



GRAYLING FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 211 ENTRY YEAR: 2013

Compartment Acreage: 1064 County: CRAWFORD

Revision Date: 7/24/11

Stand Examiner: Lucas Merrick

Legal Description: Fredric Township, T28N R04W Sections 22 and 23

Management Goals: To maintain forest health, productivity, sustainability, species diversification, and structural diversity throughout the compartment while providing for multiple use and visual management.

Soil and Topography: Flat to rolling topography with areas of steep river valley slopes. Feldhauser, Graycalm, and Rubicon loamy sands are present in the uplands. Tawas/Lupton mucks are found in the lowlands.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Private parcels can be found in the south and east. There is oil and antrim gas development found throughout the area.

Unique, Natural Features: Per Michigan Natural Features Inventory there is potential for dusted skipper, grizzled skipper, red-legged spittlebug, Henry's elfin, and boreal brachionycha in barrens areas. Northern hardwoods could provide habitat for red-shouldered hawk and goshawk. Wood turtle and Blanding's turtle may occur in or around the streams. Secretive locust may inhabit bogs. Bald eagle and osprey might be seen along the river corridors. There is possible eastern massasauga habitat.

Plant species that may occur are rough fescue, pale agoseris, Hill's thistle, and Alleghany plum in pine barrens/dry sand prairie. There is potential for false violet in hummocky pine, hardwood, or aspen stands. In the mesic northern hardwoods ginseng, showy orchis, and goblin moonwort are rare plants that could be present.

Archeological, Historical, and Cultural Features: Potential for such occurrences exists.

Special Management Designations or Considerations: Kolka Creek and the AuSable River are both "designated natural rivers". Natural rivers are considered High Conservation Value Areas (HCVA).

Watershed and Fisheries Considerations: Kolka Creek and the headwaters of the Main Branch AuSable River occur in the compartment. Both are designated as Natural Rivers.

Wildlife Habitat Considerations: Promote the expansion of aspen and oak cover types. Protect mast producing shrubs whenever possible. Efforts should be made to enhance dead and down woody debris and standing snags.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 600 and 800 feet. Beneath the glacial drift is the Coldwater Shale. There is not an economic use for the Coldwater Shale. The nearest gravel pit is in the northeast corner of Section 23 and potential is thought to be good, especially the upland areas. The State land is leased and has been developed for Antrim Shale gas. There is also Guelph (Niagaran) reef production in this compartment and additional potential for reefs is possible.

Vehicle Access: Most of the compartment has adequate access by county or forest roads. The portion of land located between Kolka Creek and Bradford Creek/AuSable River are inaccessible due to the waterways. A bridge or large culverts would need to be installed to access this area by vehicle. The railroad tracks have limited crossing opportunities, making it difficult to access the area between Bradford Creek and Old-27.

Survey Needs: None at this time.

Recreational Facilities and Opportunities: Dispersed recreation occurs throughout the area. Snowmobile trails #7 and #679 run through the compartment

Fire Protection: The majority of the compartment is upland hardwood. Access for fire suppression is good with the exception of the land located between the two creeks.

- **The following reports are available:**
 - ◆ **Total Acres by Cover Type and Age Class**
 - ◆ **Proposed Treatment Summaries**
 - ◆ **Dedicated Conservation Area Details**
 - ◆ **Listing of Forested Stands**
 - ◆ **Listing of Non-Forested Stands**
 - ◆ **Proposed Treatments with No Limiting Factor**
 - ◆ **Proposed Treatments with Limiting Factors**

- **The following information is displayed, where pertinent, on the attached compartment maps:**
 - ◆ **Base feature information, stand numbers, cover types, recreation trails and facilities**
 - ◆ **Proposed treatments**
 - ◆ **Dedicated & Proposed Special Conservation Areas**

Cover Type & Treatment Map

Compartment 211
 T28N, R04W, Sec. 22, 23
 County: Crawford
 Unit: Grayling
 YOY: 2013
 Acres: 1,064 GIS Calculated
 Stand Examiner: Lucas Merrick
 Map Revised: 9/08/2011
 Map Phase: Pre-Review

22 23
 DNR
 DEPARTMENT OF NATURAL RESOURCES
 MICHIGAN

Stand #
 23
Stocking Density
 (4120) - A7
 Level 3 OI
 Level 4 Code
Cover Type Code

Legend

- RIs Corners
- Remonumented Section Corners
- Miris Corners
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- Railroads
- Pipe
- Power
- Snowmobile Trail
- Snowmobile Trails
- Intermittent Stream/Drain
- Stream
- Lakes and Rivers

Treatments

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

Forest Stands

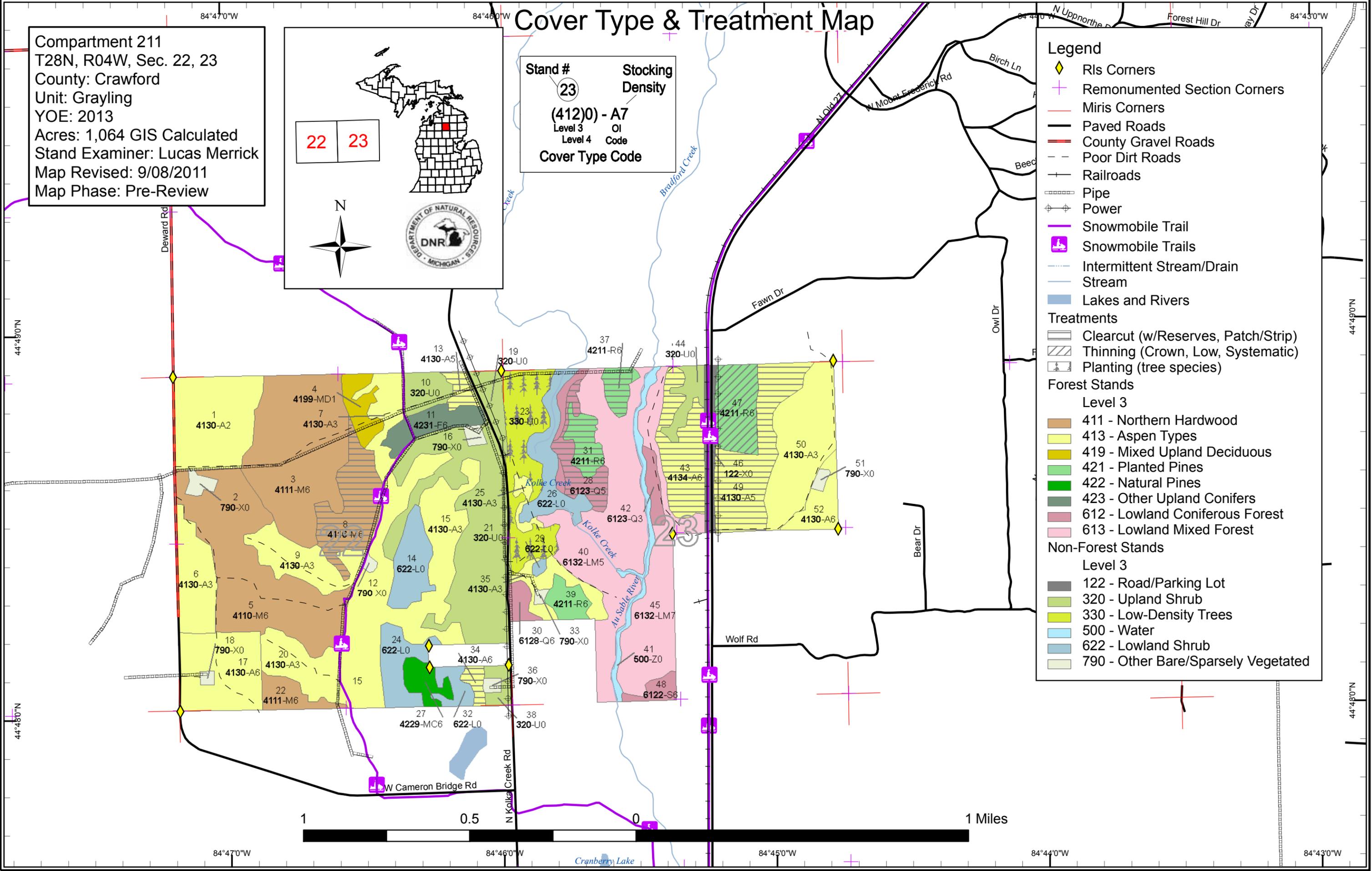
Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

Non-Forest Stands

Level 3

- 122 - Road/Parking Lot
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 790 - Other Bare/Sparsely Vegetated



44°49'0"N

44°49'0"N

44°48'0"N

44°48'0"N

84°47'0"W

84°46'0"W

84°45'0"W

84°44'0"W

84°43'0"W

84°47'0"W

84°46'0"W

84°45'0"W

84°44'0"W

84°43'0"W



	Age Class														Total	
	Non-Forested	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +		Unretn Age
Aspen	0	135	47	131	0	5	43	28	0	0	0	0	0	0	0	388
Bare/Sparsely Vegetated	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Low-Density Trees	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36
Lowland Conifers	0	0	0	6	0	0	17	5	0	0	0	0	0	0	0	28
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	129	0	0	0	129
Lowland Shrub	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	6
Mixed Upland Deciduous	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Natural Mixed Pines	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	8
Northern Hardwood	0	0	0	0	0	0	0	0	198	0	0	0	0	0	0	198
Red Pine	0	0	0	0	0	0	45	0	0	0	0	0	0	0	0	45
Upland Shrub	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110
Upland Spruce/Fir	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	14
Urban	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Water	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Total	238	145	47	136	0	26	106	33	198	6	0	129	0	0	0	1064



Table 2 – Proposed Treatment Summaries

Grayling Mgt. Unit
Year of Entry 2013

Compartment 211
Total Compartment Acres: 1064

Acres by Treatment Type

Commercial Harvest - 156	Site Prep - 0	Tree Planting - 36	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	76	0	0	0	0	0	76
Lowland Conifers	13	0	0	0	0	0	13
Northern Hardwood	30	0	0	0	0	0	30
Red Pine	16	0	0	0	21	0	37
Total	135	0	0	0	21	0	156



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
8	72211008-Cut	29.7	4116 - Mixed N. Hardwood - Aspen	High Density Pole	71	Harvest	Clearcut with Reserves	4139 - Aspen, Mixed Deciduous	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest, leave 3-5% of stand in retention islands. Consider aesthetics along snowmobile trail. <u>Specs:</u></p> <p><u>Other</u> Check OFS point, found a couple small stick nests in stand. Management objective is a mixed deciduous stand dominated by aspen. Moderate <u>Comments:</u> to fully stocked. If natural regen fails plant failed portions to red pine.</p> <p><u>Next</u> Monitor regen <u>Steps:</u></p>									
13	72211013-Cut	4.7	4130 - Aspen	Medium Density Pole	40	Harvest	Clearcut	4130 - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest, do not leave retention. Try to expand the aspen component as much as possible. Protect or enhance the mast producing shrubs <u>Specs:</u> where possible.</p> <p><u>Other</u> Much of stand is a big bowl, there was water in the center during survey, avoid running equipment through this area as much as possible during <u>Comments:</u> wet times of the year. If regen fails manage area as upland brush</p> <p><u>Next</u> Monitor regen, mast producing upland brush is an exceptable alternative if regen fails <u>Steps:</u></p>									
28	72211028-Cut	13.1	6123 - Lowland Fir	Medium Density Pole	55	Harvest	Clearcut	6123 - Lowland Fir	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest. Do not leave retention within the sale area. A river buffer for the "natural river" will be left and this will be the retention for the stand <u>Specs:</u></p> <p><u>Other</u> Stand may be harvested out of YOE. Majority of stand is dry compared to rest of lowland areas but has a very high water table. Management <u>Comments:</u> objective is fir, any swamp conifer types along with mixed hwdws at moderate or better stocking is acceptable. If regen fails consult Silviculturalist for options. Consider to try and scarify site and broadcast red pine and white pine seed, other lowland conifer seed would be nice as well.</p> <p><u>Next</u> monitor regen <u>Steps:</u></p>									
31	72211031-Cut	9.7	42110 - Planted Red Pine	High Density Pole	55	Harvest	Clearcut with Reserves	4113 - R.Maple, Conifer	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest with retention. Leave around 10% of stand in multiple leave islands as well as a few trees an acres scattered throughout (5BA or <u>Specs:</u> less). There is a dense red maple/fir understory throughout the stand.</p> <p><u>Other</u> Stand may be set up out of YOE? Extensive porcupine damage throughout stand. Matts will most likely be required to access across the <u>Comments:</u> lowland stand. A red maple/mixed conifer stand is the management objective, a moderate to fully stocked stand with these components is acceptable. If natural regen fails manage as open brush.</p> <p><u>Next</u> monitor regen after harvest <u>Steps:</u></p>									
34	72211034-Cut	3.6	4130 - Aspen	High Density Pole	59	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest, Leave some of the red pine (perhaps a diameter limit?) otherwise mark to cut. Do not leave any other retention. <u>Specs:</u></p> <p><u>Other</u> Northern property line seems to be accurately established with posts. Do we want to chase the rest of the ridge into comp 210? If managemt <u>Comments:</u> objective fails, recommend we manage as upland brush with adjacent stand.</p> <p><u>Next</u> monitor regen <u>Steps:</u></p>									



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
37	72211037-Cut	6.4	42110 - Planted Red Pine	High Density Pole	55	Harvest	Clearcut with Reserves	4113 - R.Maple, Conifer	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest, leave about 10% of stand in multiple retention islands, mark to leave a couple pine per acre to leave (Less than 5BA)</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> The red maple and fir understory not as well established as in southern plantation. Management objective is red maple with a conifer component - if regen fails manage as open brush.</p> <p><u>Next Steps:</u> monitor regen</p>									
43	72211043-Cut	27.7	4134 - Aspen, Spruce/Fir	High Density Pole	60	Harvest	Clearcut	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest. Do not leave retention, this is to maximize aspen regeneration. If there are any larger diameter pine along the road a few of these can be marked if they will help w/ aesthetics.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> western portion of stand dominated by fir and is on a ridge that falls into the river flood plain. A moderate to fully stocked stand of aspen and fir is the objective. If regen fails, plant open areas with red pine.</p> <p><u>Next Steps:</u> Monitor regen and bmps</p>									
47	72211047-Cut	21.1	42110 - Planted Red Pine	High Density Pole	53	Harvest	Crown Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Remove around 1/3 of the volume. This is the second entry and trees will need to be individually marked. There are areas that are thick with red pine seedlings, these areas can be opened up more if the opportunity is there.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> Keep the timbersale on the eastern portion of the power line. The purpose of this harvest is to improve the quality of existing timber.</p> <p><u>Next Steps:</u> Monitor health of stand</p>									
49	72211049-Cut	39.8	4130 - Aspen	Medium Density Pole	50	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest- minimum retention. Do not leave a conifer component in stand.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> Variable quality. Objective is a moderately to fully stocked aspen stand. If regen fails plant open areas with red pine.</p> <p><u>Next Steps:</u> monitor regen</p>									
23	NF_72211023-Plant	36.0	Non-Forested		0	Tree Planting	Hand Plant	42110 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Trench and hand plant</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> This stand harvest out of YOE, cut feb-2011. FTP#C72-687 already created</p> <p><u>Next Steps:</u> Monitor success of planting</p>									

**Total Treatment
Acreage Proposed: 191.9**

Table 4 -- Treatments Prescribed with a Limiting Factor



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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#Error

Prescription Specs:

Other Comment:

Next Steps:

Limiting Factor and No Treatment Reason

Total Treatment Acreage Proposed: 0

Out of YOE -- Treatments
Prescribed with No Limiting Factor

Year of Entry: 2013



Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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Prescription
Specs:

Other
Comments:

Next
Steps:

**Total Treatment
Acreage Proposed: 0**

Stand	Grayling Mgt. Unit		5 – Forested Stands			Compartment: 211	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2013	
1	4130 - Aspen	Medium Density	42.5	7			A regenerating aspen stand.
3	4111 - S.Maple, Hard Mast Association	High Density Pole	77.3	75	51-80		A recently thinned hdwd stand. Rolling topo.
4	4199 - Other Mixed Upland Deciduous	Low Density Sapling	10.0	7			
5	4110 - Sugar Maple Association	High Density Pole	81.4	75	111-140		A northern hdwd stand. Rolling hills.
6	4130 - Aspen	High Density Sapling	23.1	7			A regenerating aspen stand w/ mixed hdwd.
7	4130 - Aspen	High Density Sapling	13.9	7			A regenerating aspen stand;
8	4116 - Mixed N. Hardwood - Aspen	High Density Pole	29.7	71	81-110		A poor quality hdwd stand w/ a large component of aspen. Rolloing topo.
9	4130 - Aspen	High Density Sapling	22.5	17			A regenerating aspen stand.
11	42310 - Planted Spruce	High Density Pole	13.5	46	51-80		Spruce plantation.
13	4130 - Aspen	Medium Density Pole	4.7	40			Aspen stand w/ excellent habitat potential.
15	4130 - Aspen	High Density Sapling	83.4	27			A regenerating aspen stand. A minor mixed conifer component present.
17	4130 - Aspen	High Density Pole	35.8	28	51-80		Rolling hills. A nice looking aspen stand . Several grouse present.
20	4130 - Aspen	High Density Sapling	20.5	17			A regenerating aspen stand. Some quaking aspen, red maple, and elm also present
22	4111 - S.Maple, Hard Mast Association	High Density Pole	9.5	75	111-140		A hilly northern hdwd stand. Fairly open in the understory.
25	4130 - Aspen	High Density Sapling	3.8	16			A healthy looking aspen stand.
27	42290 - Natural Mixed Pine	High Density Pole	8.1	46	51-80		A pine island surrounded by blueberry bog.
28	6123 - Lowland Fir	Medium Density Pole	17.5	55	81-110		Fir mixed with red maple and aspen.
30	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	5.3	65			Open water throughout parts with mixed conifer. Thaspen portion along south starts to move intash present.o the uplands.



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Grayling Mgt. Unit

5 – Forested Stands

Compartment: 211
Year of Entry: 2013

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
31	42110 - Planted Red Pine	High Density Pole	9.7	55	171-200	Red pine plantation.
34	4130 - Aspen	High Density Pole	3.6	59		A narrow aspen stand.
35	4130 - Aspen	High Density Sapling	12.4	5		A regenerating aspen stand.
37	42110 - Planted Red Pine	High Density Pole	6.9	55	111-140	Hunting activity evident. Red pine plantation.
39	42110 - Planted Red Pine	High Density Pole	7.8	56	111-140	A recently thinned red pine plantation. Hardwood species regenerating in the understory.
40	6132 - Mixed Lowland Forest with Cedar	Medium Density Pole	80.4	108	51-80	A pleasant mixed conifer lowland area.
42	6123 - Lowland Fir	High Density Sapling	5.6	24		Small diameter fir and misc hdwds. A few super canopy trees here and there.
43	4134 - Aspen, Spruce/Fir	High Density Pole	27.7	60	51-80	Aspen/fir stand. Quality and size varies .
45	6132 - Mixed Lowland Forest with Cedar	Low Density Log	49.0	108		New stand added.
47	42110 - Planted Red Pine	High Density Pole	21.1	53	141-170	Red pine plantation, one entry already.
48	6122 - Black Spruce	High Density Pole	5.6	89		Part of area conifer swamp complex
49	4130 - Aspen	Medium Density Pole	39.7	50	51-80	Poor quality quaking aspen stand. Pockets of unmerch timber. Aspen/pine in SW.
50	4130 - Aspen	High Density Sapling	42.8	8		Hilly aspen stand in process of regenerating. 10-20' Tall.
52	4130 - Aspen	High Density Pole	11.5	26		A regenerating aspen stand. Stand is on the face of a hill.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
2	790 - Other Bare/Sparsely Vegetate	3.0	N/A	Unspecified	Two well sites side by side. H2S gas.
10	3204 - Mast Producing Shrub	9.8	N/A	Unspecified	An upland shrub type. Flushed multiple grouse.
12	790 - Other Bare/Sparsely Vegetate	1.2	N/A	Unspecified	Well site
14	622 - Lowland Shrub	16.9	No	Unspecified	Blueberry bog, northern portions have a swamp conifer component.
16	790 - Other Bare/Sparsely Vegetate	2.0	No	Unspecified	Well site.
18	790 - Other Bare/Sparsely Vegetate	1.1	N/A	Unspecified	gas well
19	3204 - Mast Producing Shrub	9.9	No	Unspecified	An old railroad grade and a power line run through this stand parallel to the rd.
21	3204 - Mast Producing Shrub	77.8	No	Unspecified	Kicked up a couple grouse. A good upland bird stand.
23	3301 - Low Density Deciduous Tree	36.0	No	Unspecified	A recently harvested red pine plantation. 2 retention islands in stand, both less than an acre.
24	622 - Lowland Shrub	14.9	No	Unspecified	Blueberry bog, with mixed pine along the edges.
26	6220 - Alder/willow	19.8	No	Unspecified	This stand has a "Natural River" running through it. The entire stand is within the buffer zone.
29	6229 - Mixed lowland shrub	1.1	No	Unspecified	A lowland area surrounded by a regenerating aspen stand.
32	622 - Lowland Shrub	6.2	N/A	Unspecified	A blueberry bog.
33	790 - Other Bare/Sparsely Vegetate	1.0	No	Unspecified	Well site.
36	790 - Other Bare/Sparsely Vegetate	1.5	N/A	Unspecified	Well site.
38	320 - Upland Shrub	4.9	N/A	Unspecified	An open area with scattered mast producing shrubs.
41	50 - Water	11.6	N/A	Unspecified	Bradford Ck



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
44	3204 - Mast Producing Shrub	7.8	N/A	Unspecified	open with cherry brush and old pine stumps.
46	122 - Road/Parking Lot	10.1	No	Unspecified	Old-27 and RR
51	790 - Other Bare/Sparsely Vegetate	1.5	N/A	Unspecified	A sparsely vegetated opening.



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.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.