



Compartment Review Presentation

Grayling Forest Management Unit

Compartment 209

Entry Year 2015

Acreage: 1,091

County Crawford

Management Area: Grayling Ice Contact

Revision Date: 07/22/2013

Stand Examiner: Patrick Mohney

Legal Description:

28N 04W Sections 34, 35, 36

Identified Planning Goals:

The emphasis of management shall be on retaining and enhancing the natural beauty and biological diversity of the area. Management will also enhance wildlife habitat for both hunting and wildlife observation purposes, forest health, productivity, sustainability, species and structural diversity while accounting for visual management and multiple uses. Three lots are also owned by the State of Michigan within the village of Frederic. It has been recommended that these lots be disposed of at the next real estate auction and thus their acreage is not included here. In order to evaluate the success that clearcutting has on getting birch stumps to sprouts and existing seedlings to grow in Stand 29, two deer enclosures were placed in the stand to determine the effects of deer browsing on birch regeneration.

Soil and topography:

Soil types within this compartment consist mostly of Kalkaska loamy sand, Blue Lake loamy sand and Rubicon sands. Topography is gently rolling terrain of ridge tops and valleys with the exception of the east half of Section 34 and the east half of Section 35, where the terrain is steep.

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

Heavy residential development is occurring along the private-state land interfaces, particularly near May Lake and around the village of Frederic. The number of permanent residences in the vicinity are increasing. The general area has heavy recreational use and has been exposed to heavy oil and gas development. Trash dumping and digging for artifacts is readily apparent in the old orchard area in the northeast part of Section 36.

Unique Natural Features:

The AuSable River, which runs between Sections 34 and 35, received Natural River designation in 1987. The Dusted Skipper, which is a state threatened species, was found in Sections 35 and 36 in 2000. The Eastern Massasuga rattlesnake, which has a listing of special concern, was last seen in 1967.

Archeological, Historical, and Cultural Features:

There are known concerns within the compartment. All proposed management activities have taken these concerns into consideration.

Special Management Designations or Considerations:

The old apple orchard still offers excellent wildlife trees. The few remaining apple trees are old and in need of pruning.

Watershed and Fisheries Considerations:

The AuSable River, a prime trout stream and a Natural River flows southerly through the compartment.

Wildlife Habitat Considerations:

Fairly good wildlife habitat exists throughout most of the compartment, but is increasingly being fragmented by trail roads and pipelines related to oil and gas development, and the establishment of recreational trails

Mineral Resource and Development Concerns and/or Restrictions

T28N-R4W, Sections 34 - 36, Crawford County. Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. Glacial drift thickness varies between 400 and 800 feet. Beneath the glacial drift are the Marshall Sandstone and Coldwater Shale. The Marshall was quarried for building stone in the past. The nearest gravel pit is located one mile to the east and potential is thought to be good in the upland areas. One half of the compartment is leased and has been developed for Antrim Shale gas production.

Vehicle Access:

Access to a network of forest rail roads is easily obtained to most of the compartment from County Road 612. Most of these trail roads are drivable by a two-wheel drive vehicle and many of them are plowed in the winter to access Antrim well

sites year around. No existing roads need to be closed at this time. All new roads created through management activities are to be closed upon completion.

Survey Needs:

Potential survey needs exist.

Recreational Facilities and Opportunities:

This compartment receives dispersed heavy recreational use, particularly from snowmobilers and hunters. The old orchard area receives particularly heavy use by local residents. The trail roads are used extensively by snowmobile riders. The village of Frederic is a stopover along the designated snowmobile trail. This compartment also has a snowmobile trail parking lot.

Fire Protection:

Current road system is adequate, and no timber conversion is needed.

Additional Compartment Information:

Due to the compartment's proximity to the village of Frederic, it has high recreational potential and visual management should be considered.

The following reports from the Inventory are attached:

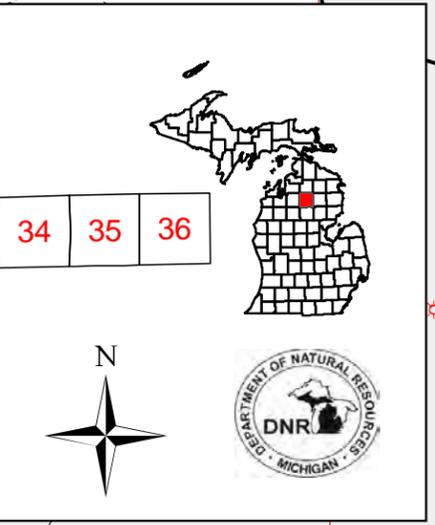
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

The following information is displayed, where pertinent, on the attached compartment maps:

- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

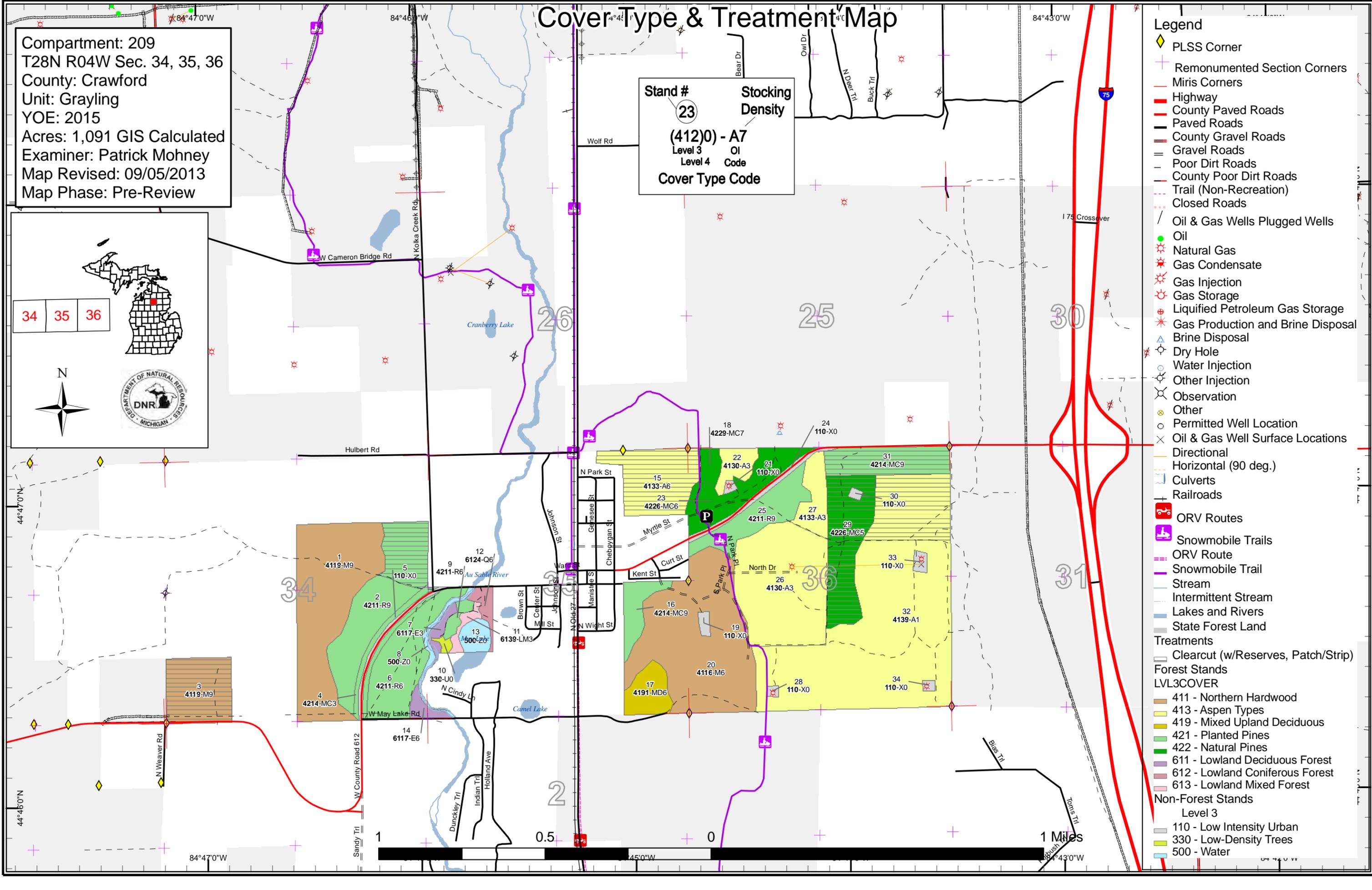
Cover Type & Treatment Map

Compartment: 209
 T28N R04W Sec. 34, 35, 36
 County: Crawford
 Unit: Grayling
 YOE: 2015
 Acres: 1,091 GIS Calculated
 Examiner: Patrick Mohney
 Map Revised: 09/05/2013
 Map Phase: Pre-Review



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

- ### Legend
- ◆ PLSS Corner
 - ⊕ Remonumented Section 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
 - ⊕ Oil & Gas Wells Plugged Wells
 - Oil
 - ⊕ Natural Gas
 - ⊕ Gas Condensate
 - ⊕ Gas Injection
 - ⊕ Gas Storage
 - ⊕ Liquefied Petroleum Gas Storage
 - ⊕ Gas Production and Brine Disposal
 - ⊕ Brine Disposal
 - ⊕ Dry Hole
 - ⊕ Water Injection
 - ⊕ Other Injection
 - ⊕ Observation
 - ⊕ Other
 - Permitted Well Location
 - ⊕ Oil & Gas Well Surface Locations
 - Directional
 - Horizontal (90 deg.)
 - Culverts
 - Railroads
 - ⊕ ORV Routes
 - ⊕ Snowmobile Trails
 - ORV Route
 - Snowmobile Trail
 - Stream
 - Intermittent Stream
 - Lakes and Rivers
 - State Forest Land
 - Treatments**
 - Clearcut (w/Reserves, Patch/Strip)
 - Forest Stands**
 - LVL3COVER**
 - 411 - Northern Hardwood
 - 413 - Aspen Types
 - 419 - Mixed Upland Deciduous
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 611 - Lowland Deciduous Forest
 - 612 - Lowland Coniferous Forest
 - 613 - Lowland Mixed Forest
 - Non-Forest Stands**
 - Level 3**
 - 110 - Low Intensity Urban
 - 330 - Low-Density Trees
 - 500 - Water

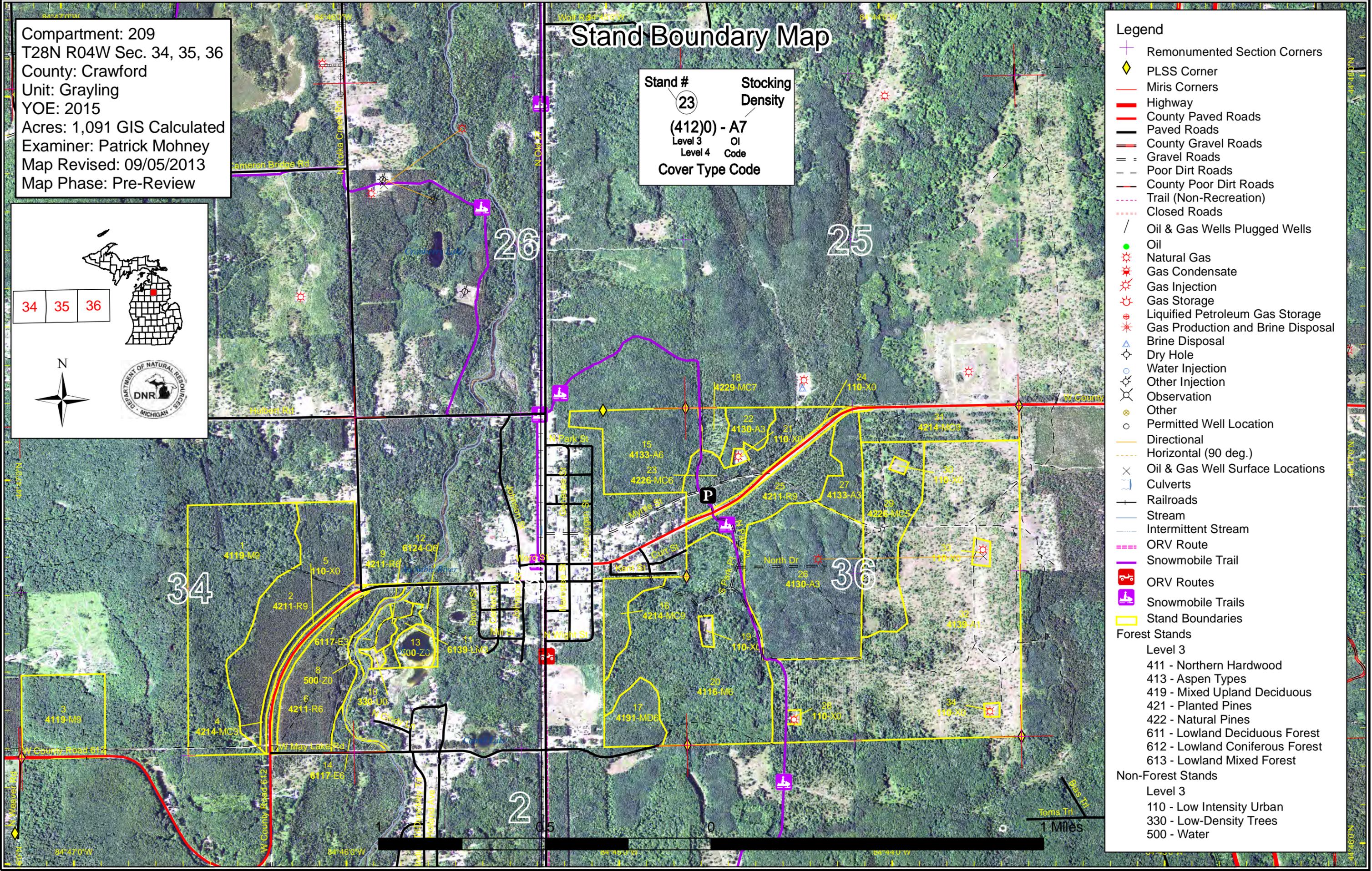


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Stand Boundary Map

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

34 35 36



- ### Legend
- ✚ Remonumented Section Corners
 - ◆ PLSS Corner
 - Miris Corners
 - Highway
 - County Paved Roads
 - Paved Roads
 - County Gravel Roads
 - Gravel Roads
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 - Oil
 - ⊛ Natural Gas
 - ⊛ Gas Condensate
 - ⊛ Gas Injection
 - ⊛ Gas Storage
 - ⊛ Liquefied Petroleum Gas Storage
 - ⊛ Gas Production and Brine Disposal
 - ⊛ Brine Disposal
 - ⊛ Dry Hole
 - ⊛ Water Injection
 - ⊛ Other Injection
 - ⊛ Observation
 - ⊛ Other
 - Permitted Well Location
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 - Horizontal (90 deg.)
 - ⊛ Oil & Gas Well Surface Locations
 - Culverts
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 - Snowmobile Trails
 - Stand Boundaries
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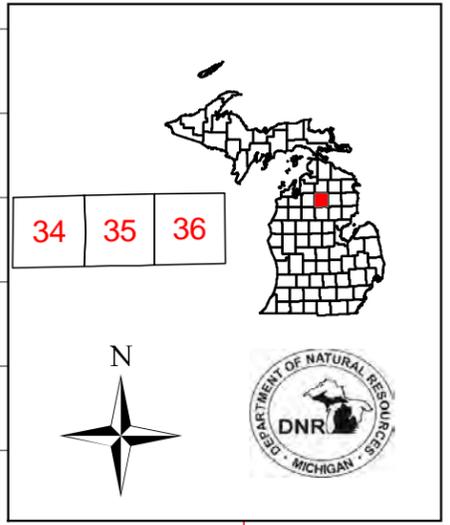
1 Miles

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Special Conservation Areas & Site Conditions Map

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

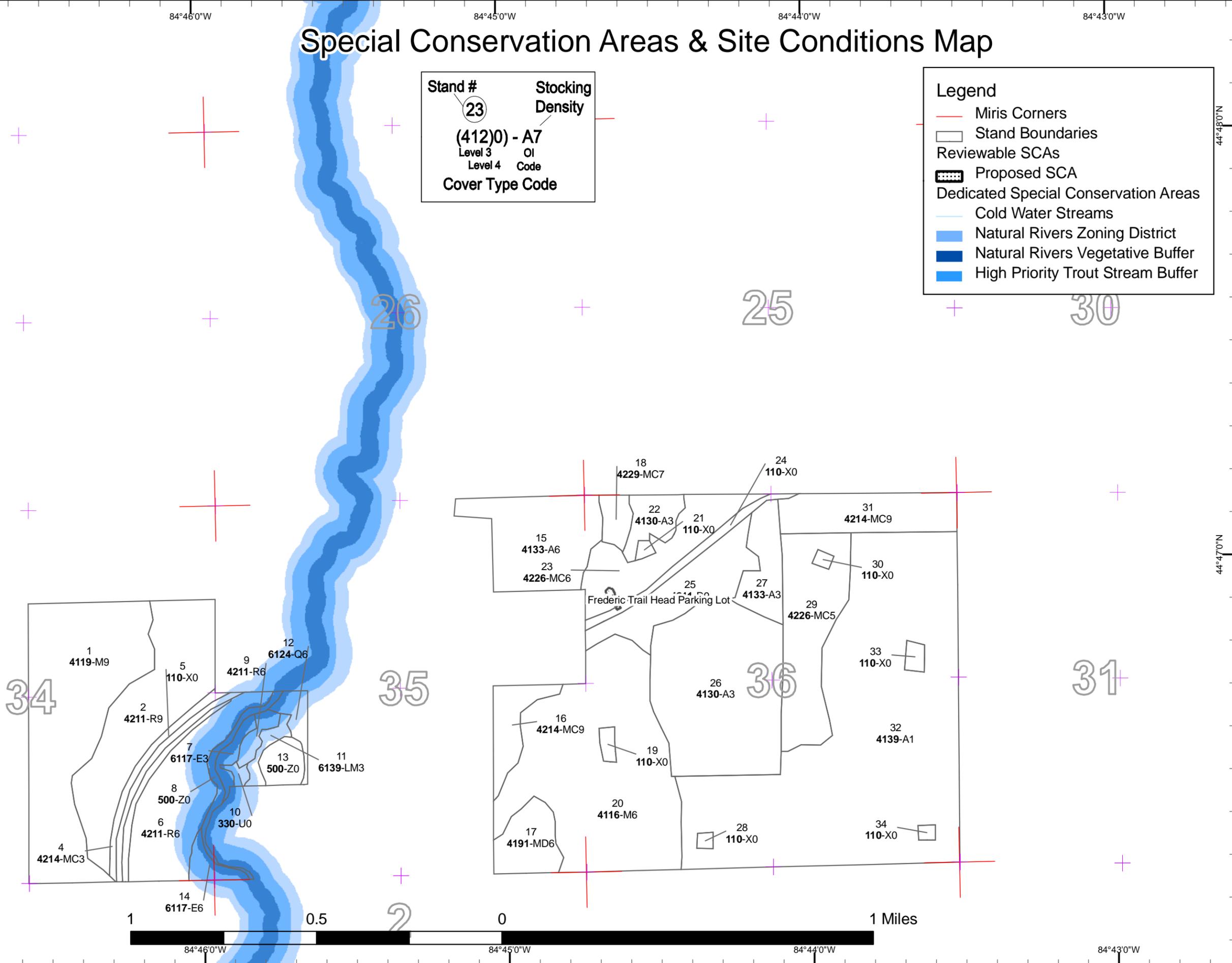
- Legend**
- Miris Corners
 - Stand Boundaries
 - Reviewable SCAs
 - ▨ Proposed SCA
 - Dedicated Special Conservation Areas
 - Cold Water Streams
 - Natural Rivers Zoning District
 - Natural Rivers Vegetative Buffer
 - High Priority Trout Stream Buffer



34 35 36

44°47'0"N

44°47'0"N



1 0.5 0 1 Miles

84°47'0"W 84°46'0"W 84°45'0"W 84°44'0"W 84°43'0"W

44°48'0"N

44°47'0"N

Report 1 – Total Acres by Cover Type and Age Class



	Age Class													Total	
	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +		Uneven Age
Aspen	0	95	18	11	305	0	0	0	0	0	0	0	0	0	429
Low-Density Trees	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Lowland Conifers	0	0	0	0	0	6	0	0	0	0	0	0	0	0	6
Lowland Deciduous	0	0	0	5	0	0	0	6	0	0	0	0	0	0	11
Lowland Mixed Forest	0	0	0	0	5	0	0	0	0	0	0	0	0	0	5
Mixed Upland Deciduous	0	0	0	0	0	0	18	0	0	0	0	0	0	0	18
Natural Mixed Pines	0	0	0	0	51	33	0	0	7	0	0	0	0	0	91
Northern Hardwood	0	0	0	0	0	0	131	145	0	0	0	0	0	0	276
Planted Mixed Pines	0	13	0	0	0	32	0	15	0	0	0	0	0	0	60
Red Pine	0	0	0	0	0	122	0	33	0	0	0	0	0	0	155
Urban	24	0	0	0	0	0	0	0	0	0	0	0	0	0	24
Water	15	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Total	41	108	18	16	360	194	149	198	7	0	0	0	0	0	1091



Report 2 – Proposed Treatment Summaries

Grayling Mgt. Unit
Year of Entry 2015

Compartment 209
Total Compartment Acres: 1,091

Acres by Treatment Type

Commercial Harvest - 244 Tree Planting - 0 Other - 0
 Habitat Cut - 0 Opening Maintenance - 0

Cover Type by Harvest Method

	<i>Clearcut</i>	<i>Selection</i>	<i>Seed Tree</i>	<i>Shelterwood</i>	<i>Thinning</i>	<i>Other - Specify</i>	<i>Total Acres</i>
Aspen Types	95	0	0	0	0	0	95
Natural Pines	51	0	0	0	0	0	51
Northern Hardwood	40	0	0	0	0	0	40
Planted Pines	58	0	0	0	0	0	58
Total	244	0	0	0	0	0	244



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
2	72209002-Cut_small	25.8	42110 - Planted Red Pine	High Density Log	58	111-140	Harvest	Clearcut		Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest stand to eliminate pocket mortality. Leave no retention due to forest health concerns. Make sure and include any and all mortality pockets even if it means going south of the two-track</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> Trench and plant back to Red Pine.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										
3	72209003-Cut	39.9	4119 - Mixed Northern Hardwoods	High Density Log	70	51-80	Harvest	Clearcut		Cmpt. Review Proposal
<p><u>Prescription</u> Final Harvest stand to remove ash and beech. Cut everything using a 2" spec. No retention to maximize regeneration.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> Any combination of ash, beech, maple, basswood, pine is acceptable.</p> <p><u>Next Steps:</u></p> <p><u>Proposed Start Date:</u> 10/01/2014</p>										
15	72209015-Cut	47.5	4133 - Aspen, Mixed Pine	High Density Pole	44	51-80	Harvest	Clearcut with Reserves		Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest stand to regenerate aspen. Leave some large diameter white pine and red pine throughout stand evenly distributed. Approximately 1 for every 5 acres (approximately 8-10 total). Place retention along snowmobile trail to protect.</p> <p><u>Specs:</u></p> <p>Add Drumming log spec for grouse.</p> <p><u>Other Comments:</u> Any combination of maple, aspen, pine will be acceptable.</p> <p><u>Next Steps:</u> Regen Survey.</p> <p><u>Proposed Start Date:</u> 10/01/2014</p>										
29	72209029-Cut	50.8	42260 - Natural Pine, Mixed Deciduous	Medium Density Pole	46	1-50	Harvest	Clearcut		Cmpt. Review Proposal
<p><u>Prescription</u> Final Harvest stand. Leave no retention to maximize site prep.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> Roller chop, burn, herbicide, do whatever is needed to prepare site for trenching and planting to Red Pine.</p> <p><u>Next Steps:</u> Trench and plant to red pine.</p> <p><u>Proposed Start Date:</u> 10/01/2014</p>										



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
31 72209031-Cut	32.2	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Log	58	1-50	Harvest	Clearcut		Cmpt. Review Proposal

Prescription Final harvest stand. Leave and protect apple trees. Place retention in two small islands along 612 on either end of the stand to make trenching and planting easier.

Other
Comments:

Next Trench and plant to red pine. use any method of site prep necessary to prepare site for planting.
Steps:

Proposed
Start Date: 10/01/2014

32 72209032-Cut_small	47.7	4139 - Aspen, Mixed Deciduous	Low Density Sapling	45		Harvest	Clearcut		Cmpt. Review Proposal
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Prescription Final harvest stand, leave no retention to maximize area for site prep to planting. there probably wont be a lot but anything merchantable needs to be cut, all small diameter stuff needs to be cut as well for site prep.

Other Roller chop, burn, herbicide do whatever is necessary to prepare site for trenching and planting to red pine.
Comments:

Next Trench and plant to red pine.
Steps:

Proposed
Start Date: 10/01/2014

**Total Treatment
Acreage Proposed: 243.8**



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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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#Type! #Type!

Prescription
Specs:

Other
Comment:

Next
Steps:

Proposed
Start Date: #Type!

Limiting Factor

Total Treatment
Acreage Proposed: 0.0

Report 5 – Site Conditions

Grayling Mgt. Unit

Patrick Mohney : Examiner

Compartment 209

Year of Entry 2015

Availability for Management

Total Acres	Acres Available	Acres Not Available	Dominant Site Conditions	No
429	429		Aspen	429
6	6		Lowland Conifers	6
11	11		Lowland Deciduous	11
5	5		Lowland Mixed Forest	5
18	18		Mixed Upland Deciduous	18
91	91		Natural Mixed Pines	91
276	276		Northern Hardwood	276
60	60		Planted Mixed Pines	60
155	155		Red Pine	155
1,050	1,050		Total Forested Acres	1,050
	100%		Relative Percent	

**Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.*



Report 6 – 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.

SCA Name	SCA Category	Detail Type	Recommendation	Acres
Frederic Trail Head Parking Lot	Concentrated Recreation Area	Trail Head	SCA	0.6
Comments				



Report 7 – 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	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
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	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
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.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4119 - Mixed Northern Hardwoods	High Density Log	104.7	71	51-80	This is a really nice mixed stand. Stand was thinned to approx 90 BA in 1996-97. It has some of the largest hemlock I have seen in the northern part of the stand. Sugar maple is decent quality. Thick understory of sugar maple beech and ironwood. Very heavy blackberry patches in areas that were opened up. Stand has a small spur of red pine plantation in the northwest corner. Southern portion of stand has very little conifer throughout the stand. It is mostly concentrated to the northern part of the stand.
2	42110 - Planted Red Pine	High Density Log	68.7	58	111-140	AFO Soils. Stand was third row thinned in 1997. Should do an individual marking. Reduce BA to 120. Hardwood regeneration establishing in the northeast portion of the stand. Very little top growth or diameter. Red pine plantation established with 2-0 stock 1956. Portions failed so strips replanted with 3-0 stock in the spring of 1961. Contract marked, cut winter 06/07 under 720140501 (West Frederic Red Pine) by Tree Doc. Stand is growing much better than the red pine across the street from it. Nice pole sized stand, has been 3rd row thinned, 1997. There is a patch of mortality to the north of the two track off of 612, possible bark beetle damage. Pine has self pruned well and put on good growth.
3	4119 - Mixed Northern Hardwoods	High Density Log	39.9	70	51-80	This is a stand that was listed for ash/beech recon. Stand is approximately 1/2 ash, maple is mostly in log class. Stand is doing well, lots of decent regen in the understory. Soils are PARVBB/AFOCa. Survey Request submitted 7/16/2013
4	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Sapling	13.1	16		Stand was cut in 1997 and planted to red pine. A large amount of jack pine and cherry brush is coming up along with the red pine. Stand seems to be growing well and has decent height to it. Very thick and tough to walk through.
6	42110 - Planted Red Pine	High Density Pole	48.3	55	81-110	Old Notes : Stand was third row thinned in 1997. Should do an individual marking. Reduce BA to 120. Very little top growth or diameter. Red pine plantation established with 2-0 stock 1956. Portions failed so strips replanted with 3-0 stock in the spring of 1961. Contract marked, cut winter 06/07 under 720140501 (West Frederic Red Pine) by Tree Doc. AFO Soils. Stand could still put on some diameter growth. Understory is filling in with cherry brush and some sugar maple. Small opening by the river with nice apple trees, looks to be an unofficial river access site. Power line passes through stand. There are still some red pine marked with orange paint that were not cut from previous treatment.
7	6117 - Lowland Deciduous, Mixed Coniferous	High Density Sapling	4.9	30	1-50	PARVHA Nice lowland mix. Borders the river. Apple trees along the two track from Historic Frederic Orchard. Tamarack is doing well close to the river. Minimal browse on cedar surprisingly.
9	42110 - Planted Red Pine	High Density Pole	4.5	53	81-110	PARVHA. Stand was third row thinned in 1997. Nice red pine stand. Has responded well to thinning. Has minimal understory coming in beneath.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
11	6139 - Mixed Lowland Forest	High Density Sapling	4.5	41	1-50	PARVHA Nice mixed stand that borders May Lake. Larger aspen is falling down. Some oak mixed throughout the stand. Lots of grouse in this stand. Woodpeckers are utilizing the aspen snags.
12	6124 - Lowland Spruce-Fir	High Density Pole	6.4	51	1-50	A nice mixed lowland stand. Aspen is beginning to drop out of stand. Woodpeckers are utilizing stand. Stand is very thick and slopes toward the river. Parts of stand are flooded at this time.
14	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	5.7	74	1-50	Stand slopes toward the river pretty steadily. It appears to have a railroad grade along the west edge of it. Has some large sugar maple throughout. Part of this stand is seasonally flooded.
15	4133 - Aspen, Mixed Pine	High Density Pole	47.5	44	51-80	This stand has pretty decent quality aspen. A fair amount of white pine mixed in the stand. Most of it is relatively small and in the understory.
16	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Log	14.8	79	111-140	Stand has mostly large white pine in the stand. Some red pine mixed throughout. Butts right up to the back of a neighborhood. Survey corner in NW of stand has been removed from the ground and is laying nearby. Will need to be surveyed.
17	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	17.9	61	111-140	Similar stand to stand 20. Aspen is falling out of stand, pine seems to be doing well and happy. Fairly dense understory of white pine and various hardwoods coming in.
18	42290 - Natural Mixed Pine	Low Density Log	6.7	88	1-50	Cut by Lutke in summer '09 under 720150501. Stand was cut in 2009. PARVVB/AFO Soils. Residual is doing well and putting on decent growth. it has responded well. Understory is regenerating as well. There is some young aspen coming in the northern part of the stand. SI=60
20	4116 - Mixed N. Hardwood - Aspen	High Density Pole	131.3	67	51-80	Thinned in 2010 Frederic Hilly Hardwoods. 720160501. Nice mixed hardwood stand with some conifers mixed in. White pine is all very large diameter. Beech is showing signs of scale. Aspen is beginning to decline.
22	4130 - Aspen	High Density Sapling	11.2	39		Stand is partially young aspen and partially aspen that is approaching pole sized.
23	42260 - Natural Pine, Mixed Deciduous	High Density Pole	33.5	55	1-50	This stand is extremely dense, so dense its pretty tough walking. Lots of white pine regeneration throughout. Aspen is mixed fairly evenly throughout. Red pine is all log sized. Some small scotch pine along CR 612. PARVVB/AFO Soils.
25	42110 - Planted Red Pine	High Density Log	33.1	77	51-80	Thinned in 2009 by Lutke. Stand was thinned to approximately 90 Residual sq ft. Stand has very nice red and white pine. Has a fairly dense understory coming in after the thinning. Snowmobile trail passes through the stand. SI = 50



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
26	4130 - Aspen	High Density Sapling	95.0	17		Northern part of Stand was cut in 1996. Southern part of stand was cut in 1987. Was originally two separate stands but there is not enough of a difference for them to necessarily be separate stands at this point. Has regenerated nicely. Aspen is patchy in some spots. Overall I would say it is fully stocked. Southern part of the stand has some nice sugar maple regeneration.
27	4133 - Aspen, Mixed Pine	High Density Sapling	18.0	26		Stand was cut in 1987. Has since regenerated and filled in fairly decent. Some hypox in spots. Snowmobile trail passes along stand on the south side.
29	42260 - Natural Pine, Mixed Deciduous	Medium Density Pole	50.8	46	1-50	Stand is mostly white pine. This stand was originally part of the old Deward Orchard. Established 1910-19-28. It is pretty well scattered some nice open areas throughout stand. Some oil and gas activity in the area. Terrain is somewhat rolling. Pine is pretty open grown and scrubby. Small pocket of aspen just north of well old well site.
31	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Log	32.2	58	1-50	Kotar says its AFO soils. I don't believe that to be true. Previous SI = 55. It is very sandy and if that was the case it should be loaded with hardwoods. That is not the case. I believe it to be lower quality soils than indicated by Kotar. Stand is growing scrubby white pine. The red pine stands in the area grow very well compared to this. White pine in this plantation is very poor quality and it will not improve over time.
32	4139 - Aspen, Mixed Deciduous	Low Density Sapling	257.3	45		Part of the original Deward Orchard. A very open stand. Oil and gas wells throughout the stand so there are roads throughout as well. Actually a pretty neat stand. Pine density increases in southern part of the stand but is generally very open over all.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
5	11 - Low Intensity Urban	6.4	No	Unspecified	County Road 612
8	50 - Water	6.1	No	Unspecified	Au Sable River.
10	3301 - Low Density Deciduous Tree	1.7	No	Unspecified	a grassy opening near the private property. I am guessing it is being maintained by the local people. There are a number of nice apple trees in the stand and an unofficial river access site. A neat spot overall.
13	50 - Water	8.4	No	Unspecified	May Lake
19	11 - Low Intensity Urban	2.3	No	Low	Well Site. Abandoned Well Pad. Has not been restored. Mostly Knapweed.
21	11 - Low Intensity Urban	1.2	No	Low	Well Site. Breitburn St. Frederic, A1-36. Road is on a steep slope and eroding. Needs stabilization. Significant knapweed.
24	11 - Low Intensity Urban	8.4	No	Unspecified	County Road 612
28	11 - Low Intensity Urban	1.2	No	Low	Well Site Breitburn St. Frederic D2-36. Mostly Knapweed.
30	11 - Low Intensity Urban	1.2	No	Low	Well Site. Abandoned well pad. Mostly Poverty Grass.
33	11 - Low Intensity Urban	2.5	No	Low	Well Site. Breitburn St. Frederic B4-36 and B4-36 HDN. Larve well pad, has a monitoring well on SW corner of well pad. Mostly Knapweed.
34	11 - Low Intensity Urban	1.2	No	Low	Well Site. Breitburn St. Frederic D4-36. Mostly Knapweed.