinning	1		
comnts Fmd : This stand is to be thinned to a residual basal area of 120 square feet/acre. Favor trees in the 8"-12" dbh range with 30% or greater crown ratio. (Comments are in draft form 5/22/2006 TJS)										
59	A6	17	66	60	aspen (upland)	mature	final harvest	1		
comnts Fmd : This stand is to be clearcut leaving spruce, fir, red oak, and any red or white pine. Leaving these species, which are a minor component of the stand, will enhance the diversity of the future stand as well as increase the conifer component in the landscape. The transition zone on the south side of the stand is to be protected and expanded by leaving large conifer and scattered mature aspen.										
60	R6	8	43	60	red pine	immature	thinning	1		
comnts Fmd : This stand is to be thinned removing all aspen and every third row of red pine and those red pine with severe leader damage. Rows in some places are not easily discernable, so this stand should be marked. All oak is to be left. This thinning should remove approximately 1/3 of the basal area in this stand. (Comments are in draft form 5/22/2006 TJS)										
64	M6	12	70	60	northern hardwood	immature	thinning	1		
comnts Fmd : Thin this stand to 70 sq. ft/ac removing poor quality stems and suppressed trees. Favor large aspen to provide for future snags and to help improve the diameter distribution. (Comments in draft form 4/4/2006 TJS)										
78	A6	96	77	75	aspen (upland)	mature	final harvest	1		
comnts Fmd : This stand is being perscribed to be clearcut. Leave conifers <6 inches dbh, preferably those in small groups. An occasional mature aspen is to be left within or surrounding the clumps. This will provide for future drumming logs and cover for ruffed grouse within the stand. There is little conifer component within the aspen types within this compartment. Leaving smaller conifer's in this stand will help to increase this species component. (Comments in draft form 5/22/2006 TJS)										

CRYSTAL FALLS FOREST MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 11

Entry Year: 2008

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status	
87	R6	34	43	60	red pine	immature	thinning	1		prescribed for fdf treatment	
comnts Fmd : This stand is being perscribed for thinning removing every third row, approximately 1/3 of the basal area. The stand is to be a marked row thin. (Comments in draft form 7/12/2006 TJS)											
90	R6	14	43	60	red pine	immature	thinning	1			
comnts Fmd : Marked row thin, removing every third row and those trees with severe leader damage. (Comments in draft form 4/4/2006 TJS)											
91	M6	3	70	60	aspen (upland)	immature	final harvest	1			
comnts Fmd : It is being perscribed to either convert this stand to aspen or white ash and red oak. The surrounding stands are or will be A3 after this entry period leaving a small patch of northern hardwoods if this stand continues to be managed as is. Converting it to white ash/red oak will increase these species component's in the landscape.											
92	A5	18	79	62	aspen (upland)	mature	final harvest	1			
comnts Fmd : This stand is to be clearcut removing all big tooth and quaking aspen as well as all hardwood tree species except red oak. All conifers >8 inches dbh are to be removed as well except cut no white pine. Retaining these conifers will aid in diversifying the species mix in the future stand as well as provide cover for wildlife. There are areas of this stand that have a slope of at least 34% which may cause dificulty in cutting the entire stand. (Comments in draft form 4/4/2006 TJS)											
Total Acres.....		456									

**Proposed Treatments
With Limiting Factors**

Compartment: 11

Entry Year: 2008

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FD Status
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TREATMENT LIMITING FACTORS:

Total Acres..... 0



Field Map

Compartment 11
 T44N, R29W, Sec. 13, 22-27, 34-36
 County: Dickinson
 Unit: Crystal Falls
 YOY: 2008
 Acres: 2,891 GIS Calculated
 Stand Examiner: Thomas Seablom
 Map Revised: 10/6/2006
 Map Phase: Pre-review

		13
22	23	24
27	26	25
34	35	36



N

Legend

- Miris Corners
- - - County Gravel Roads
- - - Poor Dirt Roads
- × Gravel Pits
- × Gates
- × Berms
- Stand Boundary
- ▨ 100 - Final Harvest
- ▩ 400 - Thinning

