



GRAYLING FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 174 ENTRY YEAR: 2014

GIS Compartment Acreage: 1,637 County: Crawford

Revision Date: 08/27/2012

Stand Examiner: Patrick Mohney

Legal Description: T28NR4W, Sections 31, 32 and 33
Frederic Township

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

Soils and Topography: Soil types within the compartment consist of Grayling, Graycalm-Roselawn, Rubicon-Roselawn and Kalkaska sands. Topography within the compartment is level in the southwest and rolling hills with valleys between them.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The compartment consists of a large block of state ownership with the exception of an isolated 40- acre parcel located in the SE1/4, SE1/4 of Section 33. The east and west side of compartment is bounded by private ownership. Private lands on the east side of the compartment contain one permanent and several seasonal cabins. Manistee River Road and Hiawatha Drive on the west side of compartment is lined with permanent and seasonal residences.

Unique, Natural Features: None.

Archeological, Historical, and Cultural Features: Two old logging camps are located within the compartment.

Special Management Designations or Considerations: Visual management considerations should be taken in to account when managing stands along County Road 612.

Watershed and Fisheries Considerations: The Manistee River passes through Section 31.

Wildlife Habitat Considerations: To maintain Aspen stands for the White-tailed Deer and Ruffed Grouse. Other significant wildlife that can be found within the compartment is the Black Bear, Wild Turkey, Squirrel and Rabbits.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. Glacial drift thickness varies between 600 and 800 feet. There is elevation relief of approximately 250 feet in the compartment. Beneath the glacial drift is the Coldwater Shale. There is not an economic use for the Coldwater Shale. The nearest gravel pit is less than one mile to the north. Gravel potential is thought to be good, especially the upland areas. Part of the

compartment is leased for oil and gas and Antrim Shale is developed in the east one-half of Section 31. The compartment currently contains 3 active Antrim wells. The Antrim Shale appears to be losing potential, due to the thickness of overburden, and may not be developed further in this area. There is at least one abandoned well pad in compartment. It is presumed it is a former niagran well pad.

Vehicle Access: This compartment is easily accessed through a variety of county roads and two track roads. County Road 612, Manistee River Road and Hiawatha Drive provide access to much of the state land in Sections 31 and 33. The remaining state ownership is accessible by several two-track roads branching off from these major county roads. Most of these two-track roads are designated ORV and snowmobile trails. All new roads created from timber sale and management activities are to be closed upon completion of the management activity.

Survey Needs: The potential for survey needs exist.

Recreational Facilities and Opportunities: The compartment contains a portion of the North Frederic Cycle/ORV Trail and a portion of the Blue Bear snowmobile trail (Trail numbers 679 and 74). Besides snowmobiling and cycling, other recreational opportunities include hunting and mushrooming. There is no designated horse trail in the compartment, however some use is occurring on two-tracks within the compartment.

Fire Protection: Fire equipment can gain easy access into most all of the compartment for fire suppression. The Manistee River provides a nearby water source for fire protection and the Frederic Volunteer Fire Department is close by.

Additional Compartment Information: None.

➤ **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**

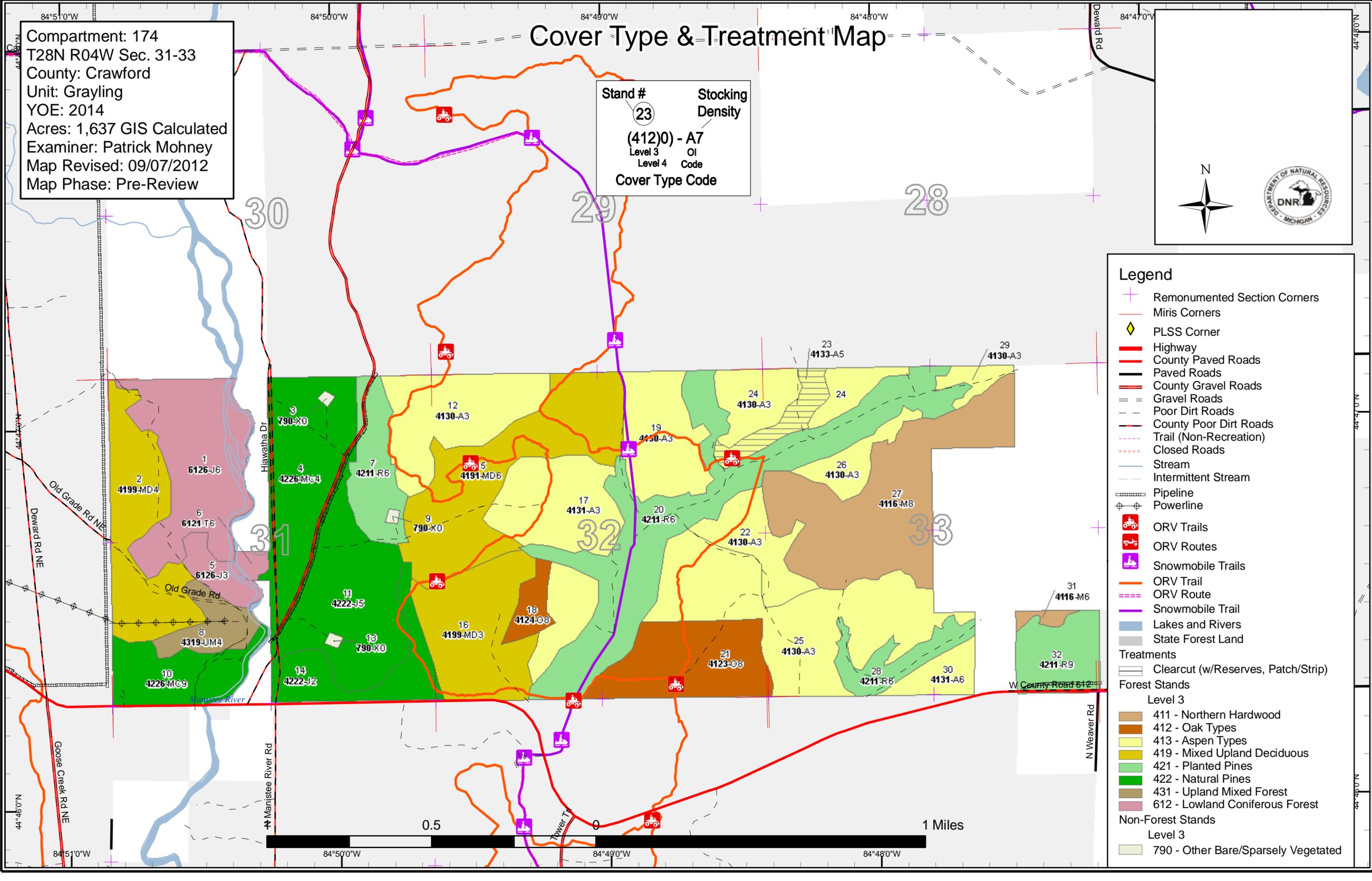
Compartment: 174
 T28N R04W Sec. 31-33
 County: Crawford
 Unit: Grayling
 YOY: 2014
 Acres: 1,637 GIS Calculated
 Examiner: Patrick Mohney
 Map Revised: 09/07/2012
 Map Phase: Pre-Review

Cover Type & Treatment Map

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



- ### Legend
- + Remonumented Section Corners
 - Miris Corners
 - ◆ PLSS Corner
 - Highway
 - County Paved Roads
 - Paved Roads
 - County Gravel Roads
 - Gravel Roads
 - Poor Dirt Roads
 - County Poor Dirt Roads
 - - - Trail (Non-Recreation)
 - - - Closed Roads
 - Stream
 - - - Intermittent Stream
 - Pipeline
 - Powerline
 - 🛵 ORV Trails
 - 🛵 ORV Routes
 - 🛷 Snowmobile Trails
 - ORV Trail
 - Snowmobile Trail
 - Lakes and Rivers
 - State Forest Land
- ### Treatments
- Clearcut (w/Reserves, Patch/Strip)
- ### Forest Stands
- Level 3
- 411 - Northern Hardwood
 - 412 - Oak Types
 - 413 - Aspen Types
 - 419 - Mixed Upland Deciduous
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 431 - Upland Mixed Forest
 - 612 - Lowland Coniferous Forest
- ### Non-Forest Stands
- Level 3
- 790 - Other Bare/Sparsely Vegetated



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Stand Boundary Map

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

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Legend

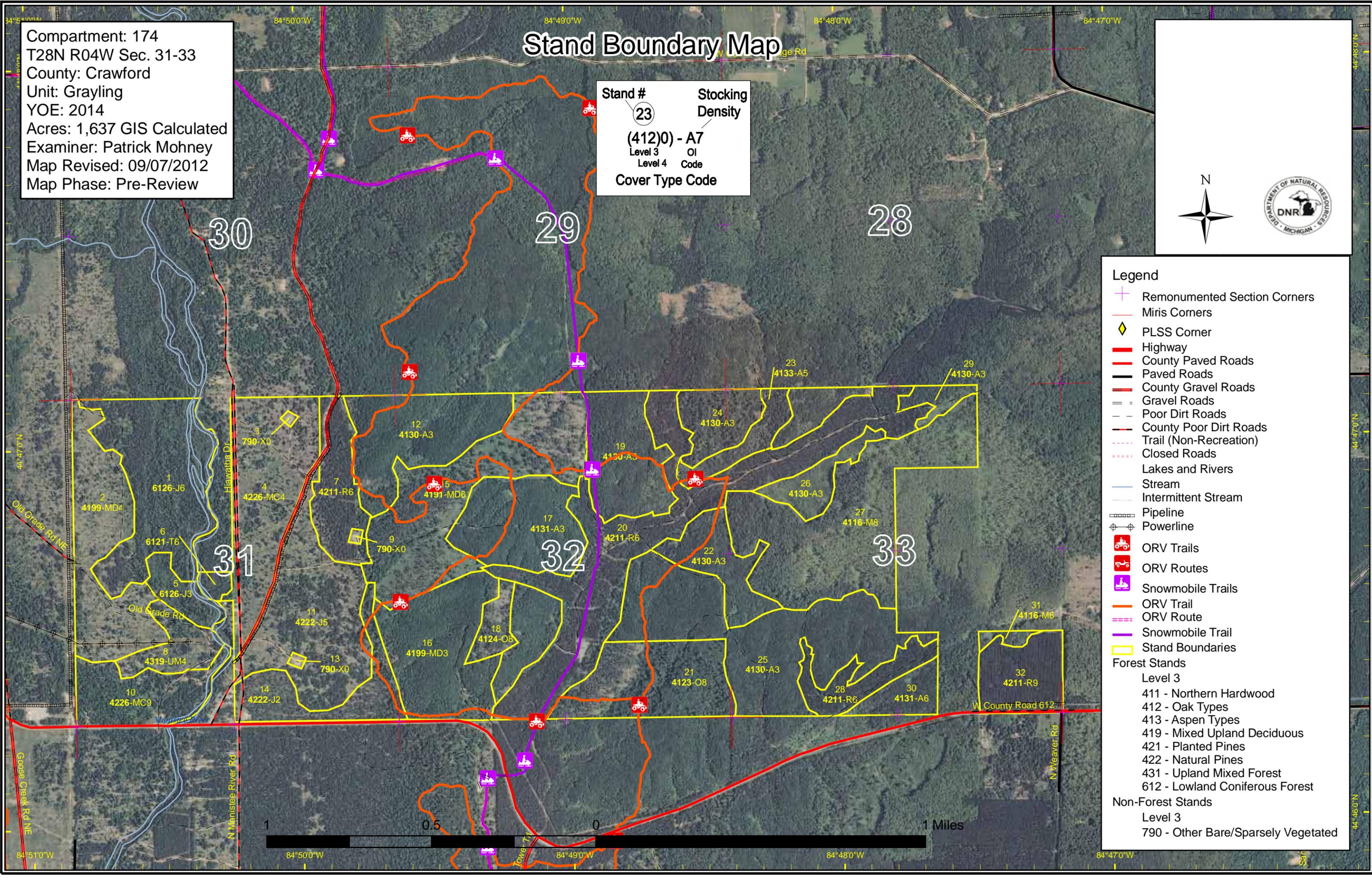
- ✦ Remonumented Section Corners
- ✦ Miris Corners
- ◆ PLSS Corner
- ▬ Highway
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Forest Stands

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Non-Forest Stands

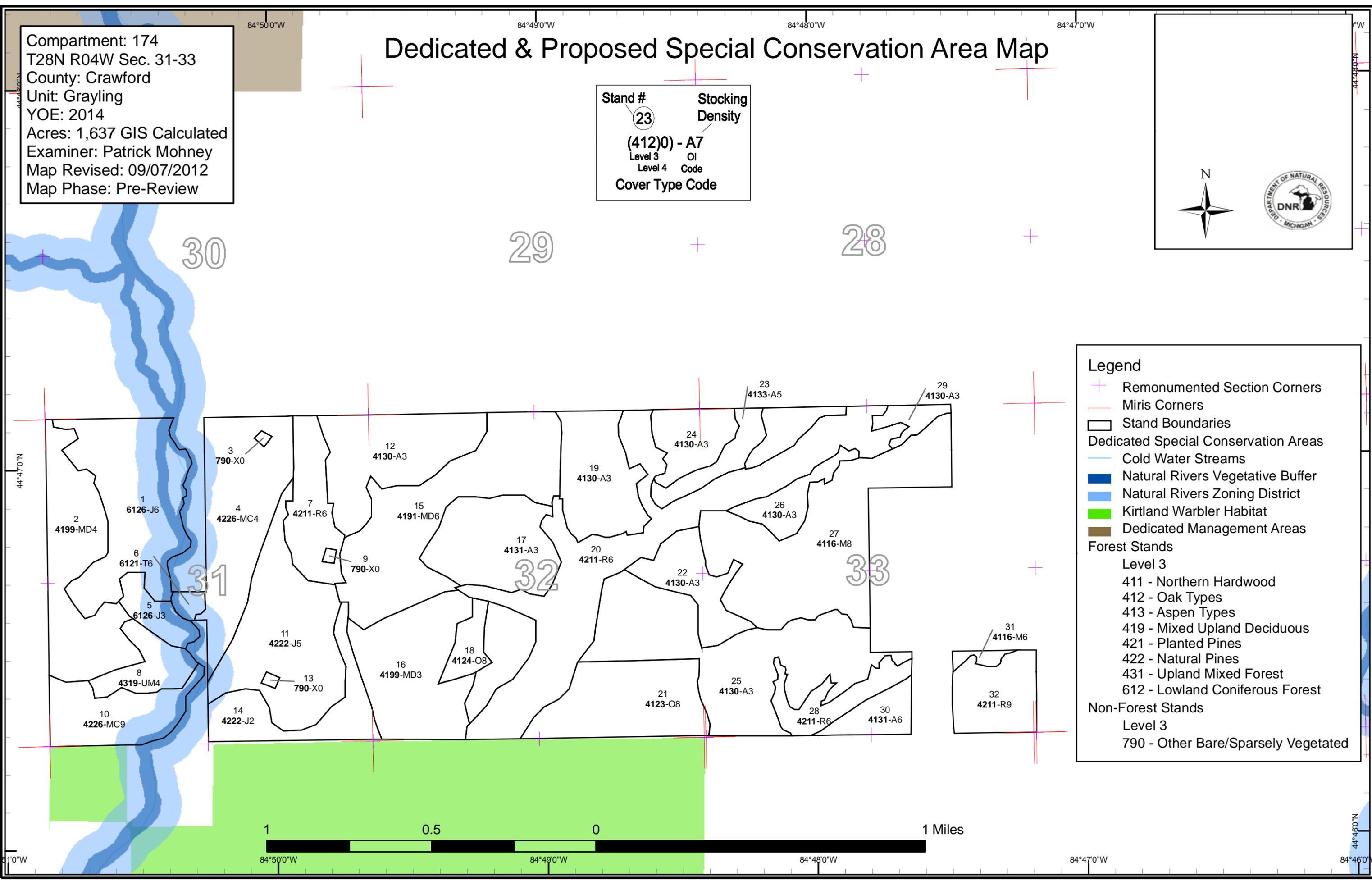
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- 790 - Other Bare/Sparsely Vegetated



Dedicated & Proposed Special Conservation Area Map

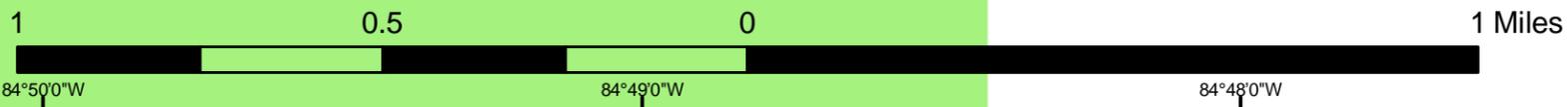
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Legend

- ✦ Remonumented Section Corners
- ✦ Miris Corners
- ▭ Stand Boundaries
- Dedicated Special Conservation Areas**
- Cold Water Streams
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Kirtland Warbler Habitat
- Dedicated Management Areas
- Forest Stands**
- Level 3
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- Non-Forest Stands**
- Level 3
- 790 - Other Bare/Sparsely Vegetated



84°51'0"W 84°50'0"W 84°49'0"W 84°48'0"W 84°47'0"W

Table 1 – Total Acres by Cover Type and Age Class



	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 +	Uneven Age	
Aspen	97	10	356	0	18	0	0	0	0	0	0	0	0	0	481
Bare/Sparsely Vegetated	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Jack Pine	0	0	41	16	96	97	0	0	0	0	0	0	0	0	250
Mixed Upland Deciduous	0	0	77	78	0	0	115	0	0	0	0	0	0	0	270
Natural Mixed Pines	0	0	0	0	86	0	45	0	0	0	0	0	0	0	131
Northern Hardwood	0	0	0	0	0	137	0	0	0	0	0	0	0	0	137
Oak	0	0	0	0	0	67	13	0	0	0	0	0	0	0	80
Red Pine	0	0	0	0	257	0	0	0	0	0	0	0	0	0	257
Tamarack	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
Upland Mixed Forest	0	0	0	24	0	0	0	0	0	0	0	0	0	0	24
Total	99	10	474	122	458	97	204	173	0	0	0	0	0	0	1637



Table 2 – Proposed Treatment Summaries

Grayling Mgt. Unit
Year of Entry 2014

Compartment 174
Total Compartment Acres: 1637

Acres by Treatment Type

Commercial Harvest - 18	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		18	0	0	0	0	0	18
	Total	18	0	0	0	0	0	18

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	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
23	72174023-Cut	18.3	4133 - Aspen, Mixed Pine	Medium Density Pole	47		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription: Final harvest this stand. Leave no aspen for retention to maximize regen. For retention leave patches of white pine where it is dense.

Specs: Acceptable regeneration would be aspen and white pine.

Other

Comments:

Next

Steps:

Proposed

Start Date: 10/01/2013

**Total Treatment
Acreage Proposed: 18.3**

Table 4 -- Treatments Prescribed with a 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
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#Error

Prescription Specs:

Other Comment:

Next Steps:

Proposed Start Date: #Error

Limiting Factor and No Treatment Reason

Total Treatment Acreage Proposed: 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
72269_OYOE_cc	2.0					Harvest	Clearcut	4131 - Aspen, Oak	Cmpt. Review Proposal
<u>Prescription Specs:</u> Final harvest except leave any beech, ash, and conifers. No additional retention specified due to small stand size and the proximity of retention in comp 268 stand 28. Set up concurrent with compt 268 (2014 YOE) stand 28.									
<u>Other Comments:</u>									
<u>Next Steps:</u> Natural regen survey. Natural regen goal is a mixture of aspen, oak and hardwoods.									
<u>Proposed Start Date:</u> 10/01/2013									

72272_OYOE_ccr	5.6					Harvest	Clearcut	42120 - Planted Jack Pine	Cmpt. Review Proposal
<u>Prescription Specs:</u> Final harvest except leave the RP & WP. No additional retention due to small stand size. Run the north & west boundary to include the operable transition ground (where the densest black spruce cover is) down to the swamp. Cut all JP & Scotch pine stems regardless of merchantability. Harvest concurrent with the adjacent comp 268 stand 6 (aquired through the same land transaction). When harvesting this stand's planted SP, site a secondary landing immediately adjacent to the plantation so that Scotch pine doesn't get dragged through the general stand area, distributing its weed seed. Add hare habitat improvement spec to fell the red-painted boundary line trees bordering the swamp.									
<u>Other Comments:</u> Protect the survey monument and any witness trees associated with the north quarter corner of section 22. Borders the Lovells KW Unit, Management Block 56.									
<u>Next Steps:</u> Trench and plant JP to KW specs. May need site prep treatments (that could include burning, herbicide, etc.) to control scotch pine regen before planting. Artificial regen surveys. Acceptable regen is JP at stockings suitable for KW habitat, with minor components of naturally-established mixed deciduous and native conifer species.									
<u>Proposed Start Date:</u> 10/01/2013									

72289_OYOE_cc	6.7					Harvest	Clearcut	42120 - Planted Jack Pine	Cmpt. Review Proposal
<u>Prescription Specs:</u> Final harvest, leaving any RP, WP and white oak. No additional retention due to small stand size. Treat concurrent with the adjacent comp 290 stand 26.									
<u>Other Comments:</u> Protect the survey monument and witness trees associated with the quarter corner common to sections 26 & 27.									
<u>Next Steps:</u> Trench and plant JP to KW specs. Artificial regen surveys. Acceptable regen is JP at stockings suitable for KW habitat, along with naturally-established oak and pine.									
<u>Proposed Start Date:</u> 10/01/2013									

**Total Treatment
Acreage Proposed: 14.3**



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6126 - Lowland Jack Pine	High Density Pole	97.0	50	51-80	Jack Pine and some black spruce. Becomes more lowland conifer as you approach the river. Some mortality in the jack pine. It is very tall but does not have much diameter to it. Not going to cut due to the proximity of the river and the houses directly across from the stand. It would most likely convert to cherry brush. Manistee River Flood plains.
2	4199 - Other Mixed Upland Deciduous	Low Density Pole	77.6	30	1-50	Very open stand with mixed conifers throughout. Lots of cherry brush as well. Do nothing.
4	42260 - Natural Pine, Mixed Deciduous	Low Density Pole	86.1	44	51-80	Fairly open stand. Jack pine with various hardwoods mixed in throughout. Pretty variable BA's. Do nothing at this time. Has some old pine stumps scattered throughout stand.
5	6126 - Lowland Jack Pine	High Density Sapling	16.4	30		This stand has some low areas in it that are fairly wet. There is some tag alder in pockets throughout. Decent pine growing along the edges. Do nothing. Manistee River flood plains.
6	6121 - Tamarack	High Density Pole	4.7	35	1-50	Dense stand of tamarack. Most of the other species listed are out near the road where the power company has done their maintenance. West edge of stand borders manistee river.
7	42111 - Planted Red Pine, Mixed Deciduous	High Density Pole	38.5	44		Small diameter red pine plantation. Stand was planted in 1967. Has not self pruned much as of yet. Has Breitburn pipeline going through stand. Southern portion of stand is more populated with other species. Rows are still somewhat distinguishable. Still has some marked trees out on site, possibly just left over from previous treatment. Stand 3rd row thinned in 2006. Do nothing at this time.
8	4319 - Mixed Upland Forest	Low Density Pole	23.6	33	1-50	Open stand, has a good mix of species throughout. Do nothing at this time.
10	42260 - Natural Pine, Mixed Deciduous	High Density Log	44.5	78	81-110	Nice mixed stand. Has a low area right up near the river. Some nice log sized red pine. Do not recommend cutting due to the proximity to the river and being right along CR 612. Re-evaluate in ten years.
11	42220 - Natural Jack Pine	Medium Density Pole	96.0	44		Somewhat open stand with scattered patches of jack pine. Also many scattered cherry and red pine throughout. Do nothing at this time.
12	4130 - Aspen	High Density Sapling	68.9	24		Great aspen regen. Do nothing at this time. Some white pine in NW part of stand. Stand was clearcut in 1987. 006-85-01.
14	42220 - Natural Jack Pine	Medium Density	40.6	25	1-50	Stand was diameter limit cut in 2008. Wolverine power jack #034-07-01. Stand is still well stocked. do nothing at this time.
15	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	115.3	75	51-80	Thinned to 70 in 2010. 8-10 foot regeneration, seems to be coming in well. Lots of RM and Aspen, minimal oak regen. Did not core due to oak wilt.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
16	4199 - Other Mixed Upland Deciduous	High Density Sapling	77.5	25		Stand was cut in 1987 #249-84-01. Young oak and maple regen is coming in nicely. Oak is struggling to keep pace with the other hardwoods.
17	4131 - Aspen, Oak	High Density Sapling	85.6	25		Stand was cut in 1987. Oak, maple and aspen regen. Oak is struggling to keep up with the rest of the hardwoods.
18	4124 - Red with White Oak	Medium Density Log	13.0	72	1-50	Stand cut in 2010, Sale "oak ridge thin again". Approx 30 ba of oak was left. All aspen and RM was cut. Regen is coming in fairly well in places. Oak regen is struggling.
19	4130 - Aspen	High Density Sapling	53.0	25		young aspen good growrh. some oak and maple mixed in. was cut in 1987 #007-85-01. some larger dia stems of aspen throughout.
20	42110 - Planted Red Pine	High Density Pole	157.5	44	81-110	Large stand. Stand was planted in 1967. All red pine has been 3rd row thinned in 2006. Stand has varying quality throughout but would all be treated the same. Do nothing at this time.
21	4123 - Red Oak	Medium Density Log	67.5	65	51-80	Stand was cut in 2010. Oak ridge thin again. Lots of red maple and aspen regen. Minimal oak coming back. ORV trail passes through stand. Did not core oak due to oak wilt.
22	4130 - Aspen	High Density Sapling	34.1	6		Stand was cut in 2006. Non merchantable at this time. ORV trail passes through stand. Some oak was left during previous treatment do nothing at this tiem.
23	4133 - Aspen, Mixed Pine	Medium Density Pole	18.3	47		low qualit low density aspen. would cut to try and regenerate. leave red and white pine. its mostly isolated in pockets.
24	4130 - Aspen	High Density Sapling	42.8	6		young aspen stand. great regen. some large oak left throughout. do nothing. cut in 2006.
25	4130 - Aspen	High Density Sapling	131.0	25		Stand cut in 1987. Sale numbers 9-85-1, and 8-85-1. Dense aspen. Stand is approaching merchantability. Has good access. Lots of hardwood competition. Do nothing.
26	4130 - Aspen	High Density Sapling	19.8	6		young aspen stand. cut in 2006. good regen. did not walk whole stand.
27	4116 - Mixed N. Hardwood - Aspen	Medium Density Log	132.7	69	81-110	This is the nicest stand I have walked through in a while. It has some large beech, oak and some aspen along the north and south edges of the stand but other than that it is all sugar maple. It is nice, tall straight and clean sugar maple. There is virtually zero regeneration underneath however. It is all blackberry as far as you can see. There would be a huge volume of logs coming out of this stand if cut, but I am concerned that it would not regenerate.
28	42110 - Planted Red Pine	High Density Pole	25.0	44	81-110	Decent Red pine. Stand was planted in 1967. heavy hardwood understory coming in. Has started to self prune. Do nothing at this time. Was third row thinned in 2006.

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Grayling Mgt. Unit

5 – Forested Stands

Compartment: 174
Year of Entry: 2014

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
29	4130 - Aspen	High Density Sapling	9.6	15		Recent clear cut stand. Decent regen, converting to maple, aspen is having a hard time keeping up with the red maple and cherry.
30	4131 - Aspen, Oak	High Density Pole	17.6	25		Stand was cut in 1987 sale 9-85-1. Larger diameter trees along CR 612. Probably left for visual. Stand is regenerating nicely.
31	4116 - Mixed N. Hardwood - Aspen	High Density Pole	4.0	65	81-110	aspen/red maple stand that is of merchantable size. Very small stand, lots of private line. Previous inventory said to hold for ten years before treating. I am not recommending treatment.
32	42110 - Planted Red Pine	High Density Log	36.5	45	111-140	Stand has 4 alternate strips of red pine planted in 1967 and 1956. Stand has responded well to the thinning. Putting on good ring growth. Could thin now, but I would like to hold for another ten years and thin then.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
3	790 - Other Bare/Sparsely Vegetate	0.9	No	Low (NonForested)	well pad lots of knapweed.
9	790 - Other Bare/Sparsely Vegetate	0.9	No	Low (NonForested)	wellpad with lots of knapweed.
13	790 - Other Bare/Sparsely Vegetate	1.0	No	Low (NonForested)	Well site, lots of knapweed.



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
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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	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
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.