



Compartment Review Presentation

Crystal Falls Forest Management Unit

Compartment 12180

Entry Year 2017

Acreage: 761

County Iron

Management Area: Net River

Revision Date: 2015-07-27

Stand Examiner: Linda Lindberg

Legal Description:

T45N,R34W, sec 2,10 T46N,R34W, sec 13,24,25 and 35

Identified Planning Goals:

This compartment is part of the Net River Management Area. These are precious parcels along the Net River even though some have access issues

Maintaining a proper buffer and diversity in the river corridor are key. The goal is to keep present species diversity by preserving some areas and trying to work toward age class diversity in the aspen in others.

Soil and topography:

Sandy to silty loams with rolling to hilly land. Some steep banks along the river in some areas.

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

These parcels of land are each surrounded by private land with public access only on two parcels but it is unique because of the wild and scenic study river running through the parcels.

Unique Natural Features:

As stated above, the proposed wild and scenic study river designation makes this area special and if you visit these parcels, you can see the unique qualities they own.

Archeological, Historical, and Cultural Features:

Special Management Designations or Considerations:

Some of this compartment is Deer obligate winter range.

Watershed and Fisheries Considerations:

Because these parcels are all along the Net river, and it is a proposed wild and scenic river, special consideration should be given when harvesting. 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:

The scattered parcels that comprise this compartment provide the life requisites for those species that live within riparian zones. Managing for mature forest conditions in riparian zones will provide critical habitat for species including wood duck, eagles, ospreys, American marten, black bear, moose and deer. Parcels fall within historic Cable Lake and Hemlock Rapids Deer Wintering Complexes. Protection of the watershed and keeping travel corridors intact is of primary importance.

Mineral Resource and Development Concerns and/or Restrictions

Compartment 180: Sections 2 & 10, T45N-R34W, Iron County

Surface sediments consist of an end moraine of coarse-textured till. There is insufficient data to determine the glacial drift thickness. The Precambrian Michigamme Formation subcrops below the glacial drift. There is no current economic use for these rocks. Abandoned iron mines are located ten miles to the southeast. Land near this Compartment has not been previously leased for metallic exploration. Gravel pits are located in the area and there should be potential. There is no economic oil and gas production in the UP, currently.

Compartment 180: Sections 10, 13, 24 & 25, T46N-R34W, and Section 7, T34N-R33W, Iron County
Surface sediments consist of an end moraine of coarse-textured till and coarse-textured till. There is insufficient data to determine the glacial drift thickness. The Precambrian Michigamme Formation subcrops below the glacial drift. There is no current economic use for these rocks. Abandoned iron mines are located twelve miles to the southeast. Land in and near this Compartment is currently leased for metallic exploration. Gravel pits are located in the area and there should be potential. There is no economic oil and gas production in the UP, currently.

Vehicle Access:

Some of these parcels can be accessed with a vehicle but you must go through private property to get there. The boat landing parcel obviously has public vehicle access. There is access to the parcel off of Cable Lake Road also.

Survey Needs:

Several parcels will need survey work. Some are pending permission to access.

Recreational Facilities and Opportunities:

This has some boating and canoeing and fishing opportunities. When accessible, trapping, hunting and other recreation can take place on these parcels.

Fire Protection:

Some of these parcels cannot be accessed without permission from adjoining landowners which makes for difficult access.

Additional Compartment Information:

Even though some of the only access to this land is from the river for the public, it is extremely valuable for fish and wildlife and the riparian area. Most times we have been able to obtain permission to harvest the timber.

The following reports from the Inventory are attached:

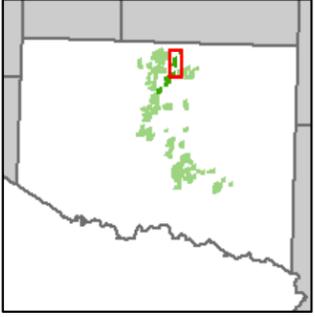
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

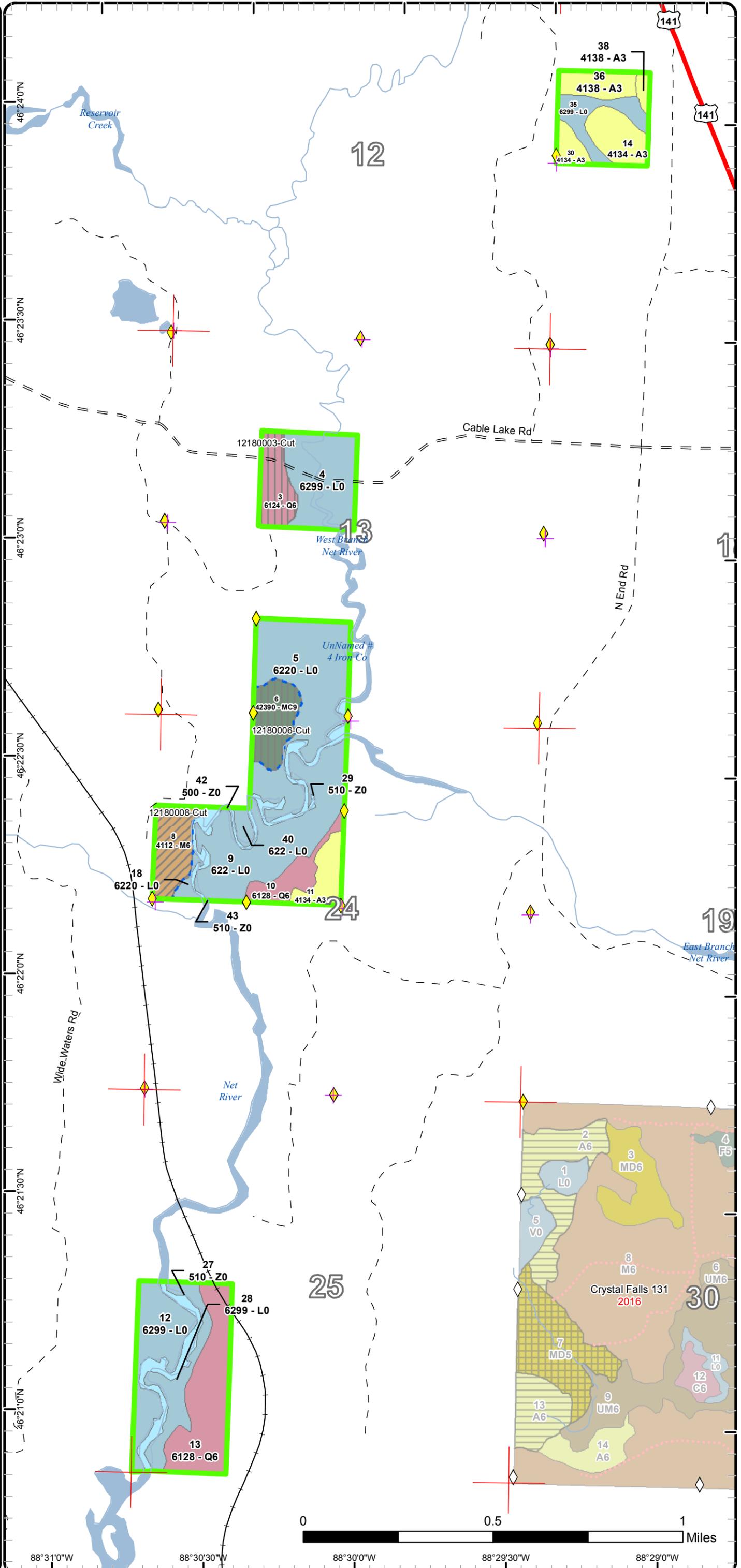
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments

Compartment: 180
 T46N R33W 07
 T46N R34W 13,24,25,35
 T45N R34W 02,10
 County: Iron
 Unit: Crystal Falls
 Mgmt Area: Net River
 YOE: 2017
 Acres: 761 GIS Calculated
 Examiner: Linda Lindberg
 Map Revised: 8/31/2015
 Map Phase: Pre-Review

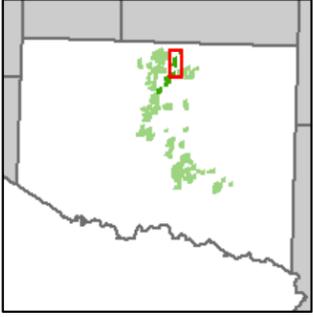


- Remonumented Section Corner
- Survey Grade GPS Corners
- Field Grade GPS Corners
- Miris Corners
- Highway
- Gravel Roads
- Poor Dirt Roads
- Closed Roads
- Railroads
- Rivers
- Lakes
- Treatments with Site Conditions
- Treatments**
- Thinning (Crown, Low, Systematic)
- Shelter Wood (w/Reserves)
- Forest Covertype**
- 411 - Northern Hardwood
- 413 - Aspen
- 423 - Other Upland Conifers
- 612 - Lowland Coniferous Forest
- Non-Forest Covertype**
- 500 - Water
- 622 - Lowland Shrub

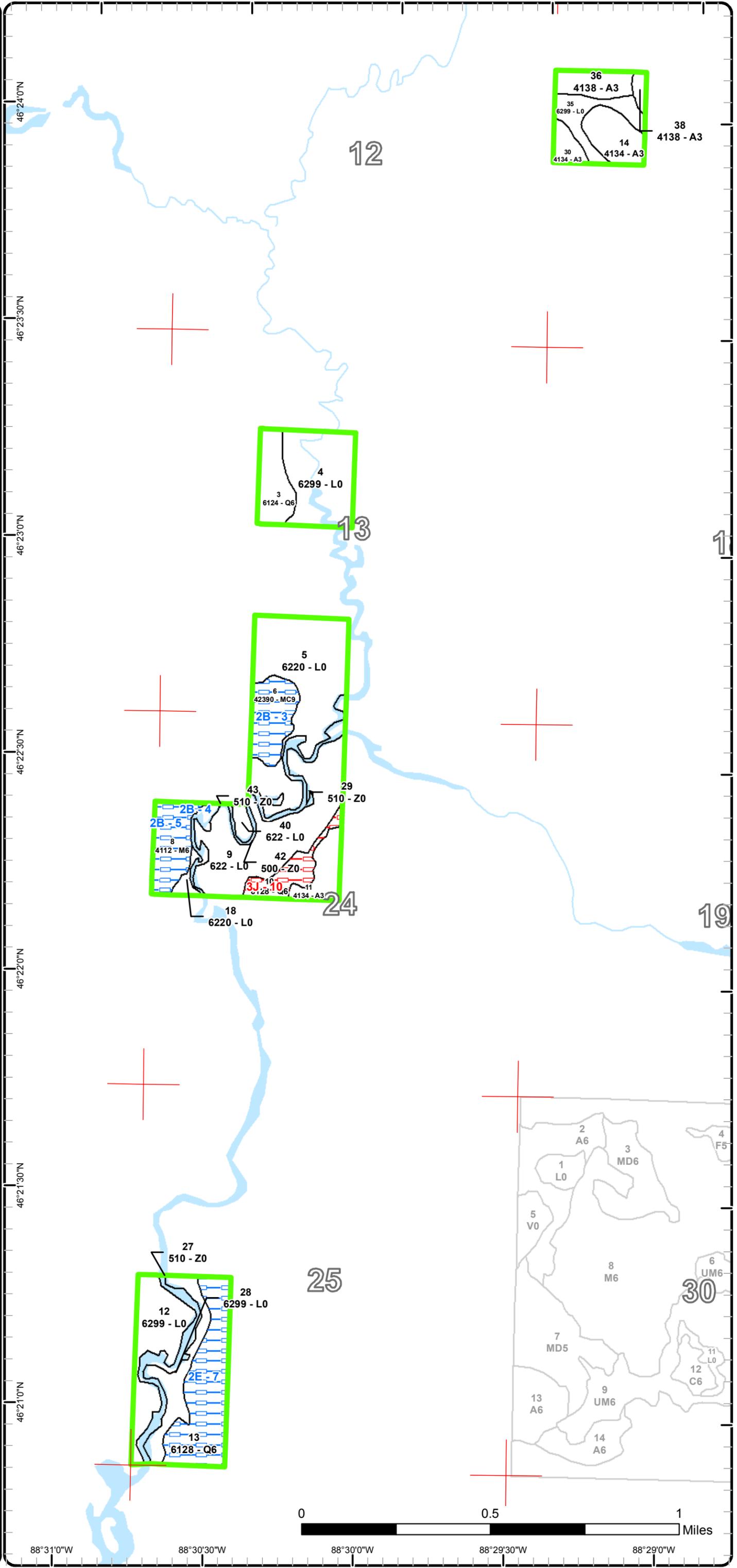


Special Conservation Areas & Site Conditions Map

Compartment: 180
 T46N R33W 07
 T46N R34W 13,24,25,35
 T45N R34W 02,10
 County: Iron
 Unit: Crystal Falls
 Mgmt Area: Net River
 YOE: 2017
 Acres: 761 GIS Calculated
 Examiner: Linda Lindberg
 Map Revised: 8/31/2015
 Map Phase: Pre-Review



- Miris Corners
- Stand Boundaries
- Site Condition
- Available w/ Constraints
- Unavailable
- Available Factors W/ Constraints**
- 2B: Unknown if access through adjacent landowner(s) is possible
- 2E: Road needed
- Unavailable Factors**
- 3J: Water quality / BMPs (stream, river, or lake)
- Special Conservation Areas
- Cold Water Streams
- Cold Water Lakes



88°31'0"W 88°30'30"W 88°30'0"W 88°29'30"W 88°29'0"W

Report 1 – Total Acres by Cover Type and Age Class



Age Class

	Non-Forest	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+	Uneven-Aged	Total
Aspen	0	55	0	2	0	0	0	0	11	87	0	0	0	0	0	0	0	0	155
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	9
Lowland Conifers	0	0	0	0	0	0	0	0	10	13	89	0	0	0	0	0	0	0	112
Lowland Shrub	322	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	322
Marsh	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Northern Hardwood	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	94	96
Upland Conifers	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	15
Water	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49
Total	374	55	0	2	0	0	0	0	21	117	89	0	9	0	0	0	0	94	761



Report 2 – Treatment Summary

Crystal Falls Mgt. Unit
Year of Entry: 2017

Acres of Harvest

Compartment 180
Total Compartment Acres: 761

Commercial Harvest - 12
Harvests with Site Condition - 95
Next Step Harvest - 93
Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	66	0	0	0	0	0	0	0	0	66
Lowland Conifers	0	0	0	0	12	0	0	0	0	12
Northern Hardwood	0	0	0	0	0	15	0	0	0	15
Upland Conifers	0	0	0	0	15	0	0	0	0	15
Total	66	0	0	0	27	15	0	0	0	108

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	108	0	0	0	0	0	0	0	0	108
Next Step	93	0	0	0	0	0	0	0	0	93
Total	201	0	0	0	0	0	0	0	0	201



S t 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
3	12180003-Cut	12.3	6124 - Lowland Spruce-Fir	Poletimber Well	98	51-80	Harvest	Shelterwood with Retention	612 - Lowland Coniferous Forest	Even-Aged	Approved Proposal

Habitat Cut: No**Site Condition:**

Prescription Cut all merchantable trees, except do not cut red and white pine, cedar, hemlock, cherry, oak or elm if present in the stand. Leave trees will be
Specs: marked with red paint and will include black and white spruce, plus the above mentioned trees. When setting up sale, a decision can be made for leaving groups of trees or individuals scattered in the stand.

Next Step
Treatments:

Acceptable spruce, balsam, tamarack
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

6	12180006-Cut	14.6	42390 - Mixed Non- Pine Upland Conifers	Sawtimber Well	89	111- 140	Harvest	Shelterwood with Retention	429 - Mixed Upland Conifers	Even-Aged	Approved Proposal
---	--------------	------	---	-------------------	----	-------------	---------	-------------------------------	--------------------------------	-----------	----------------------

Habitat Cut: No**Site Condition: Unknown Access**

Prescription Cut all merchantable trees except cedar, hemlock, red and white pine, oak , elm and cherry if present in the stand. Do not cut leave areas which
Specs: will be the seed areas and retention and will be enclosed with red paint.

Next Step
Treatments:

Acceptable spruce, balsam and tamarack
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

8	12180008-Cut	14.6	4112 - Maple, Beech, Cherry Association	Poletimber Well	85	51-80	Harvest	Crown Thinning	411 - Northern Hardwood	Two-Aged	Approved Proposal
---	--------------	------	---	--------------------	----	-------	---------	----------------	----------------------------	----------	----------------------

Habitat Cut: No**Site Condition: Unknown Access**

Prescription Thin stand to 80 BA, taking out high risk trees, chose leave trees that are good crop trees which will then be thinned around, taking the two
Specs: greatest competitors if the tree is greater than 9 inches, and thin around crop trees that are less than 8 inches in dbh. Choose best tree in place.

Next Step
Treatments:

Acceptable maple, birch,
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

21	12180021-Cut	66.2	4130 - Aspen	Sawtimber Well	87	111- 140	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Approved Proposal
----	--------------	------	--------------	-------------------	----	-------------	---------	----------------------------	-------------	-----------	----------------------

Habitat Cut: No**Site Condition: Unknown Access**

Prescription Cut all trees that are merchantable except red and white pine, cedar, hemlock, oak, cherry and elm. There are wet areas that should be taken
Specs: out of the sale area and a buffer left along the river. The buffer should be 100 feet along the Net River.

Next Step
Treatments:

Acceptable aspen
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

**Total Treatment
 Acreage Proposed: 107.7**

Report 5 – Site Conditions

Crystal Falls Mgt. Unit
Linda Lindberg : Examiner

Compartment: 180
Year of Entry: 2017

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions			
		With Condition	Not Available		2B	2E	1C	3J
156	58	66	32	Aspen	66			32
9	9	0	0	Cedar				
111	12	33	66	Lowland Conifers		33		66
322	322	0	0	Lowland Shrub				
3	3	0	0	Marsh				
97	76	15	6	Northern Hardwood	15		4	2
15	0	15	0	Upland Conifers	15			
49	49	0	0	Water				
761	529	129	104	Total Forested Acres	95	33	4	100
	70%	17%	14%	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	3J: Water quality / BMPs (stream, river, or lake)	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	21	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Buffer along river and wetland							
3	Available	2B: Unknown if access through adjacent landowner(s) is possible	15	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 5 – Site Conditions

Crystal Falls Mgt. Unit
Linda Lindberg : Examiner

Compartment: 180
Year of Entry: 2017

4	Available	2B: Unknown if access through adjacent landowner(s) is possible	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments: We don't know if we can get here or not							
5	Available	2B: Unknown if access through adjacent landowner(s) is possible	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Available	2B: Unknown if access through adjacent landowner(s) is possible	66	Unspecified	Unspecified	Unspecified	Unspecified
Comments: I am not sure about access and there are more than one landowner who has to let us through							
7	Available	2E: Road needed	33	2B: Unknown if access through adjacent landowner(s) is possible	Unspecified	Unspecified	Unspecified
Comments: Buffer for the river also. We would need to get permission to cross and build a haul road on the private, cross the railroad tracks, and this is a drainage to the river.							
8	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	11	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	Unspecified	Unspecified	Unspecified
Comments: Too small to go and too far and too many people to get permission from.							
9	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Buffer along Net River							

Report 5 – Site Conditions

Crystal Falls Mgt. Unit
Linda Lindberg : Examiner

Compartment: 180
Year of Entry: 2017

10	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	10	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Access may be a problem also, but it was left for a buffer to the wet in the past and a travel corridor along the wet for wildlife.</p>							
11	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	43	2F: Too steep	Unspecified	Unspecified	Unspecified
<p>Comments: This is a wet, steep area that is a travel corridor for wildlife and a BMP</p>							
12	Unavailable	1C: Other dept or div proc/practices	4	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Too small an area to get permission and build a road to get to it.</p>							

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				

**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.

ERA = Ecological Reference Area
 HCVA = High Conservation Value Area
 SCA = Special Conservation Area

Conservation Area	Type	Description
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
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	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4134 - Aspen, Spruce/Fir	Poletimber Well	21.0	89	51-80	Buffer for Net River
2	4119 - Mixed Northern Hardwoods	Poletimber Well	8.9	85	81-110	OPIC - FMD: OI Stand Year Origin was 555
3	6124 - Lowland Spruce-Fir	Poletimber Well	12.4	98	51-80	OPIC - FMD: Most of this would be the river buffer.
6	42390 - Mixed Non-Pine Upland Conifers	Sawtimber Well	14.6	89	111-140	OPIC - FMD: This stand will be harvested if we can get access to it.
8	4112 - Maple, Beech, Cherry Association	Poletimber Well	14.6	85	51-80	OPIC - FMD: This stand makes you wonder what was all around that is cut now.
10	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	10.0	77	51-80	OPIC - FMD: OI Stand Year Origin was 2008 Buffer of trees for the wet area.
11	4134 - Aspen, Spruce/Fir	Sapling Well	9.6	7	Immature	OPIC - FMD: OI Stand Year Origin was 2008
13	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	33.4	99	81-110	
14	4134 - Aspen, Spruce/Fir	Sapling Well	11.8	7	Immature	There is a scattering of 6 inch or under conifers mixed in.
21	4130 - Aspen	Sawtimber Well	66.2	87	111-140	OPIC - FMD: this is another one that will need access through private land to get cut.
22	4110 - Sugar Maple Association	Sawtimber Well	66.9	85	81-110	OPIC - FMD: Access is limited here but we have been let through in the past. Steep hill toward river but could be operable ...Might want to keep the harvest line at the top of the hill.. Much regen both maple and cherry and the maple is browsed.
23	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Medium	12.9	87	51-80	OPIC - FMD: OI Stand Year Origin was 1928Net River Buffer
25	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	42.8	95	81-110	OPIC - FMD: this would be the buffer along the Net River.
30	4134 - Aspen, Spruce/Fir	Sapling Well	4.6	7	Immature	This 40 is on the Phase II disposal list.
32	4134 - Aspen, Spruce/Fir	Poletimber Medium	10.8	75	51-80	OPIC - FMD: this doesn't really meet the criteria to cut but for the most part is too small to fight for the access. There are many landowners who we would have to get permission from and the volume would not be worth the effort.
33	411 - Northern Hardwood	Poletimber Medium	4.1	178	51-80	OPIC - FMD: OI Stand Year Origin was 555

S
t
a
n
d

Crystal Falls Mgt. Unit

Report 8 – Forested Stands

Compartment: 180
Year of Entry: 2017

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
34	6120 - Lowland Cedar	Poletimber Medium	9.0	115	51-80	OPIC - FMD: This again is small volume for all the trouble to get access and a long way to go. Also, it is cedar and we have trouble with regeneration and it could be considered part of the BMP because the rest if tag alder.
36	4138 - Aspen (OI)	Sapling Well	8.7	7	Immature	OPIC - FMD: Up for disposal
38	4138 - Aspen (OI)	Sapling Well	2.2	29	Immature	OPIC - FMD: OI Stand Year Origin was 1986
41	4119 - Mixed Northern Hardwoods	Poletimber Well	2.1	80	51-80	OPIC - FMD: part of bmp's for the Net river
47	4130 - Aspen	Sapling Well	20.8	9	Immature	OPIC - FMD: OI Stand Year Origin was 2006



Stand	Cover Type	Acres	Managed Site	General Comments:
4	6299 - Lowland Shrub (OI)	28.4	No	OPIC - FMD: T.here are some trees but mostly it is low
5	6220 - Alder/willow	47.8	No	tag alder with a retention piece
9	622 - Lowland Shrub	44.8	No	OPIC - FMD: Lots of Tag Alder!!!
12	6299 - Lowland Shrub (OI)	22.4	No	Buffer along Net River
16	62399 - Marsh (OI)	3.3	No	OPIC - FMD: Nice little bog by the fishing site.
17	6299 - Lowland Shrub (OI)	8.1	No	
18	6220 - Alder/willow	2.4	No	
19	500 - Water	14.9	No	The Net River
24	500 - Water	9.6	No	OPIC - FMD: The Net river
27	510- Water (OI)	9.2	No	OPIC - FMD: The Net River
28	6299 - Lowland Shrub (OI)	14.6	No	Net River buffer
29	510- Water (OI)	7.5	No	OPIC - FMD: the Net River
31	622 - Lowland Shrub	73.0	No	
35	6299 - Lowland Shrub (OI)	10.7	No	
39	622 - Lowland Shrub	66.9	No	
40	622 - Lowland Shrub	2.6	No	OPIC - FMD: Lots of Tag Alder!!!
42	500 - Water	1.4	No	Net River
43	510- Water (OI)	3.8	No	OPIC - FMD: The Net River



Stand	Cover Type	Acres	Managed Site	General Comments:
45	500 - Water	2.6	No	OPIC - FMD: The Net River