

Compartment Review Presentation

Crystal Falls Forest Management Unit

Compartment 12055
Entry Year 2017
Acreage: 1,643
County Dickinson

Management Area: Ralph Ground Moraine

Revision Date: 2015-07-30

Stand Examiner: Deb Goupell

Legal Description:

T42N R29W Sec 2-5, 8-11 T43N R29W Sec 35

Identified Planning Goals:

Manage all forested cover types in a sustainable manner. Develop aspen age class distribution as the WUP Management Plan directs. Encourage species diversity and conifers in hardwoods.

Soil and topography:

Fine sandy loams dominate the uplands, with a smattering of rock outcrops. Lowlands are dominated by Carbondale-Cathro mucks. Topography is guite varied from rolling hills to rock outcrops with a fair amount of seeps.

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

Entirely State owned and surrounded by State forest land.

Unique Natural Features:

Tributaries to form the South Branch of the East Branch of the Sturgeon River.

Archeological, Historical, and Cultural Features:

Archaeological hit was verified to be outside of this compartment.

Special Management Designations or Considerations:

Cold water fisheries require 300' buffer.

Watershed and Fisheries Considerations:

300 foot buffer to the trout waters of the E. Br. of the Sturgeon, upstream from the Gene's Pond bridge. This compartment also contains Warren Pond- Fisheries Division's walleye rearing pond. As such, as water flowing into or out of the pond should have appropriate buffer widths. Streams, regardless of their size or frequency of flow, are connected to downstream waters and strongly influence their function. Additionally, wetlands and open waters in riparian areas and floodplains are physically, chemically, and biologically integrated with rivers via functions that improve downstream water quality. These systems act as effective buffers to protect downstream waters from pollution and are essential components of river food webs. BMP's should be implemented to control sediment sources from adjacent uplands. Fine sediments such as silt and sand negatively affect natural reproduction of fish, decrease the diversity of aquatic invertebrate and fish taxa, and result in lower overall fish populations.

Wildlife Habitat Considerations:

White-tailed deer was selected as a featured species in this compartment to manage for critical habitat conditions which include important conifers for winter cover, travel corridors and upland dispersal for forage. Forest openings will also be managed to provide important spring and summer forage. In addition, black bear was selected to manage for critically important lowland hardwoods, lowland conifers, vernal ponds and drainages, refuge trees, forest openings and mast producing trees and shrubs. Maximizing age class diversity, decreasing stand size and maintaining the conifer component in aspen stands will provide grouse, woodcock. Maintaining mature forest conditions will provide critical habitat for northern goshawk.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of medium- and coarse-textured glacial till. The glacial drift thickness varies between 10 and 50 feet. The Cambrian Munising Group, Precambrian Randville Dolomite, and Archean granite/gneiss subcrop below the glacial drift. The Randville and Granite/Gneiss could be used for decorative or building/dimension stone. The compartment is about three miles north of the Eastern Menominee Iron Range. Groveland Mine (iron) is located approximately four miles to the southwest. Part of this compartment was previously leased for metallic mineral exploration. There are no visibly active gravel pits in the area, but there is sand and gravel potential. There is no economic oil and gas production in the UP.

Vehicle Access:

Wells Grade accesses the south and east boundary of this compartment. Two-track roads and trails also cross into the interior.

Survey Needs:

None.

Recreational Facilities and Opportunities:

There is a snowmobile trail in the far west portion of this stand. It is heavily used for hunting, ATV riding, trapping, dispersed camping, and fishing. Gene's Pond campground and boat launch is located a few miles to the east.

Fire Protection:

Crystal Falls/Norway protection area.

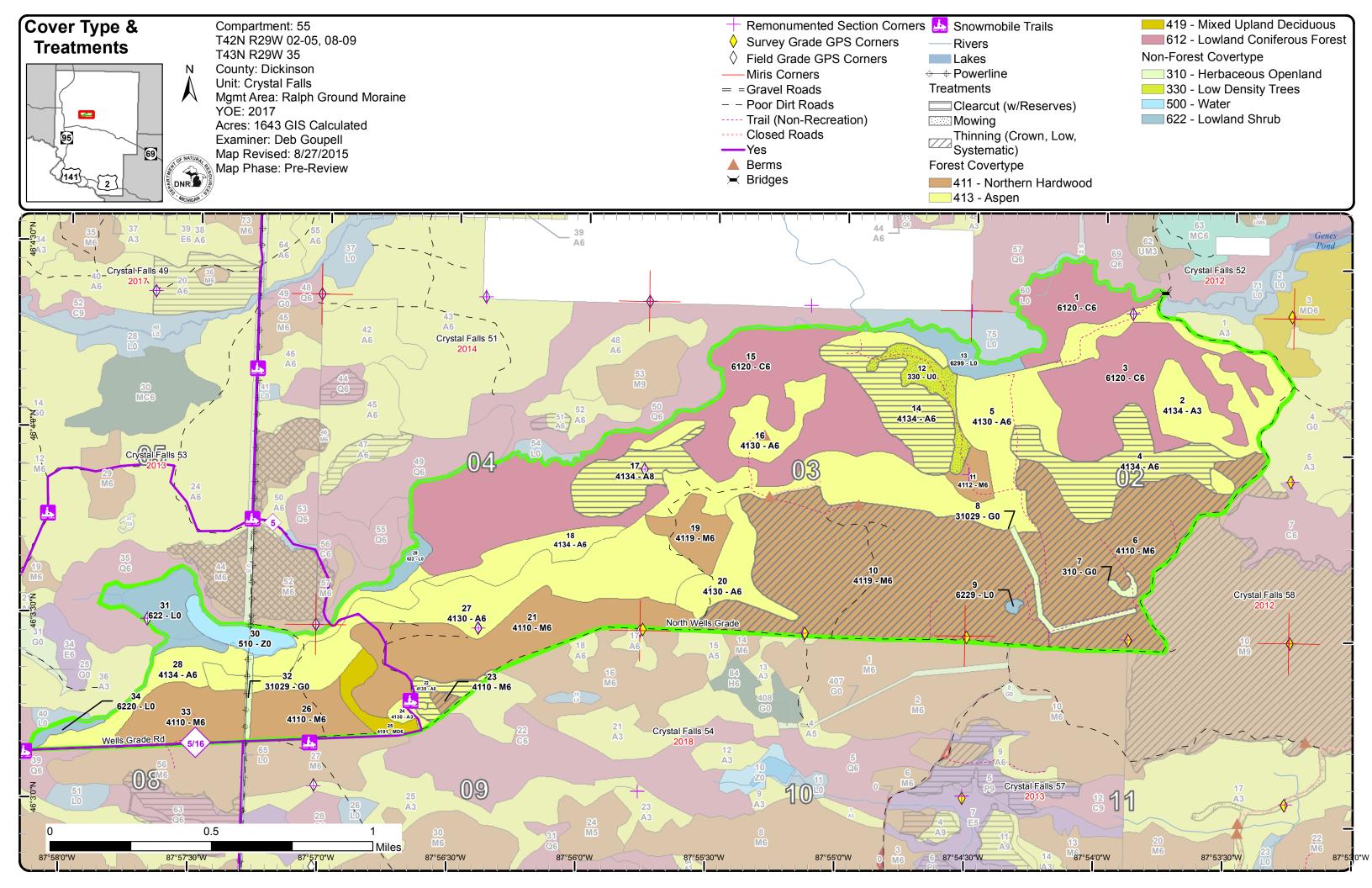
Additional Compartment Information:

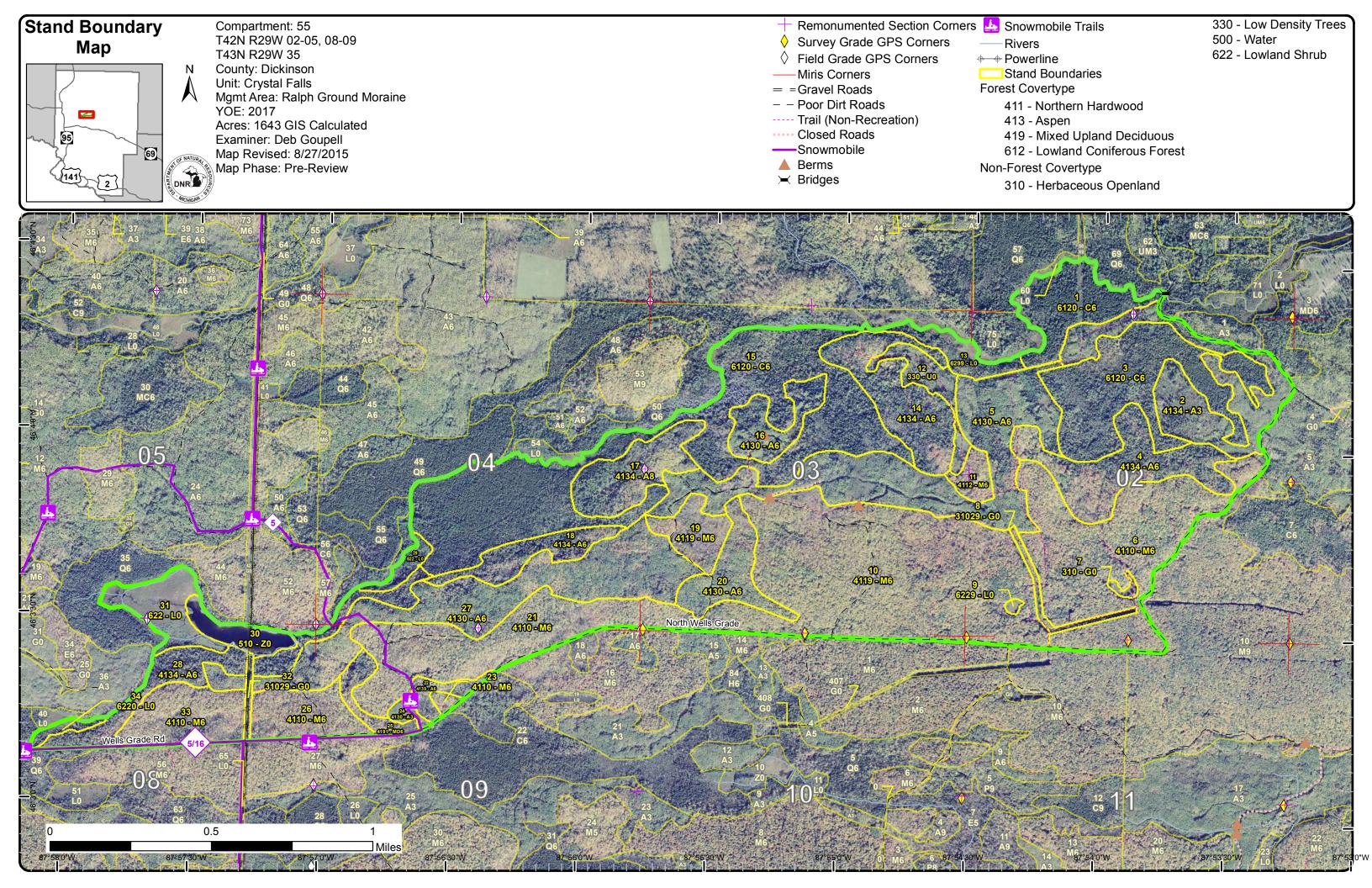
The following reports from the Inventory are attached:

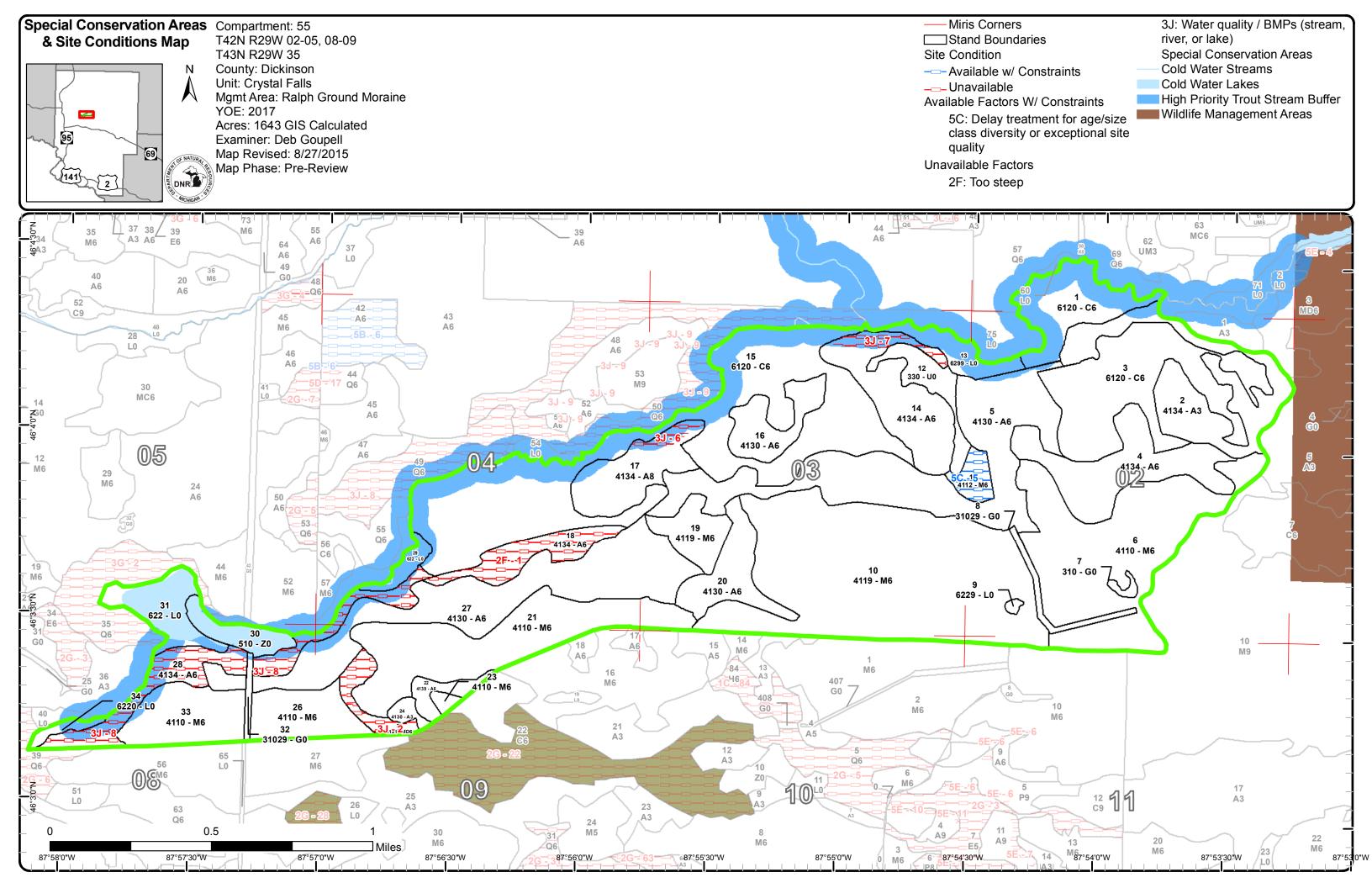
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

The following information is displayed, where pertinent, on the attached compartment maps:

Base feature information, stand boundaries, cover types, and numbers Proposed treatments
Site condition boundaries
Details on the road access system







Crystal Falls Mgt. Unit

Deb Goupell : Examiner

Compartment 55

Year of Entry 2017



Age Class

		Kos /	\$ /s	2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 /	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3 / 5	Se Se	3 /5	/ 8 / K	/ } } §	8 8	8/8/	, z,	\(\sqrt{\sq}\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}\}}\sqrt{\sq}}}}}}}}}\sqit{\sqrt{\sqrt{\sq}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}	,		N. A. S.		N. N
Aspen		0	71	0	152	149	0	63	148	25	0	0		0	0		0	0	608
Cedar	0	0	0	0	0	0	0	0	0	0	343	0	0	0	0	0	0	0	343
Herbaceous Openland	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Low-Density Trees	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Lowland Shrub	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	12
Northern Hardwood	0	0	0	0	0	0	0	0	0	13	372	0	0	0	0	0	0	191	576
Water	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Total	105	0	71	0	152	149	0	63	148	50	715	0	0	0	0	0	0	191	1644



Report 2 – Treatment Summary

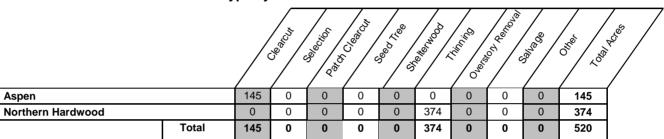
Crystal Falls Mgt. Unit Year of Entry: 2017

Acres of Harvest

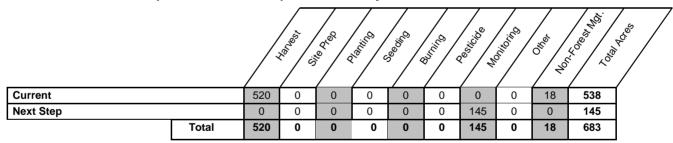
Compartment 55
Total Compartment Acres: 1,643

Commercial Harvest - 520 Harvests with Site Condition - 0 Next Step Harvest - 0 Habitat Cut - 0

Cover Type by Harvest Method



Proposed and Next Step Treatments by Method



Crystal Falls Mgt. Unit Report 4 -- Treatments Compartment: 55 s Year of Entry: 2017 t а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type** Age **Approval** n Name CoverType Density Age Range Type Method Objective Structure **Status** d 12055004-Cut 57.7 4134 - Aspen, Poletimber 75 Clearcut with 413 - Aspen 111-Harvest Even-Aged Proposal Spruce/Fir Well 140 Retention **Habitat Cut: No Site Condition:** Prescription harvest all trees 2"dbh and up. Reserve white pine, hemlock and conifer less than 6" on stump. Winter harvest only. Seeps will be excluded/protected as much as possible. Retention will be all cedar plus the southeast lobe, where there is a bed and bank. Specs: Next Step **Treatments:** Acceptable maple, spruce, fir, birch, aspen Regen: Shallow soils with a good number of seeps and drains. Old next step comments: Other Comment: **Proposed Start Date:** 10/1 /2016 12055006-Cut 140.9 4110 - Sugar Maple Poletimber 111-Harvest Crown Thinning 411 - Northern Even-Aged Proposal Association Well 140 Hardwood Habitat Cut: No Site Condition: Prescription Thin to BA of 80 by releasing crop tree crowns. Avoid marking heavily in seeps if possible. Prefer to see winter harvest to protect the shallow soils in here. OFS activity will be evaluated at sale set up to determine required buffer. Specs: Next Step **Treatments:** Acceptable Regen: Old next step comments: Other Comment: **Proposed Start Date:** 10/1 /2016 12055010-Cut 230.7 4119 - Mixed Poletimber 94 Crown Thinning 411 - Northern Even-Aged Proposal 111-Harvest Northern Hardwoods 140 Well

Habitat Cut: No Site Condition:

Prescription Thin to BA of 80 by focusing on releasing crop tree crowns. Protect vernal pond in northwest corner and around stand 9. There are seeps and

Specs: drains in the north portions. Where sugar maple saplings exist and are not flat topped, try to release.

Next Step Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

1212055012-NF18.0330 - Low-DensityNonstocked0UnspecNonForestMgtMowing310 -ApprovedTreesifiedHerbaceousProposal

,3

Openland

Openland

Habitat Cut: Yes Site Condition:

<u>Prescription</u> opening maintenance <u>Specs:</u>

. . . .

Next Step Treatments:

.

Acceptable Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

Acceptable maple, aspen, spruce, fir, birch, pine

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

12055023-Cut 2.8 4110 - Sugar Maple Poletimber 111-Harvest Crown Thinning 411 - Northern Even-Aged Proposal Association \/\ell 140 Hardwood

Habitat Cut: No Site Condition:

Prescription Thin to BA 70; remove poorly formed trees and aspen.

Specs:

Next Step Treatments:

Acceptable Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016 Crystal Falls Mgt. Unit

Report 4 -- Treatments

Compartment: 55 Year of Entry: 2017

a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status	19
28	12055028-Cut	0.0	4134 - Aspen, Spruce/Fir	Poletimber Well	79	Unspec	Harvest	Clearcut with	413 - Aspen	Even-Aged	Proposal	

Habitat Cut: No Site Condition:

Prescription Specs: Final harvest 2" dbh and greater trees, leaving unmerchantable conifer, cedar, pine. Retention will also include 100-300' buffer from Warren Pond, as indicated by Fisheries. Most of the stand east of the pond is too steep to harvest.

Next Step Treatments:

Acceptable aspen, fir, spruce, pine, birch, maple

Regen:

S

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

Total Treatment Acreage Proposed: 537.7

Compartment: 55

Crystal Falls Mgt. Unit

Deb Goupell : Examiner Year of Entry: 2017

Availa	bility for	[*] Managemer	nt					
Total	Acres	Acres Avail	Acres		Domina	nt Site	Conc	litions
Acres	Available	With Condition	Not Available		5C	2F	3J	
608	520	0	88	Aspen		25	63	
343	343	0	0	Cedar				
13	13	0	0	Herbaceous Openland				
18	18	0	0	Low-Density Trees				
58	58	0	0	Lowland Shrub				
12	0	0	12	Mixed Upland Deciduous			12	
575	565	10	0	Northern Hardwood	10			
16	16	0	0	Water				
1,642	1,533	10	100	Total Forested Acres	10	25	75	
	93%	1%	6%	Relative Percent				=

^{*}Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	2F: Too steep	25	Unspecified	Unspecified	Unspecified	Unspecified
(Comments:						
2	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	12	Unspecified	Unspecified	Unspecified	Unspecified
(Comments:						
5	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	10	4A: No Markets Available for these Forest Products	Unspecified	Unspecified	Unspecified
(Comments:						
5	Small average diam	eters; another entry should al	low for ac	lditional growth. May need	d to consider even aged ha	rdwood management.	

Report 5 – Site Conditions

Crystal Falls Mgt. Unit

Deb Goupell : Examiner

Compartment: 55 Year of Entry: 2017

6	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	6	5E: Long-Term Retention	Unspecified	Unspecified	Unspecified			
•	Comments:									
7	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	8	5E: Long-Term Retention	Unspecified	Unspecified	Unspecified			
(Comments:									
8	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	49	Unspecified	Unspecified	Unspecified	Unspecified			
	Comments: Fisheries requested 300 ft buffer on feeder which eliminates most of this stand.									

Mgt. Unit

Compartment: #Type! Year of Entry:



Report 6 - 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.

SCA Name	SCA Category	Detail Type	Recommendation	Acres
Comments				

Crystal Falls Mgt. Unit Compartment: 55
Year of Entry 2017



Report 7 – EXISTING SPECIAL CONSERVATION AREA DETAILS

* This is a list of SCA's for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to the Special Conservation Area Map for locations of the below listed Conservation Areas.

Conservati Area	on Type	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area				
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen condi- stocked trout populations and those of other coldwater fish spe- conditions for coldwater fishes may occur in Michigan lakes if t groundwater inflows, or are located in colder (northern) areas of Director's action and designated as trout resources by Fisherica	ecies to persist from year to year. Suitable they are relatively deep, have substantial of the state. Such lakes are established by				
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen constocked trout populations and those of other coldwater fish specyear to year. Coldwater streams in Michigan typically provide to contributions of groundwater to their stream flows. Such stream designated as trout resources by Fisheries Order 210.	ecies (e.g., slimy sculpin) to persist from hese conditions due to substantial				
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems influences the aquatic ecosystem and vice-versa. Because of streams and open water wetlands, riparian areas harbor a high communities are ecologically and socially significant in their ef as aesthetics, habitat, bank stability, timber production, and the	the unique conditions adjacent to lakes, n diversity of plants and wildlife. Riparian fects on water quality and quantity, as well				

S	Crystal Falls		Report 8	B – Forested	Stands Compartment: 55 Year of Entry: 2017	
t a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6120 - Lowland Cedar	Poletimber Well	41.3	95	Unspecified	
2	4134 - Aspen, Spruce/Fir	Sapling Well	66.8	14	Immature	balsam and spruce more on far north. Some wetter areas. Iron Bridge TS cut 2001
3	6120 - Lowland Cedar	Poletimber Well	92.3	92	111-140	
4	4134 - Aspen, Spruce/Fir	Poletimber Well	60.4	75	111-140	Very shallow soils, many seeps, would have to be winter cut only. Much of the softwood is on the ground. Seep on far east will be retention. Seeps will be excluded as much as possible. Will leave all cedar.
5	4130 - Aspen	Poletimber Well	126.5	30	Immature	Seeps and drainages throughout this stand.
6	4110 - Sugar Maple Association	Poletimber Well	140.9	94	111-140	This portion was cut Elf Hardwood North in 2001. OFS point; will determine activity at sale set up to determine buffer required.
10	4119 - Mixed Northern Hardwoods	Poletimber Well	230.7	94	111-140	Birch not holding up well. Red maple heaviest on north edge. Good quality and potential. There are drainages to watch out for. Vernal pond in far northwest corner will be protected.
11	4112 - Maple, Beech, Cherry Association	Poletimber Well	9.7	85	111-140	ParV-Wisco habitat type on Rubicon sand 18-35% slope. Based on this, I suggest managing even aged hardwood and wait at least another 10 years to final harvest. There are many multistemmed trees and epicormic boles. Few quality trees. A second alternative would be to try a heavy shelterwood by marking as much quality crop trees to a BA of 40-50 this would be more experimental. Well covered with princess pine and lycopodium club mosses
14	4134 - Aspen, Spruce/Fir	Poletimber Well	53.6	68	Unspecified	North lobe has more hardwood combination with some impressive maple relics (green tree the good ones for reserve seed trees). South lobe has a lot of softwood on the ground. Mostly aspen with some very poor quality red maple pockets. Narrow strip of black ash/cedar. Retain 100' buffer from stream, cedar, white pine.
15	6120 - Lowland Cedar	Poletimber Well	209.7	94	Unspecified	This is a very variable stand. Shallow soils, seeps and drainages throughout.
16	4130 - Aspen	Poletimber Well	25.4	30	Immature	Cut in 1985; few larger white spruce were left originally
17	4134 - Aspen, Spruce/Fir	Sawtimber Medium	38.9	72	Unspecified	Aspen with poor quality hardwood inclusion (~5ac). Very steep rock in center, will need to skid wood around this ridge. Rocky with terrain. Buffer stream on north.
18	4134 - Aspen, Spruce/Fir	Poletimber Well	24.9	80	Unspecified	At least 3 seeps and 2 different bed/banks. Very steep ridge. Black ash swale. With hydrology and terrain, this stand should be factor limited.

S t	Crystal Falls	s Mgt. Unit		Report 8	– Forested	Stands Compartment: 55 Year of Entry: 2017		
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:		
19	4119 - Mixed Northern Hardwoods	Poletimber Well	21.2	77	81-110	Seepy, shallow soils. Very few quality stems except on west side of road. Thick with princess pine and lycopodium.		
20	4130 - Aspen	Poletimber Well	31.2	47	Unspecified	Far north piece is poor quality maple on a rock outcrop. Holding ok and will wait for next entry as diameters will increase.		
21	4110 - Sugar Maple Association	Poletimber Well	98.4	93	81-110	Thinned in 2001 Wells West TS. Steep hills in northwest. BAs are variable but overall do not meet criteria for treatment (avg 106 BA). Ironwood very heavy in east 1/3 of stand.		
22	4139 - Aspen, Mixed Deciduous	Poletimber Well	9.5	66	Unspecified	Final harvest, leave black ash. Hardwood quality is fair to poor; alternative would be to remove aspen and softwood and poor hardwood (shelterwood) and transition to hardwood management.		
23	4110 - Sugar Maple Association	Poletimber Well	2.8	84	111-140	Focus on removal of aspen and opening crowns of crop trees.		
24	4130 - Aspen	Sapling Well	4.5	17	Immature	Baby Wells TS cut 2001		
25	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	12.3	84	81-110	There is a bed and bank from the Grade going north and eventually disappears underground for a bit and reappears in bits in stand to the northwest. Most of the aspen and conifer are in the north lobe.		
26	4110 - Sugar Maple Association	Poletimber Well	32.0	94	81-110	Previously thinned 2001. White ash regen is heavy on far east third of this stand. BA avg is 113 from 6 plots		
27	4130 - Aspen	Poletimber Well	117.3	41	Unspecified	There are some older trees on the north edge that should have		

4134 - Aspen,

Spruce/Fir

4110 - Sugar Maple

Association

28

33

Well

Poletimber

Well

Poletimber

Well

48.6

39.9

79

91

Unspecified

81-110

been harvested previously. Bed and bank in center of stand runs north/south

Stand has fair amount of softwood fallen out and the aspen is

breaking up quickly. Red maple and aspen is filling in openings. Watch for seeps on central and east edges. Portions of stand are too steep to harvest. Check to see if 100 or 300 foot buffer necessary. Determine if nest is active.

Thinned in 2001. There is a lowland pocket in the center of stand

with balm of gilead, cedar, birch, black ash, white spruce, tag, aspen, red maple, balsam and sugar maple saplings. Low density trees. may get typed out separately.

Compartment: 55 Year of Entry: 2017



Stand	Cover Type	Acres	Managed Site	General Comments:
7	310 - Herbaceous Openland	2.1	No	
8	31029 - Grass (OI)	7.2	No	OPIC - FMD: Maintainence of opening pending dismantling of elf line. OI Stand Year Origin was
9	6229 - Mixed lowland shrub	1.2	No	
12	330 - Low-Density Trees	18.0	No	OPIC - FMD: Should consider even-aged management for this stand; very little maple quality (3-9-05) From minireview: Hold for 10 years and manage for Aspen and fir mix.
13	6299 - Lowland Shrub (OI)	16.3	No	OPIC - FMD: OI Stand Year Origin was 555
29	622 - Lowland Shrub	7.4	No	
30	510- Water (OI)	15.5	No	OPIC - FMD: Warren Pond
31	622 - Lowland Shrub	28.3	No	OPIC - FMD: OI Stand Year Origin was 1940
32	31029 - Grass (OI)	3.4	No	OPIC - FMD: OI Stand Year Origin was
34	6220 - Alder/willow	4.6	No	OPIC - FMD: OI Stand Year Origin was 1940