

Revision Date: June 9, 2012

Stand Examiner: Cynthia Cooper

Legal Description: T40N, R29W, Sections 8 & 17

RMU (if applicable):

Management Goals: Maintain and improve northern hardwoods and aspen this year of entry.

Soil and Topography: The northern portion of this compartment is composed mostly of mucky lowland. The remainder is flat to slightly hilly with sandy loam soils.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Both sections are almost entirely State lands used for timber production. Sections north and south of the compartment are mostly private ownerships. Sections to the west and east are State.

Unique, Natural Features: Siebert's Creek, Benton Lake.

Archeological, Historical, and Cultural Features: None

Special Management Designations or Considerations: None

Watershed and Fisheries Considerations: Siebert's Creek, Benton Lake.

Wildlife Habitat Considerations: This compartment is directly adjacent to the Rock Lake Deeryard Restoration Project Area. Management emphasis in this area is for the enhancement of upland and lowland conifer types and stand components. This compartment has significant conifer components in most stands that benefit a host of wildlife species. The effects of the current spruce budworm outbreak will result in a significant reduction in the conifer covertype in this compartment.

Mineral Resource and Development Concerns and/or Restrictions: <u>Compartment 99: Sections 8 and 17, T40N-R29W, Dickinson County</u>

Surface sediments consist of thin to discontinuous glacial till over bedrock. There is insufficient data to determine the glacial drift thickness. The Precambrian Archean granite/gneiss outcrops beneath the glacial

drift. There is not a current economic use for these rocks, although the granite/gneiss may have dimension stone potential. Abandoned iron mines are located approximately three miles to the south. This compartment was previously leased for metallic exploration and potential may still exist. A gravel pit is located two miles to the west and there may be some potential. There is no economic oil and gas production in the UP

Vehicle Access: Good

Survey Needs: Corners will be needed on the east side of section 17.

Recreational Facilities and Opportunities: ORV trail in section 8.

Fire Protection:

Additional Compartment Information:

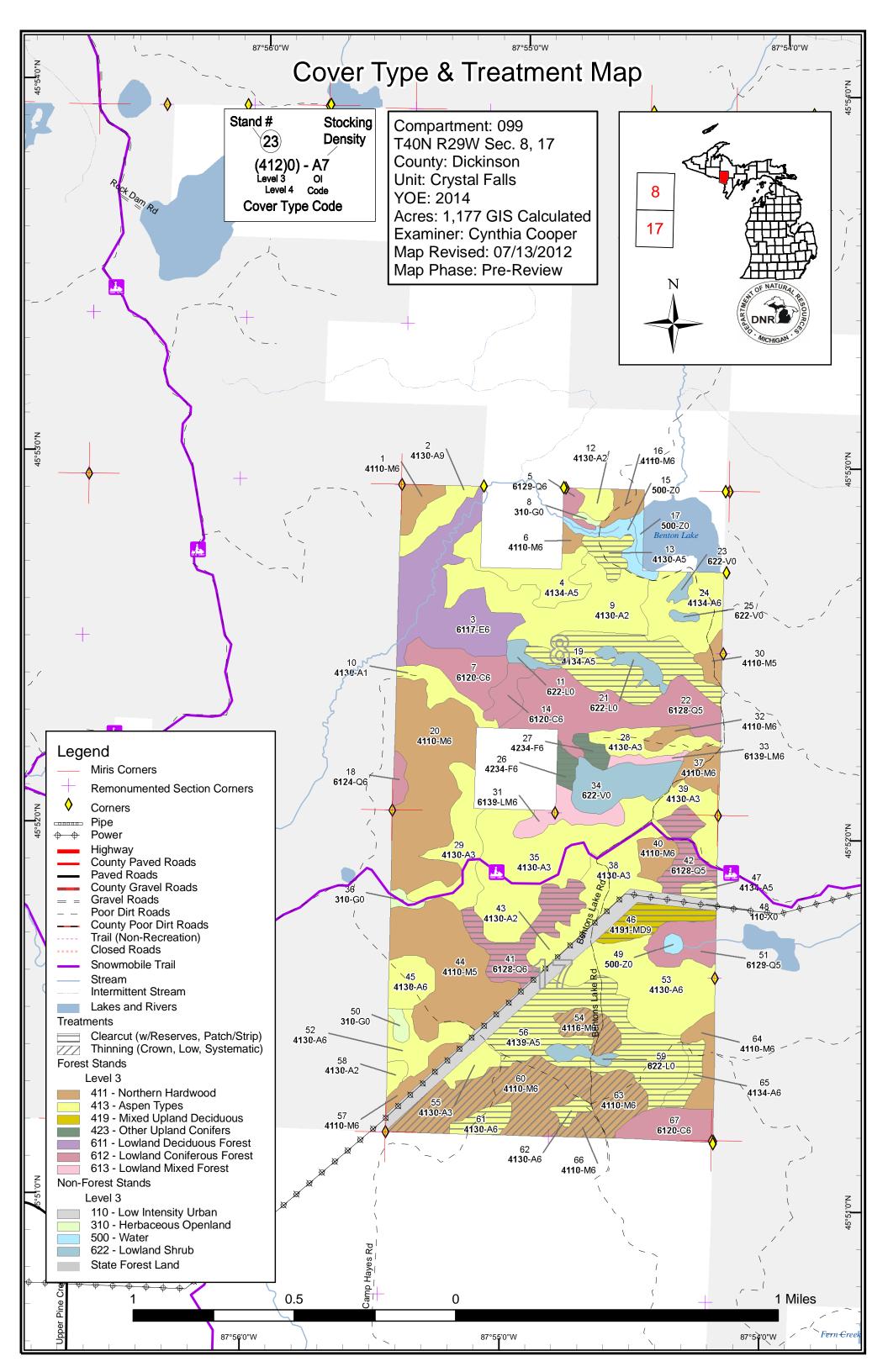
> The following reports from the Inventory are attached:

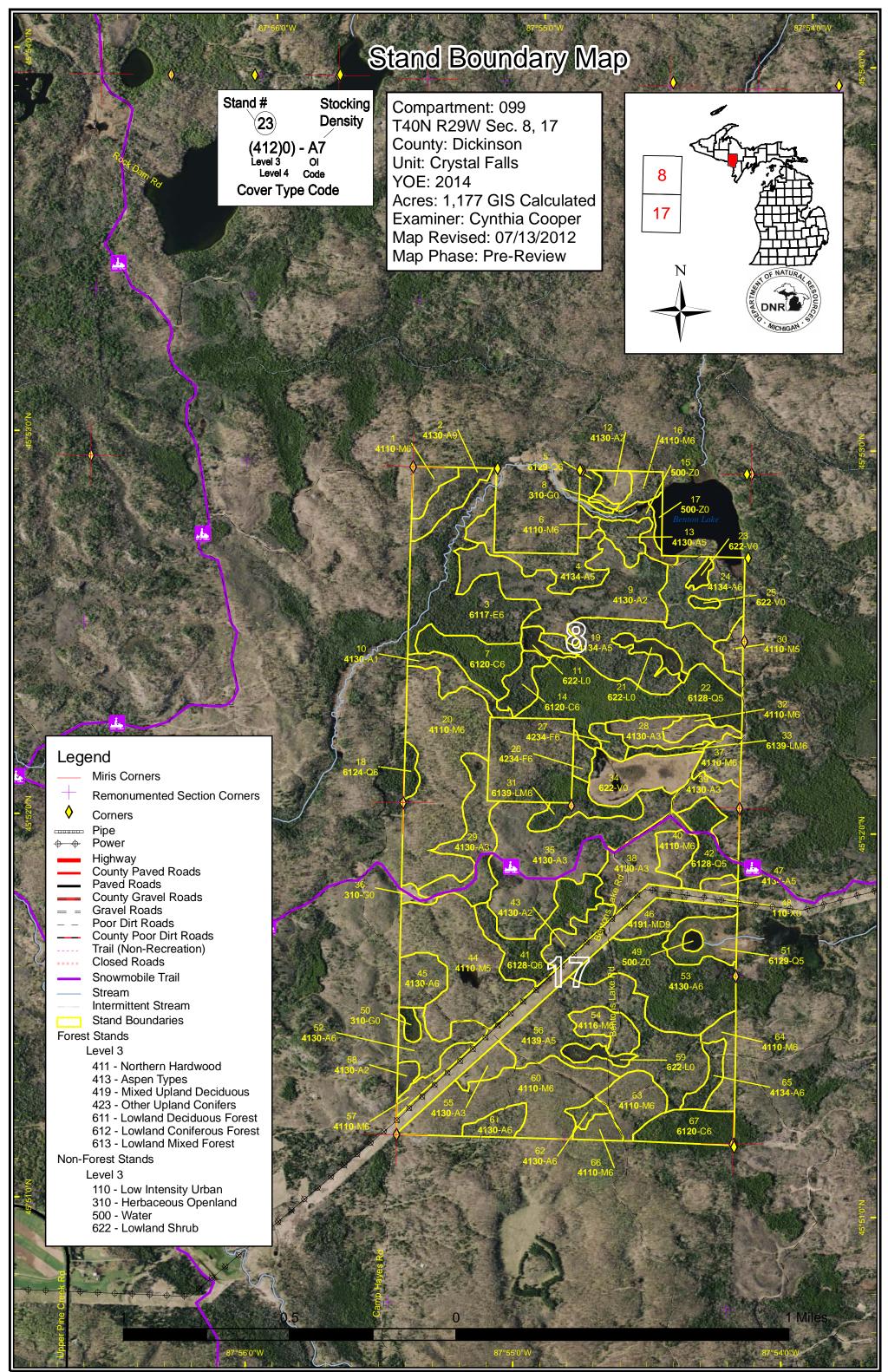
- Total Acres by Cover Type and Age Class
- Proposed Treatment Summary
- Proposed Treatments No Limiting Factors
- Proposed Treatments With Limiting Factors
- Stand Details (Forested and Nonforested)
- Dedicated and Proposed Special Conservation Areas

> 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

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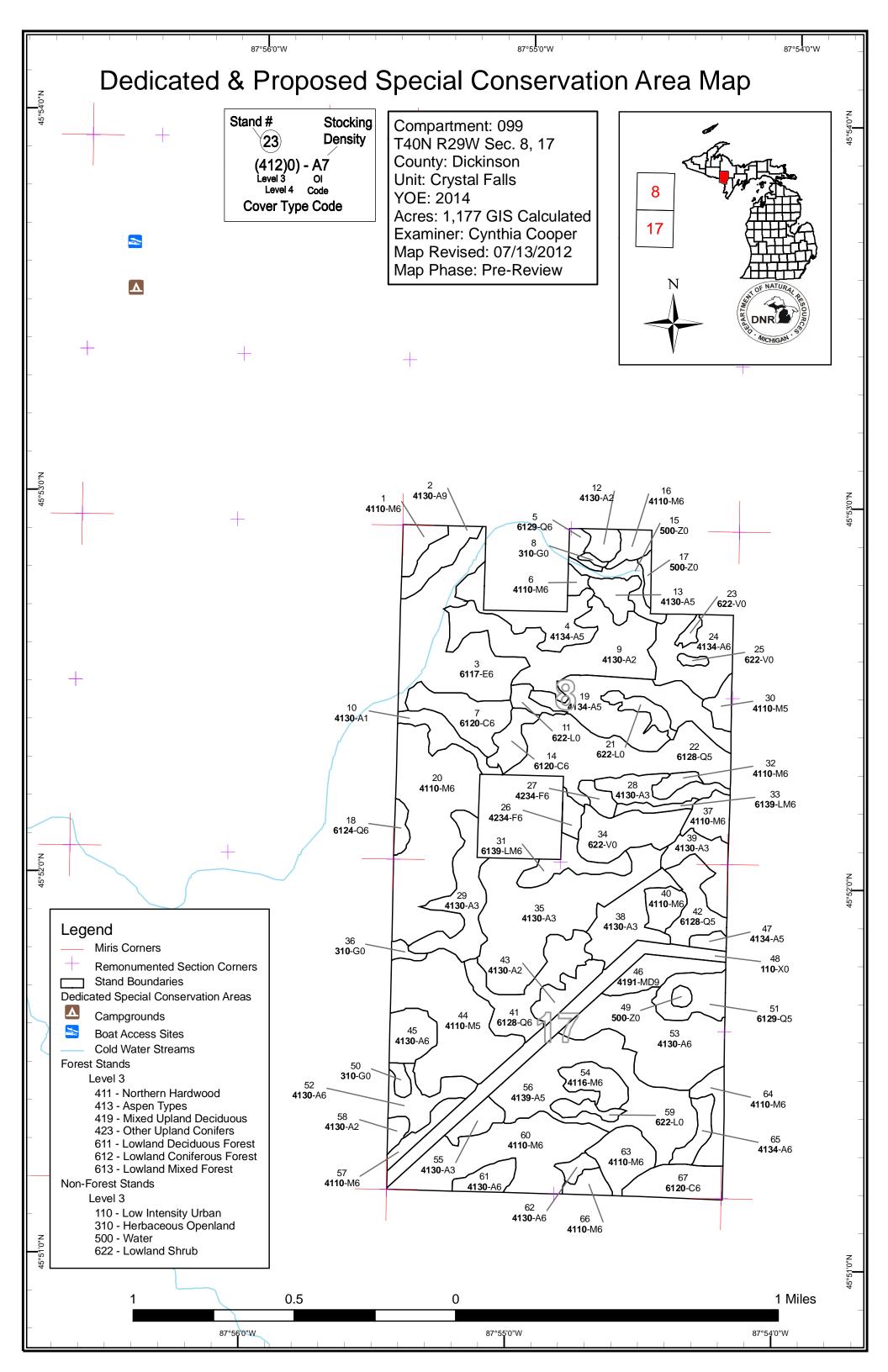


Table 1 – Total Acres by Cover Type and Age Class

Crystal Falls Mgt. Unit Cynthia Cooper : Examiner

Compartment 099 Year of Entry 2014



Age Class

		6.0	6 ^{7,0}	67. 67.		10-12- 10-12	65.05	60.00	R. I.	69-10-0 60-0 60-0 60-0 60-0 60-0 60-0 60-0	66.0	00 ⁻¹⁰⁰	817.911	NA JUN	Post 10	len /
Aspen	65	129	41	118	0	0	0	173	0	0	0	0	0	0	526	
Bog	28	0	0	0	0	0	0	0	0	0	0	0	0	0	28	
Cedar	0	0	0	0	0	0	0	0	0	47	0	0	0	0	47	
Herbaceous Openland	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
Lowland Conifers	0	0	0	0	4	0	0	0	0	120	0	0	0	0	123	
Lowland Deciduous	0	0	0	0	0	0	0	0	60	0	0	0	0	0	60	
Lowland Mixed Forest	0	0	0	0	0	0	16	0	0	0	0	0	0	0	16	
Lowland Shrub	16	0	0	0	0	0	0	0	0	0	0	0	0	0	16	
Mixed Upland Deciduous	0	0	0	0	0	0	0	14	0	0	0	0	0	0	14	
Northern Hardwood	0	0	0	0	0	0	0	0	34	250	0	0	0	0	283	
Upland Spruce/Fir	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9	
Urban	34	0	0	0	0	0	0	0	0	0	0	0	0	0	34	
Water	13	0	0	0	0	0	0	0	0	0	0	0	0	0	13	
Total	162	129	41	118	4	0	25	187	94	416	0	0	0	0	1177	



ATCHIGAN .	Crystal Falls Mgt. Unit Year of Entry 2014								Compartment Total Compartment Acres:	
			A	cres by 1	reatment	Туре				
	Commercial Harvest - 294	Site Prep - 0		Tree P	lanting - 0		Preso	ribed Burn - 0	Other - 0	
_	Habitat Cut - 0	Opening Mainter	nance - 0	Tree S	eeding - 0		Pesti	cide - 0		
				Cover Ty	pe by Har	vest Met	thod			
			ee.	<u> </u>	/ % /		· /	Sec.		
	Aspen			0 0		0	140			
	Lowland	l Conifers	44	0 0	0 0	0	44			
	Mixed U	pland Deciduous	14	0 0	0 0	0	14			
	Northern	n Hardwood	0	0 0	0 8	30	88			
	Upland	Spruce/Fir	9	0 0	0 0	0	9			
		Total	207	0 0	0 8	в О	294			

Compartment: 099 Crystal Falls Mgt. Unit Table 3 -- Treatments Prescribed with No Limiting Factor Year of Entry 2014 s t а Treatment Acres CoverType Size Stand BA Treatment Treatment Cover Type Approval n Method Status Name Density Range Objective Age Type d 12099013-Cut 8.5 Clearcut with 4130 - Aspen Cmpt. Review 13 4130 - Aspen Medium 77 Harvest Density Reserves Proposal Pole Prescription Clearcut all species down to a 2" dbh except cut no cedar or hemlock if present. Specs: Other_ Aspen old and falling. Comments: <u>Next</u> regeneration survey. Steps: Proposed 10/01/2013 Start Date: 12099019-Cut 4134 - Aspen, Medium 78 4134 - Aspen, Cmpt. Review 19 44.1 Harvest Clearcut with Spruce/Fir Density Reserves Spruce/Fir Proposal Pole Prescription clearcut all species down to a 2" dbh retaining spruce and fir 6" and less at stump height. Cut no cedar, pine or hemlock if present. Specs: was previously scheduled for cut but wet/unfrozen conditions did not allow for harvest within contract period. Other Comments: regeneration survey. Next Steps: Proposed 10/01/2013 Start Date: 42340 - Upland 69 4136 - Aspen, 26 12099026-Cut 4.3 High Harvest Clearcut with Cmpt. Review Spruce/Fir Density Reserves Mixed Conifer Proposal Pole Prescription clearcut all species down to a 2" dbh except retain spruce and fir 6" and less at stump height. Cut no cedar or hemlock if present. Specs: this stand along with stand 27 are both small in size and volume and have aa considerable distance to skid to an appropriate landing side. A Other Comments: survey will also be needed. regeneration survey <u>Next</u> Steps: Proposed 10/01/2013 Start Date: 12099027-Cut 27 4.5 42340 - Upland High 69 Harvest Clearcut with 4136 - Aspen, Cmpt. Review Spruce/Fir Reserves Mixed Conifer Proposal Density Pole Prescription clearcut down to a 2"dbh except retan all spruce/fir less that 6" on the stump. Cut no cedar or hemlock if present. Specs: Other this stand is small acreage and low volume and will also require a long skid to an appropriate landing site. A survey will also be required. Comments: <u>Next</u> regeneration survey Steps: Proposed 10/01/2013 Start Date:

Crystal Falls Mgt. Unit

Table 3 - Treatments Prescribed with No Limiting Factor

Compartment: 099 Year of Entry 2014

DNR MICHAGAN
Approval

S t		orystar i and i mgt. onit				No Limit	Year of Entry 2014	DNR DNR		
a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
41	12099041-Cut	27.5	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	98		Harvest	Clearcut with Reserves	6128 - Lowland Coniferous, Mixed Deciduous	Cmpt. Review Proposal
Preso Speca		all aspen	and birch along with co	onifers grea	ter than (6" on the s	tump except cut	no cedar.		
Other	should re	egenerate Ition surve		and but with	i more pa	atchy aspe	n instead of scat	tered individuals. C	Compare with stand 42	during
<u>Next</u> Steps		ition surve	у							
Propo: Start D		13								
42	12099042-Cut	16.7	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density Pole	98		Harvest	Clearcut with Reserves	6128 - Lowland Coniferous, Mixed Deciduous	Cmpt. Review Proposal
Preso Spec		ees down t	to a 2" dbh except cut	conifers gre	ater than	6" at stum	np height. Cut no	cedar.		
Other		with stand	d 41 during regeneratio	on surveys.						
<u>Next</u> Steps		tion surve	y							
Propo Start [13								
46	12099046-Cut	14.1	4191 - Mixed Upland Deciduous with Conifer	High Density Lo	78 g		Harvest	Clearcut with Reserves	4136 - Aspen, Mixed Conifer	Cmpt. Review Proposal
Preso Spec:		ees down	to a 2" dbh except cut	no spruce/f	ir less tha	an 6" on th	e stump. Cut no	cedar, hemlock, o	r pine.	
<u>Other</u> Comr	_ Removir ments: understo		rdwoods and old asper	n and sprud	ce/ fir in s	stand will a	llow stand to reg	enerate to better a	spen with some spruce	e/fir in the
<u>Next</u> Steps	•	ition surve	У							
Propo Start D		13								
47	12099047-Cut	3.2	4134 - Aspen, Spruce/Fir	Medium Density Pole	77		Harvest	Clearcut with Reserves	4136 - Aspen, Mixed Conifer	Cmpt. Review Proposal
Preso Spec		ees 2 inch	es and greater at dbh	except cut	spruce ar	nd fir 6 inch	nes and greater o	on the stump. Cut r	no pine, hemlock or ceo	dar.
<u>Other</u> Comr	<u></u> <u>ments:</u>									
<u>Next</u> Steps		ition surve	у							
Propo Start [13								

Compartment: 099 Crystal Falls Mgt. Unit Table 3 -- Treatments Prescribed with No Limiting Factor Year of Entry 2014 s t а Treatment Acres CoverType Size Stand BA Treatment Treatment Cover Type Approval n Method Objective Status Name Density Range Age Type d 12099054-Cut 11.6 4116 - Mixed N. 111-140 Harvest Crown Thinning 4119 - Mixed Cmpt. Review 54 High 87 Northern Hardwoods Hardwood - Aspen Density Proposal Pole Prescription Thin to a basal area of 70 removing poorer trees and aspen first. Specs: Other_ Comments: <u>Next</u> Steps: Proposed 10/01/2013 Start Date: Medium 12099056-Cut 64.8 4139 - Aspen, 77 4130 - Aspen Cmpt. Review 56 Harvest Clearcut with Mixed Deciduous Density Reserves Proposal Pole Prescription Remove western portion of stand from harvest. Thin eastern portion of stand high to hardwoods. In remainder of stand cut all trees down to a 2 inch dbh except cut no oak, hemlock,cedar or pine if present. Specs: See map and pre-review notes in compartment file. Other Comments: regeneration survey Next Steps: Proposed 10/01/2013 Start Date: 12099060-Cut 60 53.9 4110 - Sugar Maple High 93 141-170 Harvest **Crown Thinning** 4119 - Mixed Cmpt. Review Association Density Northern Hardwoods Proposal Pole Prescription Thin to a basal area of 80 leaving all hemlock and cedar if present. Specs: Other Comments: <u>Next</u> Steps: Proposed 10/01/2013 Start Date: 12099061-Cut 77 61 8.2 4130 - Aspen High Harvest Clearcut with 4130 - Aspen Cmpt. Review Density Reserves Proposal Pole Prescription Cut all trees 2 inches and greater at dbh except cut no hemlock and cedar if present. Specs: <u>Other</u> Comments: <u>Next</u> regeneration survey Steps:

Proposed Start Date: 10/01/2013

Compartment: 099 Crystal Falls Mgt. Unit Table 3 -- Treatments Prescribed Year of Entry 2014 with No Limiting Factor s t а Treatment Acres CoverType Size Stand BA Treatment Treatment Cover Type Approval n Status Range Method Objective Name Density Age Type d 62 12099062-Cut 3.7 4130 - Aspen 77 Harvest Clearcut with 4130 - Aspen Cmpt. Review High Density Reserves Proposal Pole Prescription Cut all trees down to a 2 inch dbh except cut no cedar, pine or hemlock if present. Specs: Other_ Comments: <u>Next</u> regeneration survey Steps: Proposed 10/01/2013 Start Date: High Crown Thinning 12099063-Cut 4110 - Sugar Maple 141-170 4119 - Mixed Cmpt. Review 63 16.7 87 Harvest Association Density Northern Hardwoods Proposal Pole Prescription Thin while maintaining diversity. Leave all hemlock and cedar if present. Specs: Other_ Comments: Next Steps: Proposed 10/01/2013 Start Date: 77 65 12099065-Cut 7.3 4134 - Aspen, High Harvest Clearcut with 4134 - Aspen, Cmpt. Review Spruce/Fir Density Reserves Spruce/Fir Proposal Pole Prescription cut all trees 2 inches and greater at dbh except cut spruce and fir 6 inches and greater on the stump. Cut no cedar, pine or hemlock if present. Specs: Other Comments: regeneration survey <u>Next</u> Steps: Proposed 10/01/2013 Start Date: 12099066-Cut 111-140 66 5.3 4110 - Sugar Maple High 87 Harvest Crown Thinning 4119 - Mixed Cmpt. Review Density Association Northern Hardwoods Proposal Pole Prescription Thin leaving all hemlock and cedar if present. Specs: <u>Other</u> Comments: <u>Next</u> Steps: Proposed 10/01/2013 Start Date: **Total Treatment** 294.4 Acreage Proposed:

S t		Crystal Falls	Mgt. Unit	Table 4		atments imiting	s Prescribed Factor	with	Compartment: 099 Year of Entry 2014	DRATURE PROVIDENCE
a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
			#Error							
Presc Specs	ription <u>s:</u>									
<u>Other</u> Comn										
<u>Next</u> Steps	-									
<u>Propos</u> Start D										
	ng Factor and N ment Reason	<u>0</u>								
Ac	Total Treatme creage Propose	· _								

Out of YOE -- Treatments Prescribed with No Limiting Factor

Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
12091001-Cut	31.4	4110 - Sugar Maple Association	High Density Log	87		Harvest	Single Tree Selection	4110 - Sugar Maple Association	Cmpt. Review Proposal - Incomplete

Prescription Mark trees to 80 BA leaving best tree in place according to the Compleat Marker but focusing on White Ash to avoid Emerald Ash borer devastation. Create canopy gaps for regeneration

Other Comments:

<u>....</u>

 Next
 Regen check according to certification

 Steps:
 Proposed

<u>Start Date:</u> 10/01/2013

Total Treatment Acreage Proposed: 31.4

S t	Crystal Falls	s Mgt. Unit		5 – Fo	prested Sta	nds Compartment: 099 Year of Entry: 2014
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4110 - Sugar Maple Association	High Density Pole	7.8	90	81-110	Hilly, birch falling out, aspen mostly on s. boundary.
2	4130 - Aspen	High Density Log	12.0	77		Most of stand slopes into E-type to the south. a portion may be cut next YOE with stand 1 to the north.
3	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	60.4	89		Siebert's Creek runs through center. Very low and wet.
4	4134 - Aspen, Spruce/Fir	Medium Density Pole	21.3	79		
5	6129 - Mixed Coniferous Lowland Forest	High Density Pole	3.8	97		
6	4110 - Sugar Maple Association	High Density Pole	2.7	93	111-140	Entire stand on rock top.
7	6120 - Lowland Cedar	High Density Pole	20.7	98		Mostly cedar, very wet. old orv trail bridge collapsed.
9	4130 - Aspen	Medium Density	55.8	18		cut in 1994
10	4130 - Aspen	Low Density Sapling	10.7	24		Was a transition zone between M and Q types. Now A2 with occassional M, F
12	4130 - Aspen	Medium Density	5.5	4		
13	4130 - Aspen	Medium Density Pole	8.5	77		OLD AND FALLING
14	6120 - Lowland Cedar	High Density Pole	9.6	98		very wet.
16	4110 - Sugar Maple Association	High Density Pole	5.9	90	81-110	East side of road along lake shore is denser and has most of conifer componant.
18	6124 - Lowland Spruce- Fir	High Density Pole	3.8	40		CUTTABLE BUT SMALL
19	4134 - Aspen, Spruce/Fir	Medium Density Pole	44.1	78		WAS A PART OF OLD SALE (BEAR SWAMP) NOT CUT DUE TO WET CONDITIONS.
20	4110 - Sugar Maple Association	High Density Pole	75.6	97	81-110	CUT IN 2005. MOSTLY ASPEN AND BIRCH REMOVED.
22	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density Pole	56.6	98		SMALL CREEK RUNS OUT OF STAND INTO BOG TO SOUTH.

S t	Crystal Fall	s Mgt. Unit		5 – Fo	prested Sta	Ands Compartment: 099 Year of Entry: 2014
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
24	4134 - Aspen, Spruce/Fir	High Density Pole	29.0	31		F MOSTLY ALONG ROAD, SOME WHITE AND RED PINE ALSO IN STAND.
26	42340 - Upland Spruce/Fir	High Density Pole	4.3	69		READY FOR HARVEST BUT SMALL. WILL NEED TO BE SKIDDED 1/4 MILE + TO ACCEPTABLE LANDING AREA. WILL NEED CORNERS ON PVT.
27	42340 - Upland Spruce/Fir	High Density Pole	4.5	69		
28	4130 - Aspen	High Density Sapling	13.6	4		
29	4130 - Aspen	High Density Sapling	26.9	23		
30	4110 - Sugar Maple Association	Medium Density Pole	5.5	97		cut in 2007
31	6139 - Mixed Lowland Forest	High Density Pole	12.8	62		
32	4110 - Sugar Maple Association	High Density Pole	4.2	98	51-80	oak in stand. paper birch dead
33	6139 - Mixed Lowland Forest	High Density Pole	3.7	62		much more Q than A
35	4130 - Aspen	High Density Sapling	72.8	14		residual oak
37	4110 - Sugar Maple Association	High Density Pole	9.8	98	81-110	cut in 2008
38	4130 - Aspen	High Density Sapling	23.1	4		
39	4130 - Aspen	High Density Sapling	15.4	4		
40	4110 - Sugar Maple Association	High Density Pole	8.3	93	81-110	cut in 2007
41	6128 - Lowland	High Density	27.5	98		Tamarack mostly on west end.

6128 - Lowland High Density 27.5 98 Tamarack mostly on west end. 41 Coniferous, Mixed Pole Deciduous 6128 - Lowland Medium 16.7 98 42 Coniferous, Mixed Density Pole Deciduous 4130 - Aspen Medium 43 10.7 31 Density

S t	Crystal Falls		5 – Fo	prested Stands	Compartment: 099 Year of Entry: 2014	DNR DNR	
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	MICHIGAN .
44	4110 - Sugar Maple Association	Medium Density Pole	58.3	92	51-80	cut in 2006	
45	4130 - Aspen	High Density Pole	12.9	37			
46	4191 - Mixed Upland Deciduous with Conifer	High Density Log	14.1	78			
47	4134 - Aspen, Spruce/Fir	Medium Density Pole	3.2	77			
51	6129 - Mixed Coniferous Lowland Forest	Medium Density Pole	15.1	98		creek and pond in stand, tag alder.	
52	4130 - Aspen	High Density Pole	14.0	37			
53	4130 - Aspen	High Density Pole	51.7	31			
54	4116 - Mixed N. Hardwood - Aspen	High Density Pole	11.6	87	111-140	much basswood	
55	4130 - Aspen	High Density Sapling	7.4	5			
56	4139 - Aspen, Mixed Deciduous	Medium Density Pole	64.8	77		Highly variable in species and density.	
57	4110 - Sugar Maple Association	High Density Pole	6.5	93	81-110		
58	4130 - Aspen	Medium Density	3.2	23			
60	4110 - Sugar Maple Association	High Density Pole	53.9	93	141-170	nice poles with some good logs	
61	4130 - Aspen	High Density Pole	8.2	77			
62	4130 - Aspen	High Density Pole	3.7	77			
63	4110 - Sugar Maple Association	High Density Pole	16.6	87	141-170		
64	4110 - Sugar Maple Association	High Density Pole	11.0	93	81-110		
65	4134 - Aspen, Spruce/Fir	High Density Pole	7.3	77			

S t	Crystal Fall	Crystal Falls Mgt. Unit		5 – Fo	prested Stands	Compartment: 099 Year of Entry: 2014	TOP NATURAL PRODURCE
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	AICHIGAN .
66	4110 - Sugar Maple Association	High Density Pole	5.3	87	111-140		
67	6120 - Lowland Cedar	High Density Pole	16.9	98			

Crystal Falls Mgt. Unit

6 – Nonforested Stands

Compartment: 099



Year of Entry: 2014

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
8	3102 - Grass	1.1	No	Unspecified	
11	6229 - Mixed lowland shrub	4.3	No	Unspecified	
15	50 - Water	8.2	No	Unspecified	
17	50 - Water	2.5	No	Unspecified	
21	6229 - Mixed lowland shrub	6.7	No	Unspecified	
23	6225 - Bog	2.3	No	Unspecified	
25	6225 - Bog	1.6	No	Unspecified	
34	6225 - Bog	24.3	No	Unspecified	
36	3102 - Grass	2.5	No	Unspecified	
48	11 - Low Intensity Urban	33.7	No	Unspecified	
49	50 - Water	2.0	No	Unspecified	
50	3102 - Grass	2.9	No	Unspecified	
59	6229 - Mixed lowland shrub	5.0	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	и Туре	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area
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.	