



Crystal Falls Forest Management Unit
Compartment Review Presentation
Compartment #13 **Entry Year: 2014**
Compartment Acreage: 2921 **County: Dickinson**

Revision Date: 6-19-12

Stand Examiner: Debbie Goupell

Legal Description: T44N R28W Sec 19-21, 28-33

Management Goals: This compartment is about three-quarters upland, the majority of it being aspen cover type. Management of all stands is to balance age class distribution and allow best suited species to grow on best suited sites while promoting sustainable timber production and enhancing and protecting wildlife habitat. Hardwood management goals are to put growth on the best trees in place by removing crown competition. Protect all bodies of water, especially McGregor Creek.

Soil and Topography: The majority of the upland is dominated by Emmet or Pemene fine sandy loam, a well drained soil found on level to rolling hills. Lowland soils are Carbondale and Cathro mucks which are very poorly drained soils, found on low flats and depressions.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The compartment is entirely State ownership and surrounded by State land. The area is heavily used by loggers, hunters, fisherpeople, campers, trappers, general recreationists.

Unique, Natural Features: McGregor Creek on the north, Mud Lake on the south and the headwaters of the North Branch of the North Branch of the Ford River.

Archeological, Historical, and Cultural Features: None identified

Special Management Designations or Considerations: Will need to monitor spruce budworm activity.

Watershed and Fisheries Considerations: Protect water quality for all bodies of water, particularly McGregor Creek. Promote long lived conifer species along waterbodies and use adequate buffer protection.

Wildlife Habitat Considerations: Compartment 13 encompasses the Old Cleveland Homestead Site. The series of openings associated with this homestead have been maintained for deer, grouse and bear, as well as, opening associated non-game wildlife species. This is one of the first areas in Michigan re-colonized by wolves in the 1980's and 1990's. This area has habitat that is attractive to red-shouldered or goshawks, eagles, ospreys and wood turtles.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of medium-textured till. There is insufficient data to determine the glacial drift thickness. Precambrian Archean granite/gneiss subcrops below the glacial drift. There is not a current economic use for these rocks, although they may have dimension stone potential. A rock quarry lies six miles to the northeast. Iron mines are located approximately twelve miles to the south. Gravel pits are not indicated in this area, but there appears to be good gravel potential. Most of this area was previously leased for metallic exploration and potential may still exist. Existing State metallic mineral leases are located one mile to the northwest. There is no economic oil and gas production in the UP.

Vehicle Access: Aimone/Cleveland Homestead Rd is the primary access dividing this compartment, which is a county maintained road. Additional access is via unimproved two-track roads.

Survey Needs: None needed

Recreational Facilities and Opportunities: Hunting, camping, fishing, trapping, hiking, canoeing.

Fire Protection: Felch protection area. Access to most upland stands is fair, access to some swamp types would be difficult.

Additional Compartment Information:

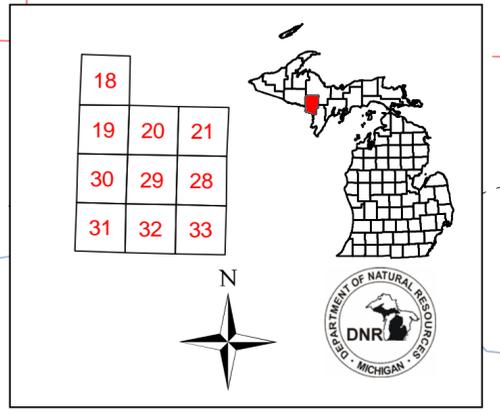
- **The following 5 reports from the Operations Inventory System (OIPC) are attached:**
 - ◆ **Cover Type by Age Class**
 - ◆ **Cover Type by Management Objective**
 - ◆ **Compartment Volume Summary**
 - ◆ **Proposed Treatments – No Limiting Factors**
 - ◆ **Proposed Treatments – With Limiting Factors**

- **The following information is displayed, where pertinent, on the attached compartment maps:**
 - ◆ **Base feature information, stand numbers, cover types**
 - ◆ **Proposed treatments**
 - ◆ **Proposed road access system**
 - ◆ **Suggested potential old growth**

Cover Type & Treatment Map

Stand #
 (4120) - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code

Compartment: 013
 T44N R28W Sec. 18 - 21, 28 - 33
 County: Dickinson
 Unit: Crystal Falls
 YOY: 2014
 Acres: 2,921 GIS Calculated
 Examiner: Deb Goupell
 Map Revised: 07/16/2012
 Map Phase: Pre-Review



Legend

- Miris Corners
- Remonumented Section Corners
- Corners
- Gate
- Berms
- Pipe
- Power
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Snowmobile Trail
- Stream
- Intermittent Stream
- Lakes and Rivers

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Thinning (Crown, Low, Systematic)

Forest Stands

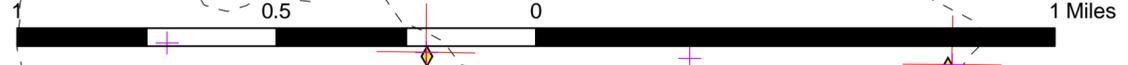
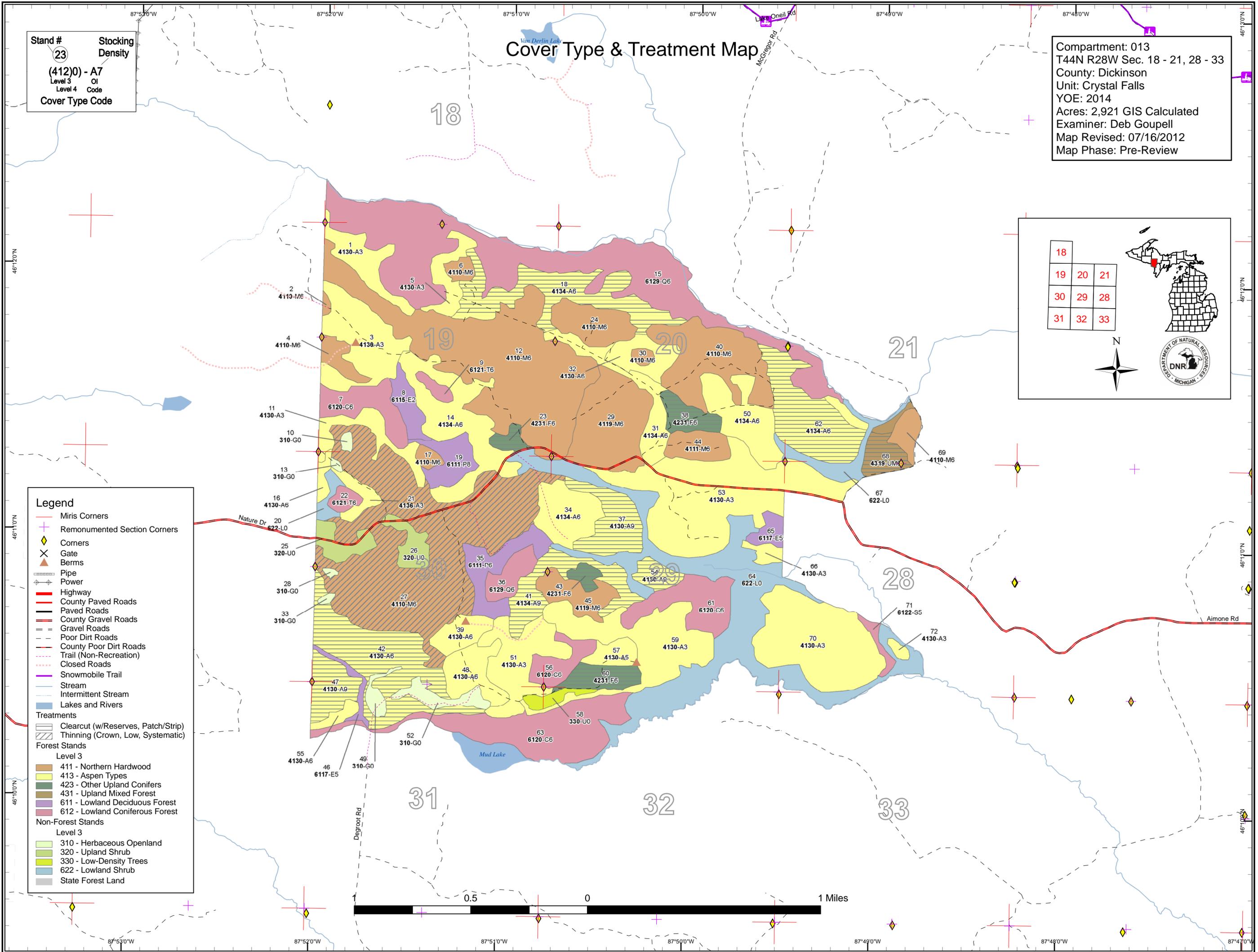
Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 423 - Other Upland Conifers
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest

Non-Forest Stands

Level 3

- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 622 - Lowland Shrub
- State Forest Land

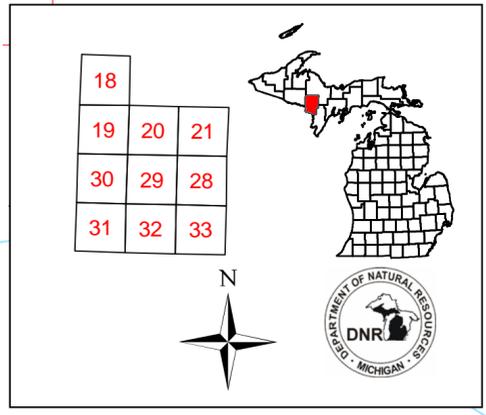


Dedicated & Proposed Special Conservation Area Map

Stand #
 (4120) - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code

Compartment: 013
 T44N R28W Sec. 18 - 21, 28 - 33
 County: Dickinson
 Unit: Crystal Falls
 YOY: 2014
 Acres: 2,921 GIS Calculated
 Examiner: Deb Goupell
 Map Revised: 07/16/2012
 Map Phase: Pre-Review

- Legend**
- Miris Corners
 - ✚ Remonumented Section Corners
 - ▭ Stand Boundaries
 - ▭ Dedicated Special Conservation Areas
 - Cold Water Streams
 - Forest Stands**
 - Level 3
 - 411 - Northern Hardwood
 - 413 - Aspen Types
 - 423 - Other Upland Conifers
 - 431 - Upland Mixed Forest
 - 611 - Lowland Deciduous Forest
 - 612 - Lowland Coniferous Forest
 - Non-Forest Stands**
 - Level 3
 - 310 - Herbaceous Openland
 - 320 - Upland Shrub
 - 330 - Low-Density Trees
 - 622 - Lowland Shrub



87°53'0"W 87°52'0"W 87°51'0"W 87°50'0"W 87°49'0"W 87°48'0"W

46°12'0"N

46°11'0"N

46°10'0"N

46°13'0"N

46°12'0"N

46°11'0"N

46°10'0"N

Table 1 – Total Acres by Cover Type and Age Class

Deborah Goupell : Examiner



	Age Class														Total
	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +	Uneten Age	
Aspen	136	221	231	82	128	131	212	78	0	0	0	0	0	0	1218
Cedar	0	0	0	0	0	0	0	0	95	63	0	32	0	0	190
Herbaceous Openland	29	0	0	0	0	0	0	0	0	0	0	0	0	0	29
Low-Density Trees	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Lowland Aspen/Balsam Poplar	0	0	0	0	0	34	23	0	0	0	0	0	0	0	57
Lowland Conifers	0	0	0	0	0	0	0	0	232	18	0	0	0	0	250
Lowland Deciduous	0	0	0	16	0	0	0	17	0	0	0	0	0	0	33
Lowland Shrub	231	0	0	0	0	0	0	0	0	0	0	0	0	0	231
Lowland Spruce/Fir	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6
Northern Hardwood	0	0	0	0	0	0	0	5	775	0	0	0	0	0	780
Tamarack	0	0	0	0	0	7	0	0	6	0	0	0	0	0	13
Upland Mixed Forest	0	0	0	0	0	21	0	0	0	0	0	0	0	0	21
Upland Shrub	32	0	0	0	0	0	0	0	0	0	0	0	0	0	32
Upland Spruce/Fir	0	0	0	0	0	53	0	0	0	0	0	0	0	0	53
Total	435	221	231	98	128	246	241	100	1108	81	0	32	0	0	2921



Table 2 – Proposed Treatment Summaries

Crystal Falls Mgt. Unit
Year of Entry 2014

Compartment 013
Total Compartment Acres: 2921

Acres by Treatment Type

Commercial Harvest - 714	Site Prep - 0	Tree Planting - 0	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	Tree Seeding - 0	Pesticide - 0	

Cover Type by Harvest Method

		Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen	359	0	0	0	0	0		359
Northern Hardwood	0	0	0	0	284	0		284
Upland Mixed Forest	17	0	0	0	0	0		17
Upland Spruce/Fir	53	0	0	0	0	0		53
Total	430	0	0	0	284	0		714



Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
18	12013018-Cut	76.1	4134 - Aspen, Spruce/Fir	High Density Pole	67		Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal
<p><u>Prescription:</u> Cut all species 2"dbh and greater, except cedar and pine. Retention will be unmerchantable conifer, plus oak and hemlock if found. May consider winter harvest to protect wetter areas. Fisheries requests 300' buffer from McGregor Creek.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> Aspen/conifer on far west is larger and older; mature balsam is falling out, heavy conifer understory. North half of stand is wetter, has more cedar. There is a narrow ash swale between hardwood stands, also steep.</p> <p><u>Next Steps:</u></p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										
27	12013027-Cut	284.3	4110 - Sugar Maple Association	High Density Pole	88	111-140	Harvest	Crown Thinning	4110 - Sugar Maple Association	Cmpt. Review Proposal
<p><u>Prescription:</u> Thin to BA 80, focusing on crown release of crop trees and removing poorly formed trees. Create small gaps by removing all clustered aspen/balm of gilead to allow aspen regeneration to add in-stand diversity. Oak, cedar and hemlock will be reserved, if found</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u></p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										
37	12013037-Cut	38.1	4130 - Aspen	High Density Log	71		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
<p><u>Prescription:</u> Cut all stems 2" dbh and greater except cedar and pine, if present. Drainage on north and east appears intermittent; retention will be 75 feet from bed/bank.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u></p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										
41	12013041-Cut	41.9	4134 - Aspen, Spruce/Fir	High Density Log	62		Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal
<p><u>Prescription:</u> Cut all broad-leaved stems 2"dbh and greater except cedar and pine. Retention will be submerchantable conifer, cedar, pine, hemlock and oak if found</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> Will need to cross tag swale on north; access also on far southwest through young aspen harvest.</p> <p><u>Next Steps:</u></p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
42	12013042-Cut	94.2	4130 - Aspen	High Density Pole	68		Harvest	Clearcut with Reserves	4139 - Aspen, Mixed Deciduous	Cmpt. Review Proposal
<u>Prescription:</u> Cut all stems 2"dbh and greater, except cedar and pine if found.. Retention may be balsam/spruce thicket in far north/northwest corner of stand. <u>Specs:</u> <u>Other</u> Basswood is poor quality, sugar maple is fair-poor quality. <u>Comments:</u> <u>Next</u> <u>Steps:</u> <u>Proposed</u> <u>Start Date:</u> 10/01/2013										
47	12013047-Cut	27.3	4130 - Aspen	High Density Log	71		Harvest	Clearcut	4130 - Aspen	Cmpt. Review Proposal
<u>Prescription:</u> Cut all stems 2"dbh and over. Suggest no retention as stand is rocky and more sparse than most aspen stands. Access will likely need to be across swale strip on north side, which will require permit (did not find water flowing in south portions of the swale or defined bed and bank). If found, cedar, hemlock and oak will be retained. <u>Specs:</u> <u>Other</u> There is 10-20% mortality in stand and very little spruce/fir understory. <u>Comments:</u> <u>Next</u> <u>Steps:</u> <u>Proposed</u> <u>Start Date:</u> 10/01/2013										
54	12013054-Cut	12.4	4130 - Aspen	High Density Log	70		Harvest	Clearcut	4130 - Aspen	Cmpt. Review Proposal
<u>Prescription:</u> Cut all stems 2"dbh and greater except cedar or pine if found. Drainage is approximately 100 ft from stand on northeast. Being a small stand, no retention other than the cedar/pine, hemlock and oak if found. <u>Specs:</u> <u>Other</u> 1chain wide tag swale divides stand. <u>Comments:</u> <u>Next</u> <u>Steps:</u> <u>Proposed</u> <u>Start Date:</u> 10/01/2013										
62	12013062-Cut	69.1	4134 - Aspen, Spruce/Fir	High Density Pole	57		Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal
<u>Prescription:</u> Cut all broad-leaved trees 2"dbh and greater; submerchantable conifer, cedar and pine will be reserved as well as oak and hemlock if found. <u>Specs:</u> Retention will be 300 foot buffer along McGregor Creek. <u>Other</u> White birch heavier on northeast against cedar. <u>Comments:</u> <u>Next</u> <u>Steps:</u> <u>Proposed</u> <u>Start Date:</u> 10/01/2013										

**Table 3 -- Treatments Prescribed
with No Limiting Factor**

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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
68 12013068-Cut	17.4	4319 - Mixed Upland Forest	High Density Pole	54	111-140	Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal

Prescription: Cut all broad leaved stems 2"dbh and greater. Retention will be submerchantable conifer, oak and hemlock if found and 300 foot buffer along
Specs: McGregor Ck (north 1/3 of stand). Spruce budworm is present in stand. Natural regeneration of aspen and mixed conifer expected

OtherComments:

Next Steps: Stand will be monitored for natural regeneration success.

Proposed

Start Date: 10/01/2013

**Total Treatment
Acreage Proposed: 660.9**



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
23	12013023-Cut	7.6	42310 - Planted Spruce	High Density Pole	54	200+	Harvest	Clearcut	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Cut all stems 2"dbh and greater, herbicide, trench, plant to red pine (or jack pine). No retention.

Specs:

Other

Comment:

Next Continue monitoring competition and treat as necessary.

Steps:

Proposed

Start Date: 10/01/2013

Limiting Factor and No
Treatment Reason

5C: Delay treatment for age/size
class diversity or exceptional site
quality

38	12013038-Cut	18.0	42311 - Planted Spruce, Mixed Deciduous	High Density Pole	52	141- 170	Harvest	Clearcut	42140 - Planted Mixed Pine	Cmpt. Review Proposal
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Prescription Clearcut all species 2"dbh and greater, if needed due to spruce budworm damage. Stand will be regenerated as decided by TMS & WLD.

Specs:

Other

Comment:

Next

Steps:

Proposed

Start Date: 10/01/2013

Limiting Factor and No
Treatment Reason

5C: Delay treatment for age/size
class diversity or exceptional site
quality

43	12013043-Cut	6.9	42310 - Planted Spruce	High Density Pole	54	111- 140	Harvest	Clearcut	42140 - Planted Mixed Pine	Cmpt. Review Proposal
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Prescription Cut all species 2"dbh and greater, if needed due to spruce budworm damage. Stand will be regenerated as decided by TMS & WLD.

Specs:

Other

Comment:

Next

Steps:

Proposed

Start Date: 10/01/2013

Limiting Factor and No
Treatment Reason

5C: Delay treatment for age/size
class diversity or exceptional site
quality

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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
60 12013060-Cut	20.6	42310 - Planted Spruce	High Density Pole	54	141-170	Harvest	Clearcut	42140 - Planted Mixed Pine	Cmpt. Review Proposal

Prescription Cut all stems 2"dbh and greater, if needed due to spruce budworm damage. Stand regeneration will be decided by TMS & WLD.

Specs:

Other

Comment:

Next

Steps:

Proposed

Start Date: 10/01/2013

Limiting Factor and No
Treatment Reason

5C: Delay treatment for age/size class diversity or exceptional site quality

**Total Treatment
Acreage Proposed: 53.0**

**Out of YOE -- Treatments
Prescribed with No Limiting Factor**

Year of Entry: 2014



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:

Next Steps: Regen check according to certification

Proposed Start Date: 10/01/2013

Total Treatment Acreage Proposed: 31.4



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	High Density Sapling	29.1	3		End of Grade TS, 2008
2	4110 - Sugar Maple Association	High Density Pole	1.8	88	81-110	Gus Bus TS
3	4130 - Aspen	High Density Sapling	62.6	21		Scare Bear TS, 1989
4	4110 - Sugar Maple Association	High Density Pole	12.5	88	81-110	Gus Bus TS
5	4130 - Aspen	High Density Sapling	19.1	3		End of Grade TS, 2008
6	4110 - Sugar Maple Association	High Density Pole	6.8	89	81-110	Gus Bus TS, 2005; not a high quality stand, plenty of forks, cracks, curves
7	6120 - Lowland Cedar	High Density Pole	32.0	110		Very nice, dense cedar stand. Tamarack on edges of stand primarily
8	6115 - Lowland Ash	Medium Density	16.3	30		Black ash is 10+ feet tall with one-1 acre upland aspen in far north; Balsam poplar is mostly dead
9	6121 - Tamarack	High Density Pole	5.9	86		Tamarack is dominant in north half, black spruce dominant in south half of this low hole
11	4130 - Aspen	High Density Sapling	24.6	21		Old Field TS, 1990
12	4110 - Sugar Maple Association	High Density Pole	223.3	88	81-110	Gus Bus TS, 2005; conifer understory much heavier on north 1/3 of stand
14	4134 - Aspen, Spruce/Fir	High Density Pole	74.5	47		
15	6129 - Mixed Coniferous Lowland Forest	High Density Pole	232.4	86		only portions of stand has merchantable timber; very variable; trace of white pine
16	4130 - Aspen	High Density Pole	5.7	36		
17	4110 - Sugar Maple Association	High Density Pole	5.3	76	81-110	fairly small diameter trees, little ground cover, except some grass
18	4134 - Aspen, Spruce/Fir	High Density Pole	76.1	67		aspen/conifer on far west is larger and older: mature balsam is falling out, heavy conifer understory. Narrow ash swale between hardwood stands; north half of stand is wetter, with some cedar. Stand will hold but appears to be good candidate to cut. Far southwest has a pocket of white spruce, which may also serve as retention.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
19	6111 - Lowland Balsam Poplar	Medium Density Log	23.0	60		1 foot drainage through this stand, much of the balsam poplar is dying or dead. Cedar pocket in far northeast. Heavy maple and black ash regeneration. Deciding to hold this and review cutting with adjacent stand 13 next entry.
21	4136 - Aspen, Mixed Conifer	High Density Sapling	11.1	21		Bear Bait TS, 1986
22	6121 - Tamarack	High Density Pole	7.1	57		tamarack mostly on outer edge of stand, not wet while I was there, however quite hummocky. Cedar heavier on north
23	42310 - Planted Spruce	High Density Pole	7.6	54	200+	larger diameter white spruce with some mortality (budworm?) but overall looking good compared to other plantations in compartment
24	4110 - Sugar Maple Association	High Density Pole	32.4	88	81-110	Part of Gus Bus TS, 2005
27	4110 - Sugar Maple Association	High Density Pole	284.3	88	111-140	evidence of TSI. There are mini inclusions of bam/aspen scattered. Took 9 BA plots well scattered and average BA is 130
29	4119 - Mixed Northern Hardwoods	High Density Pole	74.8	88	111-140	more red maple, hazel and lower quality hardwood as you proceed east and downhill, also more conifer understory. Best quality is adjacent to hardwood to west and on top of hill. 2/15/12: changed treatment. Will harvest better quality hardwood (west half of stand) with adjacent hardwood next entry; east half of stand will be clearcut with adjacent aspen as it is primarily red maple with poor quality.
30	4110 - Sugar Maple Association	High Density Pole	3.8	88	81-110	heavy fir understory, fair to poor quality hardwood
31	4134 - Aspen, Spruce/Fir	High Density Pole	33.1	46		small portion has white spruce plantation. There are some large, 14" dbh aspen and some 6" dbh but majority averages 8" dbh and is 44-47 yrs old
32	4130 - Aspen	High Density Pole	21.3	26		
34	4134 - Aspen, Spruce/Fir	High Density Pole	38.3	55		This old plantation not doing well: very small crown ratios, well overtopped by aspen. Either hold for next age class OR cut it, reserving couple pockets of more solid white spruce
35	6111 - Lowland Balsam Poplar	High Density Pole	33.9	52		far northern edges of stand are upland aspen, most is lowland
36	6129 - Mixed Coniferous Lowland Forest	High Density Pole	18.0	91		the west fringe of this stand has few scattered balm, black spruce, white spruce but is thick with red maple regeneration & some birch saplings. South piece has some black spruce, balm, aspen also lots of red maple understory (saps 1" dbh, 10 ft tall)
37	4130 - Aspen	High Density Log	38.1	71		



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
38	42311 - Planted Spruce, Mixed Deciduous	High Density Pole	18.0	52	141-170	
39	4130 - Aspen	High Density Pole	18.6	52		
40	4110 - Sugar Maple Association	High Density Pole	77.7	88	81-110	Gus Bus 2005, trace red oak and aspen
41	4134 - Aspen, Spruce/Fir	High Density Log	41.9	62		Portions of this stand are wetter as you procede to the edges. Scattered cedar.
42	4130 - Aspen	High Density Pole	94.2	68		heaviest basswood pockets are clumps of poor quality; sugar maple is fair-poor quality; far north is balsam/spruce thicket, grown in from adjacent grass opening
43	42310 - Planted Spruce	High Density Pole	6.9	54	111-140	Minor budworm damage; likely to hold. Consider holding for age class distribution of spruce plantations within compartment.
44	4111 - S.Maple, Hard Mast Association	High Density Pole	20.4	88	81-110	Red oak seedlings are evident along road and especially around opened red oak trees. Gus Bus TS 2005
45	4119 - Mixed Northern Hardwoods	High Density Pole	25.4	89	81-110	
46	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	7.1	78		crossed stand 4 times, found running water in north location only. This stand will need to be crossed to access stand 46.
47	4130 - Aspen	High Density Log	27.3	71		Bouldery site, more open than most aspen (closer to 75% crown closure); little spruce/fir understory; approximately 10-20% mortality in stand; steep slope going down to the east.
48	4130 - Aspen	High Density Pole	29.5	36		
50	4134 - Aspen, Spruce/Fir	High Density Pole	46.3	36		trace amounts of red oak and white birch
51	4130 - Aspen	High Density Sapling	55.1	13		Bearing Tree TS, 1998
53	4130 - Aspen	High Density Sapling	159.0	14		Cleveland Homestead Rd TS, 1997; trace of balsam fir and white birch
54	4130 - Aspen	High Density Log	12.4	70		will need to cross tag swale, which was fairly dry when I crossed from the northwest. Stand lines as drawn are at least 100 feet from drainage on northeast/east.
55	4130 - Aspen	High Density Pole	6.8	41		Steep on east side

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Crystal Falls Mgt. Unit

5 – Forested Stands

Compartment: 013
Year of Entry: 2014

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
56	6120 - Lowland Cedar	High Density Pole	20.3	92		
57	4130 - Aspen	Medium Density Pole	13.7	46		Openings within stand
59	4130 - Aspen	High Density Sapling	87.5	3		Mud Lake TS, 2008
60	42310 - Planted Spruce	High Density Pole	20.6	54	141-170	There is some evidence of spruce budworm, but not severe. Aspen is thicker on east and west edges of stand
61	6120 - Lowland Cedar	High Density Pole	43.0	96		
62	4134 - Aspen, Spruce/Fir	High Density Pole	74.3	57		Lots of balsam blow down; heavier to white spruce on northeast against cedar. Little pocket of black spruce east of very small opening on the northeast. There are old white spruce plantation pockets with dbh 2-6" that are not holding up well. Bam is mostly on edge of stand. Largest aspen in north half.
63	6120 - Lowland Cedar	High Density Pole	94.6	84		1st one chain is spruce/tamarack, which is the transition to the cedar (aspen, bam on the south fringe of the grassy opening is now lumped with stand 41
65	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	9.9	75		wet
66	4130 - Aspen	High Density Sapling	6.8	14		Cleveland Homestead Rd TS, 1997. Some wet pockets in here
68	4319 - Mixed Upland Forest	High Density Pole	21.1	54	111-140	White spruce in northeast is well overtopped by aspen with spruce/fir understory. Spruce and aspen dbh ranges 5-10".
69	4110 - Sugar Maple Association	High Density Pole	12.0	88	81-110	part of Gus Bus TS, 2005
70	4130 - Aspen	High Density Sapling	107.9	20		Stand is fully stocked but does not appear as vigorous as other same-aged stands (??) Far northeast corner has ~2 ac inclusion of "planted" white spruce, 9-10" dbh with balsam and aspen which may have been a buffer or retention. Wolf Track TS, 1991.
71	6122 - Black Spruce	Medium Density Pole	6.1	62		low volume; not stand alone sale
72	4130 - Aspen	High Density Sapling	3.2	20		Fork Hump TS, 1991.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
10	310 - Herbaceous Openland	2.4	N/A	Unspecified	
13	310 - Herbaceous Openland	1.3	N/A	Unspecified	
20	622 - Lowland Shrub	7.1	N/A	Unspecified	
25	3202 - Autumn Olive/Honeysuckle	16.0	N/A	Unspecified	
26	3202 - Autumn Olive/Honeysuckle	15.7	N/A	Unspecified	
28	310 - Herbaceous Openland	1.2	N/A	Unspecified	
33	310 - Herbaceous Openland	1.6	N/A	Unspecified	
49	310 - Herbaceous Openland	7.2	N/A	Unspecified	
52	310 - Herbaceous Openland	15.1	N/A	Unspecified	
58	3301 - Low Density Deciduous Tree	7.9	N/A	Unspecified	
64	622 - Lowland Shrub	202.6	N/A	Unspecified	
67	6220 - Alder/willow	21.0	N/A	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.

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

Conservation Area	Type	Description
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.