



GRAYLING FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 175 ENTRY YEAR: 2013

GIS Compartment Acreage: 3,200 County: Crawford

Revision Date: September 2, 2011

Stand Examiner: Patrick A. Mohney

Legal Description: T27N, R04W, Sections 5, 6, 7, 8, 18 and 19

Management Goals: To maintain forest health, productivity, sustainability, species diversification, and structural diversity throughout the compartment while managing for the Kirtland's Warbler and the heavy recreational use that occurs in this area.

Soils and Topography: Soil types within this compartment consists mostly of Grayling sands and Graycalm-Grayling sands with the exception of the Manistee river corridor. Topography of the compartment is flat outwash plains along both sides of the Manistee River corridor with some gently rolling terrain in the northeast portion of the compartment which is made up of ridges and valleys.

Ownership Patterns, Development, and Land Use in and Around the Compartment:

The majority of this compartment is made up of state ownership. There are some private parcels throughout the compartment. These private parcels are used for both year round residences as well as seasonal residences.

Unique, Natural Features (include only non-site specific and non-sensitive information):

There is excellent potential for Kirtland's warbler, prairie warbler, and grasshopper sparrow. There is some potential for secretive locust in jack pine or bogs, and for dusted skipper, grizzled skipper, and red-legged spittlebug in grassy openings and young jack pine. There is potential for red-shouldered hawk, goshawk, eagle, osprey, and great blue heron rookeries. There is excellent potential for massasauga and massasaugas have been found in this compartment. There is potential for wood turtle and Blanding's turtle along the river. There is an intermittent wetland to southeast of the compartment and a wet-mesic sand prairie to south. Hill's thistle is found throughout area to south and Alleghany plum is found to the east. Hill's pondweed, Vasey's rush and northern prostrate clubmoss are associated with an intermittent wetlands around the compartment.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): There are occurrences of Archeological and Historical significance in the compartment.

Special Management Designations or Considerations: The compartment contains designated Kirtland's Warbler habitat, the endangered species *Dendroica kirtlandii*. The Manistee River is a Natural River and an HCVA. The compartment contains several access sites along the river as well as Goose Creek State Forest Campground.

Watershed and Fisheries Considerations: The Manistee River and Goose Creek pass through this compartment. These are both designated trout streams. The Manistee River is also considered a Natural River.

Wildlife Habitat Considerations: This is an actively managed Kirtland Warbler area.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 800 feet. Beneath the glacial drift is the Coldwater Shale. There is not an economic use for the Coldwater Shale. The nearest gravel pit is two miles to the north and potential is thought to be good, especially the upland areas. Tall of the state lands are leased for oil and gas development. The township to the north has been developed for Antrim Shale gas. The Antrim Shale appears to be losing potential, due to the thickness of overburden, and has not been developed in this area.

Vehicle Access: Vehicle access in this compartment is very good. There is a large system of forest trail roads, recreational trails and county roads throughout the entire compartment.

Survey Needs: The potential for future surveys exists.

Recreational Facilities and Opportunities: This compartment receives heavy recreational use. Throughout this compartment there are multiple recreational trails : Michigan Riding and Hiking Trail Frederic ORV Trail and Route, the Frederic ORV trailhead, and the Blue Bear Snowmobile Trail #79. Goose Creek State Forest Campground and Goose Creek Trail Camp are located in the compartment along the Upper Manistee River. The horse ford crosses the Manistee River in this compartment. This river crossing for horses has historically been a controversial site. This compartment is home to two river access sites: 612 Access Site and Logger's Landing. Both sites are under lease to commercial canoe liveries for launching and retrieval. These sites also get very heavy use from local canoe and kayak use, and fishermen. There are safety concerns regarding traffic interface at the 612 access site. It is proposed per the Upper Manistee Access Plan this access site be shifted elsewhere to provide a safe access that also accommodates river boat use. Currently there is a big demand for river boat access for this stretch of the river and no spot for this type of water craft to be readily launched.

Fire Protection: The cover type for this area is made up mostly of Jack Pine. It has a high potential for active fire. The Howe's Lake fire occurred in 2011 and burned an area just directly south of this compartment. There are multiple private residences established along the river, creating a hazardous interface with the fuel types found in the area. The terrain and access for fire suppression is very accessible and the Manistee River could serve as a convenient water source for suppression activities.

Additional Compartment Information:

- **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 175
 T27N, R04W, Sec. 5-8, 18, 19
 County: Crawford
 Unit: Grayling
 YOY: 2013
 Acres: 3,200 GIS Calculated
 Stand Examiner: Pat Mohny
 Map Revised: 9/08/2011
 Map Phase: Pre-Review

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

Legend

- Remonumented Section Corners
- RIs Corners
- Miris Corners
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Closed Roads
- Snowmobile Trail
- Motorcycle (DNR Sticker)
- ORV Trail
- ORV Route
- Hiking Trail
- Hiking Trails
- Horse Trails
- ORV Trails
- ORV Routes
- Snowmobile Trails
- Sand Disposal Sites and Loggers Landing
- Intermittent Stream/Drain
- Stream
- Lakes and Rivers

Treatments

- Clearcut (w/Reserves, Patch/Strip)

Forest Stands

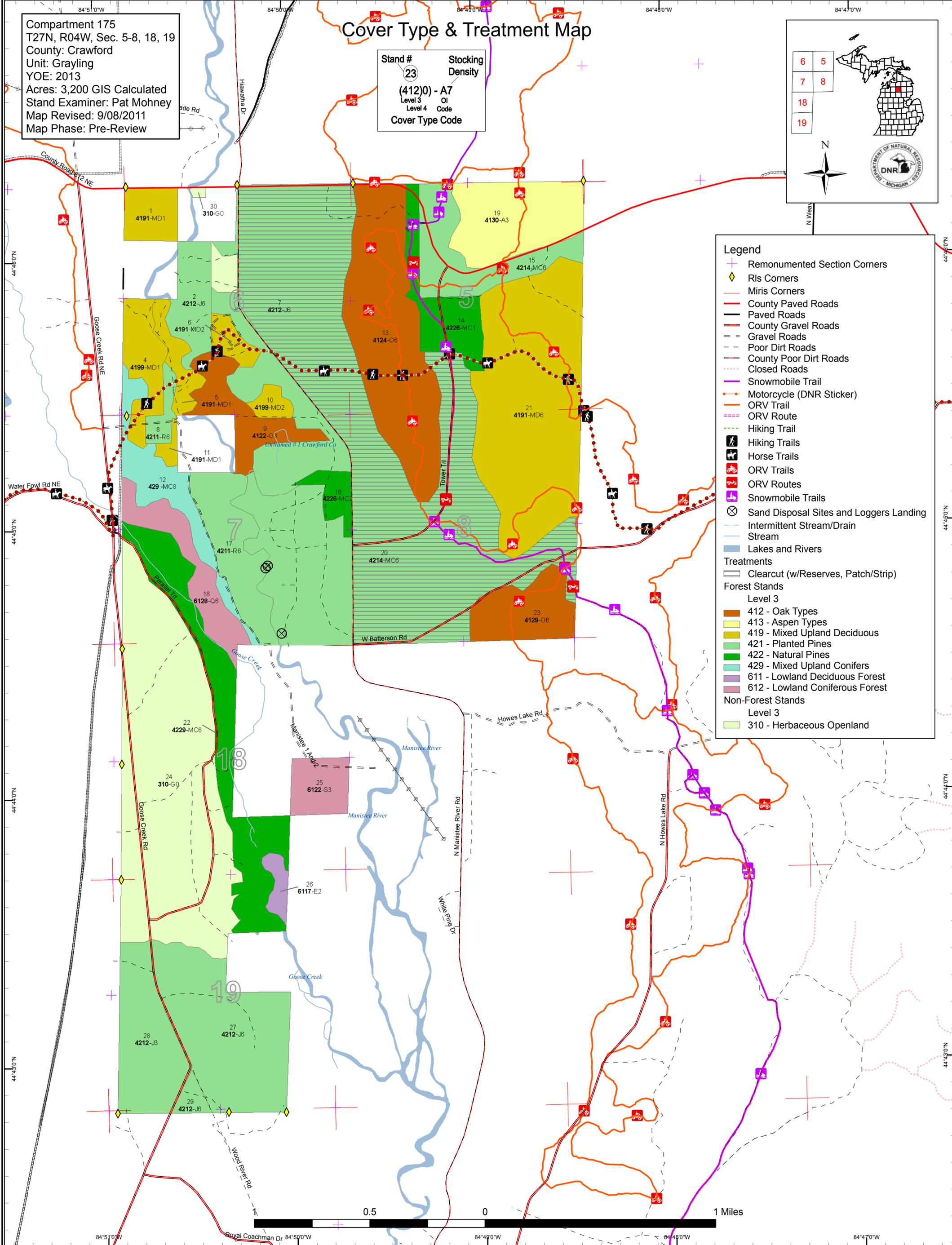
Level 3

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

Non-Forest Stands

Level 3

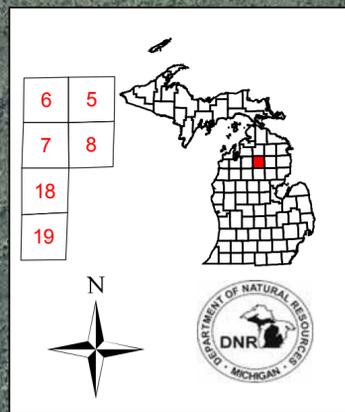
- 310 - Herbaceous Openland



Stand Boundary Map

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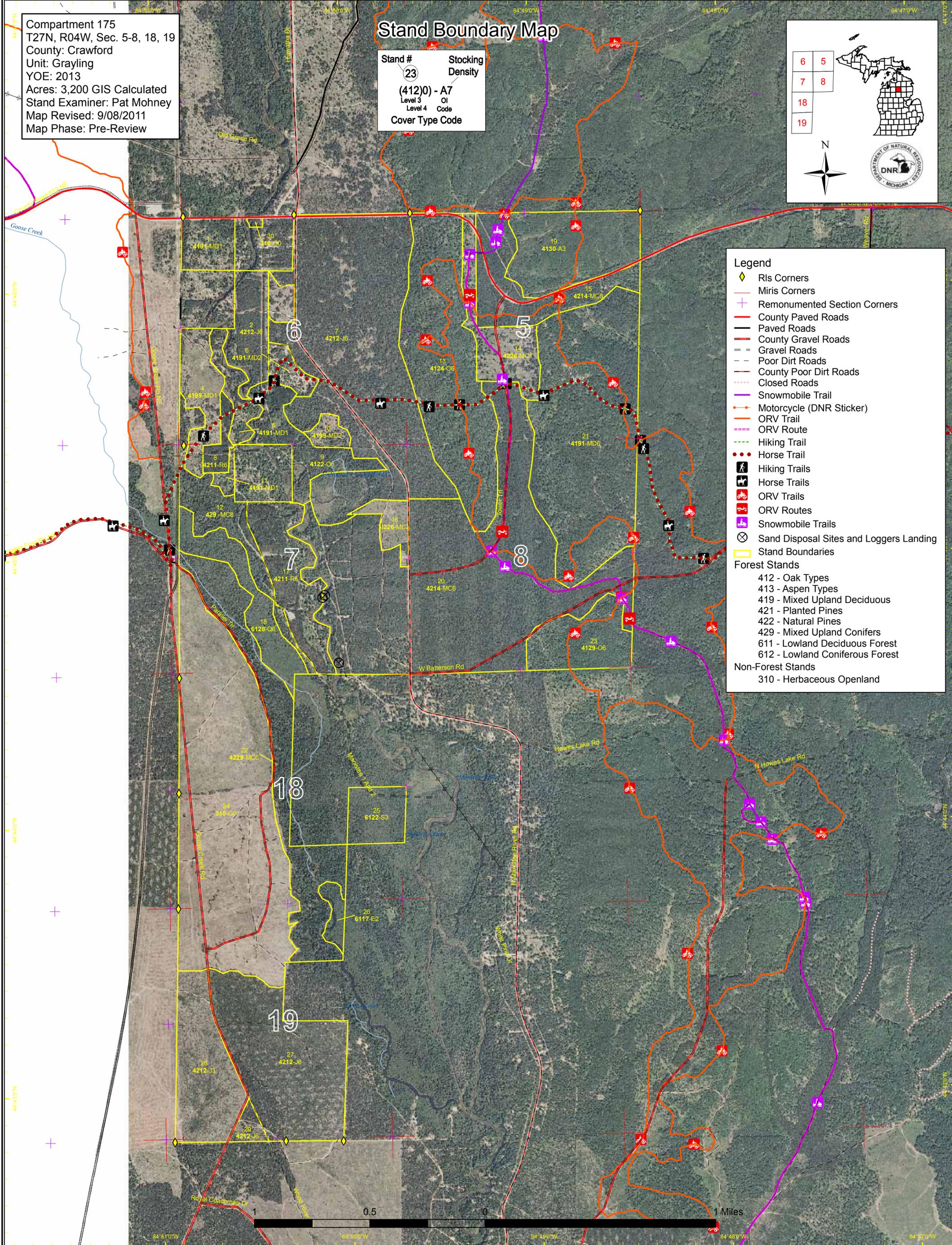
- RIs Corners
- Miris Corners
- Remonumented Section Corners
- County Paved Roads
- Paved Roads
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- Poor Dirt Roads
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- ORV Trails
- ORV Routes
- Snowmobile Trails
- Sand Disposal Sites and Loggers Landing
- Stand Boundaries

Forest Stands

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Non-Forest Stands

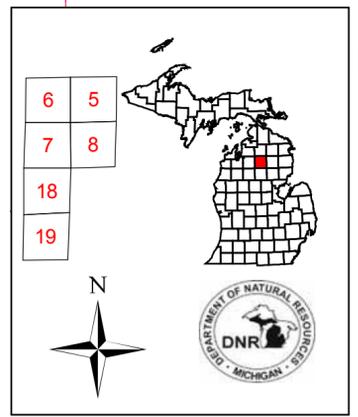
- 310 - Herbaceous Openland



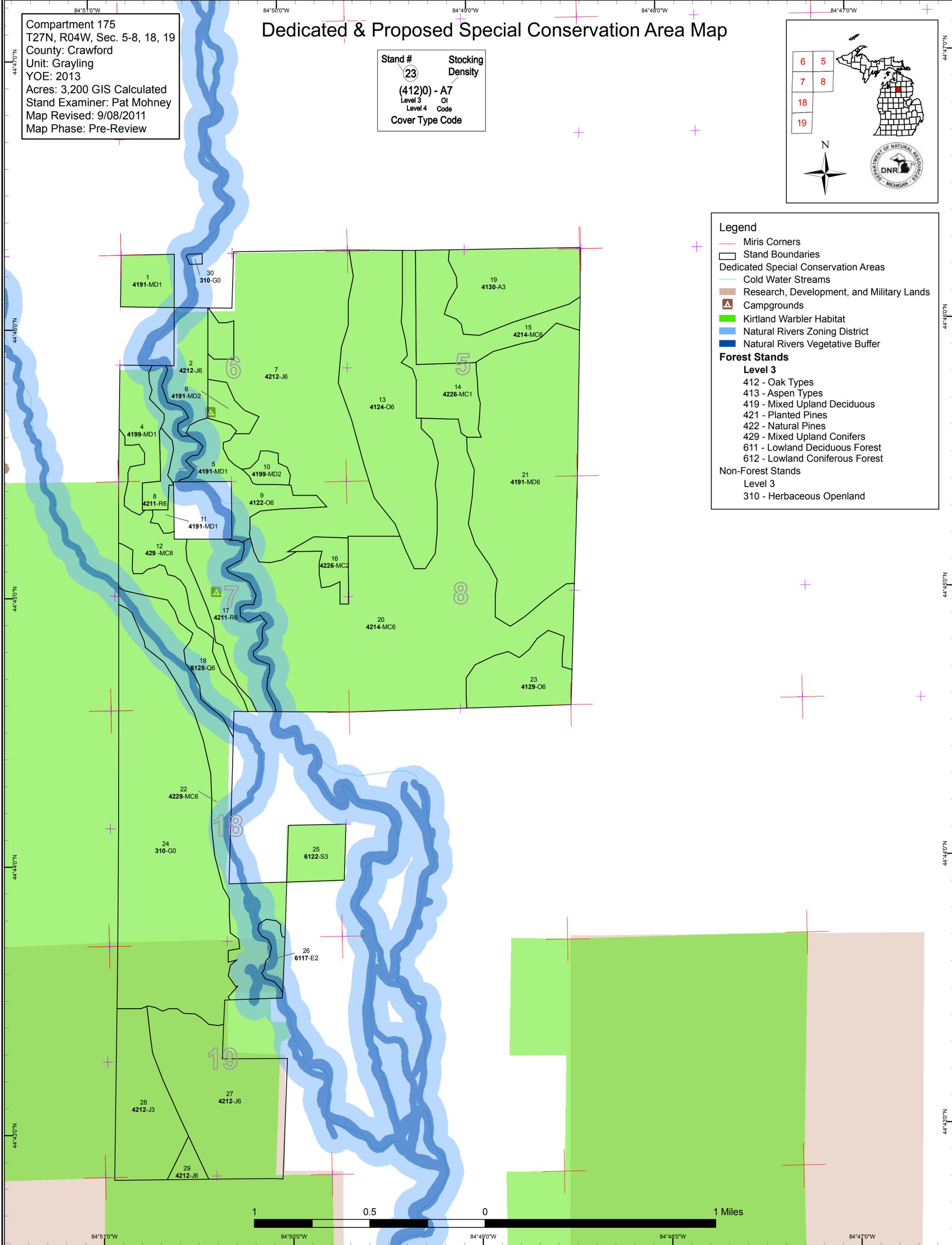
Compartment 175
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 Map Revised: 9/08/2011
 Map Phase: Pre-Review

Dedicated & Proposed Special Conservation Area Map

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



- Legend**
- Miris Corners
 - Stand Boundaries
 - Dedicated Special Conservation Areas
 - Cold Water Streams
 - Research, Development, and Military Lands
 - ▲ Campgrounds
 - Kirtland Warbler Habitat
 - Natural Rivers Zoning District
 - Natural Rivers Vegetative Buffer
- Forest Stands**
- Level 3**
- 412 - Oak Types
 - 413 - Aspen Types
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- Non-Forest Stands**
- Level 3
 - 310 - Herbaceous Openland



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

44°47'0"N
44°46'0"N
44°45'0"N
44°44'0"N
44°43'0"N

44°47'0"N
44°46'0"N
44°45'0"N
44°44'0"N
44°43'0"N

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 +		Unretn Age
Aspen	0	0	0	109	0	0	0	0	0	0	0	0	0	0	0	109
Herbaceous Openland	424	0	0	0	0	0	0	0	0	0	0	0	0	0	0	424
Jack Pine	0	0	114	187	0	0	394	49	0	0	0	0	0	0	0	744
Lowland Conifers	0	0	0	0	0	61	0	0	0	0	0	0	0	0	0	61
Lowland Deciduous	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14
Lowland Spruce/Fir	0	0	0	0	39	0	0	0	0	0	0	0	0	0	0	39
Mixed Upland Deciduous	0	0	0	0	116	31	0	312	0	0	0	0	0	0	0	459
Natural Mixed Pines	0	0	21	0	0	0	212	0	0	0	0	0	0	0	0	233
Oak	0	0	0	68	0	0	0	221	0	60	0	0	0	0	0	349
Planted Mixed Pines	0	0	0	0	0	0	605	0	0	0	0	0	0	0	0	605
Red Pine	0	0	0	0	0	0	15	83	0	0	0	0	0	0	0	98
Upland Conifers	0	0	0	0	0	0	0	66	0	0	0	0	0	0	0	66
Total	424	0	136	364	168	92	1225	731	0	60	0	0	0	0	0	3200



Table 2 – Proposed Treatment Summaries

Grayling Mgt. Unit
Year of Entry 2013

Compartment 175
Total Compartment Acres: 3200

Acres by Treatment Type

Commercial Harvest - 650	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
Jack Pine	292	0	0	0	0	0	292
Planted Mixed Pines	358	0	0	0	0	0	358
Total	650	0	0	0	0	0	650

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



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
7 72175007-Cut	291.9	42120 - Planted Jack Pine	High Density Pole	52	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal

Prescription Final harvest for KW. Use Manistee River Road as boundary on the west side. Do not cut anything west of Manistee River Rd. Follow standard retention guidelines. Trench and plant to JP.

Other Comments:

Next Steps:

20 72175020-Cut	357.7	42140 - Planted Mixed Pine	High Density Pole	52	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
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Prescription Final Harvest for KW, trench and plant to JP. Follow standard retention guidelines. Place retention islands along roads and trails, provide for visual from private property.

Other Comments:

Next Steps:

**Total Treatment
Acreage Proposed: 649.6**

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	4191 - Mixed Upland Deciduous with Conifer	Low Density Sapling	33.3	30	1-50	Upland mix, cherry, mixed pine. Gets more dense in the northeast portion of the stand. Lots of private line.
2	42120 - Planted Jack Pine	High Density Pole	49.2	68	51-80	Jack pine plantation. Borders SFCG. May be included in warbler block will have to check the plan. Powerline goes through stand.
4	4199 - Other Mixed Upland Deciduous	Low Density Sapling	49.9	30	1-50	Stand swapped from Non-Forested to Forested. lots of scrubby cherry
5	4191 - Mixed Upland Deciduous with Conifer	Low Density Sapling	26.0	30	1-50	Upland brush, large patches of cherry, some mixed pine throughout, Close proximity to the river.
6	4191 - Mixed Upland Deciduous with Conifer	Medium Density	18.0	40		Generally a grassy opening with some larger clumps of vegetation. Getting more dense on north side of stand.
7	42120 - Planted Jack Pine	High Density Pole	393.6	52	51-80	Jack pine plantation. Part of warbler block #4.
8	42110 - Planted Red Pine	High Density Pole	15.3	52	141-170	relatively small red pine. high ba but only 2 and 3 stick stuff. could thin.
9	4122 - Oak, Pine	High Density Pole	60.5	84	51-80	Originally coded as an O6 stand. I think it still is in the O6 range. Some of the oak is approaching log sized but not the majority of it. Poor quality as well. With the river and the private property, it would not be worth harvesting. Would be more valuable standing.
10	4199 - Other Mixed Upland Deciduous	Medium Density	12.5	40		generally a grassy opening with some pockets of shrubby trees.
11	4191 - Mixed Upland Deciduous with Conifer	Low Density Sapling	6.5	30		scrubby cherry with some mixed pine
12	429 - Mixed Upland Conifers	Medium Density Log	65.7	61	51-80	mixed quality, some white pine mixed throughout. you get into some spruce as you move away from the road. horse trail goes thru stand
13	4124 - Red with White Oak	High Density Pole	220.5	65	51-80	decent oak stand. looks to have been cut recently, could thin or shelterwood if. could leave since cutting large kw area. some steep terrain
14	42260 - Natural Pine, Mixed Deciduous	Low Density Sapling	62.7	50	1-50	Stand is included in KW block. High use area. Pretty sparse vegetation.
15	42140 - Planted Mixed Pine	High Density Pole	86.6	52	51-80	strip planting of red and jack pine. Part of warbler block to be cut. ORV Trail through stand.
16	42260 - Natural Pine, Mixed Deciduous	Medium Density	21.3	10		Stand swapped from Non-Forested to Forested. pine regen from recent harvest



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
17	42110 - Planted Red Pine	High Density Pole	83.1	66	111-140	Red pine plantation, has manistee river campground within. Portions of the stand have been 3rd row thinned, other portions have not. Most trees are only 2-3 sticks tall. They are starting to self prune. Would not hurt to leave for 10 years and possibly thin next YOE.
18	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	61.2	45	1-50	low area some standing water in places. small sized timber, most is unmerchantable in size. Thick pockets of spruce in places.
19	4130 - Aspen	High Density Sapling	108.6	26	1-50	Aspen stand cut in 1984. Some is reaching merchantable status. Do nothing.
20	42140 - Planted Mixed Pine	High Density Pole	518.3	52	111-140	Red and Jack Pine strip plantations. Planted in 1959. Part of warbler block #4.
21	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	312.2	65	81-110	hilly, was thinned recently, nice mix of oak and pine. can wait to be treated. quality is fair. some aspen mixed in. lots of firewood trails.
22	42290 - Natural Mixed Pine	High Density Pole	149.0	50	51-80	natural pine stand, close to river, within nat river corridor. a fair amount of larger red pine in middle of stand. has been shelterwooded.
23	4129 - Mixed Oak	High Density Pole	68.0	26		Stand was cut in 1985. Orv Trail goes through stand. Do nothing.
25	6122 - Black Spruce	High Density Sapling	38.6	30		lowland stand. Lots of tag alder, spruce, some cedar. Very wet.
26	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density	13.5	35		Tag alder lowland. Remote call.
27	42120 - Planted Jack Pine	High Density Pole	187.3	24	1-50	Stand swapped from Non-Forested to Forested. planted warbler plantation.
28	42120 - Planted Jack Pine	High Density Sapling	103.6	17		young warbler plantation
29	42120 - Planted Jack Pine	High Density Pole	10.7	17	1-50	similar to stand 44. may be part of next warbler block. will have to check plan.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
3	3102 - Grass	12.2	No	Unspecified	Grassy opening with some shrubby cherry growing in it. There are also some small areas with jack pine in it.
24	3103 - Rubus-Fern	409.9	Yes	Jack Pine	warbler plantation. some taller jack pine and cherry to the north. seems to be doing well
30	3102 - Grass	1.8	No	Low (NonForested)	River access site on County Road 612. Mostly pavement parking area, but has some Trees growing on it.



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.
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	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.
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.