



**GRAYLING FOREST MANAGEMENT UNIT  
COMPARTMENT REVIEW PRESENTATION**

**COMPARTMENT # 212 ENTRY YEAR: 2009**

**Compartment Acreage: 1806 County: Crawford**

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**Revision Date:** 7/13/2007

**Stand Examiner:** Lucas Merrick

**Legal Description:** T28N R04W Sections 2, 3, 10, 11, 14, 15 North Fredric Township

**Management Goals:** To improve forest health, productivity, sustainability, and account for species and structural diversity throughout the State of Michigan by actively managing flora and fauna, while providing for multiple use, and visual management.

**Soil and Topography:** Sections 2, 10, and 15 are extremely hilly, Section 14 is relatively flat with lowland areas around the creeks. The soils are a Rubicon-Kalkaska-Blue Lake association, these soils excessively to well drained sandy soils.

**Ownership Patterns, Development, and Land Use in and Around the Compartment:** Ownership north and east of the compartment is private. The rest of 28N 04W is mostly public land with scattered private tracts. Oil and gas development is evident throughout the area. The state currently does not have legal access to the public land found in Section 2.

**Unique, Natural Features:** Kolka Creek and Bradford Creek are designated "Natural Rivers". These rivers and surrounding stands are known as "High Conservation Value Areas" (HCVA). All stands which occur within 200 feet of a natural river are coded as a stand condition 8 to identify it as such. The high ground between the two creeks is walk-in access only at this time.

**Archeological, Historical, and Cultural Features:** The old Mt. Fredric Ski Area is located in this compartment. All of the public land in section 10 was gifted to the State of Michigan from the Shell Oil Company.

**Special Management Designations or Considerations:** Kolka and Bradford Creeks run through Section 14. These two creeks are designated "Natural Rivers". All guidelines pertaining to "Natural Rivers" and surrounding stands should be followed. There is potential for goshawk and red-shouldered hawk to occur. The riparian areas are suitable habitat for wood turtles, Blanding's turtles, and the eastern massasauga rattle snake.

**Watershed and Fisheries Considerations:** Kolka and Bradford Creeks are designated "Natural Rivers". New access routes to the stands between the two creeks are not needed and should not be created. Conversion to early successional cover types along these waterways in this compartment is not recommended.

**Wildlife Habitat Considerations:** The hardwood stands found in the area with their enclosed canopies and relatively open under story provide excellent habitat for woodland raptors. There are several early successional aspen cover types found throughout the compartment which provide cover and browse. This compartment contains grassy openings which may benefit from opening maintenance activities.

**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 600 and 800 feet. Beneath the glacial drift is the Coldwater Shale. The Coldwater does not have a current economic use. Kolka Creek gravel pit is located in Section 15 and potential is excellent on the upland areas. The compartment is leased, except Section 10 (surface only), and partially developed for Antrim Shale gas and Guelph (Niagaran) reefs.

There is an abundance of gas activity within the compartment. The several miles of access roads, pipelines, and well pads have created corridors lined with invasive species such as spotted knapweed and St. John's Wort. Sour gas wells and pipelines are present and could pose hazards for resource protection efforts. Stand 11 is the Kolka Creek gravel pit which has been leased to the Road Commission of Crawford County. It also looks as though some gravel has been removed from stand 404 in the distant past.

**Vehicle Access:** Access is adequate and no new roads are need. The steep terrain and sandy nature of some of the trail roads may make access without 4-wheel drive difficult. The high ground between Kolka and Bradford Creeks is currently walk-in only. A road system is in place. A bridge and about 200 feet of gravel fill is is needed for vehicle access to land located between the creeks.

Heavy illegal ORV use has occurred on and around Mt. Frederic, leaving a myriad of illegal sandy trails that are eroding. To cease illegal use and stabilize all the trails will be a huge undertaking. A grant was recently received to develop a plan and cost estimate for stabilization for the area and to install barricades to begin to reduce the amount of illegal use in the area.

**Survey Needs:** None at this time.

**Recreational Facilities and Opportunities:** Dispersed recreation occurs throughout the compartment. Snowmobile Trail #679 is found in the southern part of Section 15 and Snowmobile Trail #7 runs along Old-27.

**Fire Protection:** Most of the cover types within this compartment are not prone to frequent fire events. Due to the large amount of pipelines (some containing sour gas) standard operations with plow lines may not be the best choice for resource protection. The hilly topography would most likely limit the effectiveness of the majority of equipment as well. The major roads and creeks in this compartment should serve as adequate fuel breaks for normal or expected fire intensities in this area.

**Additional Compartment Information:** A temporary bridge will be needed to cross Kolka Creek for the currently prescribed activities. The extensive gas operations and the corridors created by them, have encouraged several invasive species such spotted knapweed and St. Johns Wort to become established throughout the disturbed areas of the compartment.

**LOTS Acreage:** 1772 acres

- **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**

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

AUSABLE STATE FOREST

GRAYLING FOREST MGT UNIT

CRAWFORD COUNTY

COMPARTMENT: 212

Table 3

(acres shown in boxes)

STAND AGE CLASS

| COVER TYPE   | Not        | STAND AGE CLASS |            |       |           |            |            |            |            |       |       |         |         |         |         |         |         | All Aged  | Total       |
|--------------|------------|-----------------|------------|-------|-----------|------------|------------|------------|------------|-------|-------|---------|---------|---------|---------|---------|---------|-----------|-------------|
|              | 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 |           |             |
| Aspen        |            | 11              | 155        |       | 71        | 100        | 13         | 80         |            |       |       |         |         |         |         |         |         |           | 430         |
| Bog or Marsh | 2          |                 |            |       |           |            |            |            |            |       |       |         |         |         |         |         |         |           | 2           |
| Grass        | 134        |                 |            |       |           |            |            |            |            |       |       |         |         |         |         |         |         |           | 134         |
| Local Name   | 7          |                 |            |       |           |            |            |            |            |       |       |         |         |         |         |         |         |           | 7           |
| LowInd Brush | 129        |                 |            |       |           |            |            |            |            |       |       |         |         |         |         |         |         |           | 129         |
| Mx Swmp Cnfr |            |                 |            |       |           | 1          |            |            | 101        |       |       |         |         |         |         |         |         |           | 102         |
| Non Stocked  | 18         |                 |            |       |           |            |            |            |            |       |       |         |         |         |         |         |         |           | 18          |
| Red Pine     |            |                 |            |       |           |            | 197        |            |            |       |       |         |         |         |         |         |         |           | 197         |
| Spruce Fir   |            |                 |            |       |           | 31         |            |            |            |       |       |         |         |         |         |         |         |           | 31          |
| Upland Brush | 8          |                 |            |       |           | 36         |            |            |            |       |       |         |         |         |         |         |         | 43        | 87          |
| Upland Hdws  |            |                 |            |       |           |            |            | 285        | 365        |       |       |         |         |         |         |         |         | 18        | 668         |
| Water        | 1          |                 |            |       |           |            |            |            |            |       |       |         |         |         |         |         |         |           | 1           |
| <b>Total</b> | <b>299</b> | <b>11</b>       | <b>155</b> |       | <b>71</b> | <b>168</b> | <b>210</b> | <b>365</b> | <b>466</b> |       |       |         |         |         |         |         |         | <b>61</b> | <b>1806</b> |

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

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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        | 430 |   |   |   |     |   |   |   |     |   |   |     |    |   |   |     |   |   |    |   |   |   |   |     |     |   | 430   |
| V Bog or Marsh |     |   | 2 |   |     |   |   |   |     |   |   |     |    |   |   |     |   |   |    |   |   |   |   |     |     |   | 2     |
| G Grass        |     |   |   |   | 134 |   |   |   |     |   |   |     |    |   |   |     |   |   |    |   |   |   |   |     |     |   | 134   |
| I Local Name   |     |   |   |   |     |   |   | 7 |     |   |   |     |    |   |   |     |   |   |    |   |   |   |   |     |     |   | 7     |
| L Lowlnd Brush |     |   |   |   |     |   |   |   | 129 |   |   |     |    |   |   |     |   |   |    |   |   |   |   |     |     |   | 129   |
| Q Mx Swmp Cnfr |     |   |   |   |     |   |   |   |     |   |   | 102 |    |   |   |     |   |   |    |   |   |   |   |     |     |   | 102   |
| X Non Stocked  |     |   |   |   |     |   |   |   |     |   |   |     | 18 |   |   |     |   |   |    |   |   |   |   |     |     |   | 18    |
| R Red Pine     |     |   |   |   |     |   |   |   |     |   |   |     |    |   |   | 197 |   |   |    |   |   |   |   |     |     |   | 197   |
| F Spruce Fir   |     |   |   |   |     |   |   |   |     |   |   |     |    |   |   |     |   |   | 31 |   |   |   |   |     |     |   | 31    |
| U Upland Brush |     |   |   |   |     |   |   |   |     |   |   |     |    |   |   |     |   |   |    |   |   |   |   | 87  |     |   | 87    |
| M Upland Hdwds |     |   |   |   |     |   |   |   |     |   |   |     |    |   |   |     |   |   |    |   |   |   |   | 668 |     |   | 668   |
| Z Water        |     |   |   |   |     |   |   |   |     |   |   |     |    |   |   |     |   |   |    |   |   |   |   |     | 1   |   | 1     |
| Total          | 430 |   | 2 |   | 134 |   |   | 7 | 129 |   |   | 102 | 18 |   |   | 197 |   |   | 31 |   |   |   |   | 87  | 668 | 1 | 1806  |

AUSABLE STATE FOREST

GRAYLING FOREST MGT UNIT

CRAWFORD COUNTY

COMPARTMENT: **212**

**Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS**

| COMPARTMENT SUMMARY     |           |                             |          |
|-------------------------|-----------|-----------------------------|----------|
| TOTAL VOLUME            |           | CUT VOLUME                  |          |
| Hardwood                | 12484 Cds | Hardwood                    | 429 Cds  |
| Hardwood                | 790 Mbf   | Softwood                    | 1856 Cds |
| Softwood                | 7545 Cds  | Softwood                    | 367 Mbf  |
| Softwood                | 699 Mbf   | Sum CutVol                  | 3019 Cds |
| Sum TotVol              | 23007 Cds |                             |          |
| <b>Total Cmpt Acres</b> |           | Acres Proposed For Cut..... |          |
| 1806                    |           | 220                         |          |

| Stand | Cover Type | Acres | Age | Site Index | Mgt Obj  | Condition | Method Cut | Harvest Priority | Cultural Need | FDF Status                   |
|-------|------------|-------|-----|------------|----------|-----------|------------|------------------|---------------|------------------------------|
| 47    | R6         | 59    | 49  | 61         | red pine | immature  | thinning   | 2                |               | prescribed for fdf treatment |

comnts Fmd : Plantation - Recommend a thinning (70-90 BA residual) east of the powerline. Excellent natural red pine regeneration 6-10" inches tall. The regeneration at the old landing area is 6' feet tall. Harvest operations should be conducted with snow on the ground to protect regen. Leave most of the aspen for snags and potential down woody debris. The purpose of this prescription is to improve the current standing timber and to also open up the canopy to allow the natural regeneration to establish itself intermediately within the forest canopy. (old comments): JP STRIP ALONG ROAD SOME ASPEN PATCHES. FDF stand. Thin under contract #057-99-01, Fire Officer's Red Pine sale, third row thin year 2000. Per pre-review on 8/14/07 change treatment to final harvest with reserves. Leave retention patches to screen where it is going to be open along the road. Leave seed sources where we need regeneration. Open us areas over existing regeneration and expand aspen pockets. Treat this stand early in 2008 in winter due to advance state of white pine regeneration. Treat ASAP.

**Total Acres..... 59**

| Stand   | Cover Type | Acres | Age | Site Index | Mgt Obj        | Condition                           | Method Cut    | Harvest Priority | Cultural Need | FDf Status |
|---|------------|-------|-----|------------|----------------|-------------------------------------|---------------|------------------|---------------|------------|
| 27  | A5         | 7     | 51  | 55         | aspen (upland) | immature                            | final harvest | 2                |               |            |
| TREATMENT LIMITING FACTORS: Bridge needed (portable bridge not available or inadequate)   |            |       |     |            |                |                                     |               |                  |               |            |
| comnts Fmd : Open poor quality aspen and white pine with cherry brush and Q-types scattered in the understory. The stand is an aspen ridge on high ground. This stand will provide access to stand 28 and the other red pine in compartment 211 between the streams. It could provide a nice landing area as well. Harvest all trees 2" and greater. The stand should regenerate to a moderately stocked aspen stand with mixed conifer component. If adequate regeneration is not obtained - this stand will be planted to red pine around any pockets of natural regeneration. Factor limited stand due to you need a poartable bridge to access across Kolka Creek and we do not have equipment to set portable bridge.  |            |       |     |            |                |                                     |               |                  |               |            |
| 28  | R6         | 4     | 51  | 65         | red pine       | immature                            | thinning      | 2                |               |            |
| TREATMENT LIMITING FACTORS: Bridge needed (portable bridge not available or inadequate)   |            |       |     |            |                |                                     |               |                  |               |            |
| comnts Fmd : Treat stand 56 in compartment 211 at the same time. This is a 50 year old red pine plantation that will be thinned for the first time. It is much smaller in diameter than the surrounding red pine stands in the area. Recommend a third row thin - plus the marking of suppressed individuals and poor formed trees in adjacent rows. There are a couple pockets with hardwood or failed portions that do not have as high of BA. Mark trees along stand boundary to drop into the Q-type(bigger branchy conifer types are preffered). Also, retain some down woody debris within the stand. The intention of this treatment is to improve the quality of the red pine and to provide new wildlife habitat opportunities through the creation of down woody debris.(old comments) 1996: MANAGE WITH STAND IN COMPARTMENT 211. Factor limited stand due to you need a poartable bridge to access across Kolka Creek and we do not have equipment to set portable bridge.  |            |       |     |            |                |                                     |               |                  |               |            |
| 31  | R6         | 122   | 51  | 65         | red pine       | old growth<br>(potential or actual) | thinning      | 2                |               |            |
| TREATMENT LIMITING FACTORS: Bridge needed (portable bridge not available or inadequate)   |            |       |     |            |                |                                     |               |                  |               |            |
| comnts Fmd : THINNED 1991. Will need a bridge to access the stand. Northern portion of the stand has areas of M3 understory 10-15' tall. If equipment can knock enough of the hdwd regen back, this could be a good stand for an under-burn if not for limiting factors (This area has active sour gas wells/lines and currently access is an issue). I would also recommend burning the adjacent opening if a burn is prescribed. Areas of the stand have several stems w/ poor form and porky damage-hit these spots a little harder while marking. Watch for stand 25 when setting up the sale and take appropriate protective measures. Stand is slightly rolling in areas. Mark trees along stand boundary to drop into the swamp-types (bigger branchy conifer types are preffered). Also, retain some down woody debris within the stand and mark trees to be girdled for snags (ask wildlifes opinion for desired amount). The intent of this prescription is to improve the current cover type and to improve habitat opportunities by creating down woody debris. Include stands 27 and 28 w/ prescription. Stand condition 8 (HCVA) -portions of this stand are within the Natural Rivers Buffer area for both Kolka and Bradford Creeks- so coded it as 8- this is not old growth area. . Per pre-review on 8/14/07 :Coded as limited access as portable bridge may not be available to treat area due to lack of machinery to install it. Also, watch 150 foot natural river zone- per Pearson is ok to thin within the 150 foot strip to make it a more natural looking stand. Treat as much of the area landlocked between rivers as possible, including land in adj compt 211 to the south. |            |       |     |            |                |                                     |               |                  |               |            |
| 36  | A5         | 28    | 63  | 55         | aspen (upland) | immature                            | final harvest | 2                |               |            |
| TREATMENT LIMITING FACTORS: Adjacent landowner denies access  |            |       |     |            |                |                                     |               |                  |               |            |
| comnts Fmd : NO LEGAL ACCESS. An ingress/egress option has not been explored as of yet. The route will have to be across pvt property. A cut to regenerate and expand some aspen would benefit wildlife and help keep the stand vigorous. Majority of this stand is poor quality. Harvest all trees 2" and up. Leave a couple islands and some scattered misc hdwd for retention. This stand should regenerate into a moderately to fully stocked aspen stand with a mixed hardwood and conifer component. Areas of upland brush currently exist within the stand and are expected to develop after prescription. If natural regeneration is not adequate, the stand will be planted back to a mixture of red and jack pine. Watch 15o foot natural river zone. Stand is an HCVA it borders a "natural river" coded stand condition 8.  |            |       |     |            |                |                                     |               |                  |               |            |
| Total Acres.....  |            | 161   |     |            |                |                                     |               |                  |               |            |

# Field Map

Compartment 212  
 T28N, R4W, Sec. 2, 3, 10, 11, 14, 15  
 County: Crawford  
 Unit: Grayling  
 YOE: 2009  
 Acres: 1,806 GIS Calculated  
 Stand Examiner: Lucas Merrick  
 Map Revised: 8/29/2007  
 Map Phase: Pre-Review

|    |    |
|----|----|
| 3  | 2  |
| 10 | 11 |
| 15 | 14 |




