

Revision Date: 6/2/11

Stand Examiner: Scott Sebero

Legal Description: T43N, R31W, Sec. 7, 17, 18, 20 T43N, R32W, Sec. 12

RMU (if applicable):

Management Goals: Our management goals in this compartment are to develop age class distribution in aspen types, maintain health of conifer types and increase acreage where possible, and to develop the quality while maintaining diversity in hardwood types.

Soil and Topography: Land is nearly level to hilly with a mix of Sarona soils that are excessively drained to well-drained, loamy and sandy soils on ground moraines and end moraines and Cathro soils that are irregular depressions within these moraines that are poorly drained black muck.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Ownership patterns in this compartment consist mostly of State lands and WE Energies with some small private parcels and hunting camps. Lands in and around this compartment are used mainly for hunting and managed for forest products.

Unique, Natural Features: Kelso Creek with a small water falls runs through the NE part of the compartment. The Michigamme River borders the SE part of the compartment.

Archeological, Historical, and Cultural Features: None.

Special Management Designations or Considerations: None.

Watershed and Fisheries Considerations:

Wildlife Habitat Considerations: This compartment falls within the Mansfield Cutoff Deeryard. Maintaining and enhancing the upland and lowland component is necessary to perpetuate the value of this yarding complex. Lowland hardwood and conifer stands throughout this compartment provide excellent wildlife habitat and are particularly important to black bear and furbearers.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of thin to discontinuous glacial outwash sand and gravel and postglacial alluvium sediments over bedrock. The glacial drift thickness varies between 10 and 50 feet. The Precambrian Hemlock Formation and intrusives subcrop below the glacial drift. There is not a current economic use for these rocks. Abandoned iron mines are located to the south of the compartment. This compartment was previously leased for metallic exploration and potential may still exist. The Randville Dolomite is quarried four miles to the southeast. The nearest gravel pit is three miles to the southwest. Gravel potential appears to be limited. There is no economic oil and gas production in the UP.

Vehicle Access: The west portion of the compartment is accessed off Kelso Road. The east portion is accessed off Stream Road. The center of the compartment is accessed off Mansfield Cutoff Road through private lands.

Survey Needs: None.

Recreational Facilities and Opportunities:

Fire Protection:

Additional Compartment Information: None.

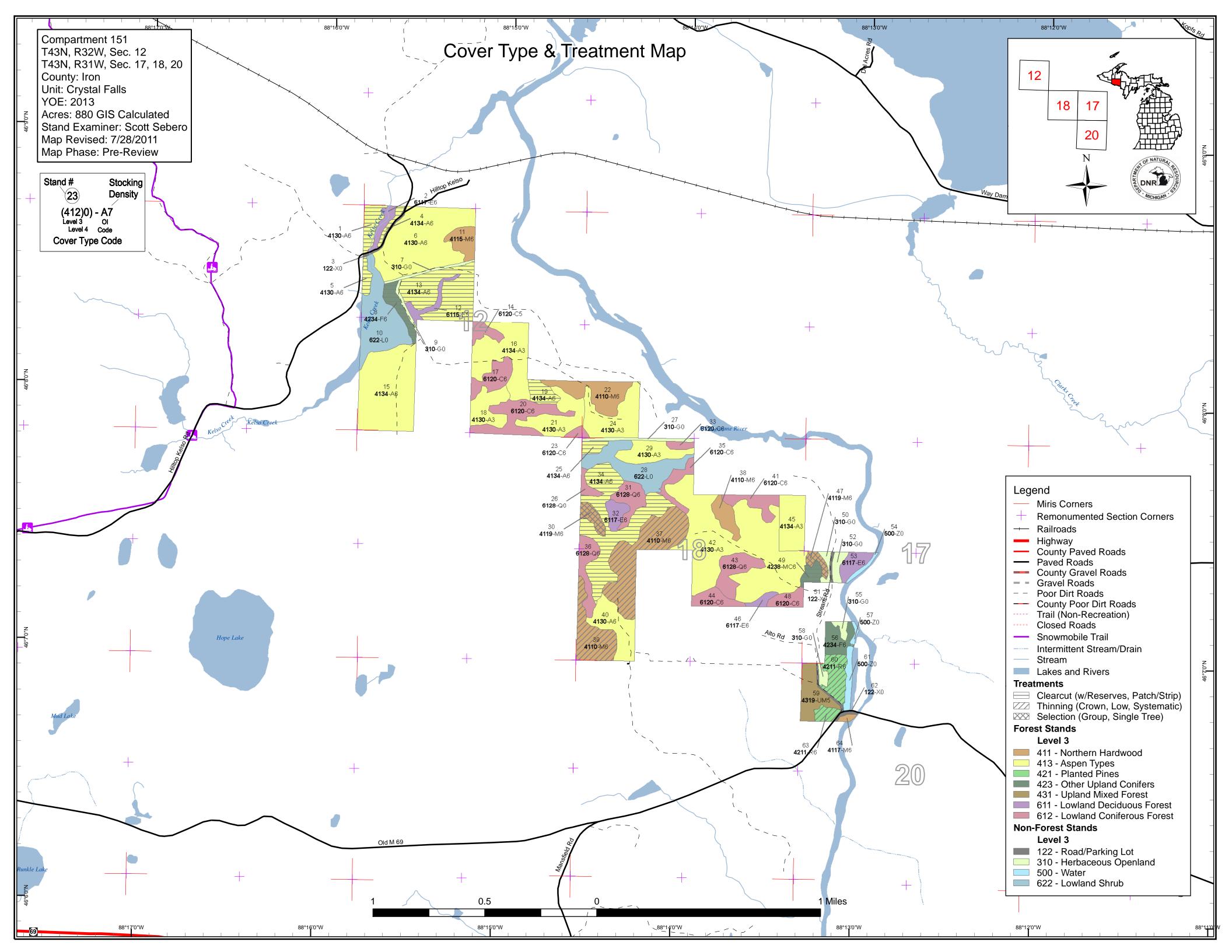
- > The following reports from the Inventory are attached:
 - Total Acres by Cover Type and Age Class
 - Proposed Treatment Summary
 - Proposed Treatments No Limiting Factors
 - Proposed Treatments With Limiting Factors
 - Stand Details (Forested and Nonforested)
 - Dedicated and Proposed Special Conservation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

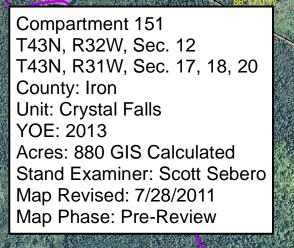
> The following information is displayed, where pertinent, on the attached compartment maps:

• Base feature information, stand boundaries, cover types, and numbers

- Proposed treatments
 Details on the road access system

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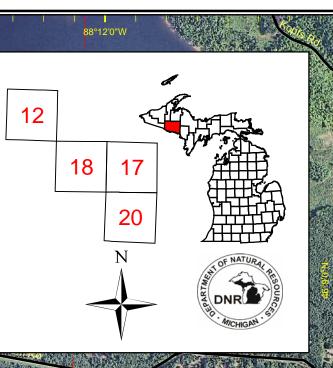


Stand # Stocking Density 23) (412)0) - A7 Level 3 Ol Level 4 Code Cover Type Code

Stand Boundary Map

18

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Legend

17

20

- Miris Corners
- Remonumented Section Corners
- Railroads —|—
- Highway County Pa
- County Paved Roads
 Paved Roads
 County Gravel Roads
 Gravel Roads
- _ _
- _____
- Poor Dirt Roads County Poor Dirt Roads Trail (Non-Recreation) Closed Roads
- Snowmobile Trail
- Intermittent Stream/Drain Stream
- Stand Boundaries

Forest Stands Level 3

- 411 Northern Hardwood 413 Aspen Types 421 Planted Pines 423 Other Upland Conifers 431 Upland Mixed Forest 611 Lowland Deciduous Forest 612 Lowland Coniferous Forest
- Non-Forest Stands
 - Level 3

 - 122 Road/Parking Lot 310 Herbaceous Openland 500 Water 622 Lowland Shrub

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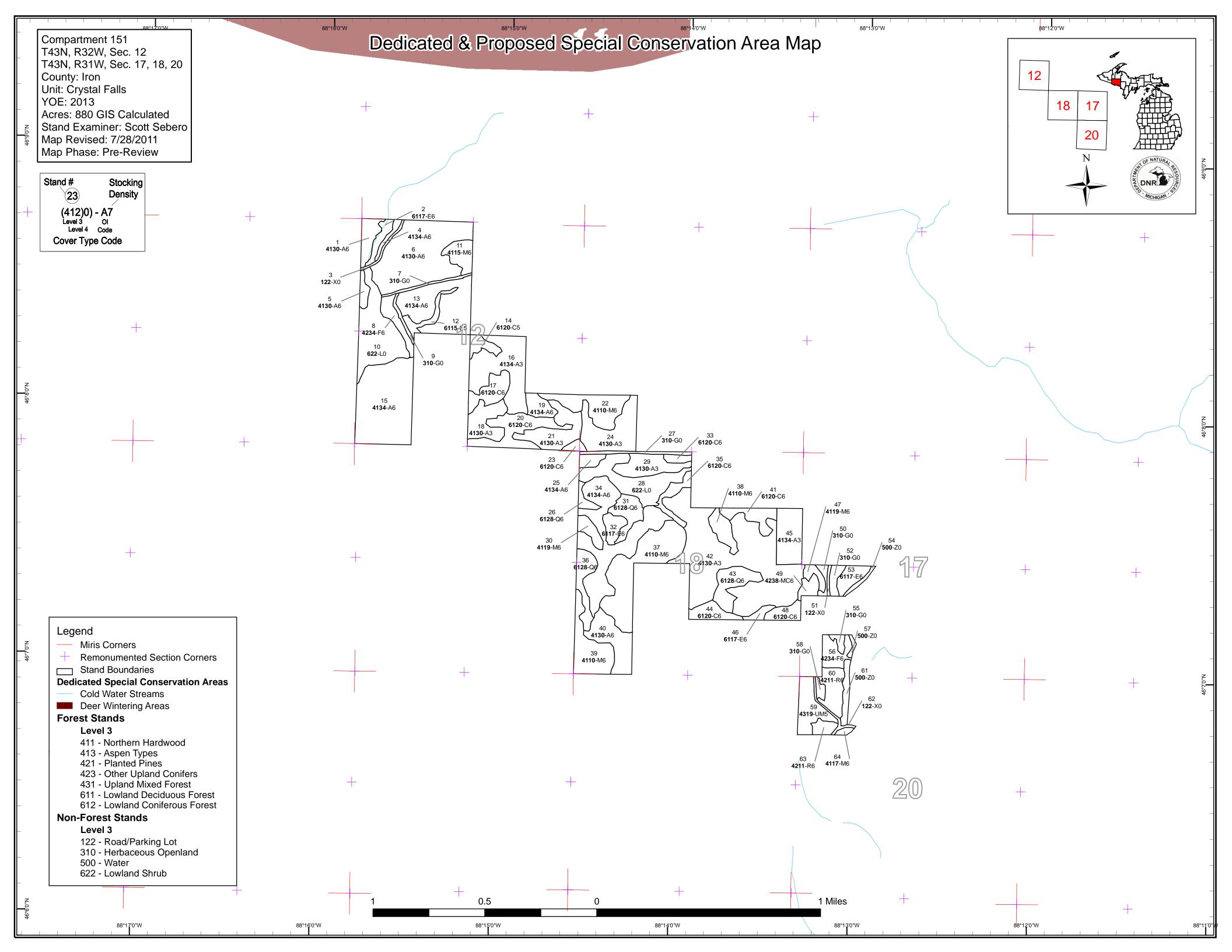


Table 1 – Total Acres by Cover Type and Age Class

Crystal Falls Mgt. Unit Scott Sebero : Examiner

Compartment 151 Year of Entry 2013



							Age	Class									
	HOR	And the street of the street o	0.2 J	0 ^{.7} 0	D ²	69. 19.	10 ⁻⁰⁰ -00-00	 	00.00	10,10	89. 89. 0	65.65	001.001	61.01,	10° 10°	AND A	100
Aspen	0	34	180	76	81	0	0	0	60	53	0	0	0	0	0	484	
Cedar	0	0	0	0	0	0	0	0	47	26	0	0	0	0	0	73	
Herbaceous Openland	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	
Lowland Conifers	0	0	0	0	0	0	0	0	39	0	0	0	0	0	0	39	
Lowland Deciduous	0	0	0	0	0	0	0	0	16	10	0	0	0	0	0	27	
Lowland Shrub	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	
Northern Hardwood	0	0	0	0	0	1	0	0	9	102	0	0	0	0	0	112	
Red Pine	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	16	
Upland Conifers	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	
Upland Mixed Forest	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	15	
Upland Spruce/Fir	0	0	0	0	0	0	0	9	0	8	0	0	0	0	0	17	
Urban	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
Water	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
Total	94	34	180	76	81	17	0	9	190	198	0	0	0	0	0	880	l



ATCHIGAN .	Crystal Falls Mgt. Unit Year of Entry 2013									Compartment Total Compartment Acres:	
			Acı	es by 1	Freatme	ent Ty	vpe				
	Commercial Harvest - 215	Site Prep - 0		Tree P	lanting	- 0		Pres	cribed Burn - 0	Other - 0	
	Habitat Cut - 0	Opening Maintena	nce - 0	Tree S	eeding	- 0		Pesti	cide - 0		
			Co	over Ty	pe by ⊦	larves	st Meth	od			
				Selection	Second Page	Nection of	Cristino Ost		A CONTRACTOR		
	Aspen		113 0	0	0	0	0	113			
	Northern	n Hardwood	0 9	0	0	65	0	74			
	Red Pin	e	0 0	0	0	16	0	16			
	Upland	Conifers	4 0	0	0	0	0	4			
	Upland	Spruce/Fir	8 0	0	0	0	0	8			
		Total	125 9	0	0	81	0	215			

Crystal Falls Mgt. Unit

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Table 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 151 Year of Entry 2013



t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
13	12151013-Cut	39.0	4134 - Aspen, Spruce/Fir	High Density Pole	84	Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal

PrescriptionCut all aspen and mixed hardwood 2" DBH or greater. Cut all spruce and balsam with a stump diameter of six inches or more. Leave all redSpecs:pine, white pine, cedar, hemlock and oak. Retention will be along ash drainage through the center and sw part of the stand.

Other_ Comments: <u>Next</u> Regen survey per work constructions. Steps: 4134 - Aspen, 19 12151019-Cut 6.8 High Density Pole 79 Harvest Clearcut with 4134 - Aspen, Cmpt. Review Spruce/Fir Reserves Spruce/Fir Proposal Prescription Cut all aspen and mixed hardwood 2" DBH or greater. Cut all spruce and balsamwith a stump diameter of six inch or more. Leave all red pine, Specs: white pine, cedar, hemlock and oak. Retention will be along Q-type to the south and on steep rock to the north. Other_ Comments: <u>Next</u> Regen survey per work constructions. Steps: 12151025-Cut High Density Pole 79 25 37 4134 - Aspen, Harvest Clearcut with 4134 - Aspen, Cmpt. Review Spruce/Fir Reserves Spruce/Fir Proposal Prescription Cut all aspen and mixed hardwood 2" DBH or greater. Cut all spruce and balsam with a stump diameter of six inches or more. Leave all red Specs: pine, white pine, cedar, hemlock and oak. Retention will be along the Q-type to the south. Other_ Comments: <u>Next</u> Regen survey per work constructions. Steps: 30 12151030-Cut 5.5 4119 - Mixed High Density Pole 79 Harvest Single Tree Selection 4119 - Mixed Cmpt. Review Northern Hardwoods Northern Hardwoods Proposal Prescription Cut all aspen, spruce and balsam with a stump diameter of 6 inches or more. Hardwood will be marked to remove trees within all size classes. BA will be lowered to 80 and regen gaps will be cleaned out where opportunity permits. No red or white pine, cedar, hemlock or oak will be cut. Specs: O<u>ther</u> Retention in no cut species. Comments: Regen survey per work constructions. <u>Next</u> Steps: 12151034-Cut 49.4 4134 - Aspen, High Density Pole 79 Harvest Clearcut with 4134 - Aspen, Cmpt. Review 34 Spruce/Fir Spruce/Fir Reserves Proposal Prescription Cut all aspen and mixed hardwood 2" DBH or greater. Cut all spruce and balsam with a stump diameter of six inches or more. Leave all red Specs: pine, white pine, cedar, helock and oak. Retention will be along Q-types to the north and west. Other Comments: Regen survey per work constructions. <u>Next</u> Steps:

Crystal Falls Mgt. Unit

Table 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 151 Year of Entry 2013

S t		·	Jysta	i Falls Mgt. Unit		-	Limiting Fac		Year of Entry 2013	DNR DNR
a n d	Treatme Name	nt	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
37	12151037	Cut	43.6	4110 - Sugar Maple Association	High Density Pole	84	Harvest	Crown Thinning	4110 - Sugar Maple Association	Cmpt. Review Proposal
Preso Spec		n stand	I to BA	of 80. Remove aspe	n and poor quality h	ardwood	l stems first. L	eave all red and white pin	e, cedar, hemlock and	oak.
	<u>r</u> Rei ments:	ention	will be	in no cut species.						
<u>Next</u> Steps	<u>3:</u>									
39	12151039	Cut	21.3	4110 - Sugar Maple Association	High Density Pole	84	Harvest	Crown Thinning	4110 - Sugar Maple Association	Cmpt. Review Proposal
Preso Spec:		n stand	l to 80	BA. Remove aspen a	and poor quality har	dwood st	ems first. Lea	ve all red and white pine,	cedar, hemlockand oak	<u>.</u>
	<u>r</u> Ret ments:	ention	will be	in no cut trees.						
<u>Next</u> Steps	<u>8:</u>									
47	12151047	Cut	3.7	4119 - Mixed Northern Hardwoods	High Density Pole	79	Harvest	Single Tree Selection	4119 - Mixed Northern Hardwoods	Cmpt. Review Proposal
Preso Spec:								lardwood will be marked t eave all red and white pi		
	ments:			in no cut species.						
<u>Next</u> Steps		jen sur	vey pe	er work constructions.						
49	12151049	Cut	4.4	42380 - Non Pine Upland Conifer, Mixed Deciduous	High Density Pole	79	Harvest	Clearcut with Reserves	42380 - Non Pine Upland Conifer, Mixed Deciduous	Cmpt. Review Proposal
Spec	<u>s:</u> pin			d mixed hardwood 2" cedar, hemlock and c				with a stump diameter of	f six inches or more. Le	eave all red
	ments:									
<u>Next</u> Steps	-	en surv	ey per	work constructions.						
60	12151060	Cut	11.7	42110 - Planted Red Pine	High Density Pole	45	Harvest	Systematic Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
Preso Spec:		-	third ro	ow of red pine. Cut all	l merchantable aper	n, spruce	, balsam and n	nixed hardwood. leave al	l oak. 100 foot buffer a	long pond to
	<u>r</u> Oa <u>ments:</u>	and b	uffer w	vill serve as retention.						
<u>Next</u> Steps	<u>S:</u>									
63	12151063	Cut	4.0	42110 - Planted Red Pine	High Density Pole	45	Harvest	Systematic Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
Preso Spec		every	third ro	ow of red pine. Cut all	I merchantable aspe	en, spruc	e, balsam and	mixed hardwood. Leave	all oak.	
<u>Other</u> Comr	<u>r</u> Rei ments:	ention	will be	oak.						
<u>Next</u> Steps	<u>.</u>									

S t		Falls Mgt. Unit			atments Pres .imiting Facto	Compartment: 151 Year of Entry 2013	DR NATURAL PRODUCES		
a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
	Total Treatme	nt							

Acreage Proposed: 193.2

S t		Crystal	Falls Mgt. Unit			ents Prescril ng Factor	bed with	Compartment: 151 Year of Entry 2013	NATURAL PLANE
a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
1	12151001-Cut	8.1	4130 - Aspen	High Density Pole	84	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
Preso Spec		spen and emlock ar		and greater. Cut all	spruce a	ind balsam with	a stump diameter of 6'	or more. Leave all red	and white pine,
<u>Other</u> Comr	-	buffer on	Kelso creek. Reter	ntion is buffer.					
<u>Next</u> Steps		rvey per v	work construction.						
	ing Factor and No ment Reason	_	: Influence zones 0 foot buffer on Kels	o Creek.					
4	12151004-Cut	2.5	4134 - Aspen, Spruce/Fir	High Density Pole	84	Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal
Preso Spec							a stump diameter of 6' Ind along north side of	' or more. Leave all whi stand.	te pine, cedar,
<u>Other</u> Comr	<u>r</u> 300 foot <u>ment:</u>	buffer on	Kelso Creek. Rete	ntion is buffer.					
<u>Next</u> Steps		urvey per	work constructions.						
	ing Factor and No ment Reason	_	: Influence zones D foot buffer on Kels	o Creek.					
5	12151005-Cut	3.4	4130 - Aspen	High Density Pole	84	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
Preso Spec		spen and emlock ar		and greater. Cut all	spruce a	ind balsam with	a stup diameter of 6" o	r more. Leave all red a	nd white pine,
<u>Other</u> Comr	<u>r</u> 100 foot <u>ment:</u>	buffer alo	ng Kelso Pond. Re	tention will be buffer					
<u>Next</u> Steps	•	urvey per	work constructions.						
	ing Factor and No ment Reason		: Influence zones) foot buffer along K	celso Pond.					
8	12151008-Cut	7.5	42340 - Upland Spruce/Fir	High Density Pole	84	Harvest	Clearcut with Reserves	42340 - Upland Spruce/Fir	Cmpt. Review Proposal
Preso Spec			mixed hardwoods 2 ock and oak.	" and greater. Cut a	III spruce	and balsam with	n a stump diameter of (6" or more. Leave all re	d and white
<u>Other</u> Comr	<u>r</u> 100 foot <u>ment:</u>	buffer alo	ng Kelso pond. Re	tention is the buffer.					
<u>Next</u> Steps		urvey per	work constructions.						
	ing Factor and No ment Reason	_	: Influence zones rth end buffer for the	reatened wildlife. 10	0 foot bu	ffer on Kelso po	nd. Wildlife travel corr	dor.	
A	Total Treatmer creage Propose		1.4						

Out of YOE -- Treatments Prescribed with No Limiting Factor

Year of Entry: 2013

DR. Archigan

Treatment	Acres	Stage1	Size	Stand	Treatment	Treatment	Cover Type	Approval
Name		CoverType	Density	Age	Type	Method	Objective	Status
12060_OutOfY OE-Cut	6.0				Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

<u>Prescription</u> Clearcut 2" dbh and above except cedar, hemlock and pine if present. <u>Specs:</u>

6.0

Other_

Comments:

<u>Next</u> Steps:

> Total Treatment Acreage Proposed:

S t	Crystal Falls	s Mgt. Unit		5 – Fo	prested Stands	Compartment: 151 Year of Entry: 2013
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	High Density Pole	8.1	84	81-110	
2	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	5.0	84	51-80	
4	4134 - Aspen, Spruce/Fir	High Density Pole	2.5	84	81-110	
5	4130 - Aspen	High Density Pole	3.4	84	81-110	
6	4130 - Aspen	High Density Pole	61.8	35	51-80	
8	42340 - Upland Spruce/Fir	High Density Pole	7.5	84	81-110	
11	4115 - Y.Birch, Hemlock NH	High Density Pole	9.0	84	81-110	
12	6115 - Lowland Ash	Medium Density Pole	5.5	84	51-80	
13	4134 - Aspen, Spruce/Fir	High Density Pole	39.0	84	81-110	
14	6120 - Lowland Cedar	Medium Density Pole	5.1	84	51-80	
15	4134 - Aspen, Spruce/Fir	High Density Pole	57.5	23	51-80	
16	4134 - Aspen, Spruce/Fir	High Density Sapling	35.5	16		
17	6120 - Lowland Cedar	High Density Pole	11.2	79	81-110	
18	4130 - Aspen	High Density Sapling	14.1	7		
19	4134 - Aspen, Spruce/Fir	High Density Pole	6.8	79	81-110	
20	6120 - Lowland Cedar	High Density Pole	20.7	84	81-110	
21	4130 - Aspen	High Density Sapling	19.7	7		
22	4110 - Sugar Maple Association	High Density Pole	19.6	84	81-110	

S t	Crystal Fall	s Mgt. Unit		5 – Fo	prested Stands	Compartment: 151 Year of Entry: 2013
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
23	6120 - Lowland Cedar	High Density Pole	2.4	79	51-80	
24	4130 - Aspen	High Density Sapling	25.2	15		
25	4134 - Aspen, Spruce/Fir	High Density Pole	3.7	79	81-110	
26	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	3.2	79	81-110	
29	4130 - Aspen	High Density Sapling	14.8	14		
30	4119 - Mixed Northern Hardwoods	High Density Pole	5.5	79	111-140	
31	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	10.6	79	51-80	
32	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	6.1	79	51-80	
33	6120 - Lowland Cedar	High Density Pole	2.7	79	81-110	
34	4134 - Aspen, Spruce/Fir	High Density Pole	49.4	79	81-110	
35	6120 - Lowland Cedar	High Density Pole	6.9	79	81-110	
36	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	11.2	79	81-110	
37	4110 - Sugar Maple Association	High Density Pole	43.6	84	111-140	
38	4110 - Sugar Maple Association	High Density Pole	8.2	84	51-80	
39	4110 - Sugar Maple Association	High Density Pole	21.3	84	111-140	
40	4130 - Aspen	High Density Pole	19.6	33	51-80	
41	6120 - Lowland Cedar	High Density Pole	9.3	79	81-110	
42	4130 - Aspen	High Density Sapling	104.7	14		

S t	Crystal Fall	s Mgt. Unit		5 – Fo	prested Stands	Compartment: 151 Year of Entry: 2013
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
43	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	14.1	79	81-110	
44	6120 - Lowland Cedar	High Density Pole	7.9	79	111-140	
45	4134 - Aspen, Spruce/Fir	High Density Sapling	18.3	29	1-50	
46	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	2.8	79	51-80	
47	4119 - Mixed Northern Hardwoods	High Density Pole	3.7	79	111-140	
48	6120 - Lowland Cedar	High Density Pole	6.4	79	81-110	
49	42380 - Non Pine Upland Conifer, Mixed Deciduous	High Density Pole	4.4	79	81-110	
53	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	7.2	79	51-80	
56	42340 - Upland Spruce/Fir	High Density Pole	9.0	61	51-80	
59	4319 - Mixed Upland Forest	Medium Density Pole	14.8	79	51-80	
60	42110 - Planted Red Pine	High Density Pole	11.7	45	171-200	
63	42110 - Planted Red Pine	High Density Pole	4.0	45	141-170	
64	4117 - Mixed N. Hardwood - Pine	High Density Pole	1.2	45	51-80	

Crystal Falls Mgt. Unit

6 – Nonforested Stands

Compartment: 151

Year of Entry: 2013

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DNR	
MICHIGAN	

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:	MICHIGAN
3	122 - Road/Parking Lot	1.9	No	Unspecified		
7	3102 - Grass	2.8	No	Low (NonForested)		
9	3102 - Grass	2.0	No	Low (NonForested)		
10	6229 - Mixed lowland shrub	34.4	No	Unspecified		
27	3102 - Grass	3.9	No	Unspecified		
28	6229 - Mixed lowland shrub	27.5	No	Unspecified		
50	3102 - Grass	2.2	No	Unspecified		
51	122 - Road/Parking Lot	1.0	No	Unspecified		
52	3102 - Grass	3.8	No	Unspecified		
54	50 - Water	1.8	No	Unspecified		
55	3102 - Grass	2.1	N\A	Unspecified		
57	50 - Water	1.1	No	Unspecified		
58	3102 - Grass	2.0	No	Unspecified		
61	50 - Water	5.2	No	Unspecified		
62	122 - Road/Parking Lot	2.5	No	Unspecified		



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	SCA Cold Water Stream A coldwater stream has temperature and dissolved oxygen stocked trout populations and those of other coldwater fish year to year. Coldwater streams in Michigan typically provid contributions of groundwater to their stream flows. Such stread designated as trout resources by Fisheries Order 210.		species (e.g., slimy sculpin) to persist from e these conditions due to substantial