



GRAYLING FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 187 ENTRY YEAR: 2010

GIS Compartment Acreage: 1,781 County: Crawford

Revision Date: 9/12/2008

Stand Examiner: Lucas Merrick

Legal Description: (Beaver Creek Township) T25N, R04W, Sections 4, 5, and 6.

Management Goals: This compartment is comprised of Hanson Reserve Lands which contain the following deed restrictions: 1) Hanson Lands are to be used as a permanent encampment and maneuvering ground for the military, 2) it is to serve as a game preserve for the breeding and protection of game, and 3) it is to serve as a forest reserve. The management goal is to maintain forest health, productivity, sustainability, species diversification, and structural diversity throughout the compartment while meeting the deed restrictions.

Soils and Topography: Soils consist of Grayling and Graycalm sands. These soils are somewhat excessively to excessively drained. This soil association covers about 40% of Crawford County. The majority of the topography in this compartment is somewhat level with hilly terrain being found along the northern and southern edges of section 4.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The public lands found in this compartment are Hanson Reserve Military Board Lands. On these lands military training has precedence over resource management activities. Hanson Reserve Lands were given to the National Guard, DMA by Rasmus Hanson in 1913, with several deed restrictions as outlined under the management objectives. Hunting is prohibited on these lands. The DNR will coordinate all prescribed activities with the National Guard to ensure they are compatible with military training needs. The majority of T24N R04W is under public ownership with scattered private parcels throughout. The southern portion of this Township has been extensively developed by oil and gas interests.

Unique, Natural Features: There is potential for dry prairie plants in grassy openings: Hill's thistle, rough fescue, Alleghany plum, and pale agoseris. There is potential for several animals of concern in this compartment: Kirtland's warbler, prairie warbler, secretive locust, dusted skipper, grizzled skipper, and the red-legged spittle bug.

Archeological, Historical, and Cultural Features: There are a couple locations that have been identified throughout the compartment. Though these locations have not been deemed significant, precautions will need to be taken during timber sale preparation and administration as well as during other planned intrusive activities.

Special Management Designations or Considerations: Military training has precedence on these lands.

Watershed and Fisheries Considerations: None at this time.

Wildlife Habitat Considerations: Try to promote and expand aspen cover types where possible. Attempt to improve snag habitat as well as down-dead woody debris during timber management.

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 600 feet. Beneath the glacial drift is the Marshall Sandstone. The Marshall was previously used as a building stone. A gravel pit is located in Section 9 and potential is good on upland areas. Part of the compartment is leased for oil and gas and is located to the north of Beaver Creek Field. The field has produced over 21 MBO from the Devonian Richfield and over 5 Bcf gas from the Ordovician Prairie du Chien.

Vehicle Access: Range 13 is not open to public travel due to the possibility of unexploded ordinances. The rest of the compartment is easily accessible by county roads and forest two-tracks.

Survey Needs: None at this time.

Recreational Facilities and Opportunities: Dispersed recreation occurs throughout the compartment.

Fire Protection: Range 13 is prone to frequent fire events. Fuel types to the east of the range are low risk hardwood fuel types. There are potential hazardous fuel types north, west, and south of the range. With unfavorable wind directions, explosive fire events are a possibility in this area. The lands to the south should be considered “no plow areas” because there is extensive H₂S oil and gas activity as well as exposed above ground pipe lines.

Additional Compartment Information: Autumn olive can be found in the stands along Beaver Road. Range 13 and Range 15 are found in this compartment. Several firing points associated with these ranges are scattered throughout. These firing points should be protected during timber sale operations.

LOTS Compartment Acreage: 1760

- **The following 5 reports from the Operations Inventory System (OIPC) are attached:**
 - ◆ **Cover Type by Age Class**
 - ◆ **Cover Type by Management Objective**
 - ◆ **Compartment Volume Summary**
 - ◆ **Proposed Treatments – No Limiting Factors**
 - ◆ **Proposed Treatments – With Limiting Factors**

- **The following information is displayed, where pertinent, on the attached compartment maps:**
 - ◆ **Base feature information, stand numbers, cover types**
 - ◆ **Proposed treatments**
 - ◆ **Proposed road access system**
 - ◆ **Suggested potential old growth**

9/15/2008 9:42:22 AM

Michigan Department of Natural Resources - Operations Inventory System
Individual Compartment Report

AUSABLE STATE FOREST

GRAYLING FOREST MGT UNIT

CRAWFORD COUNTY

COMPARTMENT: 187

Table 3

(acres shown in boxes)

STAND AGE CLASS

| COVER TYPE | Not Coded | 0-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60-69 | 70-79 | 80-89 | 90-99 | 100-109 | 110-119 | 120-129 | 130-139 | 140-149 | 150-159 | All Aged | Total |
|--------------|------------|-----|------------|-----------|-----------|----------|------------|------------|------------|-------|-------|---------|---------|----------|---------|---------|---------|----------|-------------|
| Aspen | | | 78 | | 34 | | 65 | | | | | | | | | | | | 177 |
| Grass | 1 | | | | | | | | | | | | | | | | | | 1 |
| Hemlock | | | | | | | | | | | | | | 5 | | | | | 5 |
| Jack Pine | | | | 8 | 21 | 5 | | 203 | | | | | | | | | | | 237 |
| Oak | | | 24 | 8 | 34 | | 25 | 158 | 86 | | | | | | | | | | 335 |
| Upland Brush | 949 | | | | | | 17 | | | | | | | | | | | | 966 |
| Upland Hdwds | | | | | 7 | | | | 53 | | | | | | | | | | 60 |
| Total | 950 | | 102 | 16 | 96 | 5 | 107 | 361 | 139 | | | | | 5 | | | | | 1781 |

9/15/2008 9:42:26 AM

Michigan Department of Natural Resources - Operations Inventory System
Individual Compartment Report

AUSABLE STATE FOREST

GRAYLING FOREST MGT UNIT

CRAWFORD COUNTY

COMPARTMENT: 187

Table 3A

(acres shown in boxes)

MANAGEMENT OBJECTIVE TYPE

| COVER TYPE | A | S | V | C | G | H | J | I | L | P | N | Q | X | O | B | R | K | Y | F | E | T | D | U | M | Z | W | Total |
|----------------|-----|---|---|---|---|---|-----|---|---|---|---|---|---|-----|---|---|---|---|---|---|---|---|-----|-----|----|---|-------|
| A Aspen | 177 | | | | | | | | | | | | | | | | | | | | | | | | | | 177 |
| G Grass | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 1 |
| H Hemlock | | | | | | 5 | | | | | | | | | | | | | | | | | | | | | 5 |
| J Jack Pine | | | | | | | 237 | | | | | | | | | | | | | | | | | | | | 237 |
| O Oak | | | | | | | | | | | | | | 335 | | | | | | | | | | | | | 335 |
| U Upland Brush | | | | | | | | | | | | | | | | | | | | | | | | 966 | | | 966 |
| M Upland Hdwds | | | | | | | | | | | | | | | | | | | | | | | | | 60 | | 60 |
| Total | 177 | | | | 1 | 5 | 237 | | | | | | | 335 | | | | | | | | | 966 | 60 | | | 1781 |

AUSABLE STATE FOREST

GRAYLING FOREST MGT UNIT

CRAWFORD COUNTY

COMPARTMENT: **187**

Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS

| COMPARTMENT SUMMARY | | | |
|-------------------------|-----------|-----------------------------|----------|
| TOTAL VOLUME | | CUT VOLUME | |
| Hardwood | 5285 Cds | Hardwood | 2010 Cds |
| Hardwood | 986 Mbf | Hardwood | 310 Mbf |
| Softwood | 2581 Cds | Softwood | 1945 Cds |
| Softwood | 358 Mbf | Softwood | 250 Mbf |
| Sum TotVol | 10554 Cds | Sum CutVol | 5075 Cds |
| Total Cmpt Acres | | Acres Proposed For Cut..... | 323 |
| 1781 | | | |

| Stand | Cover Type | Acres | Age | Site Index | Mgt Obj | Condition | Method Cut | Harvest Priority | Cultural Need | FDf Status |
|--|------------|-------|-----|------------|----------------|-------------|---------------|------------------|----------------------|------------|
| 1 | A6 | 3 | 59 | 46 | aspen (upland) | low quality | final harvest | 2 | | |
| comnts Fmd : 2007: Stand smaller than originally thought. There is an O4/O7 belt around it(stand 11). If treated extend sale into stand 11 to try and expand the aspen. Poor quality for the most part, but has a few pockets of OK looking aspen. Occasional oak and red maple can be found in stand. No retention. Stand should regenerate to a moderate to fully stocked aspen stand with minor components of oak and maple. If stand does not properly regenerate it should be planted to jack pine or white pine. (old comments) STAND JUST BECOMEING POLE SIZE. TREAT NEXT YOYE. | | | | | | | | | | |
| 3 | J6 | 89 | 76 | 49 | jack pine | two aged | final harvest | 1 | natural regeneration | |
| comnts Fmd : About a 3 acre pocket of poor quality aspen in NE corner. Excellent intermediate oak regen but it is already around 30yrs old. Dead and dieing jack pine found throughout. The jack pine seems to have 2 distinct age classes 40ish and 70ish. Debris from military can be found throughout. This stand borders Range 13. A very small amount of white and red pine regen. Final harvest w/ reserves (see stand 100). Set up sale and burn with stands 7, 8, 38 to try and achieve natural regen. Mark out a handful of the bigger oak to leave for vertical structure and mast. Leave/protect red pine, and white pine. Also include several small islands (up to .5 acres in size) that include the better quality jack pine and smaller diameter oak. (de-limbing optional in this stand). Look for differences (or lack of) in stem densities, species diversity, and failed regen areas between the different stands in the sale area during regeneration surveys. Stand should regenerate to a moderate or fully stocked mixture of jack pine and oak with pockets of aspen and mixed pine. Open "pine barren" type areas are expected and acceptable. Make sure to buffer the military firing points and any corners(see stand 100). | | | | | | | | | | |
| 7 | J6 | 86 | 76 | 45 | jack pine | two aged | final harvest | 2 | natural regeneration | |
| comnts Fmd : 2007: Patchy- Majority of the smaller jack pine seems to be along the road. Lots of junk. Stand has a few areas of advanced oak regen(not quite as much as stand 3 to the north). Final harvest w/ reserves (see stand 100). Harvest all trees 2" and up, this stand must have all pine trees delimbed in the sale area (tops then will be chipped). Set up and burn with stand 3, 8, 38. The stand should regenerate to a moderately to fully stocked jack pine stand with oak and mixed pine. Stand should regenerate to a moderate or fully stocked mixture of jack pine and oak with pockets of aspen and mixed pine. Open "pine barren" type areas are expected and acceptable. Make sure to buffer the military firing points and any corners(see stand 100). See stand 7 for regen survey comments. (old comments) HEAVEY J3 IN SPOTS, WITH SOME ADVANCE OAK REGEN. JUST IN A FEW AREAS. | | | | | | | | | | |
| 8 | O5 | 56 | 75 | 40 | oak | low quality | final harvest | 2 | natural regeneration | |
| comnts Fmd : Lots of dead oak and jack pine in stand. This stand is older than it looks. It does have the two age class structure like the rest of the stands on this side of the range. Some pockets of OK regen-this stand is fairly open throughout. Jack pine makes up more of the south. Final harvest w/ reserves. Leave some islands of healthy oak and jack pine. Cut and burn with stands 3, 7, and 38, the management objective is oak but any natural regen at minimum or higher stocking with an oak component will be considered a success. See stand 7 for regen survey comments. (old comments) LOW QUALITY JP, NPO. OAK CONCENTRATIONS IN THE NORTH , JP IN SOUTH AREAS WITH O2, J3 THROUGHTOUT, OPEN AREAS <1 ACRE PERSIST) | | | | | | | | | | |
| 19 | A6 | 26 | 60 | 64 | aspen (upland) | mature | final harvest | 2 | | |
| comnts Fmd : STAND BORDERS RANGE 13. This stand is a hodge podge. The aspen is mixed. Stand looks as though it has seen its share of disturbances from the military, range, and public. There was a deer camp set up in this stand for the 1st couple weeks of bow season. Final harvest w/ reserves (see stand 101). Harvest all species 2" and up. Leave scattered large healthy oak trees. The management objective for this stand is aspen with some scattered oak and red maple at moderate to full stocking. If natural regeneration is not adequate the stand should be planted to mixed pine around any natural regen. Old SI used | | | | | | | | | | |
| 21 | A6 | 19 | 45 | 63 | aspen (upland) | immature | final harvest | 2 | | |
| comnts Fmd : 2007: Aspen is mixed but the majority seems to be big tooth. A few dead broken tops. Some wolfy red pine and maple. Final harvest no retention. May want to leave a couple of the real big sugar maple or red pine for visual. Autumn olive found in southern portions of the stand. This stand will regenerate to a moderate to fully stocked aspen stand with scattered hdwds and a minor conifer component. If natural regeneration fails the stand should be planted to red pine. (old comments)YOUNG ASPEN STAND 6"-7" DIA. | | | | | | | | | | |
| 22 | O6 | 25 | 60 | 59 | oak | mature | final harvest | 2 | | |
| comnts Fmd : 2007: A nice mixed stand. The oak seems to be doing alright. Scattered stems of wolfy oak with aspen pockets and plenty of small diameter red maple. Most of the sugar maple is in the southeast part of the stand along Beaver Rd. Not much for natural regen on the ground. Some big red pine in the southeast providing a nice seed source (leave these trees) A final harvest now would ensure that the diversity of the stand is maintained. Final harvest w/ reserves. Leave a buffer along beaver road as retention. Also leave the big red pine and sugar maple found in the southeast. There is autumn olive found in stand along Beaver Rd. The management objective is oak, but any moderate to fully stocked stand with components of oak, maple, aspen, and mixed pine should be considered a success. If natural regen fails plant the stand to red pine.(old comments) LOW QUALITY HARDWOOD STAND. HYBRID OAK, GYSPY MOTH EGG MASSES. | | | | | | | | | | |
| 33 | A6 | 11 | 45 | 55 | aspen (upland) | mature | final harvest | 1 | | |
| comnts Fmd : Separated from stand 21. It is more of a hodge podge. Final harvest with reserves. Leave an island for visual, also leave the real big sugar maple. This stand is starting to get overrun w/ autumn olive. Some control measure may have to be implemented. There are pockets of open areas. The timber is smaller in the west part of the stand and there is no hdwd component. Management objective is a moderately to full stocked aspen stand containing various hdwds and some conifer. If natural regen is not sufficient, plant red pine around established natural regen. HAL concerns see compartment folder for details. | | | | | | | | | | |

GRAYLING FOREST MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 187 Entry Year: 2000

| Stand | Cover Type | Acres | Age | Site Index | Mgt Obj | Condition | Method Cut | Harvest Priority | Cultural Need | FDF Status |
|-------|------------|-------|-----|------------|---------|-------------|---------------|------------------|----------------------|------------|
| 38 | O4 | 8 | 35 | 40 | oak | low quality | final harvest | 2 | natural regeneration | |

comnts Fmd : Pocket of poor quality/sparse oak 70+ yrs old. Final harvest no reserves. Cut and burn along with stands 3, 7, and 8. Management objective is an oak/pine mix. A poor stocked stand with a mixture of pine and oak should be considered a success. If natural regen fails manage the stand w/ the adjacent U-type

Total Acres..... 323

**Proposed Treatments
With Limiting Factors**

Compartment: 187

Entry Year:2010

| Stand | Cover Type | Acres | Age | Site Index | Mgt Obj | Condition | Method Cut | Harvest Priority | Cultural Need | FD Status |
|--------------|-----------------------|--------------|------------|-----------------------|--------------------|------------------|-----------------------|-----------------------------|--------------------------|----------------------|
|--------------|-----------------------|--------------|------------|-----------------------|--------------------|------------------|-----------------------|-----------------------------|--------------------------|----------------------|

TREATMENT LIMITING FACTORS:

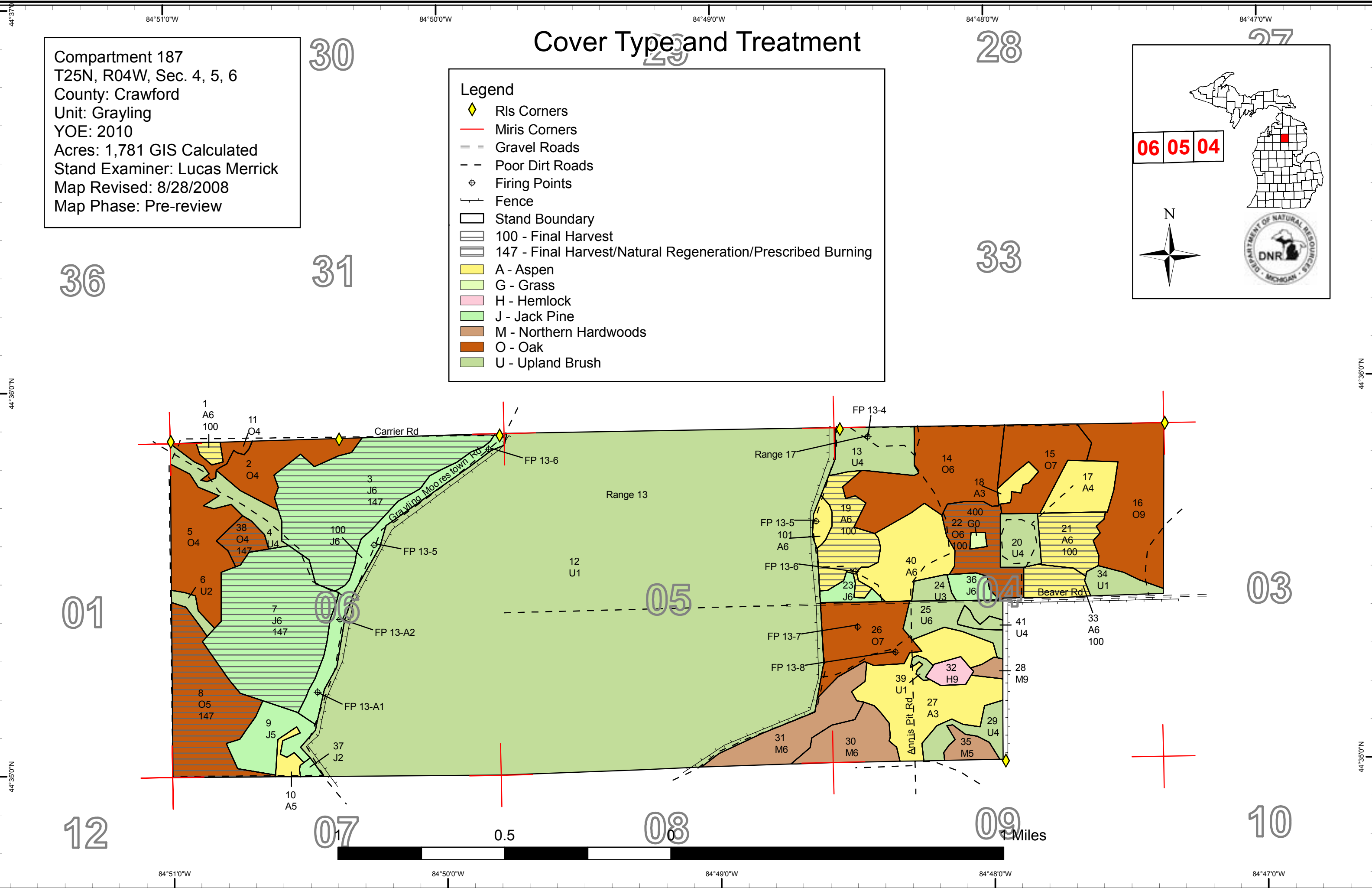
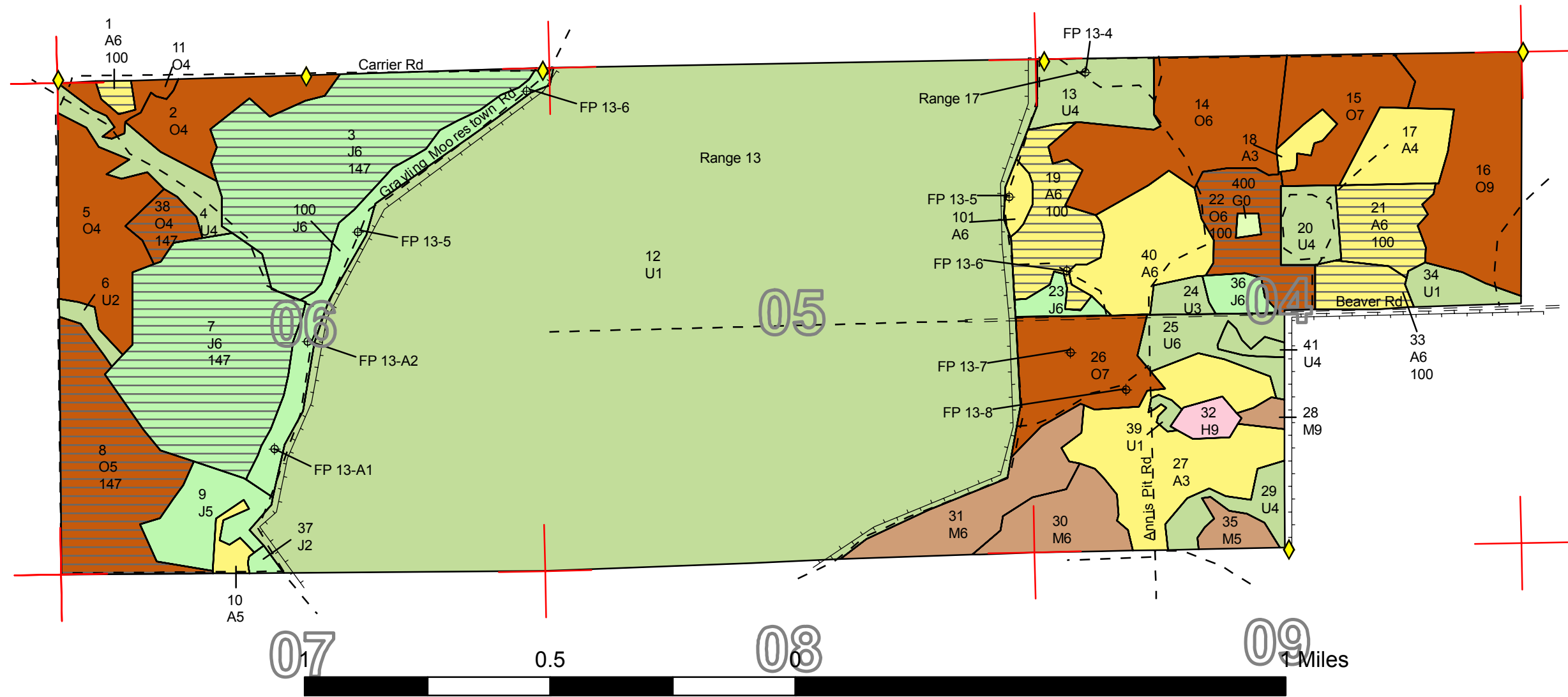
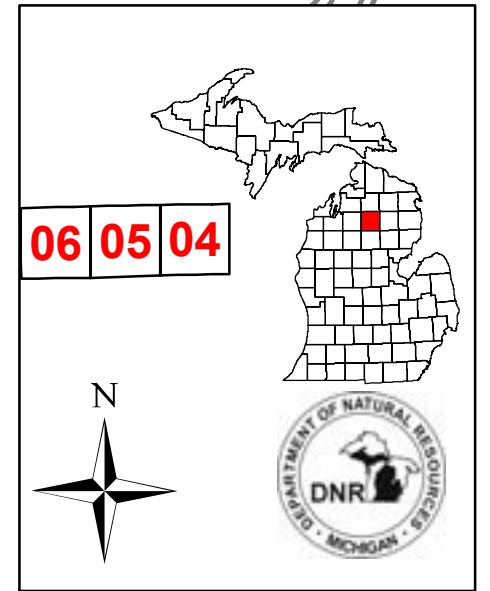
Total Acres..... 0

Cover Type and Treatment

Compartment 187
 T25N, R04W, Sec. 4, 5, 6
 County: Crawford
 Unit: Grayling
 YOE: 2010
 Acres: 1,781 GIS Calculated
 Stand Examiner: Lucas Merrick
 Map Revised: 8/28/2008
 Map Phase: Pre-review

Legend

- RIs Corners
- Miris Corners
- Gravel Roads
- Poor Dirt Roads
- Firing Points
- Fence
- Stand Boundary
- 100 - Final Harvest
- 147 - Final Harvest/Natural Regeneration/Prescribed Burning
- A - Aspen
- G - Grass
- H - Hemlock
- J - Jack Pine
- M - Northern Hardwoods
- O - Oak
- U - Upland Brush

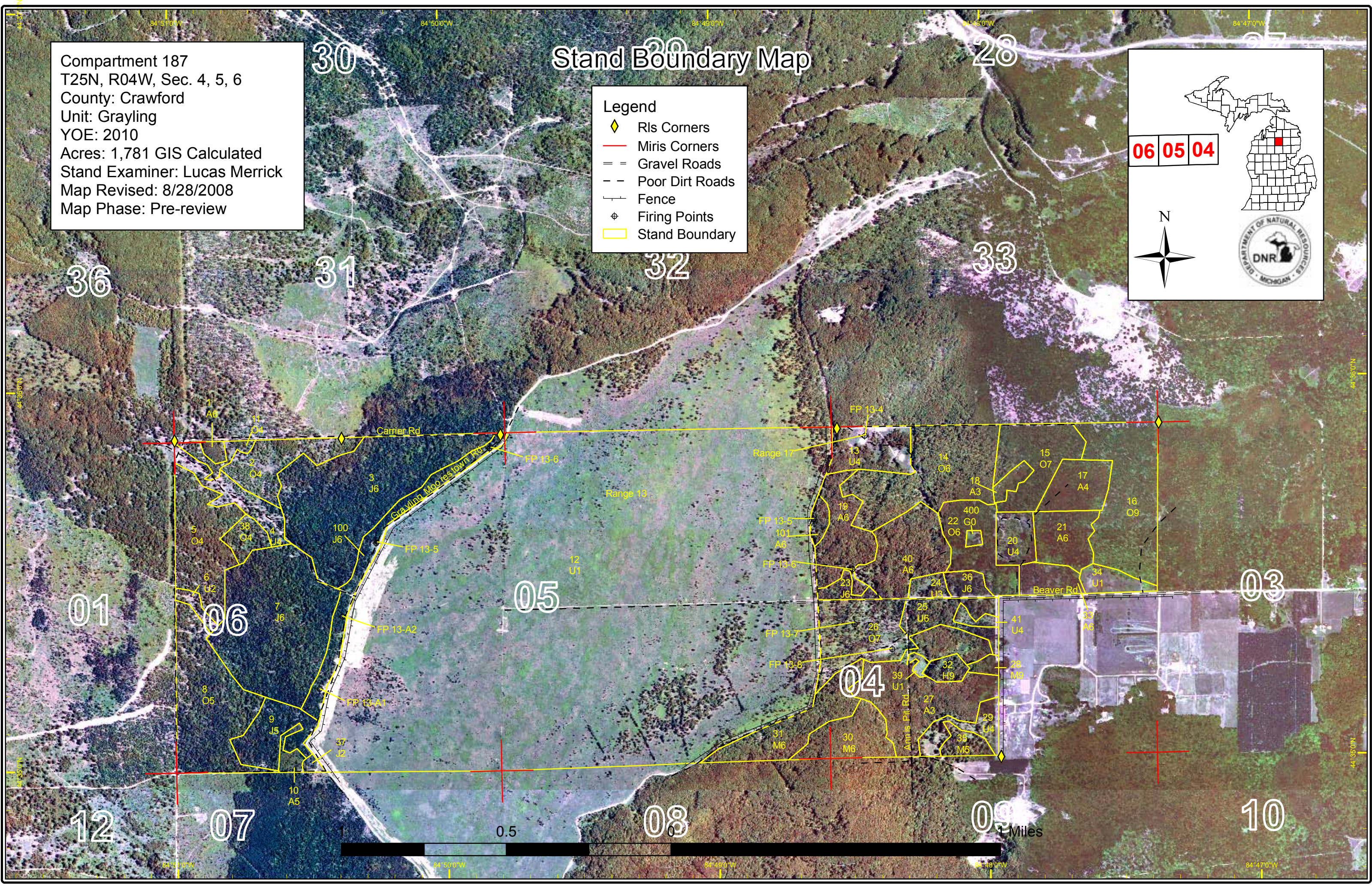


Stand Boundary Map

Compartment 187
T25N, R04W, Sec. 4, 5, 6
County: Crawford
Unit: Grayling
YOE: 2010
Acres: 1,781 GIS Calculated
Stand Examiner: Lucas Merrick
Map Revised: 8/28/2008
Map Phase: Pre-review

- Legend**
- ◆ Rls Corners
 - Miris Corners
 - == Gravel Roads
 - - Poor Dirt Roads
 - Fence
 - ⊕ Firing Points
 - Stand Boundary

06 05 04

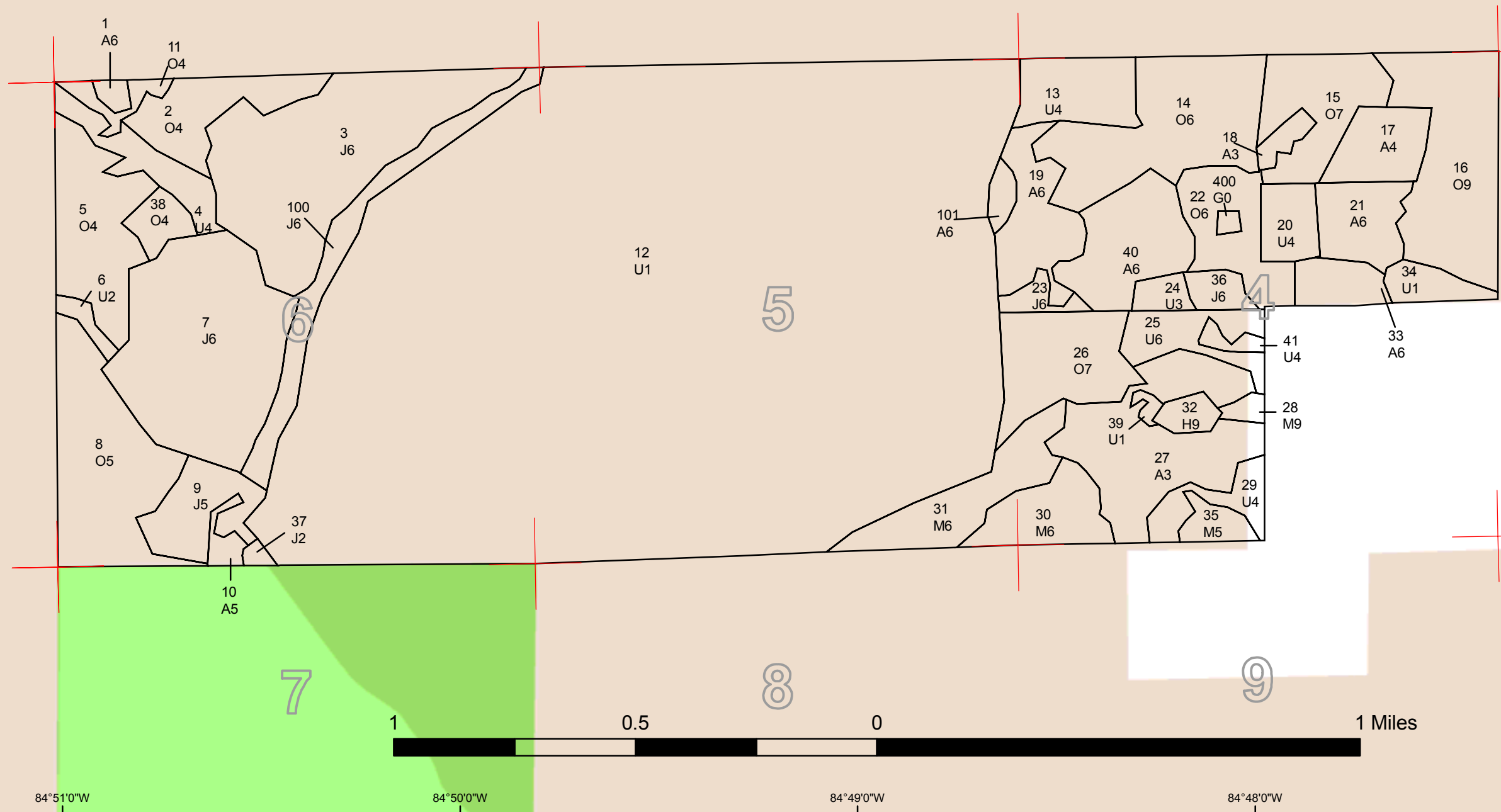


Compartment 187
 T25N, R04W, Sec. 4, 5, 6
 County: Crawford
 Unit: Grayling
 YOE: 2010
 Acres: 1,781 GIS Calculated
 Stand Examiner: Lucas Merrick
 Map Revised: 10/20/2008
 Map Phase: Pre-review

Dedicated & Proposed Special Conservation Area Map

Legend

- Miris Corners
- Stand Boundary
- Dedicated SCA**
- SCA - Special Conservation Area
- Kirtland Warbler Habitat
- Research, Development, and Military Lands



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

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

44°36'0"N

44°36'0"N

44°35'0"N

44°35'0"N



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 |
|-------------------|-----------------------------|---|
| 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. |
| 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 | 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. |