



GRAYLING FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 300 ENTRY YEAR: 2013

GIS Compartment Acreage: 1,473 County: Crawford

Revision Date: 8/17/2011

Stand Examiner: Patrick L. Potter

Legal Description: T26N R3W, Sections 3, 4, 9 and 10

Management Goals: To maintain forest health, productivity, sustainability, species diversification, and structural diversity throughout the compartment while managing around the heavy recreational use this area received.

Soils and Topography: Soils within this compartment consist primarily of Grayling Sands, Roselawn Sands and Rubicon-Roselawn Sands on upland sites and Rifle Peats on the lowland sites. Topography is primarily flat to slightly rolling terrain. The Au Sable River corridor divides the flat terrain to the north from the flat terrain to the south.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The compartment is mostly of state ownership with the exception of a small parcel along the Au Sable River in section 10. A majority of the lands surrounding this compartment is under private ownership both permanent and summer residences. This compartment currently receives heavy recreational use due to its proximity to the City of Grayling and its location on the AuSable River. The National Guard MATES facility is located outside the north Rayburn entrance. MATES uses trails through the Rayburn property on a regular basis for physical fitness training.

Unique, Natural Features (include only non-site specific and non-sensitive information): Per Michigan Natural Features Inventory there historical records for massasauga, secretive locust, and Henry's elfin encompassing this compartment. Also Osprey, have been seen 2 miles to the west, and Bald eagle in north-central portion of section 3. In addition records for wood turtle, Blanding's turtle, loon, and red-legged spittlebug. The compartment 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 may be seen along the river corridors. There is excellent potential for massasauga habitat. Kirtland's warbler have been mapped in vicinity.

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 calypso orchid, Limestone oak fern, round-leaved orchis, and ram's head lady-slipper in conifer swamps and for clubmoss if bare moist soil/borrow pits are present.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): Compartment contains the old CCC Headquarters Building (Old Department of Natural Resources Headquarters) at the end of Headquarters Road.

Special Management Designations or Considerations: The Main Branch of the Au Sable River, a designated natural river and trout stream is a special management concern.

Watershed and Fisheries Considerations: Compartment contains the Main Branch of the Au Sable River, a designated trout stream and a natural river.

Wildlife Habitat Considerations: To maintain existing cover types and promote age class diversity where possible to improve habitat conditions for various wildlife species.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 200 and 600 feet. Beneath the glacial drift are the Michigan Formation and the Marshall Sandstone. These formations are or have been quarried for gypsum and building stone elsewhere in the State. The nearest gravel pit is located three miles to the north and potential is thought to be limited. There has been no drilling in this area and there are no oil and gas leases in this compartment. The closest production is the Antrim Shale gas play six miles to the northwest.

Vehicle Access: The north portion of the compartment can easily be accessed by North Down River Road and a paved trail road running through the compartment. The south portion can be accessed off M-72 East and the paved trail road. However, the interior portions of the compartment are limited to non-motorized access in an effort to protect the natural river corridor. A bridge crossing the AuSable was repaired and upgraded to meet foot traffic and bicycle standards. This bridge provides a vital crossing point across the AuSable River for the Shore to Shore Riding and Hiking pathway.

Survey Needs: None needed at this time

Recreational Facilities and Opportunities: This tract is commonly referred to as the Rayburn Property. It is located within a few miles of the City of Grayling. Being located close to Grayling and being located on the AuSable River, this area receives heavy recreational use including fishing, hiking, walking, jogging, horseback riding, hunting, canoeing, kayaking, and camping. The Michigan Shore-to-Shore Riding/Hiking Trail runs through the compartment. A paved road that bisects the compartment and crosses the river is gated to prevent motorized access. This paved road is heavily used by walkers and runners. The Canoe Camp State Forest Campground is found on the north side of the Au Sable River at the end of Headquarters Road. The AuSable Paddlesports Association, under a volunteer agreement, provides picnic tables and a portable toilet along the north side of the river at Rayburns to provide canoeists and other river users a place to pull out and recreate. The master recreational trail plan for Crawford County calls for incorporating the paved trail across Rayburns as part of a paved trail network connecting the community to various key destinations. The paved trail is in disrepair and needs resurfacing in order to be able to meet the increasing bicycle and rollerblade use.

Fire Protection: Compartment is located close to the City of Grayling and the Grayling DNR Field Office and the Main Branch of the Au Sable River is a readily available water source for fire suppression. Lowland areas within the compartment may make fire suppression difficult.

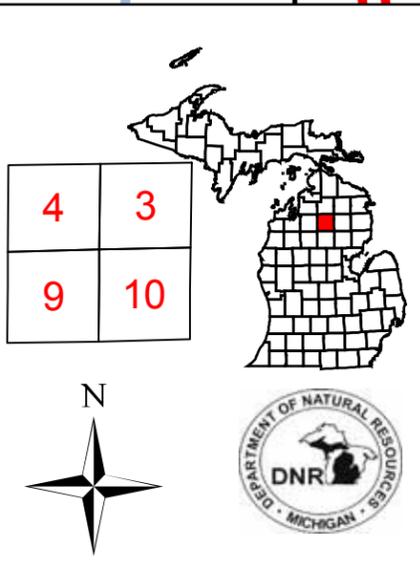
Additional Compartment Information: None known at this time.

- **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 300
 T26N, R03W, Sec. 03, 04, 09, 10
 County: Crawford
 Unit: Grayling
 YOE: 2013
 Acres: 1,473 GIS Calculated
 Stand Examiner: Patrick Potter
 Map Revised: 9/07/2011
 Map Phase: Pre-Review



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

Legend

- ⊕ Remonumented Section Corners
- ◇ RIs Corners
- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- Gravel Roads
- Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- ⊗ Bridges
- Pipe
- ⊕ Power
- Intermittent Stream/Drain
- Stream
- Horse Trail
- Hiking Trail
- ⊗ Hiking Trails
- ⊗ Horse Trails
- △ State Forest Campgrounds
- ⊗ Interstate Highway
- ⊗ State Highway
- Lakes and Rivers

Treatments

- ▭ Clearcut (w/Reserves, Patch/Strip)
- ▨ Thinning (Crown, Low, Systematic)
- ▩ Selection (Group, Single Tree)

Forest Stands

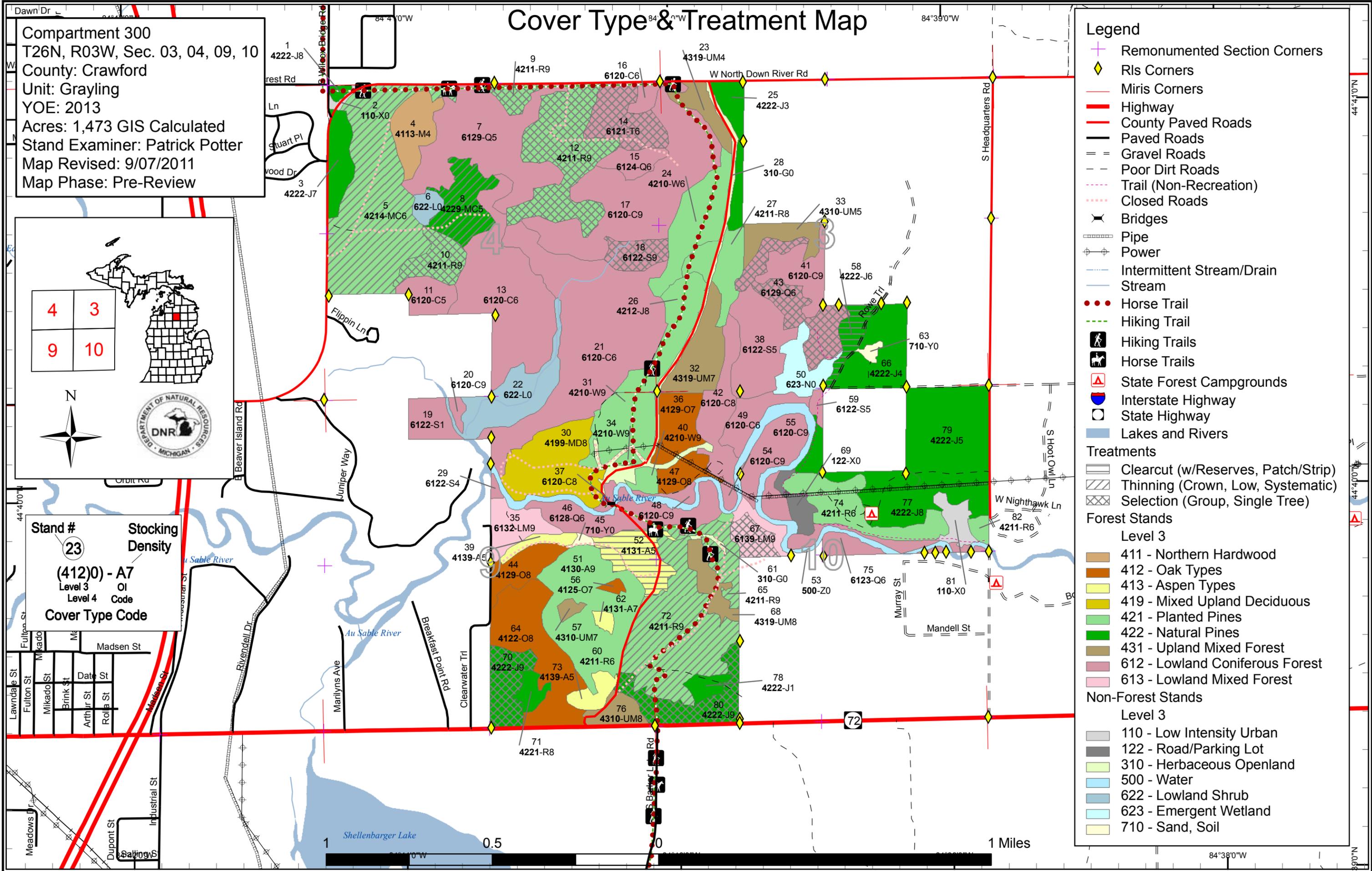
Level 3

- 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
- 613 - Lowland Mixed Forest

Non-Forest Stands

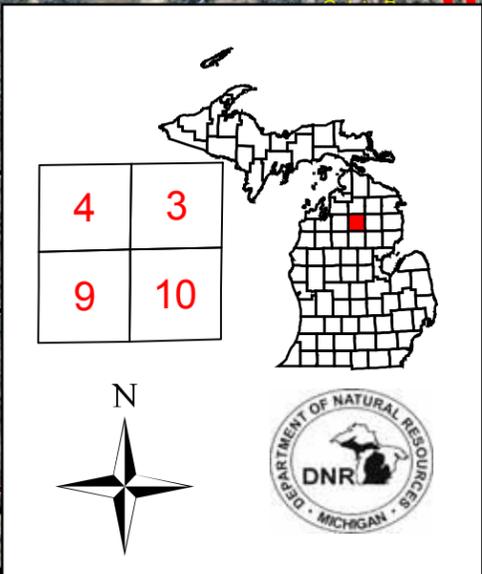
Level 3

- 110 - Low Intensity Urban
- 122 - Road/Parking Lot
- 310 - Herbaceous Openland
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 710 - Sand, Soil



Stand Boundary Map

Compartment 300
 T26N, R03W, Sec. 03, 04, 09, 10
 County: Crawford
 Unit: Grayling
 YOE: 2013
 Acres: 1,473 GIS Calculated
 Stand Examiner: Patrick Potter
 Map Revised: 9/07/2011
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Stand #
 23
Stocking Density
 (4120) - A7
 Level 3 OI
 Level 4 Code
Cover Type Code

Legend

- Remonumented Section Corners
- RIs Corners
- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- Gravel Roads
- Poor Dirt Roads
- Bridges
- Pipe
- Power
- Intermittent Stream/Drain
- Stream
- Hiking Trail
- Horse Trail
- Hiking Trails
- Horse Trails
- State Forest Campgrounds
- Interstate Highway
- State Highway
- Stand Boundaries

Forest Stands

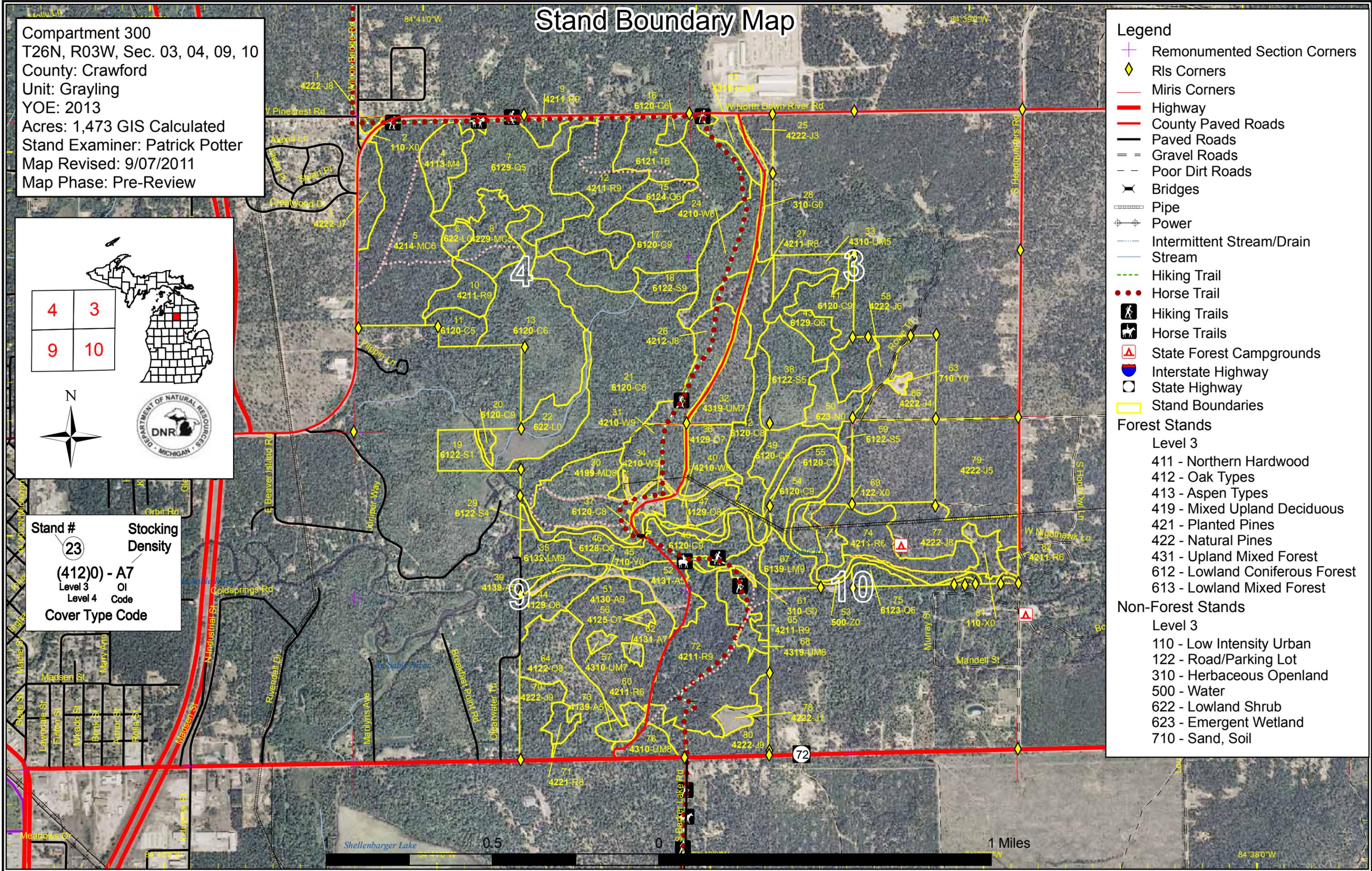
Level 3

- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
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Non-Forest Stands

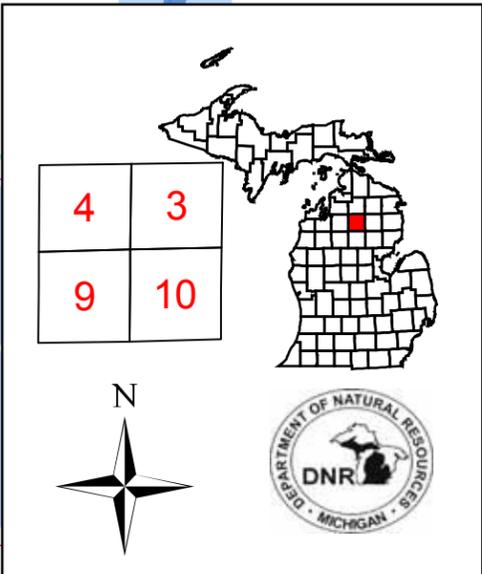
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Dedicated & Proposed Special Conservation Area Map

Compartment 300
 T26N, R03W, Sec. 03, 04, 09, 10
 County: Crawford
 Unit: Grayling
 YOE: 2013
 Acres: 1,473 GIS Calculated
 Stand Examiner: Patrick Potter
 Map Revised: 9/07/2011
 Map Phase: Pre-Review



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

Legend

- Miris Corners
- Stand Boundaries
- Research, Development, and Military Lands
- SCA - Special Conservation Area
- Dedicated Special Conservation Areas**
- Cold Water Streams
- Boat Access Sites
- Campgrounds
- Kirtland Warbler Habitat
- Natural Rivers Zoning District
- Natural Rivers Vegetative Buffer
- Forest Stands**
- Level 3
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
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- 613 - Lowland Mixed Forest
- Non-Forest Stands**
- Level 3
- 110 - Low Intensity Urban
- 122 - Road/Parking Lot
- 310 - Herbaceous Openland
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 710 - Sand, Soil

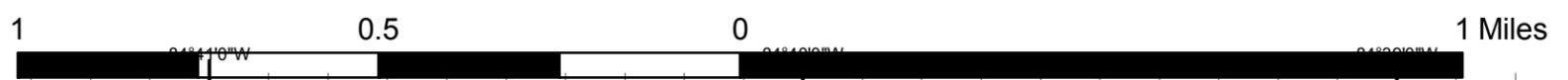
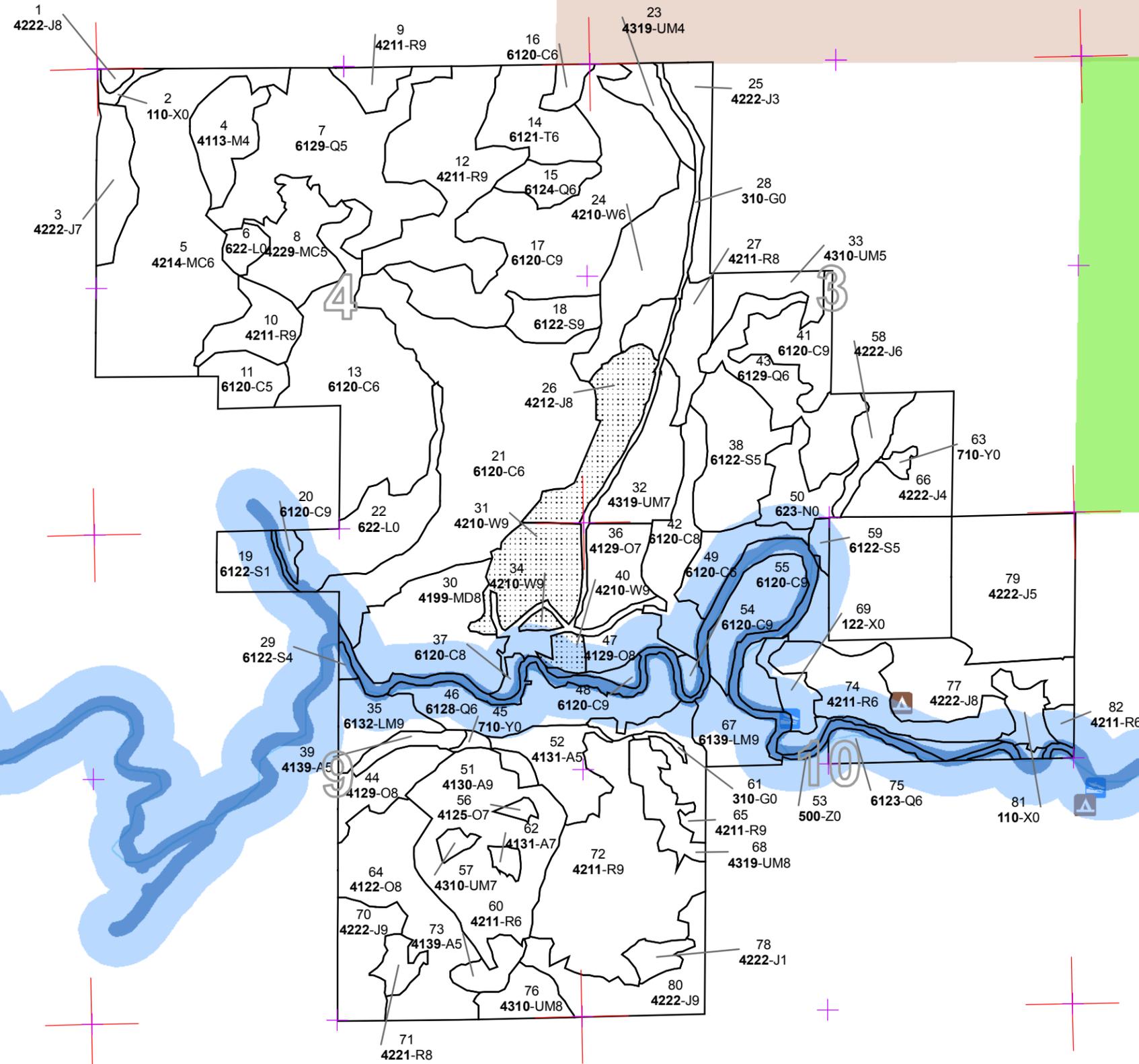


Table 1 – Total Acres by Cover Type and Age Class



	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 +		Uneven Age
Aspen	0	0	0	0	0	28	0	2	0	0	0	0	0	0	30	
Cedar	0	0	0	0	0	0	0	0	0	0	34	71	214	0	0	319
Herbaceous Openland	17	0	0	0	0	0	0	0	0	0	0	0	0	0	17	
Jack Pine	0	0	0	23	59	41	0	22	52	0	0	0	0	0	5	201
Lowland Conifers	0	0	0	0	0	0	19	8	83	0	28	0	0	0	0	138
Lowland Mixed Forest	0	0	0	0	0	0	0	13	0	13	0	0	0	0	0	26
Lowland Shrub	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
Lowland Spruce/Fir	0	0	0	28	0	0	10	2	0	11	0	0	0	0	0	51
Marsh	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	34
Natural Mixed Pines	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	20
Northern Hardwood	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	16
Oak	0	0	0	0	0	0	0	0	0	48	1	0	0	0	27	77
Planted Mixed Pines	0	0	0	0	0	0	81	0	0	0	0	0	0	0	0	81
Red Pine	0	0	0	0	0	16	126	71	0	0	0	0	0	0	25	238
Sand, Soil	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Tamarack	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	21
Upland Mixed Forest	0	0	0	0	8	0	9	10	0	2	0	20	0	0	10	60
Urban	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Water	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29
White Pine	0	0	0	0	26	0	27	0	0	0	0	0	0	0	0	53
Total	108	0	0	50	109	85	273	129	155	94	63	91	214	0	102	1473



Table 2 – Proposed Treatment Summaries

Grayling Mgt. Unit
Year of Entry 2013

Compartment 300
Total Compartment Acres: 1473

Acres by Treatment Type

Commercial Harvest - 368	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
Jack Pine	9	38	0	0	0	0	46
Lowland Conifers	0	26	0	0	0	0	26
Lowland Mixed Forest	0	8	0	0	0	0	8
Lowland Spruce/Fir	0	10	0	0	0	0	10
Natural Mixed Pines	0	0	0	0	20	0	20
Planted Mixed Pines	0	0	0	0	81	0	81
Red Pine	0	65	0	0	73	0	138
Tamarack	0	21	0	0	0	0	21
Total	26	168	0	0	174	0	368



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
5	72300005-Cut	81.2	42140 - Planted Mixed Pine	High Density Pole	57	Harvest	Crown Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription</u> Harvest all jack pine and in the few areas where it is mostly red pine mark individuals for removal to a residual of 70-90 BA. Will not be able to <u>Specs:</u> use orange paint to mark trees to cut because of the third row thinning. <u>Other</u> <u>Comments:</u> <u>Next</u> <u>Steps:</u>									
8	72300008-Cut	19.8	42290 - Natural Mixed Pine	Medium Density Pole	72	Harvest	Crown Thinning	42290 - Natural Mixed Pine	Cmpt. Review Proposal
<u>Prescription</u> We do not want to do a final harvest, species removal only. Cut all jack pine, red maple and aspen; again there are only a few aspen trees <u>Specs:</u> scattered about. <u>Other</u> <u>Comments:</u> <u>Next</u> <u>Steps:</u>									
9	72300009-Cut	5.7	42110 - Planted Red Pine	High Density Log	62	Harvest	Single Tree Selection	42110 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription</u> Red pine plantation with a small amount of jack pine and oak. Recommend either a third row thinning or individual marking down to 90 BA <u>Specs:</u> residual. <u>Other</u> <u>Comments:</u> <u>Next</u> <u>Steps:</u>									
10	72300010-Cut	12.9	42110 - Planted Red Pine	High Density Log	44	Harvest	Single Tree Selection	42110 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription</u> Individual mark the red, (variable dense 50 - 120 BA). Leave all oak way past its ecological age remove pine around their crown. Cut all jack <u>Specs:</u> pine. Stand planted same time as ST#5 better survival & less jack pine <u>Other</u> <u>Comments:</u> <u>Next</u> <u>Steps:</u>									
12	72300012-Cut	46.6	42110 - Planted Red Pine	High Density Log	57	Harvest	Single Tree Selection	42110 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription</u> Individual marking/ to 90 residual BA. Has grown 1/2 inch in the last 17 years. <u>Specs:</u> <u>Other</u> <u>Comments:</u> <u>Next</u> <u>Steps:</u>									
14	72300014-Cut	20.6	6121 - Tamarack	High Density Pole	84	Harvest	Group Selection	6132 - Mixed Lowland Forest with Cedar	Cmpt. Review Proposal
<u>Prescription</u> Harvest shortwood cut all tamarack & black spruce. Not a thick understory room operate, some paper birch. More blowdown along road. <u>Specs:</u> <u>Other</u> <u>Comments:</u> <u>Next</u> <u>Steps:</u>									



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
18	72300018-Cut	9.8	6122 - Black Spruce	High Density Log	89	Harvest	Group Selection	6129 - Mixed Coniferous Lowland Forest	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest stand nice spruce and tramarack, ground is a little higer and drier. Cedar scatter through out a few pockets pure cedar. More Tamarack <u>Specs:</u> along the east edge.</p> <p><u>Other</u> <u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u></p>									
43	72300043-Cut	26.1	6129 - Mixed Coniferous Lowland Forest	High Density Pole	75	Harvest	Group Selection	6139 - Mixed Lowland Forest	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest all spruce and tramarack leave all cedar. Once we open the stand some windthrow should occur and the lateral branches of cedar can <u>Specs:</u> form new main stems, while the trunk and underlying branches become the new root system. Found one of the access roads that was used to treat stand 32 which crosses into stand 41.</p> <p><u>Other</u> <u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u></p>									
51	72300051-Cut	2.2	4130 - Aspen	High Density Log	48	Harvest	Clearcut	4130 - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> For forest health reason (black Canker) final harvest with no retention. Treat stand 48 at the same time. <u>Specs:</u></p> <p><u>Other</u> <u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u></p>									
52	72300052-Cut	15.5	4131 - Aspen, Oak	Medium Density Pole	45	Harvest	Clearcut	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Stand is almost a equal mix of Quaking Aspen, NPO & Red Maple. The aspen is heavy infected with black canker, a wide range of diameter <u>Specs:</u> size. For forest health reason should final harvest.</p> <p><u>Other</u> <u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u></p>									
58	72300058-Cut	8.6	42220 - Natural Jack Pine	High Density Pole	47	Harvest	Clearcut	42250 - Pine, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> final harvest . jack pine of mixed aged (47-67). <u>Specs:</u></p> <p><u>Other</u> Trench and replant jack pine. Use herbicide if also need for site prep. <u>Comments:</u></p> <p><u>Next</u> Regeneration survey. <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
65	72300065-Cut	12.7	42110 - Planted Red Pine	High Density Log	50	Harvest	Low Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Do a third row thinning <u>Specs:</u> <u>Other</u> <u>Comments:</u> <u>Next</u> <u>Steps:</u></p>									
67	72300067-Cut	7.9	6139 - Mixed Lowland Forest	High Density Log	85	Harvest	Group Selection	42290 - Natural Mixed Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Stand borders the AuSable River, follow the Natural Rivers guidlelines. Could treat with stand 63, cut all aspen and red maple. Stand boundary <u>Specs:</u> has been adjusted for natural rivers buffer <u>Other</u> <u>Comments:</u> <u>Next</u> <u>Steps:</u></p>									
70	72300070-Cut	16.0	42220 - Natural Jack Pine	High Density Log	70	Harvest	Group Selection	42290 - Natural Mixed Pine	Cmpt. Review Proposal
<p><u>Prescription</u> We do not want to do a final harvest, species removal only. Cut all jack pine and aspen; again there are only a few aspen trees scattered about. <u>Specs:</u> Leave all red pine, white pine and oak. Protect white pine regen. Stand should regenerate to a mixed pine and some hardwood, but will except what ever naturally regenerates. <u>Other</u> <u>Comments:</u> <u>Next</u> Regeneration survey <u>Steps:</u></p>									
72	72300072-Cut	60.4	42110 - Planted Red Pine	High Density Log	60	Harvest	Low Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Third row thin. <u>Specs:</u> <u>Other</u> <u>Comments:</u> <u>Next</u> <u>Steps:</u></p>									
80	72300080-Cut	21.9	42221 - Natural Jack Pine, Mixed Deciduous	High Density Log	69	Harvest	Group Selection	4319 - Mixed Upland Forest	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest all jack pine and aspen only. Leave all red pine, white pine and oak. Protect white pine regen. Stand should regenerate to a mixed <u>Specs:</u> pine and hardwood, but will except what ever naturally regenerates. <u>Other</u> <u>Comments:</u> <u>Next</u> Regen survey <u>Steps:</u></p>									

**Total Treatment
Acreage Proposed: 367.9**

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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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**



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42220 - Natural Jack Pine	Medium Density Log	1.5	70	51-80	A small pocket of Jack pine and oak between two county roads. Nice oak regen. Jack pine is breaking apart. Leave
3	42220 - Natural Jack Pine	Low Density Log	13.2	70	1-50	Stand was salvage cut 1991 all storm damage trees were cut. A lot of mix regen
4	4113 - R.Maple, Conifer	Low Density Pole	15.7	39	1-50	Stand was part of a salvage cut 1991 all storm damaged trees were cut. Summer 2010 wildfire burn. More red maple to the south end and more oak in the north.
5	42140 - Planted Mixed Pine	High Density Pole	81.2	57	81-110	Red pine was planted back in the early 50's around the residual jack pine which is 72-77 years old. Stand has been marked for a third row thinning. Stand
7	6129 - Mixed Coniferous Lowland Forest	Medium Density Pole	57.1	75	51-80	New stand added. Mix of black spruce, cedar, & tamarack
8	42290 - Natural Mixed Pine	Medium Density Pole	19.8	72	1-50	We do not want to do a final harvest, species removal only. Cut all jack pine and aspen again there are only a few aspen trees scatter about.
9	42110 - Planted Red Pine	High Density Log	5.7	62	141-170	Red pine plantation with a small amount of jack pine and oak. Recommend either a third row thinning or individual marking down to 90 BA residual.
10	42110 - Planted Red Pine	High Density Log	12.9	44	141-170	Stand planted same time as ST#5 better survival & less jack pine
11	6120 - Lowland Cedar	Medium Density Pole	10.0	99	51-80	Stand has received a lot of blowdown in spots. Other areas are just low density. Stand is a real mix of species.
12	42110 - Planted Red Pine	High Density Log	46.6	57	171-200	New stand added. Has grown 1/2 inch in the last 17 years.
13	6120 - Lowland Cedar	High Density Pole	60.9	110	200+	Nice cedar, not much blowdown, but where it has happen balsam fir and black spruce are regenerating nicely. Paper birch is mostly dead. Mostly pole size cedar but mixed with some log sizes and all running 5-6 sticks. There is a small area near the center of this stand where the ground is lower and more saturated and cedar are having a hard time. You can see this area on photos. Within this area a large diameter tree would be 7 inches most are between 4-5 inches two to three sticks. but the Balsam Fir is growing nicely.
14	6121 - Tamarack	High Density Pole	20.6	84	111-140	Harvest shortwood cut all tamarack & black spruce. Not a thick understory room operate, some paper birch. More blowdown along road.
15	6124 - Lowland Spruce- Fir	High Density Pole	8.0	65	81-110	small hill found the remains of a small cabin. Access was from the west you can still see the road impression. Had to cross a small creek.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
16	6120 - Lowland Cedar	High Density Pole	3.9	110	51-80	Mostly cedar mixed size heavy BS understory
17	6120 - Lowland Cedar	High Density Log	71.3	105	171-200	5-6 stick with 2-3 logs. no cedar regen.
18	6122 - Black Spruce	High Density Log	9.8	89	111-140	Harvest stand, ground is a little higher and drier. Cedar scatter through out a few pockets pure cedar. More Tamarack along the east edge. Access from the west through stand 100.
19	6122 - Black Spruce	Low Density Sapling	10.2	55	1-50	Mostly tag alder with some spruce and balsam seeding in.
20	6120 - Lowland Cedar	High Density Log	2.1	110	200+	Also most like a small island surrounded by tag alder. Mainly a pure stand of cedar with a few paper birch and balsam fir
21	6120 - Lowland Cedar	High Density Pole	99.7	110	111-140	Nice cedar, not much blowdown, but where it has happened balsam fir and black spruce are regenerating nicely. Paper birch is mostly dead. Mostly pole size cedar but mixed with some log sizes and all running 5-6 sticks. There is a small area near the center of this stand where the ground is lower and more saturated and the cedar are having a hard time. You can see this area on photos. Within this area a large diameter tree would be 7 inches most are between 4-5 inches two to three sticks. but the Balsam Fir is growing nicely.
23	4319 - Mixed Upland Forest	Low Density Pole	8.4	37	1-50	Stand burned back in the mid-70's was re-planted but failed and a mix of jack pine and cherry
24	42100 - Planted White Pine	High Density Pole	26.0	37	111-140	Planted white pine with residual pin oak. Possible third row thin, has self pruned
25	42220 - Natural Jack Pine	High Density Sapling	12.1	35	1-50	jack pine regen after fire 1976. Stand is a mix of 3-5 inch jack pine
26	42121 - Planted Jack Pine, Mixed Deciduous	Medium Density Log	21.2	77	51-80	Planted white pine along west edge. Lots of over mature jack pine & oak. Let the natural progress continue as is, there is good regen coming in. Lots of down jack pine.
27	42110 - Planted Red Pine	Medium Density Log	15.9	59	111-140	Red pine plantation which has been marked for third row thinning. Lots of skips/open areas with small jack pine and few planted red pine trees.
29	6122 - Black Spruce	Low Density Pole	1.1	83	1-50	Small isolated stand created by the sand trap.
30	4199 - Other Mixed Upland Deciduous	Medium Density Log	34.1	Uneven Age	51-80	Over all a oak/red maple stand. Oak is not the best starting to show its age but there are a few nice stems. Stand is slowly converting to a white pine/spruce/balsam fir stand. No visible oak regen in the ground cover or sub-canopy. For oak management need to final harvest, or just let it convert.
31	42100 - Planted White Pine	High Density Log	22.0	57	111-140	Planted white pine, growing nicely.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
32	4319 - Mixed Upland Forest	Low Density Log	20.1	101	51-80	Stand is a mix of oak, jack pine sawlog, and jack pine pole size with a mix of jack & white pine seedlings/salping.
33	4310 - Pine, Oak Mix	Medium Density Pole	10.1	Uneven Age	81-110	Stand is a mix of oak, jack pine sawlog, and jack pine pole size with a mix of jack & black spruce and Balsam seedlings/salping.
34	42100 - Planted White Pine	High Density Log	1.6	57	111-140	Possible legacy stand.
35	6132 - Mixed Lowland Forest with Cedar	High Density Log	13.0	65	51-80	This stand borders the Au Sable River and fall within the Natural Rivers Act restrictions. Back in the early 90's wildlife wanted to use this stand for winter deer cuts. Stand is a mixture of lowland conifers and lowland hardwoods with some super canopy white and red pine. A two track transects the stand leading to the sand trap.
36	4129 - Mixed Oak	Low Density Log	15.1	Uneven Age	51-80	It appears stand was harvested leaving all oak before the State acquired the property. White pine, & Jack pine have been seeding in. No visible oak regen.
37	6120 - Lowland Cedar	Medium Density Log	2.0	95	51-80	Just a small stand of mixed lowland Conifers and Hardwood along the river.
38	6122 - Black Spruce	Medium Density Pole	27.8	28	1-50	Stand was harvested in the 70's. All cedar, spruce and tamarack was cut. Found the access road which we can use to access stand 41.
39	4139 - Aspen, Mixed Deciduous	Medium Density Pole	4.5	45	51-80	Stand is next to the sand trap spoils. Final harvest when stand 38 is treated
40	42100 - Planted White Pine	High Density Log	3.6	57	81-110	Possible legacy stand.
41	6120 - Lowland Cedar	High Density Log	15.5	115	200+	Mostly pure cedar with a few black spruce trees, not enough to show in the canopy cover
42	6120 - Lowland Cedar	Medium Density Log	20.0	110	141-170	A good stand if for winter deer cuts if needed.
43	6129 - Mixed Coniferous Lowland Forest	High Density Pole	26.1	75	111-140	The stand is a little higher and drier, could operate in the winter or dry summer. Harvest all spruce and tamarack leave lall cedar. Once we open the stand some windthrow should occur and the lateral branches of cedar can form new main stems, while the trunk and underlying branches become the new root system.
44	4129 - Mixed Oak	Medium Density Log	12.3	Uneven Age	51-80	Oak is past its biological mature for successful stump sprouts. If we want oak we are going to have to plant acorns.
46	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	28.0	90	81-110	Merged stand 33 with this stand. Stand are a mix of Cedar & red maple with a scattering of black spruce and balsam fir, with large super canopy white pine trees. More red maple east side of stand and more cedar along the west side.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
47	4129 - Mixed Oak	Medium Density Log	8.3	89	51-80	Flagging on the white pine (diploda)? Stand appears to have had all the jack pine removed.
48	6120 - Lowland Cedar	High Density Log	2.7	95	81-110	Small floodplain along the River.
49	6120 - Lowland Cedar	High Density Pole	11.5	110	171-200	Most pure cedar, with lots of woody material on the ground with lots of deer trails.
51	4130 - Aspen	High Density Log	2.2	48	51-80	A small pocket of quacking aspen with a few oak and red maple on the edges.
52	4131 - Aspen, Oak	Medium Density Pole	15.5	45	51-80	Stand is almost a equal mix of Quaking Aspen, NPO & Red Maple. The aspen is heavy infected with black canker, a wide range of diameter size. For forest health reason should final harvest.
54	6120 - Lowland Cedar	High Density Log	2.0	95	200+	Small pocket of cedar with a few paper birch scattered about. Heavy balsam fir regen. No cedar regeneration.
55	6120 - Lowland Cedar	High Density Log	17.2	90	171-200	Small pocket of cedar with a few paper birch scattered about. Not as much balsam fir regen as stand 50.. No cedar regeneration.
56	4125 - Black, N. Pin Oak	Low Density Log	1.5	90	1-50	A small open with a couple of oak trees and some white pine seeding in.
57	4310 - Pine, Oak Mix	Low Density Log	2.1	89	1-50	A small open with oak and Jack pine trees and a few white pine trees. Mostly jack and cherry seeding in.
58	42220 - Natural Jack Pine	High Density Pole	8.6	47	81-110	jack pine of mixed aged (47-67).
59	6122 - Black Spruce	Medium Density Pole	2.2	65	51-80	Just a small pocket of mixed BS, BF & cedar with heavy black spruce and balsam fir. Stand is adjacent to one of the sand traps.
60	42110 - Planted Red Pine	High Density Pole	50.1	50	141-170	thinned last YOE
62	4131 - Aspen, Oak	Low Density Log	2.0	60	1-50	A small open with a couple of oak trees and scatterd aspen mostly jack pine, balsam fir and aspen seeding in.
64	4122 - Oak, Pine	Medium Density Log	39.6	89	51-80	Some areas of scattered red, white and jack pine. Oak is large but of poor quality (open grown and old) Understory is generally white & jack pine with pockets of cherry and aspen. Lots of oak mortality.
65	42110 - Planted Red Pine	High Density Log	13.4	50	200+	Marked for third row thinning

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Grayling Mgt. Unit

5 – Forested Stands

Compartment: 300
Year of Entry: 2013

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
66	42220 - Natural Jack Pine	Low Density Pole	22.7	23	1-50	It appears all trees 4 inches and up was cut early 90's late 80's.
67	6139 - Mixed Lowland Forest	High Density Log	12.6	85	111-140	Stand borders the AuSable River, follow the Natural Rivers guidelines. Could treat with stand 63, cut all aspen and red maple.
68	4319 - Mixed Upland Forest	Medium Density Log	10.4	65	81-110	More jack pine south half & drier, also less red maple.
70	42220 - Natural Jack Pine	High Density Log	16.0	70	81-110	Stand is a mostly a mix of jack pine, white pine with oak and scattered super canopy WP, with a red pine and a few aspen trees scattered with a heavy white pine understory. Stand was proposed for final harvest last YOE. Stand was set-up but was not sent to Lansing for bid proposal.
71	42210 - Natural Red Pine	Medium Density Log	4.9	62	141-170	A small area of red pine. does not appear to have been planted. Some larger & older RP trees throughout. A small BT aspen on the east edge of stand.
72	42110 - Planted Red Pine	High Density Log	60.4	60	171-200	Third row thin
73	4139 - Aspen, Mixed Deciduous	Medium Density Pole	6.2	40	51-80	stand treated last YOE. Harveste all jack pine
74	42110 - Planted Red Pine	High Density Pole	25.4	Uneven Age	141-170	Red pine plantation dia-6-9 inches, Stand is part of the Campground.
75	6123 - Lowland Fir	High Density Pole	19.0	55	141-170	Stand is a mix of lowland species bordering the river. Natural river
76	4310 - Pine, Oak Mix	Medium Density Log	9.1	52	51-80	Nice mix of RP, OAK, ASPEN. Leave for now.
77	42220 - Natural Jack Pine	Medium Density Log	32.8	47	51-80	
78	42220 - Natural Jack Pine	Low Density Sapling	4.7	Uneven Age		Part of Fisheries Big tree project
79	42220 - Natural Jack Pine	Medium Density Pole	46.6	30	51-80	Young stand, looks to be regeneration after a fire. Found three fire plowlines
80	42221 - Natural Jack Pine, Mixed Deciduous	High Density Log	21.9	69	81-110	SHOULD THINK ABOUT TAKING ALL JP & ASPEN
82	42110 - Planted Red Pine	High Density Pole	2.6	48	111-140	Small red pine plantation.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
2	11 - Low Intensity Urban	1.8	No	Unspecified	
6	6220 - Alder/willow	4.4	No	Unspecified	
22	6220 - Alder/willow	25.7	No	Unspecified	
28	3102 - Grass	16.5	No	Unspecified	
45	710 - Sand, Soil	1.2	No	Unspecified	
50	6239 - Mixed Emergent Wetland	12.8	No	Unspecified	
53	50 - Water	29.2	No	Unspecified	
61	3102 - Grass	1.0	No	Unspecified	
63	710 - Sand, Soil	1.7	No	Unspecified	
69	122 - Road/Parking Lot	6.3	N/A	Unspecified	
81	11 - Low Intensity Urban	7.1	No	Unspecified	The Old State Headquarter house and garage.



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
26	Unique Site - SCA	72300026	21.2	With the combination of woody biomass on the ground and open areas this stand has a very good mating habitat potential for reptiles and amphibians due to its proximity to the adjacent lowland conifer stand.
31	Unique Site - SCA	72300031	22.0	Planted white pine, growing nicely. Allow stand to reach its ecological maturity. Management as needed for forest health and safety.
34	Unique Site - SCA	72300034	1.6	Stand is adjacent to the Rayburn site. Leave as is. Planted white pine, growing nicely. Allow stand to reach its ecological maturity. Management as needed for forest health and safety.
40	Unique Site - SCA	72300040	3.6	Possible legacy stand



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.