

Compartment Review Presentation

Crystal Falls Forest Management Unit

Compartment 12153 Entry Year: 2027 Acreage: 743 County: Iron

Management Area: Brule River

Stand Examiner: Eric Brolin

Legal Description:

T43N-R31W section 31. T43N-R32W section 36.

Identified Planning Goals:

Develop age class distribution in aspen type. Maintain health in conifer types and increase acres where possible. Maintain and improve road system.

Soil and topography:

Karlin sands on flat to rolling hills with some lowland swamps and drainages.

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

State lands mixed with a few small private parcels. Two year round homes on US- 2 Lake Mary Road intersection. Lands used mainly for hunting and fishing and managed for timber products.

Unique Natural Features:

Glidden Lake is on the south side of the compartment and the Michigamme River is just east of the compartment.

Archeological, Historical, and Cultural Features:

None.

Special Management Designations or Considerations:

None.

Watershed and Fisheries Considerations:

Glidden Lake is on the south side of the compartment. The fish community consists of bluegill, largemouth bass, yellow perch, and walleye. 100 foot buffer around any waterbody. There is also an unnamed tributary running through the compartment. 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:

This compartment falls within the Panola Plains Management area. Featured species selected for this management area include American woodcock, black bear, eastern bluebird, Kirtland's warbler, ruffed grouse and white-tailed deer. This compartment is part of the Old Mansfield Deeryard. Lowland cedar and spruce stands provide a travel corridor from the northwest corner of the compartment through to its east central side. This travel corridor is heavily used by black bear and also used as winter cover by deer. Soft mast such as blueberries and cherry, as well as, hard mast producing oak trees, are essential habitat components for bear, deer and grouse. Aspen stands with adequate conifer cover and maximum age class diversity provide excellent habitat for deer, grouse, woodcock and bear.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of thin to discontinuous glacial outwash sand and gravel and post-glacial alluvium. The glacial drift thickness varies between 10 and 50 feet. The Precambrian Hemlock Formation subcrops below the glacial drift. There is not a current economic use for the Hemlock. The Amasa iron formation is known to occur just to the west and the Hemlock volcanics iron formation has been mapped just to the east of the compartment. Abandoned iron mines are located one mile to the northwest. Part of this compartment was previously leased for metallic exploration. The nearest gravel pit is located several miles away and potential appears to be limited. There is no economic oil and gas production in the UP.

Vehicle Access:

M-69, Lake Mary Road and associated woods roads.

Survey Needs:

None.

Recreational Facilities and Opportunities:

Lake Mary Ski Trail is in the SE portion of the compartment. Glidden Lake Campground is located just south of the compartment.

Fire Protection:

Additional Compartment Information:

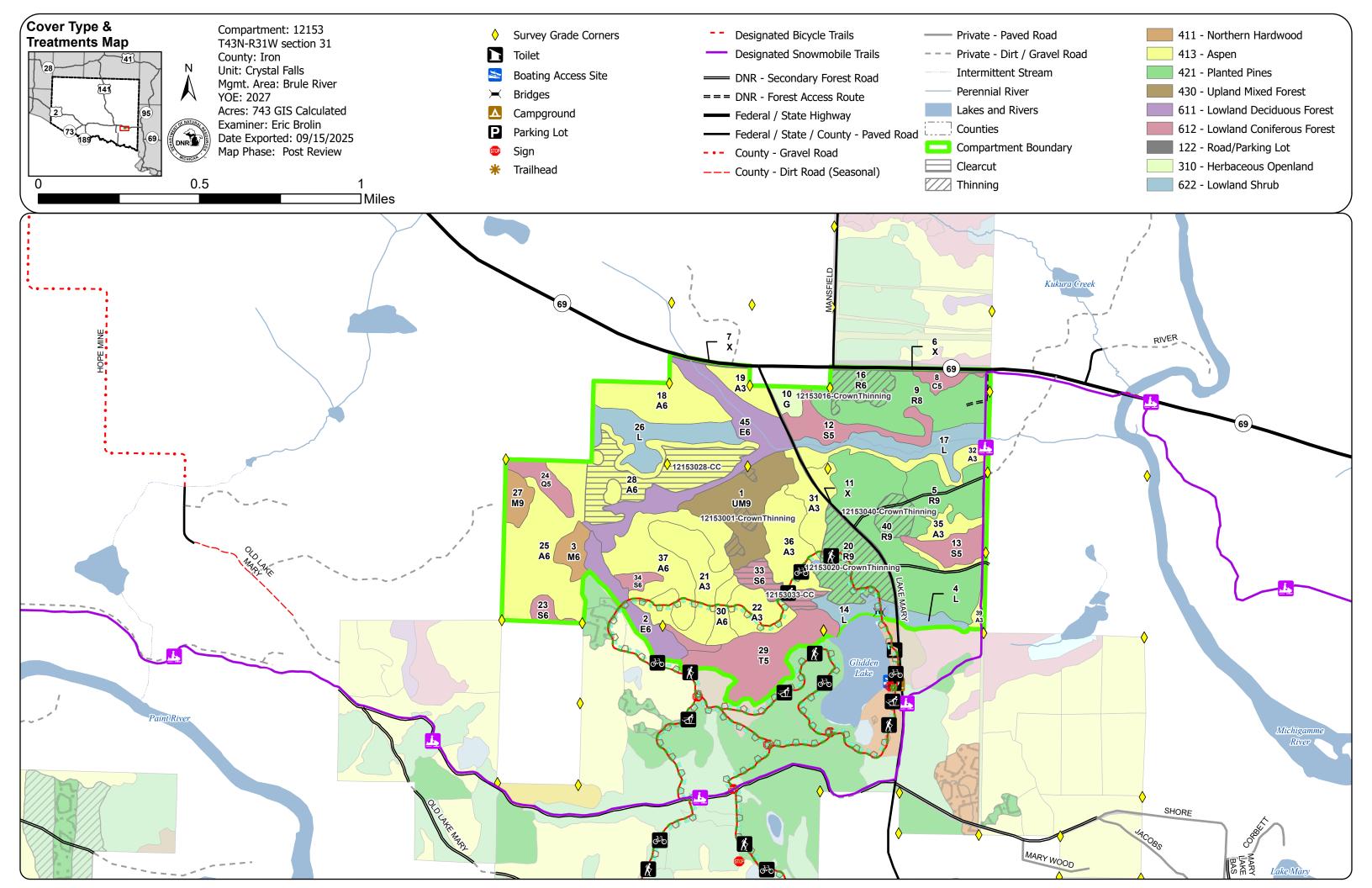
None.

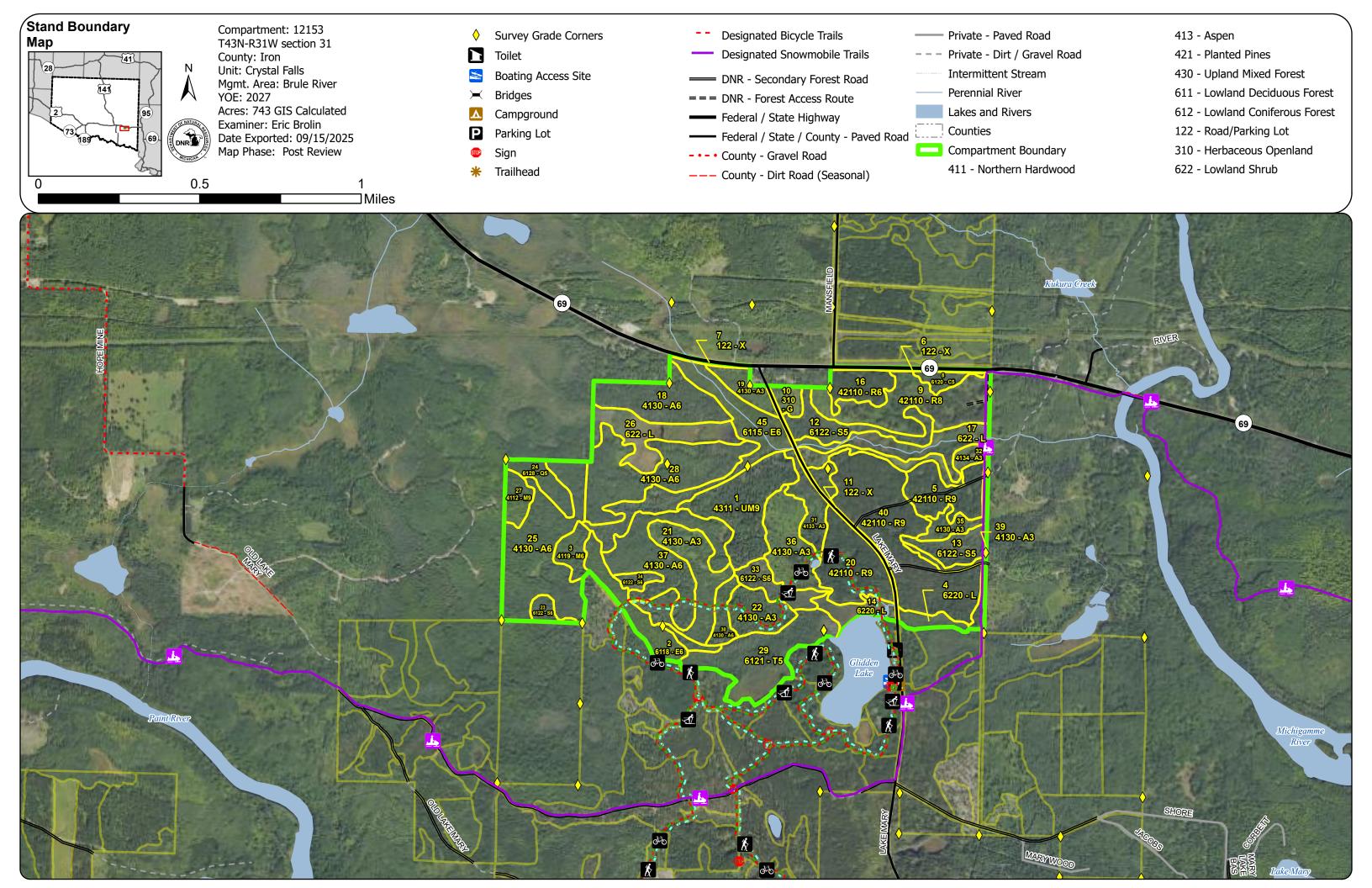
The following reports from the Inventory are attached:

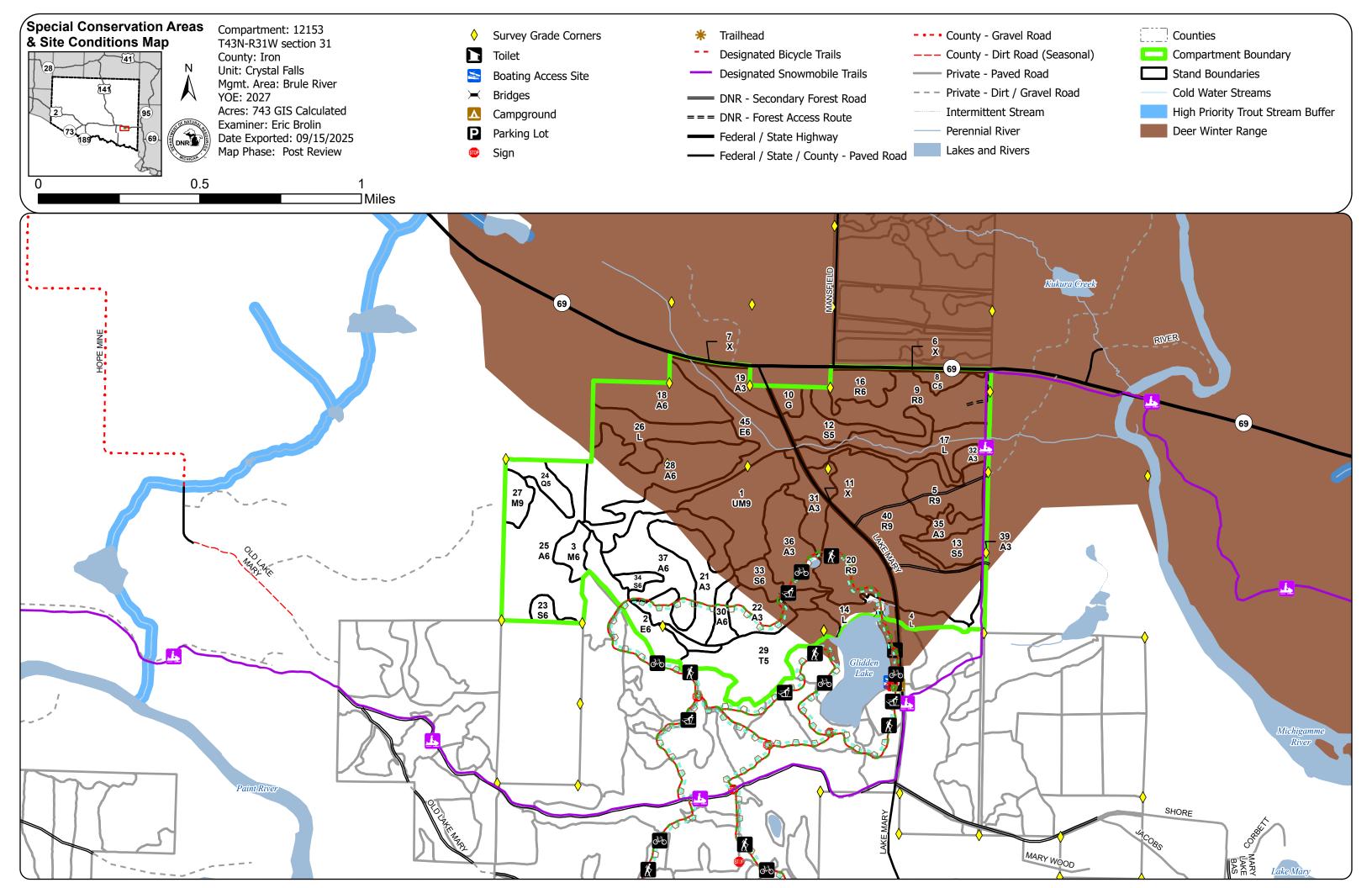
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

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







Compartment 153 Year of Entry 2027

Crystal Falls Mgt. Unit
Eric Brolin: Examiner

DNR

Age Class

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	≱ or	KORT C				3/8			\$ / K	\$ ² \ 8			g Zz					3 July	Leg Log
Aspen	0	46	52	21	99	0	76	0	0	0	0	0	0	0	0	0	0	0	294
Cedar	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5
Herbaceous Openland	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Lowland Conifers	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	9
Lowland Deciduous	0	0	0	0	0	0	0	0	0	55	0	0	0	0	0	0	0	0	55
Lowland Shrub	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	49	0	0	0	0	0	0	0	0	49
Northern Hardwood	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	15
Red Pine	0	0	0	0	0	0	0	167	0	0	0	0	0	0	0	0	0	0	167
Tamarack	0	0	0	0	0	0	0	0	0	38	0	0	0	0	0	0	0	0	38
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	0	36	0	0	0	0	0	0	0	36
Urban	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Total	75	46	52	21	99	0	76	167	0	166	36	5	0	0	0	0	0	0	743



Report 2 – Treatment Summary

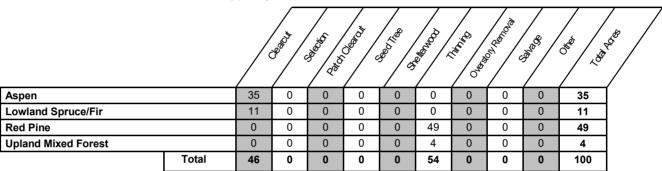
Crystal Falls Mgt. Unit Year of Entry: 2027

Acres of Harvest

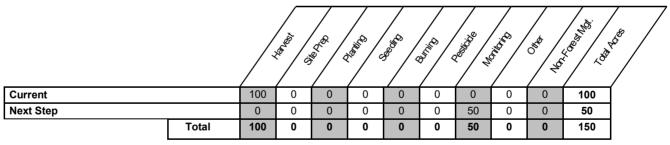
Compartment 153
Total Compartment Acres: 743

Commercial Harvest - 148 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 3 -- Treatments

Compartment: 12153 Year of Entry: 2027



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Treatment Acres Stand Size Stand BA **Treatment Treatment Cover Type** Age Habitat CoverType Range Method Objective Name Density Structure Age Type Cut

Approved Treatments:

12153001-4.4 4311 - Pine, Aspen 81-110 Harvest Thinning 4311 - Pine, Cutting No CrownThinnin Mix Aspen Mix Record

Prescription Mark stand to average 60 - 80 BA of mixed pine. Focus on creating more diversity, removing suppressed trees, and leaving larger, vigorous pine that will improve future health, diversity, and wildlife benefits within these currently dense patches. Remove a

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Any combination of the current overstory species.

Regen:

Other Comment:

Site Condition:

Proposed Start Date: 10/01/2026

12153016-12.4 42110 - Planted Red 4211 - Planted 16 69 171-Harvest Thinning **Planting** Nο 200 Red Pine Record CrownThinnin

g

Prescription Mark stand to average 120 BA. Focus on improving quality and removing suppressed trees. Remove all merchantable aspen and hardwood.

Leave all oak and white pine while marking unless needed for operability. Specs:

Next Step Treatments:

<u>Acceptab</u>le Regen:

Other Comment:

Site Condition:

Proposed Start Date: 10/01/2026

12153020-28.3 42110 - Planted Red 4211 - Planted 20 141-Harvest Thinning Planting No CrownThinnin Pine 170 Red Pine Record g

Prescription Mark stand to average 120 BA. Focus on improving quality and removing suppressed trees. Remove all merchantable aspen and hardwood. Leave all oak and white pine while marking unless needed for operability. Specs:

Next Step **Treatments:**

Acceptable

Regen:

Other

Contact Joe Freiberg (PRD) to close the trail to the public during active timber sale operations.

Comment:

Site Condition:

Proposed Start Date: 10/01/2026

Crystal Falls Mgt. Unit

Report 3 -- Treatments

Compartment: 12153
Year of Entry: 2027

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a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
28	12153028-CC	35.2	4130 - Aspen	6	52	111-	Harvest	Clearcut	413 - Aspen	Planting	No

<u>Prescription</u> Specs: Harvest all merchantable trees to promote aspen regeneration. Retention should include large diameter, forked crown aspen, and a diverse mix of species. Leave all conifer and oak. Only cut spruce/fir unless needed for operability.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Any combination of the current overstory species.

Regen:

Other Access from SW or SE corner will require scouting and extensive roadwork. 100' buffer around vernal areas and north edge open lowland border, treatment is updated to show approximate locations. Winter harvest for deer winter range.

Site Condition:

Proposed Start Date: 10/01/2026

33 12153033-CC 10.7 6122 - Black Spruce 6 85 81-110 Harvest Clearcut 6122 - Black Planting No Spruce Record

<u>Prescription</u> Harvest to a 2" spec to promote lowland conifer regeneration. Retention should include a diverse mix of species and mature trees. Leave cedar <u>Specs:</u> and pine.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Any combination of the current overstory species.

Regen:

Other SE stand line is an estimate, scout and determine during sale prep where ground transitions to be too wet / tamarack ground. Winter harvest for deer winter range. Contact Joe Freiberg (PRD) to close the trail to the public during active timber sale operat

Site Condition:

Proposed Start Date: 10/01/2026

40 12153040- 8.5 42110 - Planted Red 9 69 81-110 Harvest Thinning 4211 - Planted Planting No CrownThinnin Pine Red Pine Record

Prescription Mark stand to average 120 BA. Focus on improving quality and removing suppressed trees. Remove all merchantable aspen and hardwood.

Specs: Leave all oak and white pine while marking unless needed for operability.

Next Step Treatments:

Acceptable

Regen:

Other Very high BA within treatment. Old Goshawk nest site buffered from past harvest. The original tree identified no longer contained a nest. No nesting sites were observed within this buffer or surrounding red pine area.

Site Condition:

Proposed Start Date: 10/01/2026

Total Treatment 99.5 Acreage Proposed:

Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Compartment: 153 Year of Entry: 2027



Eric Brolin: Examiner

Availa	ability for	Managemer	nt					
Total	Acres	Acres Avail	Acres		Domina	nt Site	e Con	ditions
Acres	Available	With Condition	Not Available		5C	2G	3H	3J
259	218	23	17	Aspen	23			17
5	0	0	5	Cedar			5	
5	5	0	0	Herbaceous Openland				
9	9	0	0	Lowland Conifers				
55	17	0	38	Lowland Deciduous		38		
60	60	0	0	Lowland Shrub				
49	15	6	28	Lowland Spruce/Fir	6	12		17
15	15	0	0	Northern Hardwood				
168	168	0	0	Red Pine				
38	0	0	38	Tamarack		38		
36	36	0	0	Upland Mixed Forest				
10	10	0	0	Urban				
707	552	30	126	Total Forested Acres	30	87	5	34
-	78%	4%	18%	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.

10.	Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
	Unavailable	3J: Water quality/BMPs (stream, river, or lake)	17	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
	Comments:			,			
		nd/or too wet, flooded tamara 3J: Water quality/BMPs	ack flats 12	5E: Long-Term Retention	Unspecified	Unspecified	Unspecified
_	100' stream buffer a	<u> </u>			Unspecified	Unspecified	Unspecified
1	100' stream buffer a	3J: Water quality/BMPs			Unspecified	Unspecified	Unspecified

Report 4 – Site Conditions

Crystal Falls Mgt. Unit
Eric Brolin: Examiner



3	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	23	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Extend rotation du	e to proposed harvest adjacent	the so	uth. Create more age class c	liversity in the area.		
4	Unavailable	3J: Water quality/BMPs (stream, river, or lake)	5	5E: Long-Term Retention	Unspecified	Unspecified	Unspecified
	Comments: 100' buffer along o	pen lowland area. Long term re	etention	n for Stand 18.			
5	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	38	5A: Not able to obtain desirable regeneration	Unspecified	Unspecified	Unspecified
	Comments: Flooded alder drai too wet.	nage with dead black ash poles	and b	lack ash saplings in the nortl	n. The south may have n	nanageable edges with adj	acent stands, otherwise
3	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	12	5A: Not able to obtain desirable regeneration	Unspecified	Unspecified	Unspecified
	Comments: Ground is too wet	and flooded with alder and stur	ted tre	es.			
7	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	38	5A: Not able to obtain desirable regeneration	Unspecified	Unspecified	Unspecified
	Comments: Very wet ground. Nadjacent stands.	/ ∕lost areas are flooded with der	ise alde	er. Tamarack dominates and	is stunted and/or dead i	า areas. Some edges may	be manageable with
						_	

Report 4 – Site Conditions

Crystal Falls Mgt. Unit
Eric Brolin: Examiner

Compartment: 153
Year of Entry: 2027



8	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	6 Unspecified		Unspecified	Unspecified	Unspecified
	Comments: Most area contains patches.	s mature black spruce and is ma	nageabl	e. Access is limited until	adjacent stands are mana	ged in the future given the	small size of these
9	Unavailable	3H: Deer Wintering Area -	5	Unspecified	Unspecified	Unspecified	Unspecified
		habitat is incompatible with harvest at this time					
	Comments: Cedar within deer v	winter range.					

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Mgt. Unit Compartment: #Type!
Year of Entry:

Report 5 - 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				

7 - Stands Compartment: 153
Year of Entry: 2027

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Stand	d Level 4 C	over Type		Size Density	Acres Stand Age B	A Range	ge Managed Site		General Comments
1	4311 - Pin	e, Aspen M	ix	Sawtimber Well	35.6 95	81-110	N/A		Some small patches are dense to larger red pine log trees. Any
	Canopy Species	% Cover	Size Class	DBH Age	Sub-Canopy Species	Density	Avg. Height	Size	openings in the conifer canopy contain aspen. The aspen ranges from suppressed saplings to small pole size trees in the more open canopy.
	Quaking Aspen	40	Pole	3 26	Balsam Fir	Low	Variable	Variable	
	Northern Pin Oak	2		9	Red Maple	High	Variable	Variable	
	Red Pine	47		16 95	Quaking Aspen	Medium	>20 feet	>20 feet	
	White Pine	3		15	Northern Pin Oak	Low	Variable Variable		
	Red Maple	5	Seedling	7	Red Pine	Low	Variable	Variable	
	Paper Birch	3	Sapling	6					
2	6118 - Lowland D	eciduous wi	th Cedar	Poletimber Well	17.1 85	81-110	N/A	,	Flooded black ash swale. Dense sapling understory with scattered ceda
	Canopy Species	% Cover	Size Class	DBH Age	Sub-Canopy Species	Density	Avg. Height	Size	
	Balsam Poplar	2		14	Balsam Fir	Medium	Variable	Variable	
	Black Ash	60	Sapling	7 85	Black Ash	Medium	Variable	Variable	
	Tamarack	2	Seedling	8	Red Maple	Medium	Variable	Variable	
	Black Spruce	5	Seedling	8 85	Tag Alder	Low	5 - 10 feet	5 - 10 feet	
No	orthern White Cedar	30		7 85	Black Spruce	Low	Variable	Variable	
	Paper Birch	1	Seedling	8					_
3	4119 - Mixed No	4119 - Mixed Northern Hardwoods Poletimber Well 7.7 86		7.7 86	81-110	N/A	1	Good quality red maple just below or at log sized trees. Aspen poles	
	Canopy Species	% Cover	Size Class	DBH Age	Sub-Canopy Species	Density	Avg. Height	Size	filling in holes and scattered conifer within.
	Balsam Fir	2	Sapling	5 30	Red Pine	Trace	Variable	Variable	
	White Pine	7		12	Quaking Aspen	Low	>20 feet	>20 feet	
	Northern Pin Oak	1		8	White Pine	Medium	Variable	Variable	
	Red Maple	70		9 86	Balsam Fir	Medium	Variable	Variable	
	Red Oak	2		16	White Spruce	Low	Variable	Variable	
	White Spruce	3	Sapling	7					
	Quaking Aspen	15	Sapling	6 30					
4	6220 - A	lder/Willow		None	5.5		No		Flooded lowland area. Dense alder with some dead flooded tamarack saplings in the west half.
5	42110 - Pla	nted Red P	ine	Sawtimber Well	20.8 69	81-110	N/A		Thinned in 2019, thinned red pine and removed all merchantable trees.
	Canopy Species	% Cover	Size Class	DBH Age	Sub-Canopy Species	Density	Avg. Height	Size	Red pine stand, small sawlog to pole sized trees. Aspen and hardwood cut out last entry created a dense understory of aspen saplings with
	White Pine	1		15	Northern Pin Oak	Low	Variable	Variable	some mixed hardwood. Lighter pine canopy in areas will allow a lot of
	Northern Pin Oak	1	Seedling	8	Black Cherry	Low	Variable	Variable	saplings to succeed.
	Red Pine	98		11 69	Red Maple	Medium	Variable	Variable	
		'			Balsam Fir	Trace	Variable	Variable	
					Quaking Aspen	High	Variable	Variable	
					Black Spruce	Trace	Variable	Variable	
6 122 - Road/Parking Lot None 3.1					No		M69		

Report 7 - Stands



Stand	d Level 4 Co	over Type		Size De	nsity	Acres	Stand Age E	BA Range	Managed S	ite	General Comments
7	122 - Road	l/Parking Lo	ot	Nor	ie	1.7			No		Highway
8	6120 - Lov	vland Ceda	ır Po	oletimber	Medium	4.7	105	51-80	N/A		
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	
	Tamarack	15		8	105	Blac	ck Spruce	Low	5 - 10 feet	5 - 10 feet	
	Black Spruce	15	Seedling	8	105	Ta	ag Alder	Medium	5 - 10 feet	5 - 10 feet	
No	orthern White Cedar	70		8	105					,	-
9	42110 - Plar	nted Red Pi	ine Sa	awtimber	Medium	39.3	69	81-110	N/A	.	Patchy areas of red pine grown dense enough to be managed in the
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	future. A lot of area has regenerated to dense aspen saplings with oper
	Red Pine	100		12	69		Isam Fir	Low	Variable	Variable	canopy. Future management of scattered pine patches may be tricky in the future to avoid damage to regen.
							ed Pine	Low	Variable	Variable	and ratalis to a rotal damnings to regen.
						Quak	king Aspen	High	Variable	Variable	
10	310 - Herbac	eous Open	land	Nor	ie	4.8			No		Opening growing in with cherry interior and more conifer along the edges. In the future, possibly maintain as an opening or harvest and plant to pine once current trees become more merchantable.
11	122 - Road	l/Parking Lo	ot	Nor	ie	4.9			No		Lake Mary Road
12	6122 - Bla	ack Spruce	Po	oletimber	Medium	16.8	80		N/A	<u>,</u>	Very sparse, mature black spruce. Ground is quite saturated with a
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	dense alder/conifer sapling understory.
	Balsam Fir	10	Seedling	8			Alder	Medium	5 - 10 feet	5 - 10 feet	
	Tamarack	10	Seedling	8	80	Blad	ck Spruce	Low	5 - 10 feet	5 - 10 feet	
	Black Spruce	70	Seedling	8	80	Ва	lsam Fir	Low	5 - 10 feet	5 - 10 feet	
No	orthern White Cedar	10		10	80						
13	6122 - Bla	ack Spruce	Po	oletimber	Medium	11.6	85	1-50	N/A		Very low, flooded ground with seasonal flowing water from adjacent
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	runoff. Open patches with black ash and alder within.
	Black Ash	15	Sapling	7		Ta	ag Alder	Medium	5 - 10 feet	5 - 10 feet	
	Tamarack	30	Seedling	8	85	Blac	ck Spruce	Low	Variable	Variable	
	Black Spruce	55	Seedling	8	85						
14	6220 - Al	der/Willow		Nor	ie	9.0		Immature	No		Flooded lowland area. Dense alder with some dead flooded tamarack saplings in the west half.
16	42110 - Plar	nted Red P	ine	Poletimb	er Well	12.4	69	171-200	N/A		Dense red pine log stand with open understory. 150 200 210 Average of 180 BA.Thinned in 2008.
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	OF TOO DA. ITHIII led III 2000.
	Red Pine	100		11	69	Blad	ck Cherry	Low	Variable	Variable	
							lsam Fir	Medium	Variable	Variable	
						Whi	te Spruce	Low	Variable	Variable	



Stand	Level 4 C	over Type		Size De	nsity	Acres	Stand Age E	BA Range	Managed Site		General Comments
17	622 - Lo	wland Shrub)	Noi	ne	20.7			No		Flooded corridor with more of a seasonal water movement.
18	4130	- Aspen		Poletimb	er Well	28.5	51	111-140	N/A	λ.	Cut in 1974.
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	
	Balsam Fir	5	Sapling	5		Re	ed Maple	Low	Variable	Variable	
	Quaking Aspen	85		8	51	Ва	ılsam Fir	High	Variable	Variable	
	White Spruce	5	Sapling	7							_
	Black Spruce	5	Sapling	5							
19	4130	- Aspen		Sapling	Well	8.7	17	Immature	N/A	٨	Cut in 2008. Dense aspen sapling stand. Manageable upland conifer mix
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	along the west edge can be harvested in the future.
	Balsam Fir	5	Pole	3	17	W	hite Pine	Trace	Variable	Variable	
	Red Pine	2		16		Ва	ılsam Fir	Low	Variable	Variable	
	Quaking Aspen	82	Log	2	17	Re	ed Maple	Low	Variable	Variable	
	White Pine	2		16		R	ed Pine	Trace	Variable	Variable	
	Black Cherry	3	Log	2		Blad	ck Spruce	Low	Variable	Variable	
	White Spruce	2	Sapling	7							
	Black Spruce	4	Seedling	8							
20	42110 - Pla	anted Red P	ine	Sawtimb	er Well	28.3	69	141-170	N/A	\	Nice red pine log stand. Fairly open understory except in the south half
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	where pin oak saplings are dense. Some more open patches in the south 1/3 are growing aspen saplings. 150 160 180 Average of 160 BA.
	White Pine	1		15			ck Cherry	Low	Variable	Variable	South 1/3 are growing aspen sapilities. 130 100 100 Average of 100 BA.
	Northern Pin Oak	1	Seedling	8			alsam Fir	Trace	Variable	Variable	Thinned in 2008.
	Red Pine	98		12	69	North	ern Pin Oak	Low	Variable	Variable	
						Re	ed Maple	Low	Variable	Variable	
						Blad	ck Spruce	Trace	Variable	Variable	
					•	Qual	king Aspen	Low	Variable	Variable	
21	4130	- Aspen		Sapling	Well	28.5	17	Immature	N/A	١	Aspen sapling stand with dense mixed sapling understory in most areas.
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	Some more open patches in the north but overall fully stocked.Cut in 2008.
	White Pine	1		20			ılsam Fir	Low	Variable	Variable	2000.
	Balsam Fir	2	Log	3	17	W	hite Pine	Low	Variable	Variable	
	Bigtooth Aspen	15	Pole	3		Bla	ck Cherry	Low	Variable	Variable	
	Northern Pin Oak	2		9		North	ern Pin Oak	Low	Variable	Variable	
	Red Pine	3		18	17	Re	ed Maple	Medium	Variable	Variable	
	Quaking Aspen	77	Log	3	17			1	1	1	<u>-</u>

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Stand	Level 4 Co						Stand Age				General Comments
22	4130	- Aspen		Sapling Well		14.6	17	Immature	N/A		Aspen sapling stand. Scattered large pine. An area across the center
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Car	nopy Species	Density	Avg. Height	Size	and some south edges were left unmanaged which contain larger asp and black spruce.Cut in 2008. Drainage strip across center running
(Quaking Aspen	77	Log	2	17	Ва	lsam Fir	Low	Variable	Variable	N/S was excluded from harvest.
	Black Spruce	3	Seedling	7		Re	d Maple	Medium	Variable	Variable	
	White Pine	2		16		Re	ed Oak	Low	Variable	Variable	
	Balsam Fir	3	Sapling	6	17	Whit	te Spruce	Low	Variable	Variable	
N	lorthern Pin Oak	3	Seedling	9					1		_
	Red Pine	4		18							
	Red Maple	5	Log	2							
	Paper Birch	3	Sapling	5							
23	6122 - Bla	ack Spruce		oletimb	er Well	4.0	85	81-110	N/A		Nice black spruce patch. This could be managed with the adjacent
	Canopy Species	% Cover	Size Class	DBH	Age						stand in the future.
	Black Spruce	91	Seedling	8	85						
	Red Pine	3		18							
	Tamarack	5	Seedling	8	85						
	M/I '' D'										
24	White Pine 6128 - Lowland (,	Mixed Po	16 oletimber	· Mediur	m 9.1	80	81-110	N/A		
	6128 - Lowland (Coniferous,	Mixed Po	oletimber	Mediur		80		N/A Avg. Height	Size	Flooded alder/black ash drainage. Some edges along the north may managed with adjacent stands in the future.
	6128 - Lowland (Deci	Coniferous,		oletimber		Sub-Car				Size 5 - 10 feet	
	6128 - Lowland (Deci	Coniferous, iduous % Cover	Size Class	oletimber DBH	Age	Sub-Car	nopy Species	s Density	Avg. Height		
	6128 - Lowland (Deci Canopy Species Black Ash	Coniferous, iduous Cover	Size Class Sapling	DBH	Age	Sub-Car	nopy Species	s Density	Avg. Height		
	6128 - Lowland (Deci Canopy Species Black Ash Balsam Fir	Coniferous, iduous Cover 40 10	Size Class Sapling Sapling	DBH 6 6	Age	Sub-Car	nopy Species	s Density	Avg. Height		
	6128 - Lowland (Deci Canopy Species Black Ash Balsam Fir Tamarack	Coniferous, iduous Cover 40 10 10	Size Class Sapling Sapling Sapling	DBH 6 6 6	80	Sub-Car	nopy Species	s Density	Avg. Height		
Nor	6128 - Lowland (Deci Canopy Species Black Ash Balsam Fir Tamarack Black Spruce thern White Cedar	Coniferous, iduous % Cover 40 10 10 35	Size Class Sapling Sapling Sapling Sapling Sapling	DBH 6 6 6 7	80 80 80	Sub-Car	nopy Species	s Density	Avg. Height		Aspen poles with mature oak and pine scattered across the stand.
Nort	6128 - Lowland (Deci Canopy Species Black Ash Balsam Fir Tamarack Black Spruce thern White Cedar	Coniferous, iduous % Cover 40 10 10 35 5	Size Class Sapling Sapling Sapling Sapling Sapling	DBH 6 6 6 7 8	80 80 80	Sub-Car Ta	nopy Species	B Density Medium	Avg. Height 5 - 10 feet		Aspen poles with mature oak and pine scattered across the stand. Some low depressions along the west and south will have to be
Nort	6128 - Lowland of Deci Canopy Species Black Ash Balsam Fir Tamarack Black Spruce thern White Cedar	Coniferous, iduous % Cover 40 10 10 35 5	Size Class Sapling Sapling Sapling Sapling Sapling	DBH 6 6 6 7 8	80 80 80 80	Sub-Cal Ta 52.6 Sub-Cal	nopy Species ag Alder	B Density Medium	Avg. Height 5 - 10 feet N/A	5 - 10 feet	Aspen poles with mature oak and pine scattered across the stand. Some low depressions along the west and south will have to be excluded from future management. Old road system is grown in dens with conifer. Best access would be from the west private, otherwise management.
Nort	6128 - Lowland O Deci Canopy Species Black Ash Balsam Fir Tamarack Black Spruce them White Cedar 4130 - Canopy Species	Coniferous, iduous Cover 40 10 10 35 5 - Aspen Cover	Size Class Sapling Sapling Sapling Sapling Sapling	DBH 6 6 6 7 8 Poletimb	80 80 80 80 80	Sub-Cal 52.6 Sub-Cal Ba	nopy Species ag Alder 30 nopy Species	Medium 81-110 Bensity	Avg. Height 5 - 10 feet N/A Avg. Height	5 - 10 feet	Aspen poles with mature oak and pine scattered across the stand. Some low depressions along the west and south will have to be excluded from future management. Old road system is grown in dense
Nort	6128 - Lowland O Deci Canopy Species Black Ash Balsam Fir Tamarack Black Spruce thern White Cedar 4130 - Canopy Species Quaking Aspen	Coniferous, iduous % Cover 40 10 10 35 5 - Aspen % Cover 73	Size Class Sapling Sapling Sapling Sapling Sapling	DBH 6 6 6 7 8 Poletimb DBH 6	80 80 80 80 80	Sub-Car Ta 52.6 Sub-Car Ba	nopy Species ag Alder 30 nopy Species Isam Fir	81-110 B Density Medium	N/A Avg. Height N/A Avg. Height Variable	5 - 10 feet Size Variable	Aspen poles with mature oak and pine scattered across the stand. Some low depressions along the west and south will have to be excluded from future management. Old road system is grown in dense with conifer. Best access would be from the west private, otherwise results.
Nor	6128 - Lowland O Deci Canopy Species Black Ash Balsam Fir Tamarack Black Spruce thern White Cedar 4130 - Canopy Species Quaking Aspen White Pine	Coniferous, iduous ### Cover 40	Size Class Sapling Sapling Sapling Sapling Sapling	DBH 6 6 6 7 8 Poletimbe DBH 6 14 14 14 15 15 16 16 16 16 16 16	80 80 80 80 80	Sub-Car Ta 52.6 Sub-Car Ba Wh	30 nopy Species Isam Fir	81-110 S Density Low Low	N/A Avg. Height N/A Avg. Height Variable Variable	Size Variable Variable	Aspen poles with mature oak and pine scattered across the stand. Some low depressions along the west and south will have to be excluded from future management. Old road system is grown in dense with conifer. Best access would be from the west private, otherwise is
Nort	6128 - Lowland of Deci Canopy Species Black Ash Balsam Fir Tamarack Black Spruce thern White Cedar 4130 - Canopy Species Quaking Aspen White Pine Red Maple	Coniferous, iduous ## Cover 40	Size Class Sapling Sapling Sapling Sapling Sapling Sapling	DBH 6 6 6 7 8 Poletimber DBH 6 14 10 10 10 10 10 10 10	80 80 80 80 80	Sub-Car 52.6 Sub-Car Ba Wh Blac	30 nopy Species lsam Fir nite Pine ck Cherry	81-110 B Density Blow Low Low Low	N/A Avg. Height N/A Avg. Height Variable Variable Variable	Size Variable Variable Variable	Aspen poles with mature oak and pine scattered across the stand. Some low depressions along the west and south will have to be excluded from future management. Old road system is grown in dens with conifer. Best access would be from the west private, otherwise results.
Nort	6128 - Lowland O Deci Canopy Species Black Ash Balsam Fir Tamarack Black Spruce thern White Cedar 4130 - Canopy Species Quaking Aspen White Pine Red Maple Bigtooth Aspen	Coniferous, iduous % Cover 40 10 10 35 5 - Aspen % Cover 73 3 5 7	Size Class Sapling Sapling Sapling Sapling Sapling Sapling	DBH 6 6 6 7 8 Poletimber DBH 6 14 10 7	80 80 80 80 80	Sub-Car 52.6 Sub-Car Ba Wh Blace	30 nopy Species Isam Fir nite Pine ck Cherry ed Pine	81-110 S Density Low Low Low Low	N/A Avg. Height N/A Avg. Height Variable Variable Variable Variable	Size Variable Variable Variable Variable	Aspen poles with mature oak and pine scattered across the stand. Some low depressions along the west and south will have to be excluded from future management. Old road system is grown in dense with conifer. Best access would be from the west private, otherwise is
Nort	6128 - Lowland O Deci Canopy Species Black Ash Balsam Fir Tamarack Black Spruce thern White Cedar 4130 - Canopy Species Quaking Aspen White Pine Red Maple Bigtooth Aspen Northern Pin Oak	Coniferous, iduous % Cover 40 10 10 35 5 - Aspen % Cover 73 3 5 7 2	Size Class Sapling Sapling Sapling Sapling Sapling Sapling	DBH 6 6 6 7 8 Poletimber DBH 6 14 10 7 8	80 80 80 80 80	Sub-Car 52.6 Sub-Car Ba Wh Blace	30 nopy Species Isam Fir nite Pine ck Cherry ed Pine ed Oak	81-110 S Density Low Low Low Trace	N/A Avg. Height N/A Avg. Height Variable Variable Variable Variable Variable Variable	Size Variable Variable Variable Variable Variable	Aspen poles with mature oak and pine scattered across the stand. Some low depressions along the west and south will have to be excluded from future management. Old road system is grown in dense with conifer. Best access would be from the west private, otherwise results.
25 (6128 - Lowland O Deci Canopy Species Black Ash Balsam Fir Tamarack Black Spruce them White Cedar 4130 - Canopy Species Quaking Aspen White Pine Red Maple Bigtooth Aspen Jorthern Pin Oak Red Pine	Coniferous, iduous % Cover 40 10 10 35 5 - Aspen % Cover 73 3 5 7 2 2	Size Class Sapling Sapling Sapling Sapling Sapling Sapling	DBH 6 6 6 7 8 Poletimb DBH 6 14 10 7 8 20	80 80 80 80 80	Sub-Car 52.6 Sub-Car Ba Wh Blace	30 nopy Species Isam Fir nite Pine ck Cherry ed Pine ed Oak	81-110 S Density Low Low Low Trace	N/A Avg. Height N/A Avg. Height Variable Variable Variable Variable Variable Variable	Size Variable Variable Variable Variable Variable	Aspen poles with mature oak and pine scattered across the stand. Some low depressions along the west and south will have to be excluded from future management. Old road system is grown in dens with conifer. Best access would be from the west private, otherwise management.



Stand	Level 4 C	over Type		Size Den	sity	Acres	Stand Age B	A Range	Managed Si	te	General Comments
27	4112 - Maple, Beech, Cherry Association			Sawtimber Well		7.5	80	81-110	N/A		Hardwood log stand. Mostly open understory with room for crowns to
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Can	opy Species	Density	Avg. Height	Size	grow yet. South 1/3 has more aspen poles mixed in with an ironwood/conifer understory.
	Red Oak	2		22		Bals	am Fir	Low	Variable	Variable	,
	Sugar Maple	65		12	80	Iror	nwood	Medium	Variable	Variable	
	Red Maple	17		12	80	White	Spruce	Low	Variable	Variable	
	Bigtooth Aspen	3		11							
	Yellow Birch	3		8							
	Quaking Aspen	10	Sapling	7							
28	4130	- Aspen		Poletimbe	r Well	47.1	52	111-140	N/A		Cut in 1973. Large, mature aspen stand. Merchantable spruce/fir along
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Can	opy Species	Density	Avg. Height	Size	most edges. Some vernal depressions within. The old roadbed is grown in dense with conifer. Access is from the far SW or SE corner, both
	Quaking Aspen	80		8	52	Bals	am Fir	Low	Variable	Variable	need a lot of road work, easiest would be from the SE with a narrow
	White Spruce	3	Sapling	6		Whi	te Pine	Low	Variable	Variable	lowland crossing.
	Black Spruce	5	Seedling	8	52	Red	Maple	High	Variable	Variable	
	Red Pine	1		18		White	Spruce	Low	Variable	Variable	
	Balsam Fir	4	Sapling	7	52	Black	Spruce	Low	Variable	Variable	
	Red Maple	5		8	52						_
	White Pine	2		16							
29	6121 -	- Tamarack Poletimber Mediun			n 38.0 85 51-80			N/A		Flooded lowland flat. Most areas are dominated by alder or flooded,	
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height Size		declining tamarack. Some edges may be operable when adjacent stands are managed.
	Black Ash	5	Sapling	7		Black	Spruce	Low	Variable	Variable	dana ara managaa.
	Tamarack	55	Seedling	8	85	Tag	Alder	High	Variable	Variable	
	White Pine	5		16					·		_
	Black Spruce	25	Seedling	8	85						
No	orthern White Cedar	10		8	80						
30	4130 - Aspen		Poletimber Well		7.1 38		51-80	N/A		Aspen pole stand. A bit poorer quality aspen site with sparser, shorter	
	Canopy Species	% Cover	Size Class	DBH .	Age	Sub-Can	Sub-Canopy Species D		Avg. Height	Size	trees. Some pin oak, red maple, and conifer saplings are found in the understory.
	Red Pine	3		20		Bals	am Fir	Low	Variable	Variable	andorstory.
	Red Maple	7	Sapling	6		Red	Maple	Medium	Variable	Variable	
	Balsam Fir	2	Sapling	5		Whi	te Pine	Low	Variable	Variable	
	White Spruce	2		12		Norther	n Pin Oak	Medium	Variable	Variable	
	Black Spruce	2	Sapling	6		Red	d Pine	Low	Variable	Variable	
				-			a i iiic	LOW		Variable	

Crystal Falls Mgt. Unit



Stand	and Level 4 Cover Type			Size Density		Acres Stand Age BA Range			Managed S	Site	General Comments	
31	4133 - Aspen, Mixed Pine				Sapling Well		26	1-50	N/A	4	Diverse conifer mix with aspen dominating a lot of the stand. Jack pine	
	Canopy Species	% Cover	Size Class	DBI	l Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	and red pine sapling/poles are abundant within.	
	Balsam Fir	5	Sapling	7		Ва	alsam Fir	Low	Variable	Variable		
	White Pine	3		8		Já	ack Pine	Medium	Variable	Variable		
	Jack Pine	10	Pole	4		Bla	ck Cherry	Medium	Variable	Variable		
	Black Cherry	2	Seedling	8		North	ern Pin Oak	Low	Variable	Variable		
	Red Maple	2	Seedling	8		R	ed Pine	Low	Variable	Variable		
(Quaking Aspen	57	Pole	3	26							
N	lorthern Pin Oak	7	Sapling	7								
	Red Pine	10	Log	2								
	Red Pine	4		20								
32	4134 - Aspe	en, Spruce/	Fir	Saplin	g Well	12.8 6			N/A	4	Area ranged from lowland ground to aspen patches, transition line	
	Canopy Species	Canopy Species % Cover Size Cla		DBH Age		Sub-Canopy Species		Density	Avg. Height Size		between upland/lowland type stand. Lowland areas have good lowland conifer regen. Upland areas have good aspen regen.	
	Tamarack	10	Log	1		Ва	alsam Fir	Low	< 5 feet	< 5 feet	- comment regent options alread his a good deposit regent	
(Quaking Aspen	60	Log	1	6			,			•	
	Red Maple	5	Log	1								
	Black Spruce	25	Log	1								
33	6122 - Bla	ack Spruce	ck Spruce Poletimber Well			10.7 85 81-110			N/A	4	Excellent quality black spruce poles with some tamarack speckled in.	
	Canopy Species	% Cover Size Class		DBH Age		Sub-Canopy Speci		Density	Avg. Height	Size	Flat lowland conifer ground that is operable and does not hold water. Some decline showing in a few black spruce from older age.	
	Tamarack	22	Seedling	8	85	Bla	ck Spruce	Low	5 - 10 feet	5 - 10 feet	Come decime showing in a low black sprace from class age.	
	White Pine	2		18		Ta	ag Alder	Low	5 - 10 feet	5 - 10 feet		
	Black Spruce	75	Seedling	8	85					-	1	
Nor	thern White Cedar	1		8	80							
34	34 6122 - Black Spruce			Poletim	er Well	6.3 85 81-110			N/A	4	Manageable, small lowland patch bordering flooded black ash stand.	
	Canopy Species	% Cover	Size Class	DBI	H Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	Contains mature black spruce and conifer. This stand can be managed in the future with adjacent harvests for access.	
	Red Maple	3		13		Ва	alsam Fir	Low	Variable	Variable	The fatare with adjacent harvestered access.	
	White Spruce	2		14		Bla	ck Spruce	Medium	< 5 feet	< 5 feet		
	Black Spruce	73	Seedling	8	85						1	
Nor	thern White Cedar	1		8								
	Tamarack	15	Seedling	8	85							
	Tallialack	13	Occuming	0	05							
	Red Pine	3	occuming .	18	03							

Report 7 - Stands

Stan	d Level 4 C	vel 4 Cover Type Size Density Acres Stand Age BA Range Managed Site		ite	General Comments						
35	4130	- Aspen		Sapling	Sapling Well		6		N/A	1	Aspen saplings with some scattered pine retained in the west area.
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	Lowland transition along south edge has some lowland conifer regeneration.
	Red Maple	10	Log	1		Ва	lsam Fir	Low	< 5 feet	< 5 feet	- regeneration
	Red Pine	10		13							
	Quaking Aspen	73	Log	1	6						
	Tamarack	2	Log	1							
	Black Spruce	5	Log	1							
36	4130	- Aspen		Sapling	Well	25.0	6 I	mmature	N/A	1	Aspen sapling stand. A fair amount of red pine sapling/poles scattered
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	across the stand. A mature patch of red pine was left in the south half.Cut in 2019.
	Quaking Aspen	83	Log	1	6	Blac	k Spruce	Low	Variable	Variable	Than out in 2010.
	Northern Pin Oak	2	Seedling	8		Northe	ern Pin Oak	Low	Variable	Variable	
	Red Pine	15		4		Re	ed Pine	Low	Variable	Variable	
37	37 4130 - Aspen			Poletimber Well			39.1 38 51-80		80 N/A		Aspen pole stand. Trees in the north half and higher elevations have a
	Canopy Species % Cover		Size Class	Class DBH Age		Sub-Canopy Species		Density	Avg. Height	Size	larger diameter. Understory can be dense with red maple and pin oal saplings in areas.
	White Spruce	2		12		Northe	ern Pin Oak	Medium	Variable	Variable	
	Black Spruce	2	Sapling	6		Re	ed Pine	Low	Variable	Variable	
	Quaking Aspen	84	Seedling	7	38	Re	d Maple	Medium	Variable	Variable	
	Red Maple	7	Sapling	6		Ва	lsam Fir	Low	Variable	Variable	
	Balsam Fir	2	Sapling	5		Wh	nite Pine	Low	Variable	Variable	
	Red Pine	3		20							
39	4130	4130 - Aspen		Sapling W		5.8	27	1-50	N/A	1	Aspen sapling to small pole sized trees with dense understory.
	Canopy Species	% Cover	Size Class	DBF	Age	Sub-Ca	nopy Species	Density	Avg. Height	Size	
	Quaking Aspen	92	Pole	3	27	Blac	k Spruce	Low	Variable	Variable	
	Red Maple	3	Log	3		Re	d Maple	Medium	Variable	Variable	
	Red Pine	5		12		Ва	Isam Fir	Low	Variable	Variable	
40	40 42110 - Planted		Pine Sawtimber Well			66.8	66.8 69 81		N/A		Thinned in 2019, thinned red pine and removed all merchantable trees
	Canopy Species	% Cover	Size Class DBH Age		Sub-Ca	nopy Species	Density	Avg. Height	Size	Planted in 1955/56, some areas re-planted in 1966. Red pine stand, small sawlog to large pole sized trees. Currently open understory with	
	White Pine	1		15		Northe	ern Pin Oak	Low	Variable	Variable	sparser mixed saplings in most areas.
	Northern Pin Oak	1	Seedling	8		Re	d Maple	Low	Variable	Variable	
	Red Pine	98		11	69	Blac	ck Cherry	Low	Variable	Variable	
						Blac	k Spruce	Trace	Variable	Variable	
						Quak	ing Aspen	Low	Variable	Variable	
						Ва	lsam Fir	Trace	Variable	Variable	

Report 7 - Stands



Stand	Level 4 Co		Size De	ensity	Acres	Stand Age	BA Range	Managed Site		General Comments	
45	6115 - Lowland Ash			Poletimber Well		37.7 85		81-110	N/A		Mostly flooded drainageway. The entire north is dominated by black ash,
	Canopy Species	% Cover	Size Class	DBH Age		Sub-Ca	nopy Specie	s Density	Avg. Height	Size	standing dead and areas of dense saplings. The south contains more spruce and tamarack. Areas along the edges containing merchantable
	Black Ash	Ash 61		6	85	Blad	ck Spruce	Low	Variable	Variable	conifers and could be harvested with adjacent stands.
(Quaking Aspen	2		10		Re	Red Maple		Variable	Variable	
	White Pine	2		14		Ta	ag Alder	High	5 - 10 feet	5 - 10 feet	
	Tamarack	10	Seedling	8				-	1	'	_
	Black Spruce	20	Seedling	8	85						
Nor	rthern White Cedar	5		8							