

Revision Date: 06/10/10

Stand Examiner: Ed Rice

Legal Description: T44N, R33W, Sections 1, 12 T45N, R33W, Section 36

Identified Planning Goals ('Management Area' or 'RMU', if applicable):

Management Goals: Optimize sustainable timber production while enhancing and protecting wildlife habitat. Further the aspen age class diversity. Protect the riparian areas and transition zones during any management activity.

Soil and Topography: Soils are generally fine sandy and silt loams with areas of muck soils in the low ground areas. There are short, steep hills in the northwest and west of the compartment. The topography ranges from rolling to flat and drainages.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The compartment is fairly contiguous in State ownership. There is a large block of industrial, private forest (CFA) that separates the northern area of the compartment from the south. Industrial, private forest (CFA) lies on the north side. Both of these industrial forest ownerships are currently for sale. State ownership borders the compartment along the south and much of the west and east sides. There are smaller parcels of private land bordering the compartment. Active forest management has occurred and will continue. Hunting and snowmobiling by far dominate the recreational use patterns.

Unique, Natural Features: None identified.

Archeological, Historical, and Cultural Features: None identified.

Special Management Designations or Considerations: None identified.

Watershed and Fisheries Considerations: Premo Creek runs north – south through the compartment. It is heavily impacted by beaver activity. It is largely bordered by mixed conifer swamp and tag alder flats, so no forest management should affect the stream corridor.

Wildlife Habitat Considerations: Deer numbers are fair in the area. Wolves also use the compartment and the surrounding area. Moose also are within the compartment at times. No traditional deer yards exist, though in years of lower winter severity, deer will overwinter in the conifer swamps and the adjacent uplands. Maintaining travel corridors, diversity, within stand diversity and as much age class distribution as possible in the aspen types is a priority, in this area.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of coarse-textured glacial till and end moraines of coarse-textured glacial till. There is insufficient data to determine the glacial drift thickness. The Precambrian Hemlock Formation subcrops below the glacial drift. The Porter and Warner abandoned iron mines are located two miles to the west. This compartment was previously leased for metallic exploration. The nearest gravel pit is located approximately one half mile to the east, but potential appears to be limited. There is no economic oil and gas production in the UP.

Vehicle Access: Good. Most areas have existing logging road access.

Survey Needs: None.

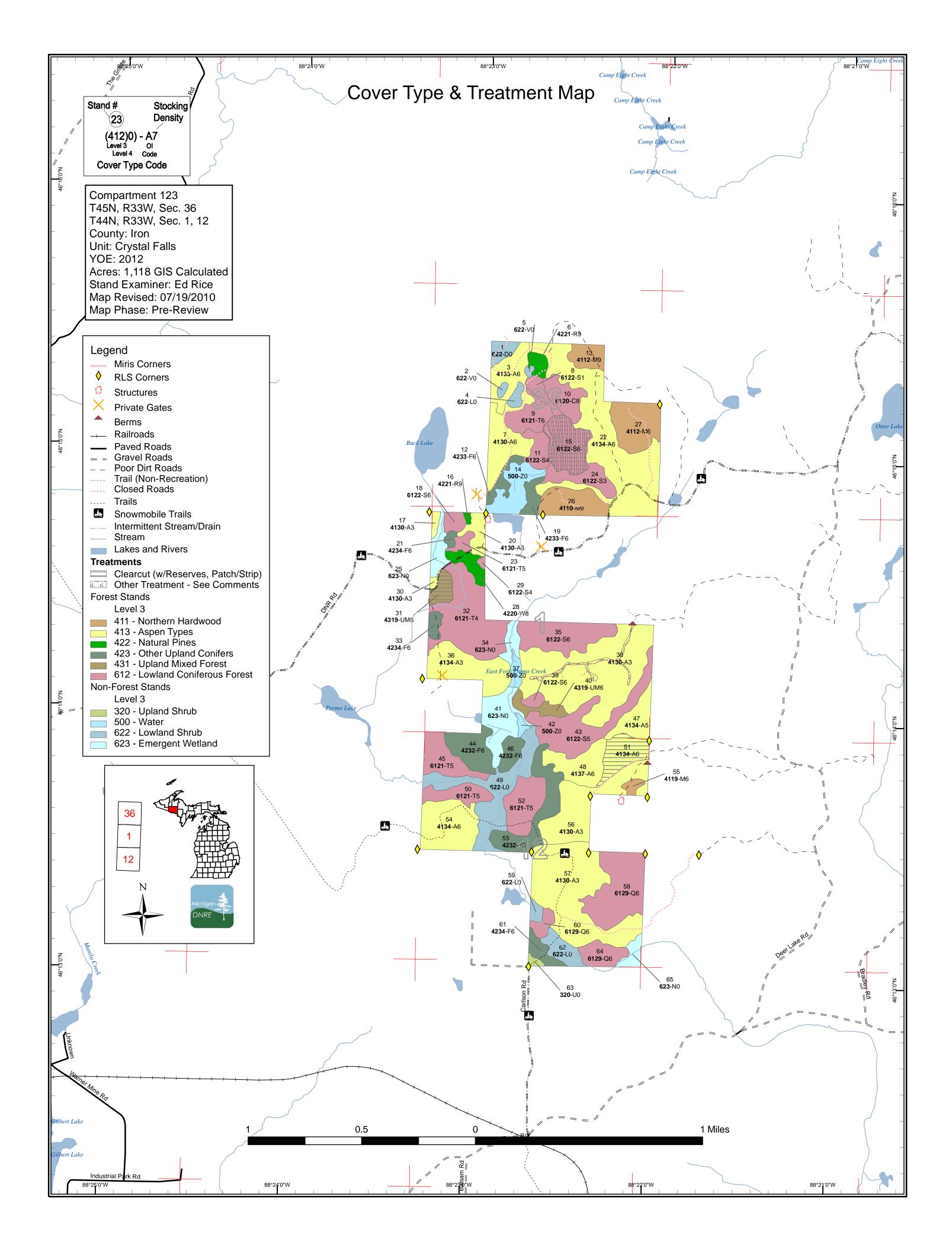
Recreational Facilities and Opportunities: Snowmobile trail.

Fire Protection: Much of the compartment is composed of aspen timber types with balsam fir and hazel understory. Mixed conifer swamps also predominate. Access for fire suppression is good overall. The NWNW of section 12 has no access whatsoever with maturing upland spruce and balsam fir islands among very wet mixed conifer swamps and large expanses of water/drainages. Fire suppression here would likely be by pumps and hose. There are multiple private camps immediately adjacent to the compartment.

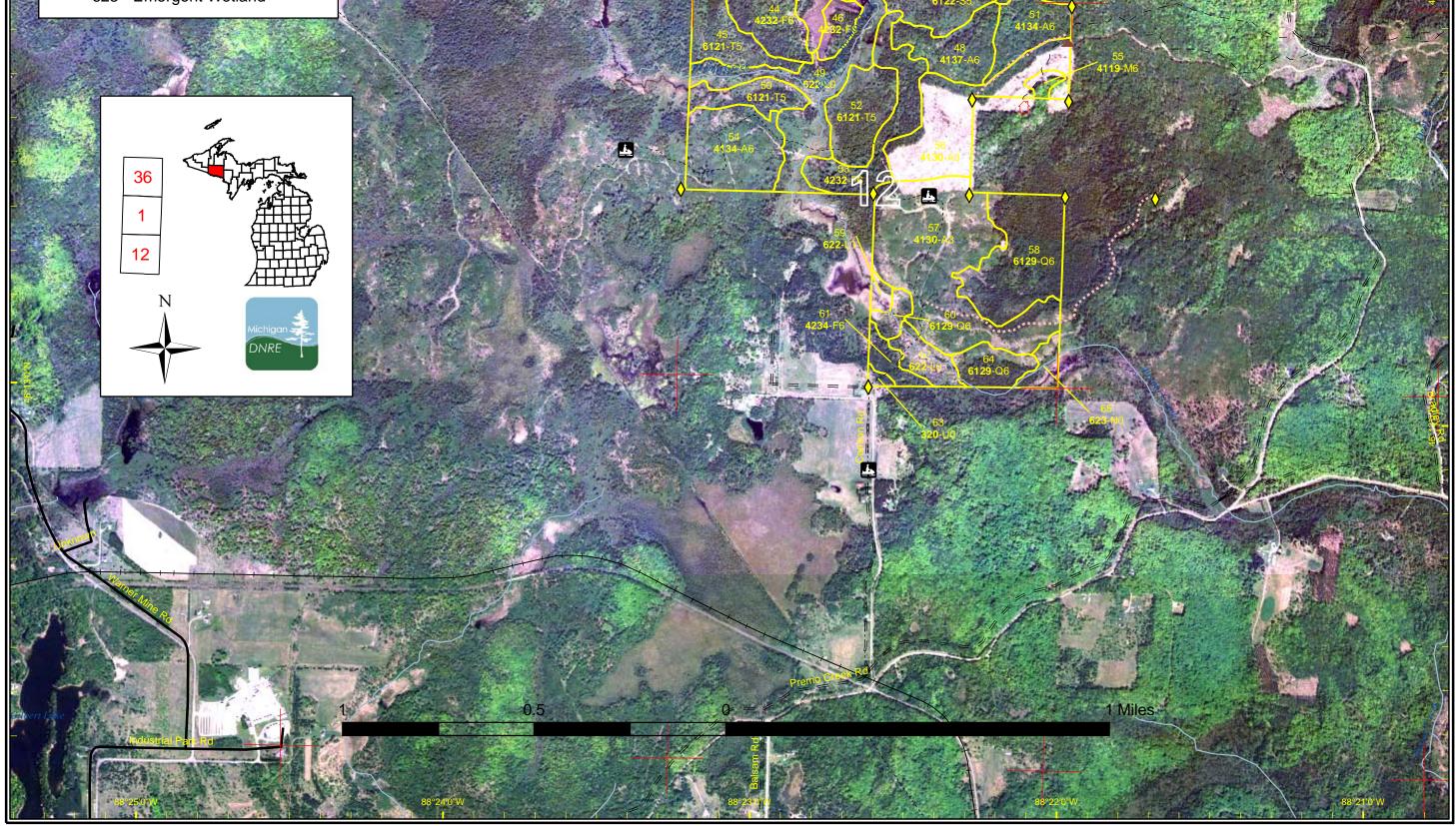
Additional Compartment Information:

- > The following reports from the Inventory are attached:
 - Total Acres by Cover Type and Age Class
 - Proposed Treatment Summary
 - Proposed Treatments No Limiting Factors
 - Proposed Treatments With Limiting Factors
 - Stand Details (Forested and Nonforested)
 - Dedicated and Proposed Special Conservation Areas

- > The following information is displayed, where pertinent, on the attached compartment maps:
 - Base feature information, stand boundaries, cover types, and numbers
 - Proposed treatments
 - Details on the road access system



Stand Boundary Map Stocking Stand # 23) Density (412)0) - A7 Level 3 Ol Level 4 Code Cover Type Code Compartment 123 T45N, R33W, Sec. 36 T44N, R33W, Sec. 1, 12 County: Iron Unit: Crystal Falls YOE: 2012 Acres: 1,118 GIS Calculated Stand Examiner: Ed Rice Map Revised: 07/19/2010 Map Phase: Pre-Review Legend Miris Corners **RLS** Corners \diamond \times Private Gates \bigcirc Structures Berms Railroads -----Paved Roads Gravel Roads = = – – Poor Dirt Roads Trail (Non-Recreation) ----Closed Roads Trails ----<u>_</u> Snowmobile Trails Intermittent Stream/Drain Stream _____ Stand Boundaries Forest Stands Level 3 411 - Northern Hardwood 413 - Aspen Types 422 - Natural Pines 423 - Other Upland Conifers431 - Upland Mixed Forest612 - Lowland Coniferous Forest Non-Forest Stands Level 3 320 - Upland Shrub 500 - Water 622 - Lowland Shrub 623 - Emergent Wetland



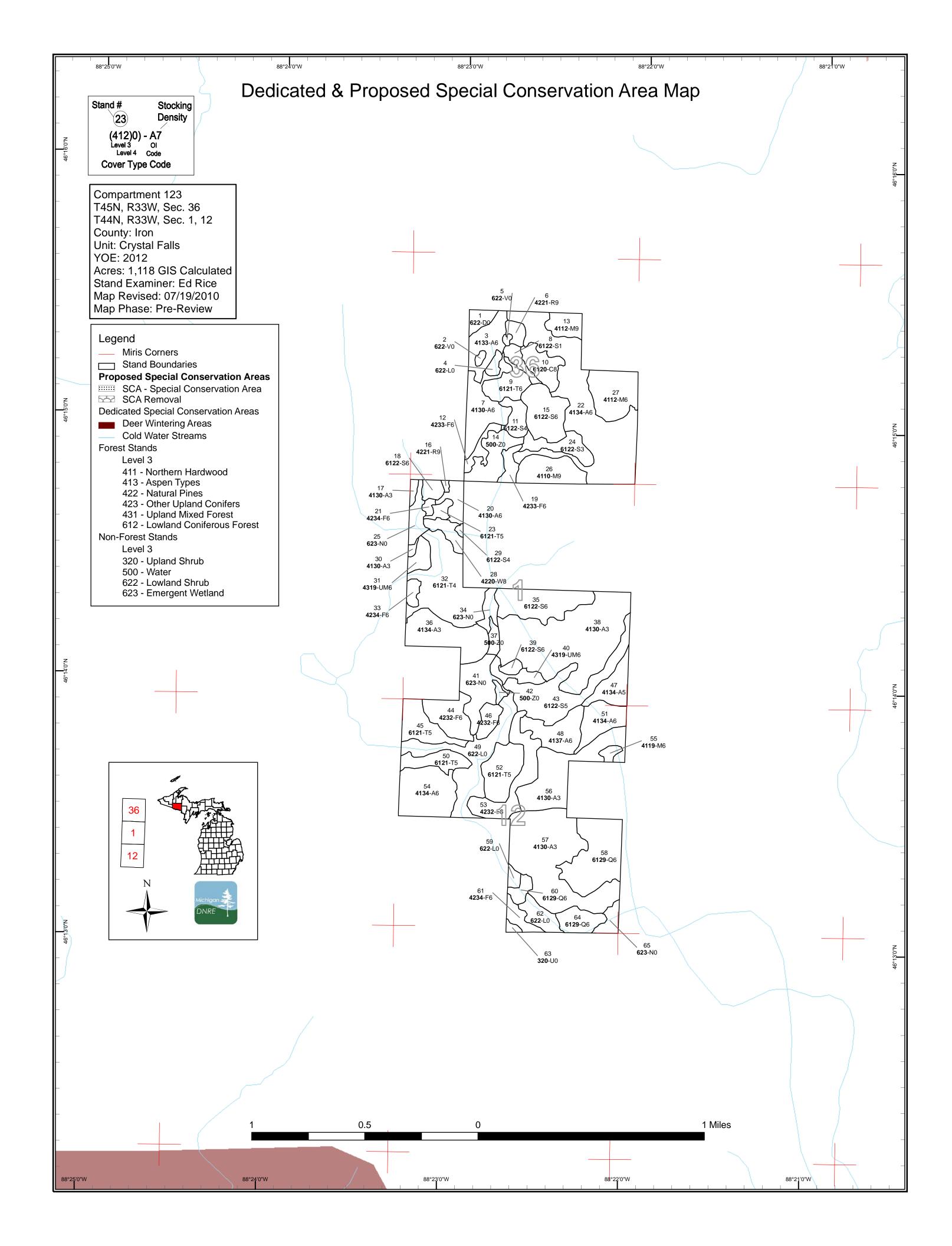


Table 1 – Total Acres by Cover Type and Age Class

Crystal Falls Mgt. Unit

Compartment 123 Year of Entry 2012



	Age Class																
	Nor	A See	6'z	70,79	67. 1.20	30°39	10-10-10-10-10-10-10-10-10-10-10-10-10-1	95.38	69.00	6,1°	69.00	66.20	00 ⁻⁰⁰ -00-00-00-00-00-00-00-00-00-00-00-00	8 ^{77,071}	*0°2	A AGE	
Aspen	0	42	3	243	146	15	39	0	0	0	0	0	0	0	0	488	
Bog	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Cedar	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	14	
Lowland Conifers	0	0	0	0	0	0	0	41	17	0	0	0	0	0	0	58	
Lowland Shrub	57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57	
Lowland Spruce/Fir	0	0	0	0	0	0	0	29	49	56	0	0	0	0	0	134	
Marsh	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	
Northern Hardwood	0	0	0	0	0	0	13	0	0	47	0	0	0	0	0	60]
Red Pine	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6]
Tamarack	0	0	0	0	0	0	0	0	31	92	0	0	0	0	0	123	
Treed Bog	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
Upland Mixed Forest	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	14]
Upland Shrub	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2]
Upland Spruce/Fir	0	0	0	6	13	4	37	0	0	19	0	0	0	0	0	78]
Water	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24]
White Pine	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8]
Total	135	42	3	249	159	19	88	85	110	214	14	0	0	0	0	1118]



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Table 2 – Proposed Treatment Summaries

Crystal Falls Mgt. Unit Year of Entry 2012										Compartment Total Compartment Acres:	
			Acres	by T	reatm	ent Ty	ре				
Commercial Harvest - 41	Site Prep - 0		Tr	ee Pla	anting	- 0		Pres	ribed Burn - 0	Other - 0	
Habitat Cut - 0	Opening Maintena	nce - 5	Tr	ee Se	eding	- 0		Pesti	cide - 0		
			Cove	er Typ	oe by l	Harves	st Meth	od			
		S.	and the second	in the second	00 1000 55	do d	in Ore	C. Cocif	pole and the second sec		
Aspen		17	0	0	0	0	0	17	, ,		
Lowland	d Spruce/Fir	12	0	0	0	0	0	12			
Upland	Mixed Forest	7	0	0	0	0	0	7			
Upland	Spruce/Fir	4	0	0	0	0	0	4			
	Total	41	0	0	0	0	0	41			

Crystal Falls Mgt. Unit

for regen success over the next 10 years.

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Specs:

Table 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 123 Year of Entry 2012



a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
15	12123015-Cut	12.3	6122 - Black Spruce	High Density Pole	68	Harvest	Patch or Strip Clearcut	Black Spruce	Cmpt. Review Proposal

winds. Winter cut only. No road into the stand, skide and deck forest products on adjacent high ground and existing road system. Desirable to

have slash/tops chipped to reduce brush mat but will be dependant upon if brush mat is needed for better equipment floatation. Closely monitor

Other Comments: Next Steps: 31 12123031-Cut 71 4319 - Mixed High Density Pole 66 Harvest Clearcut with Aspen, Spruce/Fir Cmpt. Review Upland Forest Reserves Proposal Prescription remove merchantable aspen, fir, spruce, maple, w birch and tamarack if it occurs, leave all pine, y birch, hemlock or cedar that may occur. Specs: Other Comments: mixed upland species mix is acceptable regeneration Next Steps: 33 12123033-Cut 4.0 42340 - Upland **High Density Pole** 43 Harvest Clearcut with Aspen, Spruce/Fir Cmpt. Review Spruce/Fir Reserves Proposal Prescription remove merchantable aspen, fir, spruce, and tamarack if present. keep submerchantable conifers as much as possilbe, keep w pine, y birch, hemlock and cedar if present. Specs: Other Comments: mixed aspen, spruce/fir is expected regeneration <u>Next</u> Steps: 51 12123051-Cut 17.4 4134 - Aspen, High Density Pole 59 Harvest Clearcut with Aspen, Spruce/Fir Cmpt. Review Spruce/Fir Reserves Proposal Prescription cut merchantable aspen, r maple, and w birch. leave all conifers, leave a b cherry component. Leave the transition zone along the swamp edge on N end of stand Specs: <u>Other</u> Comments:

aspen, spruce, fir is expected to fully regnerate <u>Next</u> Steps: 38 12123038-4.8 4130 - Aspen High Density 21 Non-Forest Other - Specify **Cool Season Grass** Cmpt. Review NonFor_small Sapling Management Proposal Prescription Hunter Walking Trail- reseeding previous road system. Remove berm, seed with DNR seeding mixture, Reberm well, treatment anytime, not dependent on timber sale schedule. Specs: Other Comments: <u>Next</u> Steps:

Total Treatment Acreage Proposed: 45.4

S t		Crystal F	alls Mgt. Unit	Table 4		ents Prescrib ng Factor	ed with	Compartment: 123 Year of Entry 2012	
a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
			#Error						
Preso Spece	<u>ription</u> <u>s:</u>								
<u>Other</u> Comr									
<u>Next</u> Steps	<u>:</u>								
	ng Factor and N ment Reason	0_							
Ac	Total Treatmen creage Propose		0						

S t	Crystal Falls Mgt. Unit				orested Sta	Michigan 3
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
3	4133 - Aspen, Mixed Pine	High Density Pole	17.9	34		scattered super canopy r pine and lesser component of w pine. good r pine seedling and scattered w birch saplings along old roads. Stand is just moving into poletimber size class - still sapling diameters present.
6	42210 - Natural Red Pine	High Density Log	4.8	70	171-200	Very good form on r pine 10-18" dbh 60-80' heights. Scattered windthrow. Small b spruce, tamarack bog inclusion. Associated w birch dying out. With the very small acreage and any current thinning potential, very low volume would be produced with no similiar forest products nearby during this inventory cycle.
7	4130 - Aspen	High Density Pole	25.8	34		widely scatterd b cherry. N end has fairly steep hills, though still operable
8	6122 - Black Spruce	Low Density Sapling	5.8	80		Fairly open stand, S end of stand heavier to poletimber. sphaghum/lab tea
9	6121 - Tamarack	High Density Pole	14.1	74		E end of stand almost pure tamarack poletimber. W end has more mix of fir and b spruce. S end has higher component of tag alder. windthrow.
10	6120 - Lowland Cedar	Medium Density Log	13.8	90		good mixed conifer swamp - heavy deer usage Jan 2010. Scattered windthrow
11	6122 - Black Spruce	Low Density Pole	9.1	80		low production site - trees fairly scattered and short. Extensive tag alder, sphagnum/lab tea
12	42330 - Upland Fir	High Density Pole	6.0	25		very thick fir 2-6" dbh. scattered r pine, w pine. Stand is a good upland conifer buffer/transition zone along series of beaver ponds
13	4112 - Maple, Beech, Cherry Association	High Density Log	10.1	50	81-110	scattered pockets with higher % of h maple. associated dense fir sapling pockets. Rolling terrain with rock knobs. Tops of hills have higher quality h maple, 6-14" dbh. The r maple is poor to fair.
15	6122 - Black Spruce	High Density Pole	24.8	68		good quality b spruce. windthrow areas. sphagnum/lab tea
16	42210 - Natural Red Pine	High Density Log	0.9	70		fir saplings with a fair amount of r maple saplings. Good form to pine. Very small acreage with no cutting cycles in the near future that match up.
17	4130 - Aspen	High Density Sapling	2.1	12		stand cut with comp 121 in 1999. Asp 3-8' tall, scattered r maple stump sprouts, hilly terrain. B spruce at the E edge of the stand
18	6122 - Black Spruce	High Density Pole	5.0	74		B spruce swamp with scattered, more open areas from windthrow throughout - these areas have a high incidence of fir saplings 5-10'. W side of the stand transitions to an adjacent wet land - heavy tag alder and saplings. S end of stand is heavier to tamarack.

S t	Crystal Falls Mgt. Unit				orested Star ry Method: IFM	
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
19	42330 - Upland Fir	High Density Pole	6.3	30		THICK fir and spruce. widely scattered large w pine. occassional r maple stump sprout saplings.
20	4130 - Aspen	High Density Pole	8.5	34		trace amount of r pine sawtimber - widely scattered. S end has heavier fir saplings
21	42340 - Upland Spruce/Fir	High Density Pole	2.0	50		widely scattered r pine. w birch in decline. Isolated high ground island amongst swamp
22	4134 - Aspen, Spruce/Fir	High Density Pole	93.8	30		Aspen 4-8" dbh, 30-40' tall. Widely scattered r oak. N end has more scattered w pine 16-18" dbh. S of DNR Rd, stand has a heavier fir understory, leading to a small swamp conifer sphagnum/lab tea bog. Very heavy winter deer usage Jan 2010
23	6121 - Tamarack	Medium Density Pole	3.9	74		fairly heavy tag alder. scattered windthrow. good form on tamarack, widely scattered w birch
24	6122 - Black Spruce	High Density Sapling	13.9	74		heavy tag alder, very wet ground, windthrow
26	4110 - Sugar Maple Association	High Density Log	20.9	85	81-110	Large w pine on edges. R oak saplings throughout. w birch in decline. Very good h maple sapling regen - above deer browsing height.
27	4112 - Maple, Beech, Cherry Association	High Density Pole	26.4	85	81-110	R maple 10-18", h maple 6-16" - low to fair quality. scattered to very little maple sapling regen. Better quality on N end - higher knobs have higer % of h maple and better quality. Rock ledge along E side - windthrow in these areas. Scattered large w pine and r oak, heavier hazel understory in S end.
28	42200 - Natural White Pine	Medium Density Log	7.7	77	81-110	Aspen understory 1-4" dbh - cut out of the stand in 1976. Very thick fir understory - some fir is small poletimber size 4-5" dbh
29	6122 - Black Spruce	Low Density Pole	0.9	60		small b spruce swamp, sphagnum/lab tea
30	4130 - Aspen	High Density Sapling	1.3	12		scattered w pine, r pine, w spruce throughout. stand was cut in 1998 with comp 121, std 1
31	4319 - Mixed Upland Forest	High Density Pole	7.1	66		Stand is mainly mature timber. w spruce 6-14" dbh. thick hazel in more open areas from windthrow. W birch in decline. Super canopy w pine
32	6121 - Tamarack	Low Density Pole	51.7	80		very thick tag alder. pockets of tamarack poletimber, with scattered individual tamarack, b spruce, cedar throughout. very wet ground
33	42340 - Upland Spruce/Fir	High Density Pole	4.0	43		Aspen 8-12", thick fir, spruce understory ranging 2-6" dbh. scattered b cherry

S t	Crystal Falls Mgt. Unit				prested Stands ry Method: IFMAP	Compartment: 123 Year of Entry: 2012
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
35	6122 - Black Spruce	High Density Pole	30.6	71	prese	pruce swamp with intermixed tamarack. Tamarack also ent in purer pockets. Along S end of stand, high ground extend into swamp. widely scattered w pine. winter deer usage, Jan 2010
36	4134 - Aspen, Spruce/Fir	High Density Sapling	32.4	25		en 20-30' tall. very thick fir, spruce understory. E end r to open grown,short w pine with little aspen - cut out by beavers in past
38	4130 - Aspen	High Density Sapling	97.8	21	23' tall in the u	g stand just moving into poletimber size class. Aspen 20- . Far W edge has r pine sawtimber with heavy fir, spruce understory along a steep slope leading to a beaver pond. was left as a buffer strip in past management. scattered pockets of thick tag alder in SE of the stand.
39	6122 - Black Spruce	High Density Pole	3.1	65	heav	vy tag alder understory. b spruce very good form along upland edges 8-12" dbh. Areas of sparse timber
40	4319 - Mixed Upland Forest	High Density Pole	7.3	62	wind	dthrow. extremely poor access - good transition zone. Heavy winter deer usage Jan 2010
43	6122 - Black Spruce	Medium Density Pole	40.8	81		ly b spruce interspersed with tamarack. thick tag alder story. Edges of stand along high ground has well formed spruce 8-12" dbh
44	42320 - Upland Spruce	High Density Pole	18.6	82	asp beaver	formed fir and b spruce, mature aspen. N end has an ben/w birch inclusion. more hazel along E side where s had cut away all aspen. Heavy winter deer usuage in N sides. Major access issues - private land and wet swamp.
45	6121 - Tamarack	Medium Density Pole	18.1	82		d more open - wetter with swamp grass/cattails. entire is wet, multiple drainages. 1-2 acre upland b spruce, fir inclusion in the NW corner.
46	42320 - Upland Spruce	High Density Pole	7.4	51	thick fir	, b spruce saplings with associated hazel. surrounded by tag alder/beaver ponds and wet meadows
47	4134 - Aspen, Spruce/Fir	Medium Density Pole	14.7	40	falling	n two aged 6-8" diam class and 10-12" class. w birch is yout of the stand. semi open in areas - heavier to hazel nd blackberry. Fairly thick fir, spruce sapling pockets.
48	4137 - Aspen, Birch	High Density Pole	21.3	59	resulti qualit	aspen -two size classes - stand was cut through in 1970 ing in the two sizes. Fir, spruce saplings throughout. Iow ty r maple and b cherry. w birch in good shape. Hold for e, size class diversity - one of the last larger diameter poletimber stands remaining in this compartment.
50	6121 - Tamarack	Medium Density Pole	12.7	79	th	ick tag alder areas. widely scattered w birch saplings
51	4134 - Aspen, Spruce/Fir	High Density Pole	17.4	59		pen two sized 8-10" and 12'14"+ . w birch is mature, ated low quality r maple. thick hazel in areas. pockets of heavy fir, b spruce saplings.

S t					orested Sta	Michigan 🗲
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
52	6121 - Tamarack	Medium Density Pole	22.3	82		tag alder openings, tag alder throughout the stand. short cedar. thick fir, spruce saplings. wet
53	42320 - Upland Spruce	High Density Pole	27.2	55		Well formed spruce, windthrow occurring mainly off of older clearcut to the E. small lowland inclusion with tag alder in center of stand (due E of A3). Remove stand out of production as winter deer transition zone - very heavy winter deer usage Feb 2010.
54	4134 - Aspen, Spruce/Fir	High Density Pole	33.1	29		stand is just moving into poletimber class. thick fir, spruce saplings especially at edges of the stand. two isolated groves of large diameter w pine in the SW end.
55	4119 - Mixed Northern Hardwoods	High Density Pole	2.9	55	81-110	overall fair quality maple, r maple has mulitple defects. w birch in good shape
56	4130 - Aspen	High Density Sapling	42.0	5		rolling terrain. widely scattered fir and spruce saplings
57	4130 - Aspen	High Density Sapling	79.8	21		pockets of thick fir saplings with widely scattered spruce and fir poletimber. W side has a semi open grown spruce and fir sapling inclusion - beaver had cut all young aspen in the past. rolling to steep terrain
58	6129 - Mixed Coniferous Lowland Forest	High Density Pole	41.5	69		good b spruce, cedar and tamarack giving way to poorer shorter trees in areas where tag alder is more prevalent. interspersed high ground ridges with aspen - high incidence of windthrow.
60	6129 - Mixed Coniferous Lowland Forest	High Density Pole	5.2	74		very wet, creek/drainages - old beaver meadow
61	42340 - Upland Spruce/Fir	High Density Pole	6.7	30		scattered r maple, y birch, w birch poletimber/sawtimber size but low quality. Aspen mature but intergrown with very thick fir and spruce saplings/small poletimber. scattered w spruce 16" dbh.
64	6129 - Mixed Coniferous Lowland Forest	High Density Pole	11.7	74		runs of timber heavier to b spruce, switching to more tamarack. cedar throughout. light to heavy tag alder- more tag alder and tamarack saplings on E end

Crystal Falls Mgt. Unit

6 – Nonforested Stands Inventory Method: IFMAP

Compartment: 123 Year of Entry: 2012



Stand	Cover Type	Acres	Gen Cmts:
1	6224 - Treed Bog	5.7	
2	6225 - Bog	1.4	
4	622 - Lowland Shrub	3.1	
5	6225 - Bog	1.0	
14	50 - Water	18.4	
25	6233 - Wet Meadow	8.6	
34	6233 - Wet Meadow	6.5	
37	50 - Water	4.0	
41	6233 - Wet Meadow	22.8	
42	50 - Water	2.0	
49	6220 - Alder/willow	41.1	
59	622 - Lowland Shrub	2.9	
62	6220 - Alder/willow	10.2	
63	320 - Upland Shrub	1.6	
65	6233 - Wet Meadow	5.9	tag alder around edges



7 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

Stand	SCA Type	SCA Name	Acres	Comments



8 – DEDICATED CONSERVATION AREA DETAILS

* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

Conservation Area	Туре	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area				
SCA	Cold Water Stream	stocked trout populations and those of other coldwater fish sp year to year. Coldwater streams in Michigan typically provide	stream flows. Such streams are established by Director's action and				