



GRAYLING FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 250 ENTRY YEAR: 2012

GIS Compartment Acreage: 1466 County: Crawford

Revision Date: September 5, 2012

Stand Examiner: Tom Barnes

Legal Description: T28N, R2W, Sections 28, 29 and 30
Lovells Township

Management Goals: To manage stands within the compartment for forest health, productivity, sustainability, species and structural diversity while managing and maintain those stands needed by the National Guard for training and encampment needs. Another goal is to manage lands within the compartment for multiple use and visual management.

Soils and Topography: Soils within the compartment consist of Grayling, Graycalm-Grayling sands, Rubicon, Klacking loam and Croswell-AuGres complexes on the upland sites. The lowland sites consist of Tawas, Lupton, Dawson, Loxley and Tawas-Leafriver muck. The topography of the compartment is level to rolling hills. The East Branch of the Au Sable River cuts through the landscape in the west half of the compartment.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The compartment is mostly state ownership with a few private 40-acre parcels along the south boundary of the compartment. The SE 1/4 of section 28 is military board land. The remainder of the compartment is leased to the Michigan National Guard under L-1479 , which allows for usage by the military during their encampment with no permanent buildings or improvements to be erected. KP Lake is on the east side of the compartment and is mostly surrounded by private ownership that is well developed with full time residences and a few seasonal residences. Most of this compartment is used heavily by the National Guard, especially along County Road 612, Briggs Road and Kinney Road.

Unique, Natural Features: The East Branch of the Au Sable River.

Archeological, Historical, and Cultural Features: None.

Special Management Designations or Considerations: Besides the East Branch of the Au Sable River, this compartment is heavily used by the military for firing points and encampments. Management within the compartment needs to fit the needs of the military. Another special management consideration within the compartment is the visual management along County Road 612.

Watershed and Fisheries Considerations: The compartment contains a portion of KP Lake, Jones Lake, River Lake and the East Branch of the Au Sable River. The East Branch of the Au Sable River is a designated trout stream and a scenic and natural river.

Wildlife Habitat Considerations: To manage and maintain the habitat suitable for the White-tailed Deer, Ruffed Grouse, Wild Turkey and Black Bear.

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 150 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 located just east of the compartment. Gravel potential appears to be good on the upland areas. This is part of the State Military Reservation. There are no current leases in this compartment. The closest production is the Antrim Shale gas play three miles to the northeast.

Vehicle Access: Most of the compartment can be accessed easily from County Road 612, Briggs Road and Kinney Road. Several two tracks branch off these major county roads further into the compartment. Any new roads created from timber sales will be closed upon completion of the sale. It appears all other open trail roads are currently heavily used by the military and should remain open.

Survey Needs: A survey is needed to determine the NW boundary of section 30.

Recreational Facilities and Opportunities: There are no recreational facilities within the compartment. However, the compartment to the south contains Jones Lake State Forest Campground and a Public Access sites on KP Lake and Jones Lake. Recreational opportunities within the compartment include fishing, hunting and boating.

Fire Protection: The compartment consists of mostly of Oak and Aspen cover types with the exception of those lowland stands along the East Branch of the Au Sable River and a few small stands of Jack Pine, that don't pose a major fire problem. Fire equipment can easily access most all of the compartment and compartment contains many water sources for fire suppression.

Additional Compartment Information: None.

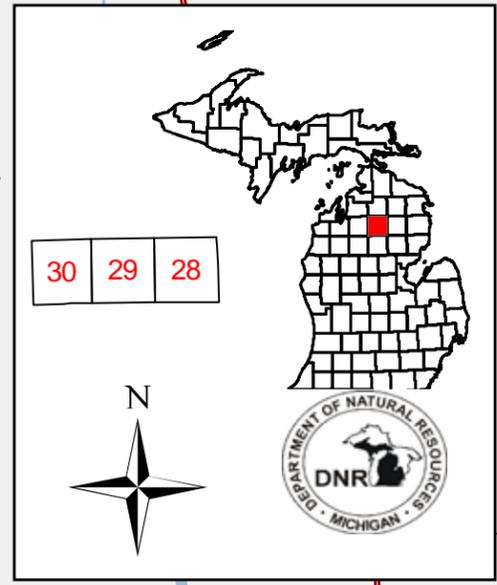
➤ **The following reports are available:**

- ◆ **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: 250
 T28N R02W Sec. 28, 29, 30
 County: Crawford
 Unit: Grayling
 YOE: 2014
 Acres: 1,466 GIS Calculated
 Examiner: Thomas Barnes
 Map Revised: 09/06/2012
 Map Phase: Pre-Review



Cover Type & Treatment Map

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

Legend

- Remonumented Section Corners
- Corners
- Miris Corners
- 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
- Powerlines
- Lakes and Rivers
- State Forest Land

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Prescribed Burn

Forest Stands

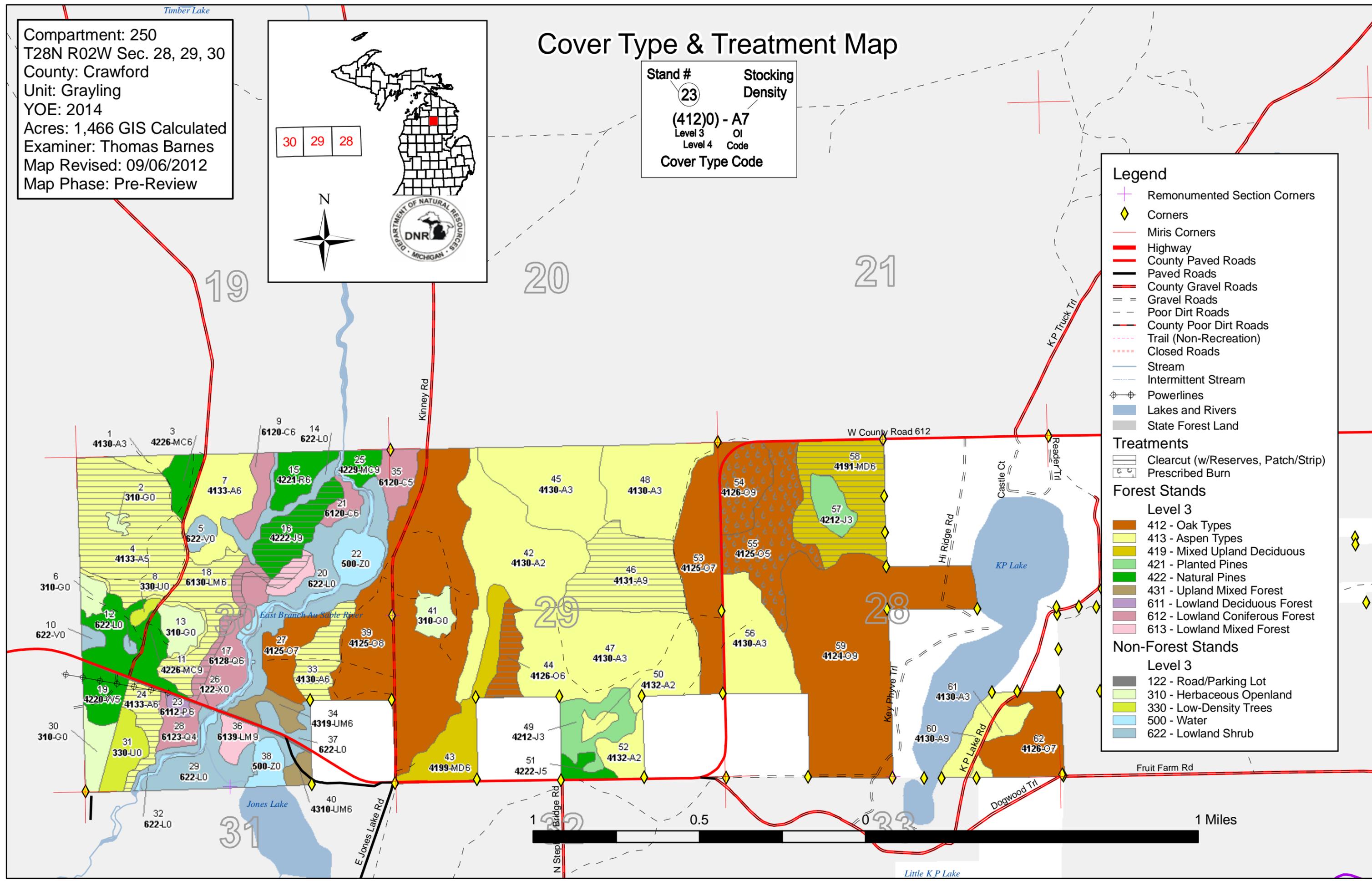
Level 3

- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

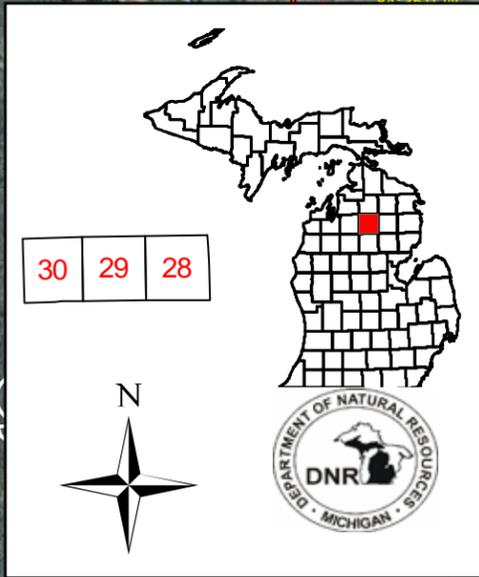
Non-Forest Stands

Level 3

- 122 - Road/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub



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Stand Boundary Map

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

Legend

- Remonumented Section Corners
- Corners
- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
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- Stream
- Intermittent Stream
- Powerlines
- Stand Boundaries

Forest Stands

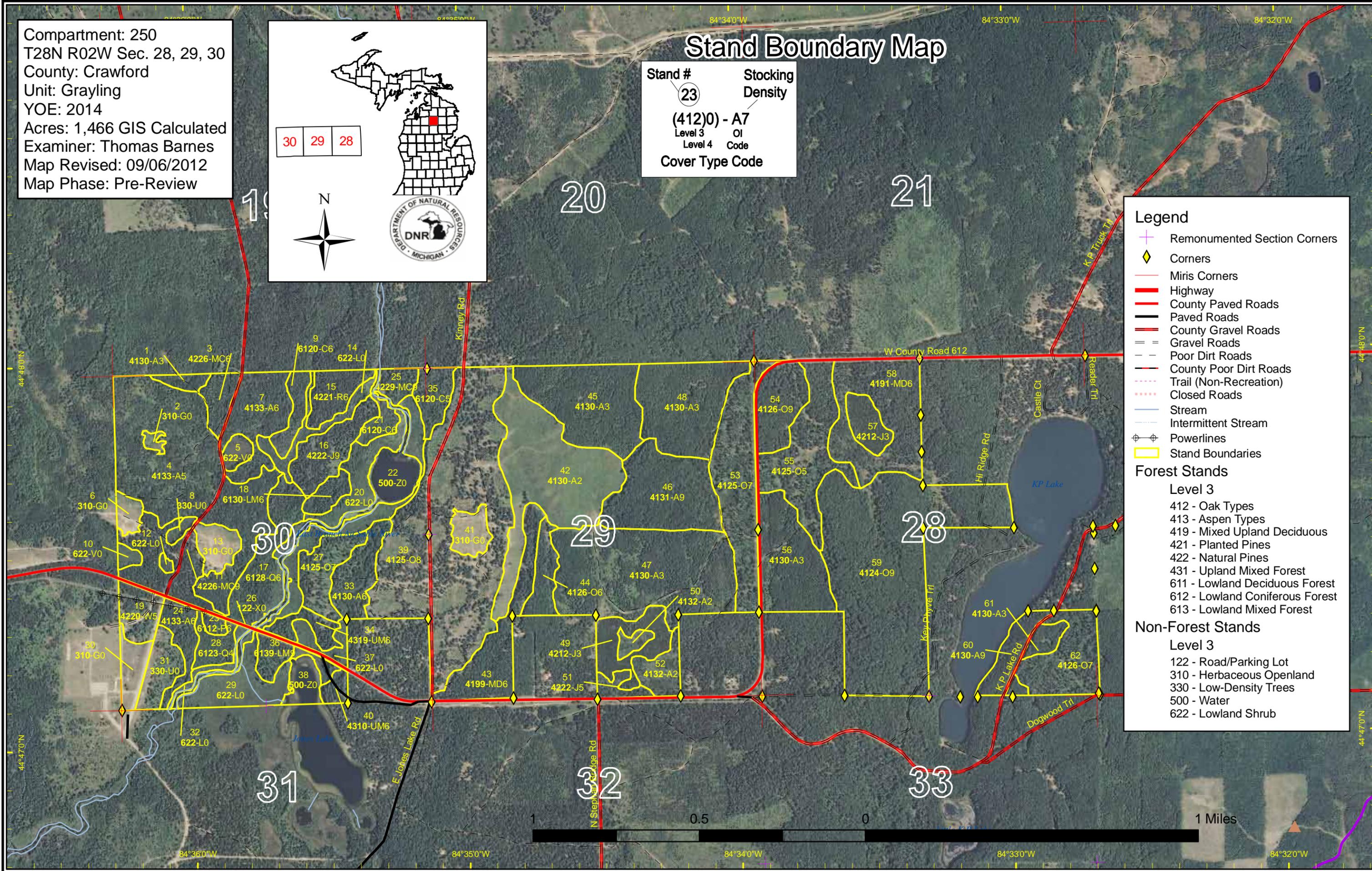
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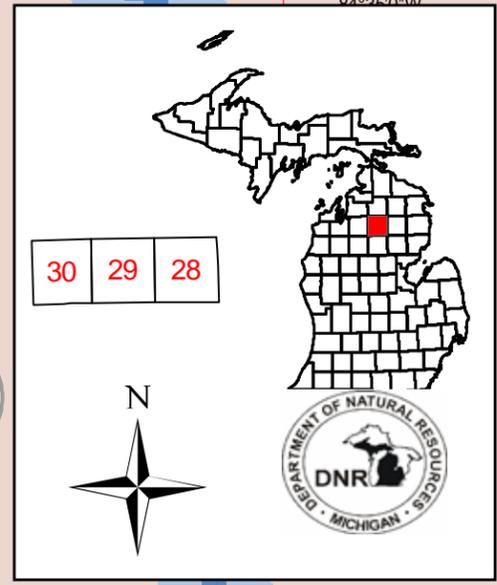
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 Map Revised: 09/06/2012
 Map Phase: Pre-Review



Dedicated & Proposed Special Conservation Area Map

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

Legend

- Remonumented Section Corners
- Miris Corners
- Stand Boundaries
- Dedicated Special Conservation Areas**
- Cold Water Streams
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Campgrounds
- Boat Access Sites
- Research, Development, and Military Lands

Forest Stands

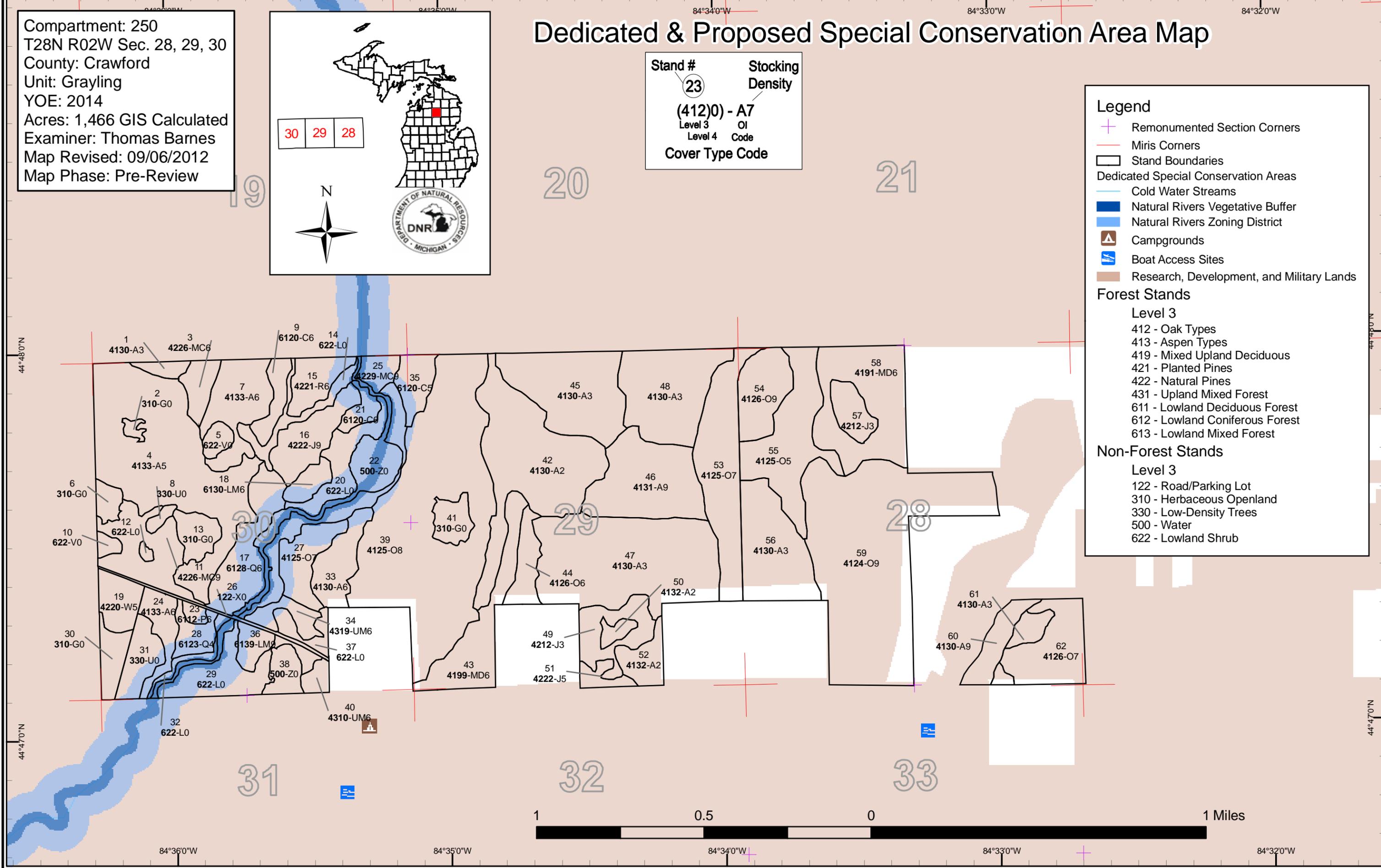
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Non-Forest Stands

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84°36'0"W 84°35'0"W 84°34'0"W 84°33'0"W 84°32'0"W



	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 +		Uneren Age
Aspen	72	70	178	0	129	29	45	13	0	0	0	0	0	0	537
Bog	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Cedar	0	0	0	0	0	0	0	11	14	0	0	0	0	0	26
Herbaceous Openland	35	0	0	0	0	0	0	0	0	0	0	0	0	0	35
Jack Pine	0	29	0	0	0	20	0	5	0	0	0	0	0	0	55
Low-Density Trees	16	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Lowland Aspen/Balsam Poplar	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
Lowland Conifers	0	0	0	0	9	0	0	0	28	0	0	0	0	0	37
Lowland Mixed Forest	0	0	0	0	0	0	0	7	7	0	0	0	0	0	14
Lowland Shrub	84	0	0	0	0	0	0	0	0	0	0	0	0	0	84
Mixed Upland Deciduous	0	0	0	0	0	0	0	79	0	0	0	0	0	0	79
Natural Mixed Pines	0	0	0	0	0	0	0	43	0	0	0	0	0	0	43
Oak	0	0	0	0	0	0	0	380	75	0	0	0	0	0	455
Red Pine	0	0	0	0	0	0	13	0	0	0	0	0	0	0	13
Upland Mixed Forest	0	0	0	0	0	0	8	4	0	0	0	0	0	0	13
Urban	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Water	35	0	0	0	0	0	0	0	0	0	0	0	0	0	35
White Pine	0	0	0	0	0	0	12	0	0	0	0	0	0	0	12
Total	252	99	178	0	138	50	82	543	125	0	0	0	0	0	1466



Table 2 – Proposed Treatment Summaries

Grayling Mgt. Unit
Year of Entry 2014

Compartment 250
Total Compartment Acres: 1466

Acres by Treatment Type

Commercial Harvest - 265	Site Prep - 0	Tree Planting - 0	Prescribed Burn - 65	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	173	0	0	0	0	0	173
Jack Pine	20	0	0	0	0	0	20
Lowland Conifers	9	0	0	0	0	0	9
Lowland Mixed Forest	4	0	0	0	0	0	4
Mixed Upland Deciduous	48	0	0	0	0	0	48
Oak	12	0	0	0	0	0	12
Total	265	0	0	0	0	0	265



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
4	72250004-Cut	98.6	4133 - Aspen, Mixed Pine	Medium Density Pole	40		Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal

Prescription Final harvest clearcut with retention follow stand retention guidelines. Remove all species except red and white pine.

Specs:

Other The quality of the aspen is not that great, most trees are between 2-4 sticks and pole size. Conks are starting to form on the boles of much of the stand. Logging equipment will not be permitted in the firing points.

Next Stand should regenerate to a mixture of aspen, maple and oak, with aspen being the dominate regenerated species.

Steps:

Proposed

Start Date: 10/01/2013

16	72250016-Cut	20.5	42220 - Natural Jack Pine	High Density Log	59	81-110	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
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Prescription Clear cut with retention, follow stand retention guidelines.

Specs:

Other Jack pine stand that is bordered by lowland types on both sides which will make access difficult, best approach will be from the sw across stands 4 and 14.

Next If natural regeneration of jack pine fails, treat, trench and plant to jack pine.

Steps:

Proposed

Start Date: 10/01/2013

17	72250017-Cut	9.0	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	82		Harvest	Clearcut	6122 - Black Spruce	Cmpt. Review Proposal
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Prescription Clearcut without retention. Drop boundary line trees along swamp edge. Include the Rabbitat spec in the contract.

Specs:

Other The Eastern half of stand 17 will help keep a travel corridor for wildlife along the East Branch of the AuSable River. This corridor will be connected to the eastern half of stand 18.

Next Acceptable regeneration is a moderate to well stocked stand dominated by Aspen with maple, balsam fir and other associated lowland species.

Steps:

Proposed

Start Date: 10/01/2013

18	72250018- Cut1	3.5	6130 - Fir, Aspen, Maple	High Density Pole	84	81-110	Harvest	Clearcut	6130 - Fir, Aspen, Maple	Cmpt. Review Proposal
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Prescription Clearcut the western half of stand 18, remaining half will serve as the retention. Include Rabbitat Spec in contract. Drop boundary line trees along swamp edge.

Specs:

Other The Eastern half of stand 18 will help keep a travel corridor for wildlife along the East Branch of the AuSable River. This corridor will be connected to the eastern half of stand 17.

Next Acceptable regeneration is a moderate to well stocked stand dominated by Aspen with maple, balsam fir and other associated lowland species.

Steps:

Proposed

Start Date: 10/01/2013



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
24	72250024-Cut	11.6	4133 - Aspen, Mixed Pine	High Density Pole	57	81-110	Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal

Prescription: Clearcut with retention, follow stand retention guidelines. Focus retention pockets where white pine has greatest densities.

Specs:

Other Comments: Stand is adjacent to County Rd 612, leave some trees along the road.

Next Steps:

Stand should regenerate to primarily aspen with mixed associated species.

Proposed Start Date:

10/01/2013

33	72250033-Cut	17.6	4130 - Aspen	High Density Pole	52		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
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Prescription: Clearcut with retention, follow stand retention guidelines. Remove all species except oak and white pine.

Specs:

Other Comments: There is a swale that runs through this stand.

Next Steps:

Stand should regenerate to aspen and maple mix.

Proposed Start Date:

10/01/2013

44	72250044-Cut	11.6	4126 - White, Black, N. Pin Oak	High Density Pole	72	111-140	Harvest	Clearcut with Reserves	4126 - White, Black, N. Pin Oak	Cmpt. Review Proposal
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Prescription: Clearcut with retention, follow stand retention guidelines. Remove all species except aspen. Focus retention where the aspen density is greatest.

Specs:

Other Comments:

Acceptable regeneration is a stand with good oak and maple regeneration.

Next Steps:

Proposed Start Date:

10/01/2013

46	72250046-Cut	45.5	4131 - Aspen, Oak	High Density Log	65	111-140	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
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Prescription: Clearcut with retention. Follow stand retention guidelines. Focus retention in areas with heavy aspen.

Specs:

Other Comments: Leaving aspen should limit the amount of aspen regen, thus favoring oak recruitment. Surrounding stands have removed all aspen and left some oak and the stands are regenerating heavy to aspen and maple.

Next Steps: Looking for meduim to high density of oak regeneration following the treatment will accept a stand of mixed maple and oak regen.

Proposed Start Date:

10/01/2013

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



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
58	72250058-Cut	47.5	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	75	81-110	Harvest	Clearcut with Reserves	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut with retention, follow stand retention guidelines. Species removal, remove all species except leave white pine and red pine greater than <u>Specs:</u> 18 inches DBH. Stand runs along County Rd 612 focus on leaving some retention along 612.</p> <p><u>Other</u> Northern portion of stand has higher density of aspen. Moderate amount of oak regen in the stand, add regen protection spec in the sale. <u>Comments:</u></p> <p><u>Next</u> Should see expansion of aspen in northern portion of stand, remaining stand should be a mixture of oak, maple and aspen with moderate <u>Steps:</u> stocking. If possible burn this stand post harvest when stands 54 and 55 are burned.</p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2013</p>										

54	72250054-Burn	22.1	4126 - White, Black, N. Pin Oak	High Density Log	75	81-110	Prescribed Burn	Unspecified	4126 - White, Black, N. Pin Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Stand would take repeated burns at a recommended minimum of every other year if sufficient fuels are available for a period of 4-6 years <u>Specs:</u></p> <p><u>Other</u> <u>Comments:</u></p> <p><u>Next</u> Re-evaluated regeneration levels of oak before removing the overstory. <u>Steps:</u></p> <p><u>Proposed</u> <u>Start Date:</u> Unspecified</p>										

55	72250055-Burn	43.0	4125 - Black, N. Pin Oak	Medium Density Pole	73	51-80	Prescribed Burn	Unspecified	4125 - Black, N. Pin Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Stand would take repeated burns at a recommended minimum of every other year if sufficient fuels are available for a period of 4-6 years. <u>Specs:</u></p> <p><u>Other</u> Fires will help recruit advanced oak regeneration by eliminating shallow rooted competitors. <u>Comments:</u></p> <p><u>Next</u> Re-evaluated regeneration levels of oak before removing the overstory. <u>Steps:</u></p> <p><u>Proposed</u> <u>Start Date:</u> Unspecified</p>										

**Total Treatment
Acreage Proposed: 330.5**

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	4130 - Aspen	High Density Sapling	4.0	23		Young aspen stand harvested in 1987. Fair amount of oak and maple present as well, white pine is also present but not enough to be recorded. This stand was treated with the adjacent stand to the north in the neighboring compartment. Understory is a mixture of oak, maple and some white pine.
3	42260 - Natural Pine, Mixed Deciduous	High Density Pole	9.0	72	111-140	Mixed stand of white pine and aspen. Aspen is small in diameter and sharing the canopy w/white pine. Understory has a presence of beech, oak, and white pine. Previous inventory has this listed as an A5. Appears to be a naturally occurring white pine stand. 4 BA swings were taken white pine 70, 150, 90, 100; aspen was 40, 30, 10, 60; averaging 103 and 35 respectively for white pine and aspen.
4	4133 - Aspen, Mixed Pine	Medium Density Pole	102.0	40		Poor quality aspen stand with a mixture of oak, maple and red & white pine. Pine most dense in the southern portion and along the NE side of the stand. Aspen is starting to develop conks. Overall density of aspen is not that heavy and it was a toss up whether the canopy closure is 25-50 or 50-75. Ground cover is fern/grass.
7	4133 - Aspen, Mixed Pine	High Density Pole	26.9	41		Aspen/white pine stand with fair quality. Stand should be considered for treatment in the next inventory process. Nice component of white pine with a scattering of red pine throughout too.
9	6120 - Lowland Cedar	High Density Pole	8.6	85	81-110	Nice cedar stand with a good mixture of balsam fir and black spruce, with red maple along the perimeter. Understory is heavy to balsam fir, outer edges of the stand were wet and populated with tag alder. This is a good wildlife stand and deer yard. 4 BA swings were taken recording cedar, balsam fir and black spruce and their respective average BA were 90, 10 and 7.
11	42260 - Natural Pine, Mixed Deciduous	High Density Log	27.6	77	141-170	Mixed conifer stand with a good component of aspen. 6 BA swings were taken recorded species were aspen, r pine, r maple, w pine and j pine, their avg BA's were 40, 48, 10, 18, 30. Range of BA was 100 - 160. Stand is bordered by two bogs as well as two firing points. Stand has experienced heavy past and currently military use which has impacted the regeneration. Mixture of subcanopy species that are sparsely populating this stand. Stand also borders County Rd 612 and Briggs road runs thru the stand.
15	42210 - Natural Red Pine	High Density Pole	13.1	67	141-170	Natural red pine stand with some white pine and red maple. Quality is pretty good, however, accessing this site will be difficult if prescribed. Does not appear that this stand has been treated in some time. Treat stand either with the adjacent stand to the North or find access from the SW. Took 5 BA swings recorded species were red pine, white pine and red maple the averages for each species were 130, 12, 8, respectively.
16	42220 - Natural Jack Pine	High Density Log	20.5	59	81-110	Jack pine stand that is bordered by lowland types on both sides which will make access difficult, best approach will be from the sw across stands 4 and 14. Mature jack, red and white pine with some red maple and aspen mixed in. The southeastern portion of the stand opens up with some grassy openings. 5 BA swings were taken, species recorded were red pine, white pine, jack pine and red maple, BA averages for each species were 16, 12, 66 and 8 respectively. Aspen was present in the overstory but was not recorded in any of the BA swings.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
17	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	28.4	82		Wet area with mixture of conifer and hardwoods. Good wildlife area
18	6130 - Fir, Aspen, Maple	High Density Pole	6.9	84	81-110	Mixed conifer/hardwood stand. Red maple present along the perimeter of the stand. Understory is a mixture of balsam fir and red maple with scattered cherry. Pole size stand of mariginal quality. Stand is close is in close proximity to the East Branch of the AuSable River. 3 BA Swings were taken recording aspen, balsam fir, white pine, and paper birch their respective BA's were 46, 23, 13, and 20. This stand does have accessibility issues.
19	42200 - Natural White Pine	Medium Density Pole	12.2	66	81-110	White pine, large open grown trees with large diameters. In areas with higher tree density dbh drops. Stand is a good visual barrier hiding the military establishment behind it, recommend not treating this stand. Three BA swings were made, recorded species were white pine and aspen, their average BA's were 50 and 33 respectively.
21	6120 - Lowland Cedar	High Density Pole	5.8	85		Mixed lowland conifer stand with red maple along the edge of the stand. Tag alder was heavy along the perimeter of the stand in the wettest of areas. East side of the stand is near the upper reaches of the East Branch of the AuSable River prior to flowing into River Lake. If this stand is prescribed for treatment the best access would be from the stands just to the North East.
23	6112 - Lowland Aspen	High Density Pole	2.4	67		Stand is a mixture of aspen, maple with super canopy white pine. Understory is dominated by balsam fir and should continue to convert to a fir stand over time. No management considerations at this time as this is a very small stand with very poor quality timber. Stand is self thinning and if allowed should convert to a balsam fir stand over time. Stand is surrounded by low lands and is not financially operational.
24	4133 - Aspen, Mixed Pine	High Density Pole	11.6	57	81-110	Stand is combination of aspen and white pine with a small component of red maple and oak. Quality of aspen is not that great, stand seems to be stagnant and in need of a treatment. Stand is fairly small may have to wait for treatment when other nearby stands are harvested. Three BA swings were taken, species recorded were aspen, white pine, red maple, and oak their respective average BA's were 63, 23, 13, and 10.
25	42290 - Natural Mixed Pine	High Density Log	6.5	78	51-80	Mixed conifer stand with scattered oak. Several bull red and white pine, cored a few bull red pine averaged 108 yrs w/o much rot. Oak is present but declining. Best access is from the north thru the other compartment and adjacent stand. 4 BA swings were taken and the following species were recorded w pine, r pine, j pine, oak, r maple, cedar, b fir and their respective BA were 30, 12, 2, 12, 2 and 2. The BA range was 50 - 100
27	4125 - Black, N. Pin Oak	Low Density Log	17.5	77	1-50	Stand was cut in 2006, treatment was to removal all but 20 BA of oak. Residual stand is poor quality, many of the remaining stems are dying. Cherry is overtopping most of the oak regeneration that is present. Aspen is medium to heavy, south of two track medium, north it is heavy. Stand is close to the East Branch of AuSable river. 5 BA swings were taken only species recorded were oak and maple and there BA's were 24 and 6 with a range of 10 - 40



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
28	6123 - Lowland Fir	Low Density Pole	8.6	47		Lowland stand with thick tag alder, could not access all the stand due to wetness. Super canopy white pine were present both dead and alive. Stand is pushing the requirement of forested as the tree density is not high, trees present are sapling to pole size.
33	4130 - Aspen	High Density Pole	17.6	52		Mixed aspen stand with oak and maple scattered throughout. Small drainage runs through the stand. Few b fir, p birch and w pine occupy the overstory as well. The aspen is not of high quality, bigtooth aspen accounts for roughly 20 percent of the stand.
34	4319 - Mixed Upland Forest	High Density Pole	8.3	65	111-140	Mixed stand bordering a drainage, hence the variety of species. Understory is heavy in areas but not consistent throughout the stand. Found old dump site with numerous cans and glass containers. This site was record on my nomad as an OFS. 4 BA swings were taken with these recorded species j pine, r maple, oak, w pine, b fir, aspen, r pine, the respective BA's were 48, 30, 12, 15, 5, 8 and 5 the range of basal area was 90 - 160.
35	6120 - Lowland Cedar	Medium Density Pole	11.2	78		Lowland cedar stand with mixed conifers. Red Maple was along the perimeter. This stand is a continuation of the stand to the north and should be treated at the same time as the adjacent stand. Access to this stand would not be a problem. Good wildlife cover and a section corner is located within this stand.
36	6139 - Mixed Lowland Forest	High Density Log	7.0	76	111-140	This is a mixed stand with about 4-5 rows of red pine planted along county rd 612, The ave DBH of the planting is 13" and roughly 66 years old. The stand has a nice diversity of sizes and species, there are several bull (very large) red and white pine found along the perimeter of the stand. The interior of the stand is a combination of red maple, oak and aspen with a heavy balsam fir understory. There are thick pocket of both balsam fir and red maple sapling. There were also a few paper birch scatter throughout the stand. An old foundation was also found with the ground floor being cement and a cellar underneath, in the cellar was cans and bottles. Several areas of dumping from years past are also present in this stand. Stand is located on the NW side of Jones Lake, also illegal boat launching is going on, the surrounding stands are of the lowland types. Four BA swings were taken recording aspen, w pine, b fir, r maple, r pine and oak, avg BA's were 18, 30, 15, 30, 8, 10.
39	4125 - Black, N. Pin Oak	Medium Density Log	145.8	77	51-80	Area was shelterwooded in 2006. This area has and currently experiences heavy military use, as indicated by the numerous trails and firing points nested within this stand. Several small one acre regen harvest were conducted in 2006, regen is primarily oak stump sprouts with cherry, j pine and r maple too. Kinney road runs through this stand. No prescriptions, where overstory is present there is virtually no regeneration of any kind. Heavy vehicle traffic is probably a reason for the lack of regen. This is very much a park like stand condition. 20 BA swings were taken, oak, j pine and r pine were recorded and their respective BA's were 45, 5 and 5. The BA range was 30 - 80
40	4310 - Pine, Oak Mix	High Density Pole	4.3	78	81-110	Next to Jones Lake and Jones Lake Campground. No treatment at this time. BA's for oak 42, w pine 40, r pine 6 and r maple 6.
42	4130 - Aspen	Medium Density	72.2	3		Immature aspen stand with oak and red maple. Stand was harvested in 2008/09 72-624-07-01



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
43	4199 - Other Mixed Upland Deciduous	High Density Pole	31.5	73	81-110	Fairly steep slope should be operational. Aspen more prevalent near the bottom of the slope. Sloped portion was not treated during the last timber harvest, not sure if it was excluded because of the steepness. Prior inventory shows this stand as being treated. Northern portion of this stand is not that well stocked. Stand is next to private, would need survey for SE corner. 6 BA swings were taken w oak, oak, aspen r pine, w pine and r maple were recorded with avg BA's being 5, 45, 15, 10, 1, and 11 respectively with a range of 40 - 110
44	4126 - White, Black, N. Pin Oak	High Density Pole	11.6	72	111-140	Mixed oak stand with pockets of aspen, not much for regeneration. 4 BA swings were taken w oak, oak, aspen and r maple were recorded with avg BA's being 17, 52, 23, and 32 respectively. BA range was 110 - 140.
45	4130 - Aspen	High Density Sapling	48.3	15		Immature aspen stand harvested in 1995 with good advanced oak regen in the understory.
46	4131 - Aspen, Oak	High Density Log	45.5	65	111-140	Stand is a combination of aspen, oak & red maple. Many areas of the stand are park like with little understory. Areas of mature aspen also had higher concentration of aspen regen. Oak pockets are existing throughout the stand, within these pocket and stand there is a fair number of white oak regen, these seedling/sprouts along with stump sprouts should allow oak to be a component of the next stand. Seven BA swings were taken recording aspen, oak, their avg BA's were 70, 50, 20, respectively.
47	4130 - Aspen	High Density Sapling	89.3	24		Immature aspen stand with oak mixed stand, was harvested in 1986. Stand opens up along two track running N to S. In this opening cherry sp along with willow are present.
48	4130 - Aspen	High Density Sapling	45.0	27		Immature aspen stand with a good subcanopy of oak regen at various hts.
49	42120 - Planted Jack Pine	High Density Sapling	18.6	15		Jack pine plantation harvested in 1994 and planted in 1996.
50	4132 - Aspen, Jack Pine	Medium Density	3.6	18		Immature aspen and natural j pine occurring in the middle of a j pine plantation. Ground cover is a mixture of grass and sweet fern. Assuming the stand was established about the same time the j pine plantation was planted. Treat when stand 49 is treated.
51	42221 - Natural Jack Pine, Mixed Deciduous	Medium Density Pole	5.3	76		This stand is along 612, with mature jack pine and some aspen. Aspen is of poor quality. There is a portion this stand that is more open with immature aspen and j pine. Mature trees along 612 should be removed however due to the small size of this stand and proximity to operational time in this compartment it probably won't be treated. Subcanopy aspen age is an estimate assuming it was part of the area cut prior to stand 45 being planted.
52	4132 - Aspen, Jack Pine	Medium Density	10.8	18		Aspen has over taken the jack pine planting. J pine was trenched and planted and is a component of the understory as well. There are open areas that are dominated by cherry species. When stand is treated should be treated with stand 46.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
53	4125 - Black, N. Pin Oak	Low Density Log	46.4	89	1-50	Oak shelterwood harvested in 2006/07. Thinned down to 30BA as per previous OI. Subcanopy mixture of aspen, oak and maple. Aspen regen predominate along the perimeter of the stand. Pockets of heavy aspen regen do exist. Residual oak is not of high quality alot of epicormic branching and several of the doubles have had one of the stems broken off, Four BA swings were record for Oak with avg BA of 48. No maple was recorded in the swings, however, maple is present in the stand.
54	4126 - White, Black, N. Pin Oak	High Density Log	22.1	75	81-110	Alot of illegal firewood cutting is going on or has gone on in this stand. Oak is of mixed quality, numerous multi-stemmed trees. Not much for oak regeneration in this stand, majority of regeneration is maple and aspen. Stand was thinned in 1995. 5 BA swings were taken recorded species were w oak and p oak there avg BA's were 34 and 56 with a range of 70 - 120.
55	4125 - Black, N. Pin Oak	Medium Density Pole	43.0	73	51-80	Oak shelterwooded in 2008, 3 stands in prior OI, treatment was to reduce BA's to a range of 30 to 70. Heavy r maple regen both from stumps and seed. Remaining oak is of poor quality with epicormic branching. There are pockets of decent oak regen, however, stand will convert to maple is the maple regen is not set back or treated. Logged an active stick nest, believe a red-tail hawk, also logged an illegal elevated blind. Small componenet of red and white pine at the northern edge of stand. Part of the original treatment was to expand the aspen component and that is being accomplished.
56	4130 - Aspen	High Density Sapling	39.7	25		Stand was delineated as two separate stand last cycle, portion along 612 was harvested in 1995 and the majority of the stand was harvested in 1986. Combined the stands as there didn't seem to be a significant difference in stand characteristics and portion along 612 is not that big. Understory is mixture of oak, maple and cherry.
57	42120 - Planted Jack Pine	High Density Sapling	10.3	15		Small jack pine plantation with some mixed hardwoods within as well as in the understory. Stand is in the middle of a mature mixed hardwood stand.
58	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	47.5	75	81-110	Northern portion of the stand is heavier to aspen while subcanopy is heavier to white oak regen. Middle portion of stand is more park like with very little understory. Oak is not of high quality. 6 BA swings were taken species recorded were r pine, aspen, p oak, w pine, w oak, and r maple, there respective avg BA's were 23, 16, 45, 10, 10, and 3 with a range of 40 - 150.
59	4124 - Red with White Oak	High Density Log	140.4	78	81-110	Stand was several different stands in the last inventory, 3 oak and 1 u1, didn't feel the open area was significant enough to separate out and the 3 oak stand are the same age. Two of the stands have been treated in 1995 and 1986 the other stand butts up against KP lake and has not been treated. Stands that were treated have good aspen and r maple regeneration, oak regeneration is so so. 15 BA swings were taken and species recorded were w oak, r oak, r maple and aspen, avg BA's were 13, 67, 4 and 3 respectively with a range of 30 - 130. Logged a sign trespass 3 4x4 post with no trespass signs.
60	4130 - Aspen	High Density Log	12.5	78		Mixed stand along the shore of KP lake primarily Bigtooth aspen with an oak/maple component. There are a few red pine sharing the overstory moderate slope. Also a few scattered paper birch. Aspen is starting to develop cankers.

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Grayling Mgt. Unit

5 – Forested Stands

Compartment: 250

Year of Entry: 2014



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
61	4130 - Aspen	High Density Sapling	7.6	16		Immature aspen stand cut in 1995.
62	4126 - White, Black, N. Pin Oak	Low Density Log	28.6	80	1-50	Stand was shelterwood harvested in 2006/07 under sale # 72-082-04-01. Stand was prescribed to be thinned down to 30 BA, recorded avg BA was 41, 7 BA swings were made ranging from 20 to 50 and three species were recorded and their average BA's were w. oak 7, oak 30, r pine 4. Subcanopy is dominated by aspen with a fair amount of oak and maple regeneration. The oak regen is a combination of stump sprouts and rook stock sprouts. There is a very small component of red and white pine occurring but not enough to be recorded.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
2	3102 - Grass	1.9	No	Unspecified	small grassy opening
5	6225 - Bog	4.6	No	Unspecified	Leather leaf lowland opening with mixed conifer scattered throughout opening. Majority seedling/sapling stage, shrubs along perimeter.
6	3102 - Grass	5.0	No	Unspecified	Military Firing Point (FP) 307. Area is a mowed firing point w/no vegetation taller than grass. A few red pine have seeded in and are still in the seedling/sapling stage.
8	3302 - Low Density Conifer Trees	2.3	No	Unspecified	Another leather leaf dominated opening with scattered white and jack pine as well as black spruce. The perimeter is lined with tag alder.
10	6225 - Bog	2.6	No	Unspecified	
12	6229 - Mixed lowland shrub	1.1	No	Unspecified	Low area with leather leaf as ground cover with pockets of white pine in the center of the opening. Tag alder along the perimeter
13	3102 - Grass	9.8	No	Unspecified	Firing Point 308 mowed open area w/various grasses and other ground cover.
14	6220 - Alder/willow	10.8	No	Unspecified	
20	6220 - Alder/willow	16.5	No	Unspecified	Very similar site to Stand 27 opposite side of river from Stand 27.
22	50 - Water	26.2	No	Unspecified	River Lake and East Branch of AuSable River with lowland shrub and grasses along the perimeter, this is a good waterfowl area.
26	122 - Road/Parking Lot	3.7	N/A	Unspecified	
29	6229 - Mixed lowland shrub	45.2	No	Unspecified	Lowland shrub with tag alder and dogwood species. Located along the East Branch of the AuSable River and along River Lake.
30	3102 - Grass	9.5	No	Unspecified	Open area of planted grass with gravel runway, just East of fenced military compound. Believe it is used for the unmanned aircraft (as per signage). Few scrub cherry were growing in the area. Site seems to be maintained by the military.
31	3303 - Mixed Low Density Trees	13.3	No	Unspecified	Open area with scattered cherry and white pine. Heaviest concentration of pine is located at the southern end of the stand.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
32	6220 - Alder/willow	3.9	No	Unspecified	
37	6220 - Alder/willow	6.5	No	Unspecified	Survey corner located in this stand in NE portion.
38	50 - Water	8.4	No	Unspecified	Jones Lake
41	3102 - Grass	8.8	No	Unspecified	Military Firing Point 202. Seems to be managed by the military as vegetation is low with a mowed appearance. Some j pine is seeding in as well as some aspen presence in the seedling sapling stage.



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.
SCA	Concentrated Recreation Area	Facilities that are designed and maintained for routine or heavy recreational use, including State Parks, State Forest campgrounds, motorized and non-motorized trails, trailheads, staging areas and public access sites.
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.
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.