



Compartment Review Presentation

Grayling Forest Management Unit

Compartment 72223

Entry Year 2017

Acreage: 1,260

County Crawford

Management Area: Ogemaw Hills

Revision Date: 2015-07-22

Stand Examiner: Thomas Barnes

Legal Description:

T26N R3W Sections 31, 32 and 33

Identified Planning Goals:

The emphasis of management shall be on retaining and enhancing the natural beauty and biological diversity of the area, and enhancing wildlife habitat for both hunting and wildlife observation purposes while maintaining forest health, productivity, sustainability, species and structural diversity while providing for multiple use and visual management.

Soil and topography:

Predominately Grayling and Graycalm sands. Topography is mainly flat to rolling hills.

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

Compartment 223 consists of three contiguous sections of land, of which approximately 20% is privately owned. Section 31 and 32 are bisected by the I-75 freeway and rest area. Section 32 is bisected by a privately owned railroad right-of-way (ROW). The compartment also contains three leased r.o.w.'s for large overhead power lines. Also sections 32 and 33 are part of the Grayling Industrial Park as of 1998. Per a Memo of Understanding between the MDNR and Crawford County, lands in this compartment are subject to disposal for industrial development per an agreed upon expedited procedure. In 2015, the Kirtland Community College was deed most of the west half of Section 32 for development. This land has been removed from this compartment. Land use in this area is rapidly undergoing commercial/industrial development. The compartment contains or is directly adjacent to AJD Forest Products mill, a Weyerhaeuser production plant; a Super 8 Motel, a truck stop, and Redi-Mix (cement) batch plant. In 2003, a 100'foot wide strip of land laying along the east side of the I-75 freeway r-o-w was conveyed to Grayling Township to use as a visual buffer along industrial park, and to serve as a recreational trail corridor. Plans for a trail have been proposed for this corridor but on development has occurred to date.

Unique Natural Features:

Hill's Thistle, a plant of special concern, was reported in the prior inventory in jack pines stands in sections 32 and 33, none was noticed during this inventory cycle. The special concern boreal brachionyncha moth (*Brachionyncha borealis*) has been known to occur in section 32. Special concern species are not protected under endangered species legislation, but they are considered to be rare in Michigan. No archeological sites are known to exist in the area. Chestnut seedlings were planted in stand 415 a few years ago, 2-3 saplings were featured in the 1995 OI write-up. None were found to survive.

Archeological, Historical, and Cultural Features:

Historic logging is evidence by old railroad grades.

Special Management Designations or Considerations:

None at this time.

Watershed and Fisheries Considerations:

No waterways or fisheries potential exist in the compartment.

Wildlife Habitat Considerations:

There is excellent wildlife habitat potential in this area. Sections 31 and 32 provide a great diversity in terms of forest types and a variety of ages, thus offering a lot of edge habitat. Several of the grassy openings in sections 31 and 32 have been mowed and /or planted in the past, but are not currently maintained du to the fact that the land is subject to industrial development.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of ice-contact outwash and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 200 and 600 feet. Beneath the glacial drift is the Michigan Formation. The Michigan is quarried for gypsum elsewhere in the state. A gravel pit is located in sections 27 & 34 (State pit # 29, in part) and potential

is good. The nearest production is Beaver Creek Field, located six miles to the southwest. The field has produced over 21 MBO from the Devonian Detroit River Group and over 5 Bcf gas from the Ordovician Prairie du Chien. The compartment is leased for oil and gas development.

Vehicle Access:

Most of the compartment is easily accessed from numerous trail roads and a snowmobile trail (#'s 7, 482, and 487) that intersect four mile road. Access is inhibited by the I-75 r.o.w and by the D & M railroad r.o.w. No roads have been Id for closure. We may need to close portions of the snowmobile trial once it is re-routed.

Survey Needs:

None at this time.

Recreational Facilities and Opportunities:

The compartment contains portions of the snowmobile trails #'s 7, 482, and 487) known as the Skyline-West Higgins snowmobile trail. We have been asked to re-route the snowmobile trail out of the compartment to prevent future conflicts with the industrial park. To date, an acceptable re-route has not been located. It appears some easement may need to be purchased to develop a safe and feasible re-route. Numerous ground blinds were found in the compartment indicating heavy hunting pressure in the area. The extensive trail system in the compartment along with a large amount of dead oak scattered through the compartment makes the area very conducive to public fuelwood cutting.

Fire Protection:

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

Additional Compartment Information:

Due to the compartment's its high recreational potential, they are many opportunities for educational and visual management. Section 31 is the site of a couple old oak research studies looking at patch-cuts and strip-cuts to regeneration oak. Due to frost and deer browse these small patches and narrow strips were relatively ineffective at getting oak reproduction. Section 33 contains a gypsy moth research plot.

The following reports from the Inventory are attached:

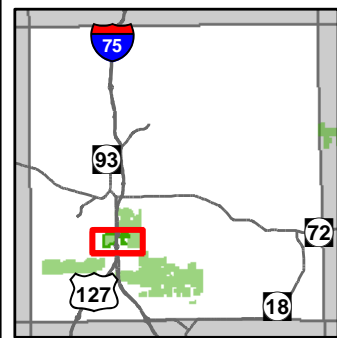
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

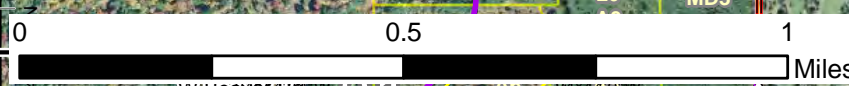
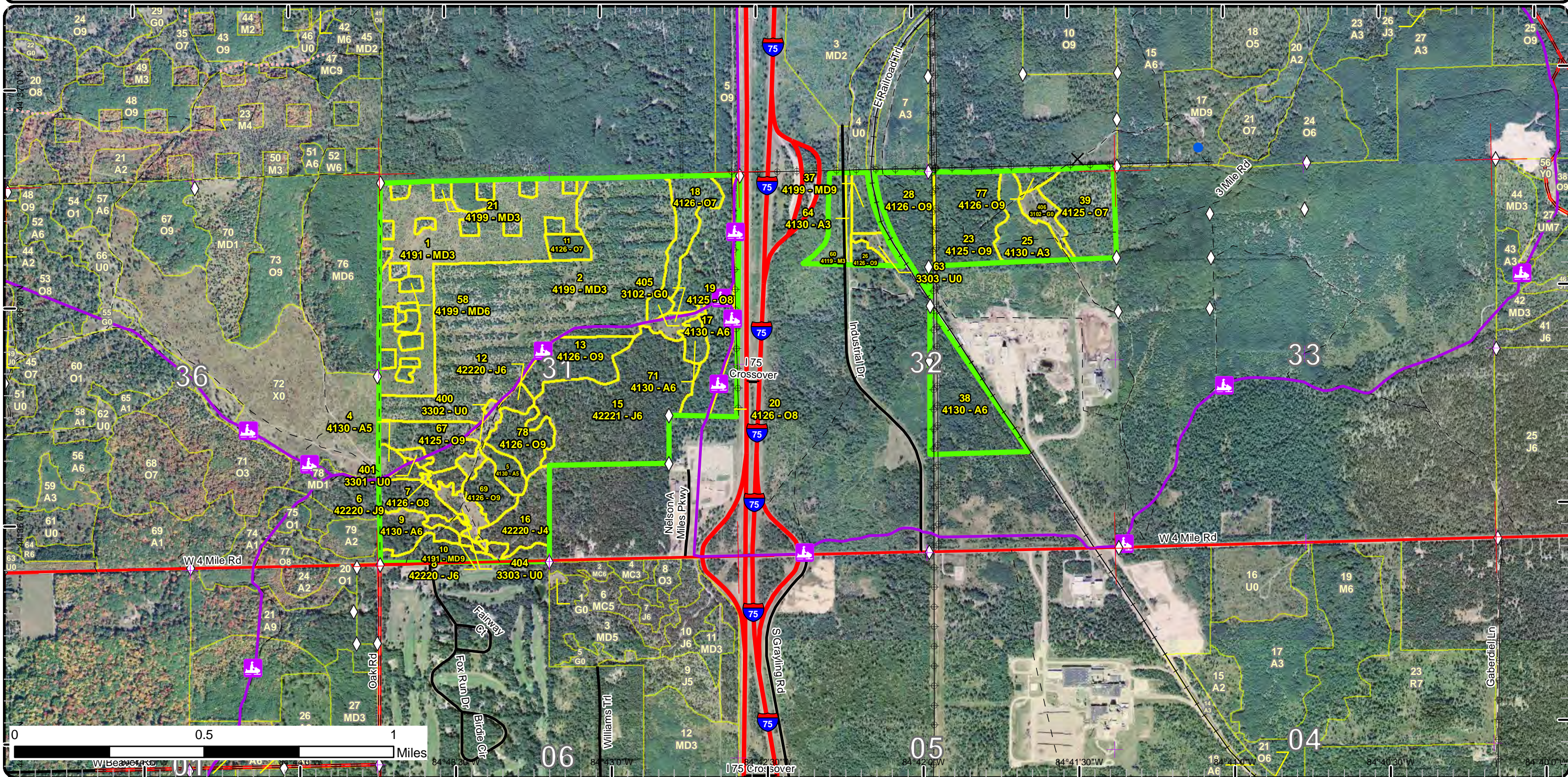
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Stand Boundary Map

Compartment: 223
 T26N R03W 31-33
 County: Crawford
 Unit: Grayling
 Mgmt Area: Ogemaw Hills
 YOE: 2017
 Acres: 665 GIS Calculated
 Examiner: Thomas Barnes
 Map Revised: 5/17/2016
 Map Phase: Post-Review



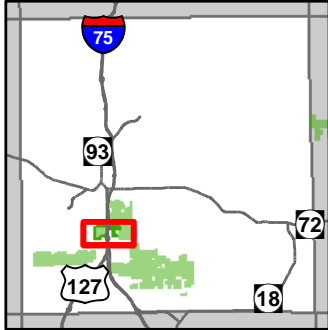
- Miris Corners
- + Remonumented Section Corners
- ◇ Field Grade GPS Corners
- X Gate
- Tower
- 🛷 Snowmobile Trails
- Designated Snowmobile Trails
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- - Poor Dirt Roads
- - - Closed Roads
- Railroads
- Pipeline
- Powerline
- Compartment Boundary
- Stand Boundaries
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 422 - Natural Pines
- 310 - Herbaceous Openland
- 330 - Low Density Trees



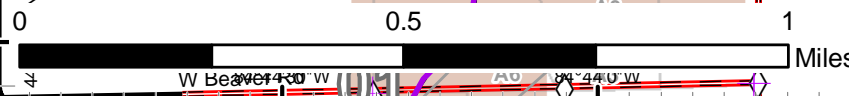
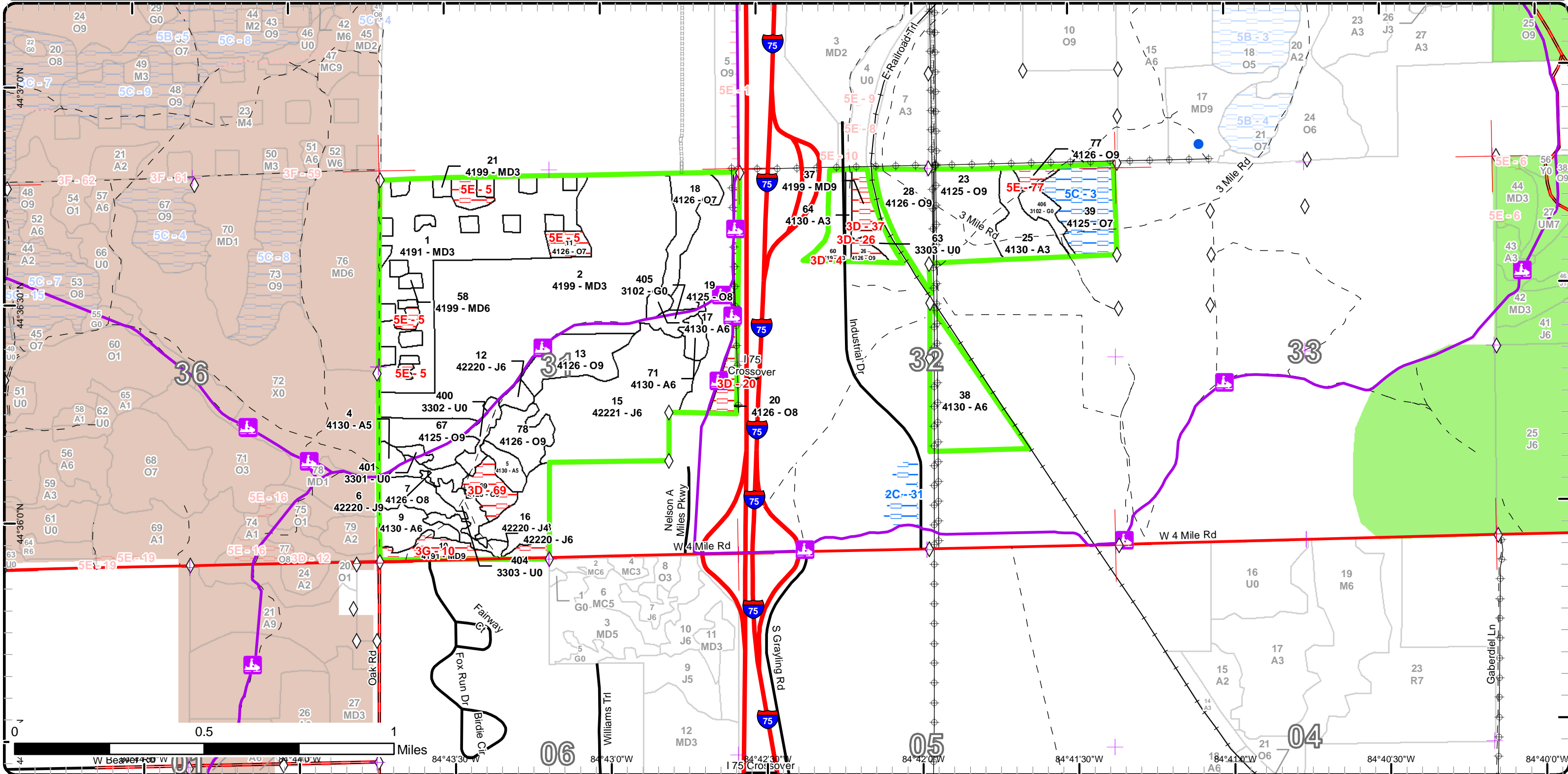
0 0.5 1 Miles

Special Conservation Areas & Site Conditions Map

Compartment: 223
 T26N R03W 31-33
 County: Crawford
 Unit: Grayling
 Mgmt Area: Ogemaw Hills
 YOE: 2017
 Acres: 665 GIS Calculated
 Examiner: Thomas Barnes
 Map Revised: 5/17/2016
 Map Phase: Post-Review



- Miris Corners
- + Remonumented Section Corners
- Field Grade GPS Corners
- X Gate
- Tower
- Snowmobile Trails
- Designated Snowmobile Trails
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- - - Closed Roads
- Railroads
- Pipeline
- Powerline
- Compartment Boundary
- SCA
- SCA Removal
- Available w/ Constraints
- Unavailable
- 2C: Engineered Bridge Needed (Dept. portable bridge not available or inadequate)
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 3D: Recreational / Scenic values
- Stand Boundaries
- Special Conservation Areas
- Kirtland Warbler Habitat
- Research, Development, and Military Lands



0 0.5 1 Miles
 84°43'0"W 84°42'30"W 84°42'0"W 84°41'30"W 84°41'0"W 84°40'30"W 84°40'0"W



Age Class

| | Non-Forest | 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+ | Uneven-Aged | Total |
|------------------------|------------|-----------|------------|------------|-----------|------------|------------|-----------|----------|-----------|------------|----------|----------|----------|----------|----------|----------|-------------|-------------|
| Aspen | 0 | 17 | 0 | 35 | 32 | 63 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 155 |
| Herbaceous Openland | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 |
| Jack Pine | 0 | 0 | 0 | 0 | 18 | 0 | 178 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 196 |
| Low-Density Trees | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| Mixed Upland Deciduous | 0 | 73 | 138 | 186 | 4 | 51 | 0 | 15 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 484 |
| Northern Hardwood | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Oak | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 89 | 244 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 333 |
| Upland Mixed Forest | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Upland Shrub | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 |
| Total | 73 | 98 | 138 | 221 | 54 | 114 | 186 | 15 | 8 | 89 | 261 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1257 |



Report 2 – Treatment Summary

Grayling Mgt. Unit

Year of Entry: 2017

Acres of Harvest

Compartment 223

Total Compartment Acres: 1,260

Commercial Harvest - 219
 Harvests with Site Condition - 0
 Next Step Harvest - 0
 Habitat Cut -

Cover Type by Harvest Method

| | Clearcut | Selection | Patch Clearcut | Seed Tree | Shelterwood | Thinning | Overstory Removal | Salvage | Other | Total Acres |
|-------------------|------------|-----------|----------------|-----------|-------------|----------|-------------------|----------|----------|-------------|
| Aspen | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| Jack Pine | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 69 |
| Low-Density Trees | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| Oak | 137 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 137 |
| Total | 219 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 219 |

Proposed and Next Step Treatments by Method

| | Harvest | Site Prep | Planting | Seeding | Burning | Pesticide | Monitoring | Other | Non-Forest Mgt. | Total Acres |
|--------------|------------|------------|------------|----------|----------|------------|------------|----------|-----------------|-------------|
| Current | 219 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | | 236 |
| Next Step | 0 | 176 | 107 | 0 | 0 | 107 | 326 | 0 | 5 | 722 |
| Total | 219 | 176 | 107 | 0 | 0 | 107 | 326 | 0 | 18 | 958 |



| S t a n d | Treatment Name | Acres | Stand CoverType | Size Density | Stand Age | BA Range | Treatment Type | Treatment Method | Cover Type Objective | Age Structure | Approval Status |
|--|-------------------|-------|--|---------------------|--------------|-----------------|-------------------|----------------------------|---|------------------|--------------------|
| 6 | 72223006-Cut | 5.1 | 42220 - Natural Jack Pine | Sawtimber Well | 53 | Unspec ified | Harvest | Clearcut | 42110 - Planted Red Pine | Even-Aged | Proposal |
| Habitat Cut: No | | | Site Condition: | | | | | | | | |
| <u>Prescription</u> Final harvest without retention due to size. Include chipping, low stump and snow trail specs as well as site prep as needed to include roller | | | | | | | | | | | |
| <u>Specs:</u> chopping, herbicide, trenching and plant to red pine. | | | | | | | | | | | |
| <u>Next Step</u> Monitoring, Artificial Regen(1yr); SitePrep, Roller Chopping; Pesticide, Aerial; SitePrep, Trenching; Planting, Replant | | | | | | | | | | | |
| <u>Treatments:</u> | | | | | | | | | | | |
| <u>Acceptable</u> Plant red pine at density to ensure a moderate to well stock stand. | | | | | | | | | | | |
| <u>Regen:</u> | | | | | | | | | | | |
| <u>Other</u> Old next step comments: | | | | | | | | | | | |
| <u>Comment:</u> | | | | | | | | | | | |
| <u>Proposed Start Date:</u> 10/1 /2016 | | | | | | | | | | | |
| 7 | 72223007-Cut | 9.3 | 4126 - White, Black, N. Pin Oak | Sawtimber Medium | 90 | 51-80 | Harvest | Clearcut | 4199 - Other Mixed Upland Deciduous | Even-Aged | Proposal |
| Habitat Cut: No | | | Site Condition: | | | | | | | | |
| <u>Prescription</u> Final harvest without reverse due to small size. Include chipping, low stumps and snow trail spec. Also include drumming log spec. If natural | | | | | | | | | | | |
| <u>Specs:</u> regen fails site prep as needed including roller chopping, herbicide, trenching and planting to red pine. | | | | | | | | | | | |
| <u>Next Step</u> | | | | | | | | | | | |
| <u>Treatments:</u> | | | | | | | | | | | |
| <u>Acceptable</u> Oak with mixed species resulting in a stand meeting minimum stocking standards. | | | | | | | | | | | |
| <u>Regen:</u> | | | | | | | | | | | |
| <u>Other</u> Old next step comments: | | | | | | | | | | | |
| <u>Comment:</u> | | | | | | | | | | | |
| <u>Proposed Start Date:</u> 10/1 /2016 | | | | | | | | | | | |
| 13 | 72223013-Cut | 17.4 | 4126 - White, Black, N. Pin Oak | Sawtimber Well | 96 | 51-80 | Harvest | Clearcut | 4211 - Planted Red Pine | Even-Aged | Proposal |
| Habitat Cut: No | | | Site Condition: | | | | | | | | |
| <u>Prescription</u> Clearcut without reserves due to size and continuing oak mortality. Include chipping and low stump and snow trail specs. Stay at lower end of | | | | | | | | | | | |
| <u>Specs:</u> Biomass Guidelines. Site prep, herbicide trench and plant to red pine. | | | | | | | | | | | |
| <u>Next Step</u> Monitoring, Artificial Regen(1yr); SitePrep, Trenching; Planting, Replant; Pesticide, Aerial; Monitoring, Artificial Regen(3yr) | | | | | | | | | | | |
| <u>Treatments:</u> | | | | | | | | | | | |
| <u>Acceptable</u> Planted red pine in sufficient density ensuring a well stocked stand. | | | | | | | | | | | |
| <u>Regen:</u> | | | | | | | | | | | |
| <u>Other</u> Old next step comments: | | | | | | | | | | | |
| <u>Comment:</u> | | | | | | | | | | | |
| <u>Proposed Start Date:</u> 10/1 /2016 | | | | | | | | | | | |
| 15 | 72223015-Cut | 64.0 | 42221 - Natural Jack Pine, Mixed Deciduous | Poletimber Well | 55 | 1-50 | Harvest | Clearcut with Retention | 4211 - Planted Red Pine | Even-Aged | Proposal |
| Habitat Cut: No | | | Site Condition: | | | | | | | | |
| <u>Prescription</u> Clearcut with reserves, follow standard retention guidelines. Also include low stump and chipping spec as well as snow trail spec. Biomass | | | | | | | | | | | |
| <u>Specs:</u> standards should be followed but stay at low end. Site prep to include herbicide, roller chop, trench and plant red pine. | | | | | | | | | | | |
| <u>Next Step</u> Monitoring, Artificial Regen(1yr); SitePrep, Trenching; SitePrep, Roller Chopping; Pesticide, Aerial; Planting, Replant | | | | | | | | | | | |
| <u>Treatments:</u> | | | | | | | | | | | |
| <u>Acceptable</u> Planted red pine in sufficient density ensuring a well stocked stand. | | | | | | | | | | | |
| <u>Regen:</u> | | | | | | | | | | | |
| <u>Other</u> Old next step comments: | | | | | | | | | | | |
| <u>Comment:</u> | | | | | | | | | | | |
| <u>Proposed Start Date:</u> 10/1 /2016 | | | | | | | | | | | |



| S t a n d | Treatment Name | Acres | Stand CoverType | Size Density | Stand Age | BA Range | Treatment Type | Treatment Method | Cover Type Objective | Age Structure | Approval Status |
|-----------------------|----------------|-------|-----------------|-----------------|-----------|-------------|----------------|------------------|----------------------|---------------|-----------------|
| 17 | 72223017-Cut | 2.5 | 4130 - Aspen | Poletimber Well | 45 | Unspecified | Harvest | Clearcut | 413 - Aspen | Even-Aged | Proposal |

Habitat Cut: No **Site Condition:**

Prescription Final harvest without reverse due to small size. Include chipping, low stumps and snow trail spec. Also include drumming log spec.
Specs:

Next Step
Treatments:

Acceptable Aspen with mixed associate species resulting in a moderate to well stocked stand.
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

| | | | | | | | | | | | |
|----|--------------|------|--------------------------|------------------|----|-------|---------|-------------------------|-------------------------------------|-----------|----------|
| 19 | 72223019-Cut | 36.6 | 4125 - Black, N. Pin Oak | Sawtimber Medium | 88 | 51-80 | Harvest | Clearcut with Retention | 4199 - Other Mixed Upland Deciduous | Even-Aged | Proposal |
|----|--------------|------|--------------------------|------------------|----|-------|---------|-------------------------|-------------------------------------|-----------|----------|

Habitat Cut: No **Site Condition:**

Prescription Clearcut with retention, follow standard retention guidelines and stay at the lower end of biomass guidelines. Focus retention along eastern line and snow trail. Include trail, low stump and chipping specs. If stand does not meet regen standard then replant failed areas of regen to red pine. Site prep as needed including roller chopping, herbicide and trenching/planting.
Specs:

Next Step
Treatments:

Acceptable Mix of oak, aspen, maple and conifer resulting in a moderately stocked stand.
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

| | | | | | | | | | | | |
|----|--------------|------|--------------------------|----------------|----|-------|---------|-------------------------|-------------------|-----------|----------|
| 23 | 72223023-Cut | 27.2 | 4125 - Black, N. Pin Oak | Sawtimber Well | 93 | 51-80 | Harvest | Clearcut with Retention | 4121 - Oak, Aspen | Even-Aged | Proposal |
|----|--------------|------|--------------------------|----------------|----|-------|---------|-------------------------|-------------------|-----------|----------|

Habitat Cut: No **Site Condition:**

Prescription Final harvest with retention follow standard retention guidelines and stay on lower end of biomass guidelines. Include chipping, low stumps and snow trail spec. Also include drumming log spec.
Specs:

Next Step
Treatments:

Acceptable Oak and aspen with mixed species resulting in a stand meeting minimum stocking standards. Acceptable regen is a stand of a more evenly mix of species meeting stocking standards but with a different MO.
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

| | | | | | | | | | | | |
|----|--------------|------|---------------------------------|----------------|----|-------|---------|-------------------------|-------------------------------------|-----------|----------|
| 28 | 72223028-Cut | 19.9 | 4126 - White, Black, N. Pin Oak | Sawtimber Well | 96 | 51-80 | Harvest | Clearcut with Retention | 4199 - Other Mixed Upland Deciduous | Even-Aged | Proposal |
|----|--------------|------|---------------------------------|----------------|----|-------|---------|-------------------------|-------------------------------------|-----------|----------|

Habitat Cut: No **Site Condition:**

Prescription Final harvest with retention, follow standard retention guidelines and stay on lower end of biomass guidelines. Focus retention away railroad.
Specs: Include chipping, low stumps and snow trail spec. Also include drumming log spec.

Next Step
Treatments:

Acceptable Oak and maple with mixed species resulting in a stand meeting minimum stocking standards.
Regen:

Other Retention focused away from rr to help ensure residual trees don't fall across the tracks. Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016



| S t a n d | Treatment Name | Acres | Stand CoverType | Size Density | Stand Age | BA Range | Treatment Type | Treatment Method | Cover Type Objective | Age Structure | Approval Status |
|-----------------------|----------------|-------|--------------------------|----------------|-----------|----------|----------------|------------------|-------------------------|---------------|-----------------|
| 67 | 72223067-Cut | 14.9 | 4125 - Black, N. Pin Oak | Sawtimber Well | 90 | 51-80 | Harvest | Clearcut | 4211 - Planted Red Pine | Even-Aged | Proposal |

Habitat Cut: No

Site Condition:

Prescription Specs: Clearcut without reserves due to size and continuing oak mortality. Include chipping and low stump and snow trail specs. Site prep, herbicide trench and plant to red pine.

Next Step Treatments: Monitoring, Artificial Regen(1yr); SitePrep, Trenching; Pesticide, Aerial; Planting, Replant; Monitoring, Artificial Regen(3yr)

Acceptable Regen: Planted red pine in sufficient density ensuring a well stocked stand.

Other Comment: Old next step comments:

Proposed Start Date: 10/1 /2016

| | | | | | | | | | | | |
|----|--------------|-----|--------------|-----------------|----|-------------|---------|----------|-------------|-----------|----------|
| 71 | 72223071-Cut | 4.0 | 4130 - Aspen | Poletimber Well | 45 | Unspecified | Harvest | Clearcut | 413 - Aspen | Even-Aged | Proposal |
|----|--------------|-----|--------------|-----------------|----|-------------|---------|----------|-------------|-----------|----------|

Habitat Cut: No

Site Condition:

Prescription Specs: Final harvest without reverse due to small size. Include chipping, low stumps and snow trail spec. Also include drumming log spec.

Next Step Treatments:

Acceptable Regen: Aspen with associated species resulting in a moderate to well stocked stand.

Other Comment: harvest with stand 19 in hopes of expanding aspen into both stands 405 and 19. Old next step comments:

Proposed Start Date: 10/1 /2016

| | | | | | | | | | | | |
|----|--------------|------|---------------------------------|----------------|----|-------|---------|-------------------------|-------------------------------------|-----------|----------|
| 78 | 72223078-Cut | 12.1 | 4126 - White, Black, N. Pin Oak | Sawtimber Well | 88 | 51-80 | Harvest | Clearcut with Retention | 4199 - Other Mixed Upland Deciduous | Even-Aged | Proposal |
|----|--------------|------|---------------------------------|----------------|----|-------|---------|-------------------------|-------------------------------------|-----------|----------|

Habitat Cut: No

Site Condition:

Prescription Specs: Final harvest with retention, follow standard retention guidelines. Include low stump and chipping spec as well as snow trail spec as the trail will be used for hauling. Standard biomass guidelines should be followed as well. If natural regen should fail consider planting to either red or jack pine.

Next Step Treatments:

Acceptable Regen: Mixed stand of oak, aspen, maple and jack pine regeneration meeting minimum stocking guidelines. If natural regen should fail consider planting to either red or jack pine.

Other Comment: Old next step comments:

Proposed Start Date: 10/1 /2016

| | | | | | | | | | | | |
|-----|--------------|-----|----------------------------------|------------|--|-------------|---------|----------|-------------------------|-----------|----------|
| 400 | 72223400-Cut | 2.6 | 3302 - Low Density Conifer Trees | Nonstocked | | Unspecified | Harvest | Clearcut | 4211 - Planted Red Pine | Even-Aged | Proposal |
|-----|--------------|-----|----------------------------------|------------|--|-------------|---------|----------|-------------------------|-----------|----------|

Habitat Cut: No

Site Condition:

Prescription Specs: Clearcut without reserves due to size and continuing oak mortality. Include chipping and low stump and snow trail specs. Site prep, herbicide trench and plant to red pine.

Next Step Treatments: SitePrep, Trenching; Pesticide, Aerial; Planting, Replant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Acceptable Regen: Planted red pine in sufficient density ensuring a well stocked stand.

Other Comment: Old next step comments:

Proposed Start Date: 10/1 /2016



| S t a n d | Treatment Name | Acres | Stand CoverType | Size Density | Stand Age | BA Range | Treatment Type | Treatment Method | Cover Type Objective | Age Structure | Approval Status |
|-----------------------|----------------|-------|-----------------|--------------|-----------|----------|----------------|------------------|----------------------|---------------|-----------------|
|-----------------------|----------------|-------|-----------------|--------------|-----------|----------|----------------|------------------|----------------------|---------------|-----------------|

| | | | | | | | | | | | |
|-----|--------------|-----|------------------------------------|------------|--|-------------|---------|----------|-------------------------|-----------|----------|
| 401 | 72223401-Cut | 1.6 | 3301 - Low Density Deciduous Trees | Nonstocked | | Unspecified | Harvest | Clearcut | 4211 - Planted Red Pine | Even-Aged | Proposal |
|-----|--------------|-----|------------------------------------|------------|--|-------------|---------|----------|-------------------------|-----------|----------|

Habitat Cut: No **Site Condition:**

Prescription Specs: Clearcut without reserves due to size and continuing oak mortality. Include chipping and low stump and snow trail specs. Site prep, herbicide trench and plant to red pine.

Next Step Treatments: SitePrep, Trenching; Pesticide, Aerial; Planting, Replant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Acceptable Regen: Planted red pine in sufficient density ensuring a well stocked stand.

Other Comment: Old next step comments:

Proposed Start Date: 10/1 /2016

| | | | | | | | | | | | |
|-----|--------------|-----|--------------------------------|------------|--|-------------|---------|----------|-------------------------|-----------|----------|
| 404 | 72223404-Cut | 1.7 | 3303 - Mixed Low Density Trees | Nonstocked | | Unspecified | Harvest | Clearcut | 4211 - Planted Red Pine | Even-Aged | Proposal |
|-----|--------------|-----|--------------------------------|------------|--|-------------|---------|----------|-------------------------|-----------|----------|

Habitat Cut: No **Site Condition:**

Prescription Specs: Clearcut without reserves due to size and continuing oak mortality. Include chipping and low stump and snow trail specs. Site prep, herbicide trench and plant to red pine.

Next Step Treatments: SitePrep, Trenching; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); Pesticide, Aerial; Planting, Replant

Acceptable Regen: Planted red pine in sufficient density ensuring a well stocked stand.

Other Comment: Old next step comments:

Proposed Start Date: 10/1 /2016

| | | | | | | | | | | | |
|-----|-------------|-----|--------------|------------|--|-------------|--------------|-----------------|---------------------------|--|----------------|
| 405 | 72223405-NF | 4.6 | 3102 - Grass | Nonstocked | | Unspecified | NonForestMgt | Other - Specify | 310 - Herbaceous Openland | | Draft Proposal |
|-----|-------------|-----|--------------|------------|--|-------------|--------------|-----------------|---------------------------|--|----------------|

Habitat Cut: No **Site Condition:**

Prescription Specs: Periodic opening maintenance, as needed, that may include disking, fertilizing, food plot seeding, no-till prairie grass drill seeding, mowing, brushing, tree and shrub planting, Rx burning and herbicide application.

Next Step Treatments:

Acceptable Regen:

Other Comment: Old next step comments:

Proposed Start Date: 10/1 /2016

| | | | | | | | | | | | |
|-----|-----------------|-----|--------------|------------|--|-------------|--|-------|-------------|--|---------------------|
| 414 | 72223414-17-New | 3.4 | 3102 - Grass | Nonstocked | | Unspecified | | ERROR | Unspecified | | Incomplete Proposal |
|-----|-----------------|-----|--------------|------------|--|-------------|--|-------|-------------|--|---------------------|

Habitat Cut: No **Site Condition:**

Prescription Specs:

Next Step Treatments:

Acceptable Regen:

Other Comment: Old next step comments:

Proposed Start Date: 10/1 /2016



| S t a n d | Treatment Name | Acres | Stand CoverType | Size Density | Stand Age | BA Range | Treatment Type | Treatment Method | Cover Type Objective | Age Structure | Approval Status |
|-----------------------|-------------------|-------|--------------------|-----------------|--------------|-----------------|-------------------|---------------------|-------------------------|------------------|--------------------|
| 415 | 72223415-NF | 8.7 | 3102 - Grass | Nonstocked | | Unspec ified | NonForestMgt | Other - Specify | 3102 - Grass | | Draft Proposal |

Habitat Cut: No

Site Condition:

Prescription Per wildlife comments- Remove invading trees for opening and perform opening and maintenance as needed (mowing /fertilizing).

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

**Total Treatment
Acreage Proposed: 235.7**

Report 5 – Site Conditions

Grayling Mgt. Unit
Thomas Barnes : Examiner

Compartment: 223
Year of Entry: 2017

Availability for Management

| Total Acres | Acres Available | Acres Avail | | Acres Not Available | | Dominant Site Conditions | | | | | | |
|----------------|--------------------|----------------|--|------------------------|------------------------|--------------------------|----|----|----|----|----|--|
| | | With Condition | | | | 5B | 5C | 3D | 3G | 5E | | |
| 156 | 148 | 8 | | 0 | Aspen | | 8 | | | | | |
| 22 | 22 | 0 | | 0 | Herbaceous Openland | | | | | | | |
| 196 | 196 | 0 | | 0 | Jack Pine | | | | | | | |
| 16 | 16 | 0 | | 0 | Low-Density Trees | | | | | | | |
| 485 | 468 | 0 | | 17 | Mixed Upland Deciduous | | | 6 | 11 | | | |
| 8 | 8 | 0 | | 1 | Northern Hardwood | | | 1 | | | | |
| 333 | 151 | 147 | | 35 | Oak | 124 | 23 | 21 | | | 14 | |
| 8 | 0 | 0 | | 8 | Upland Mixed Forest | | | | 8 | | | |
| 35 | 35 | 0 | | 0 | Upland Shrub | | | | | | | |
| 1,260 | 1,045 | 156 | | 60 | Total Forested Acres | 124 | 32 | 27 | 19 | | 14 | |
| | 83% | 12% | | 5% | 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.*

| Site No. | Dominant Site Cond | Dominant Site Condition | Acres | Other Site Condition | Other Site Condition | Other Site Condition | Other Site Condition |
|--|--------------------|--|-------|----------------------|----------------------|----------------------|----------------------|
| 1 | Unavailable | 3G: Other Influence zones - See comments | 8 | Unspecified | Unspecified | Unspecified | Unspecified |
| Comments: Hold for visual concerns along 4 mile road and snowmobile trail as per old OI notes. | | | | | | | |
| 2 | Available | 5C: Delay treatment for age/size class diversity or exceptional site quality | 8 | Unspecified | Unspecified | Unspecified | Unspecified |
| Comments: | | | | | | | |
| 3 | Available | 5C: Delay treatment for age/size class diversity or exceptional site quality | 23 | Unspecified | Unspecified | Unspecified | Unspecified |
| Comments: | | | | | | | |

Report 5 – Site Conditions

Grayling Mgt. Unit

Thomas Barnes : Examiner

Compartment: 223

Year of Entry: 2017

| | | | | | | | |
|------------------|-------------|--|----|--|-------------|-------------|-------------|
| 4 | Unavailable | 3D: Recreational / Scenic values | 1 | Unspecified | Unspecified | Unspecified | Unspecified |
| Comments: | | | | | | | |
| 5 | Unavailable | 5E: Long-Term Retention | 11 | Unspecified | Unspecified | Unspecified | Unspecified |
| Comments: | | | | | | | |
| 10 | Unavailable | 3G: Other Influence zones - See comments | 11 | Unspecified | Unspecified | Unspecified | Unspecified |
| Comments: | | | | | | | |
| 20 | Unavailable | 3D: Recreational / Scenic values | 10 | Unspecified | Unspecified | Unspecified | Unspecified |
| Comments: | | | | | | | |
| 26 | Unavailable | 3D: Recreational / Scenic values | 3 | 5C: Delay treatment for age/size class diversity or exceptional site quality | Unspecified | Unspecified | Unspecified |
| Comments: | | | | | | | |
| 31 | Available | 2C: Engineered Bridge Needed (Dept. portable bridge not available or inadequate) | 7 | Unspecified | Unspecified | Unspecified | Unspecified |
| Comments: | | | | | | | |

Report 5 – Site Conditions

Grayling Mgt. Unit
Thomas Barnes : Examiner

Compartment: 223
Year of Entry: 2017

| | | | | | | | |
|------------------|-------------|--|-----|-------------|-------------|-------------|-------------|
| 37 | Unavailable | 3D: Recreational / Scenic values | 6 | Unspecified | Unspecified | Unspecified | Unspecified |
| Comments: | | | | | | | |
| 46 | Available | 5B: Maintain for regeneration purposes | 124 | Unspecified | Unspecified | Unspecified | Unspecified |
| Comments: | | | | | | | |
| 69 | Unavailable | 3D: Recreational / Scenic values | 8 | Unspecified | Unspecified | Unspecified | Unspecified |
| Comments: | | | | | | | |
| 77 | Unavailable | 5E: Long-Term Retention | 3 | Unspecified | Unspecified | Unspecified | Unspecified |
| Comments: | | | | | | | |

Mgt. Unit

Compartment: #Type!

Year of Entry:



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 |
|----------|--------------|-------------|----------------|-------|
|----------|--------------|-------------|----------------|-------|

Comments



Report 7 – EXISTING SPECIAL CONSERVATION AREA DETAILS

* This is a list of SCA's for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to the Special Conservation Area Map for locations of the below listed Conservation Areas.

ERA = Ecological Reference Area
 HCVA = High Conservation Value Area
 SCA = Special Conservation Area

| Conservation Area | Type | Description |
|-------------------|-----------------------------|--|
| 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. |
| 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. |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|---|---|----------------------|-------|--------------|-------------|--|
| 1 | 4191 - Mixed Upland Deciduous with Conifer | Sapling Well | 73.2 | 5 | Immature | <p>Stand was harvested in 2010 and replanted to jack pine under FTP C72-629. Stand is a mix of planted jack pine and natural oak and maple regeneration. Intermixed within this stand are old 5 spots, retention and research stands. Stand should continue to grow into a mixed upland forest.</p> <p>OPIC - FMD: FTP# C72-629 , TS#720080701, "oak and more oak". Will accept mixed species of natural regeration. Stands 1, 55, 54, 11, 56, 57, 60, 65 and 66 should be treated all at once as a final harvest, with leaving islands for structure and visual mangement. Need to mark out islands of healthy oak to comprise approximately 10% of stand to serve as visual barriers, wildlife mast, cover, and structural diversity. Can allow loggers to work in oak wilt period if islands are adqutely designed to protect residual oak from skid damage. Need to underplant entire area randomly with jack pine to try to introduce pine component back into ecosystem. Heavy sedge and deer browse is a problem for oak regeneration. Heavy gypsy moth egg masses noted, thus expect an outbreak this spring 2006 and hoping it will then crash. That will leave two years before treatment to allow stand to recover before harvest. Don't expect good natural oak regeneration due to aging oak, heavy deer browse, sedge and stresses on site. Will supplement with heavier jack pine planting in areas that do not come back well naturally. It was noted sedge is a problem in the stand, am hoping long term the pine will shade out sedge. Note, this is the first step in a long term process to return stand back to its natural oak-red and white pine mixture. Will need to convert stand to a heavier jack pine cover then to allow oak seedlings to be come established and allow few established white pine saplings to grow. Eventually oak and white pine will reseed and replace jack pine on site. This is a first step in a long-term process to return stand back to its natural oak, red pine and white pine mix.</p> |
| 2 | 4199 - Other Mixed Upland Deciduous | Sapling Well | 144.9 | 26 | Immature | <p>Strip clearcuts with varying density depending on location. Nice upland mix, stand harvested in 1989. Ground cover grass, sweet fern and bracken fern. Stand is PArVHa/PArVVb.OPIC - FMD: Part of the strips cut. Remaining strips were harvested 1998. Stand is still an young regenerating stand. Diameter ranges form 1"-3". RED MAPLE W/ SOME PIN OAK IN STRIP CUTS</p> |
| 4 | 4130 - Aspen | Poletimber Medium | 2.9 | 45 | Unspecified | <p>Good looking aspen stand small in size, merged small opening with this stand.</p> <p>OPIC - FMD: Just becoming pole size over-all. Used old SI.</p> |
| 5 | 4130 - Aspen | Poletimber Medium | 5.0 | 45 | Unspecified | <p>Poor quality aspen, all ready starting to fall down in spots. Stand is PArVHa/PArVVb.</p> <p>OPIC - FMD: Leave as is for now. Still could call stand a (A3). BARELY MERCH TASPEN, AN A5/A3 STD- CALLED AN A3</p> |
| 6 | 42220 - Natural Jack Pine | Sawtimber Well | 5.1 | 53 | Unspecified | <p>Older JP stand with poor form, appears to have been open grown. Groundcover is sweet fern, blueberry and grass. Understory is fairly well developed.</p> <p>OPIC - FMD: Stand surrounded bon the west side by a hill which is stand #7. After looking at the 1964 photos explains some. A small plocket of JP is matureing and spreading out into the grassy openning. Covers why it is a two-aged stand. SMALL DIA UNEVENAGE JP- SEVERAL SMALL SCATTERED POCKETS IN SEC 31, STD MOSTLY IMMATURE JP- A FEW MATURE JP & OAK</p> |

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Grayling Mgt. Unit

Report 8 – Forested Stands

Compartment: 223
Year of Entry: 2017

| Stand | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|-------|--|------------------|-------|-----------|-------------|---|
| 7 | 4126 - White, Black, N. Pin Oak | Sawtimber Medium | 9.3 | 90 | 51-80 | Poor oak stand with fair amount of dead stems, fairly open as well. Understory very parklike. Ground cover is bracken, blueberry and grass. Three BA swings were taken with stand average of 62. OPIC - FMD: A few nice stems of oak, stand is getting old but is still holding its owns. Leave for now. Bracker fern, grass, sweetfern ground cover. SMALL PATCHES/LOW RIDGES OF OAK SCATTERED THRU OUT S'12 SEC 31, OLD SI DATA USED- OAK IS HEALTHY. |
| 8 | 42220 - Natural Jack Pine | Poletimber Well | 4.1 | 55 | Unspecified | stand on the edge of log size, hold for another ten years. OPIC - FMD: 1964 photo shows stand less than an acre in size. Stand slowly filling the grassy area to the east. Used stand's 6 SI. Stand appears to be doing better than stand #6. |
| 9 | 4130 - Aspen | Poletimber Well | 9.7 | 45 | Unspecified | Poor quality aspen stand with some oak scattered. Merged stand 403 with this stand as aspen has filled in the opening and when treated next inventory cycle they both would be treated. Stand is PARVHa/PArVVb. OPIC - FMD: Just becoming pole size overall a few larger ones scattered about. |
| 10 | 4191 - Mixed Upland Deciduous with Conifer | Sawtimber Well | 10.9 | 96 | 51-80 | Mixture of species log to pole size adjacent to 4 mile and across from Fox Run Golf course hold for another 10 years. Three BA swings taken averaged out to 75. OPIC - FMD: Bracken fern main ground cover. Wome woodpecker damage. Old oak-open pockets of cherry brush and hypoxylon aspen. Stands south edge alon 4-mile road, and a small pocket of planted red pine. Jack pine regen showing up nicely. Hodge podge of species. Heavy Gypsy moth component, pine cherry, and redmaple and jp regen. Jack Pine not as old as stand orgin shows. (old comments-08/05/U2 STD ALONG 4-MILE RD.,WATCH VISUAL- IS ACROSS FROM FOX RUN GOLF COURSE CLUBHOUSE- SOME DECLINE IN STD) |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|----|------------------------------------|--------------------|-------|--------------|-------------|--|
| 11 | 4126 - White, Black, N. Pin Oak | Sawtimber Poor | 11.3 | 92 | 81-110 | <p>Retention left from sale 72-008-07-01. Park like understory with bracken, blueberry and grass as ground cover. BA swings were taken average was 85.</p> <p>OPIIC - FMD: FTP# C72-629 , TS#720080701, "oak and more oak". Will accept mixed species of natural regeneration. Stands 1, 55, 54, 11, 56, 57, 60, 65 and 66 should be treated all at once as a final harvest, with leaving islands for structure and visual mangement. Need to mark out islands of healthy oak to comprise approximately 10% of stand to serve as visual barriers, wildlife mast, cover, and structural diversity. Can allow loggers to work in oak wilt period if islands are adqutely designed to protect residual oak from skid damage. Need to underplant entire area randomly with jack pine to try to introduce pine component back into ecosystem. Heavy sedge and deer browse is a problem for oak regeneration. Heavy gypsy moth egg masses noted, thus expect an outbreak this spring 2006 and hoping it will then crash. That will leave two years before treatment to allow stand to recover before harvest. Don't expect good natural oak regeneration due to aging oak, heavy deer browse, sedge and stresses on site. Will supplement with heavier jack pine planting in areas that do not come back well naturally. It was noted sedge is a problem in the stand, am hoping long term the pine will shade out sedge. Note, this is the first step in a long term process to return stand back to its natural oak-red and white pine mixture. Will need to convert stand to a heavier jack pine cover then to allow oak seedlings to be come established and allow few established white pine saplings to grow. Eventually oak and white pine will reseed and replace jack pine on site. This is a first step in a long-term process to return stand back to its natural oak, red pine and white pine mix.</p> |
| 12 | 42220 - Natural Jack Pine | Poletimber Well | 2.8 | 38 | Unspecified | <p>Jack pine of poor form open grown. Some oak but many are starting to die or are dead. Understory is bushy cherry with some oak. OPIIC - FMD: Small stand of JP with some oak and cherry. Jack pine 20-25 feet tall very brushy. Found timber cutting report (stand harveted 1975-1976 Dec.31), cut all jack pine which will make two or more 100 inch pulpsticks to a 4 inch top dib. YR OF ORIGIN ESTIMATED @ 1963- NEED TO GET ACTUAL DATA NEXT TIME SI TAKEN FROM OLD DATA & ADJ STD</p> |
| 13 | 4126 - White, Black, N. Pin Oak | Sawtimber Well | 17.4 | 96 | 51-80 | <p>Understory very parklike with a good mix of hybrid oak and white oak. Signs of illegal firewood cutting. Many oak stems are dying or dead. There is evidence of deer browse. Three BA swings were taken with stand average of 63sqft, with individual ba's being 43 for hybrid oak and 20 for white oak other reported species were not picked up on ba swings. Kotar for this stand is PArVHa/PArVVb.</p> <p>OPIIC - FMD: Heavy deer browse. Leave for woodpecker habitat. More open along south edge more red maple regen north of snowmobile trail. CONTAINS 20 BA+ DEAD OAK-HOLD- STAND SELF THINNED, OLD SI DATA USED IT APPEARS LOW</p> |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|----|---|--------------------|-------|--------------|-------------|---|
| 15 | 42221 - Natural Jack Pine, Mixed Deciduous | Poletimber Well | 64.0 | 55 | 1-50 | <p>Stand has some declining jack pine and oak with some pockets of smaller jack pine that is bushy and of poor form. There is also a pocket of fair to good red pine on the eastern side of the stand. Six BA swings were taken with a stand avg of 41 with individual BA's being 28 jack pine, 12 oak, and 1 for white oak. Kotar for this stand is PARVHa/PARVVb.</p> <p>OPIC - FMD: Found timber cutting report (stand harvested 1975-1976 Dec.31) Pocket of red pine . Uneven age Jack pine stand due to past harvesting activity. OAK-JP MIX, 2AGES OFJP+ OAK- OVERALL STD IS HEALTHY-SOME OF OLDER JP IS DECLINING- TREAT IN 10 YRS, J6/06/01/J1</p> |
| 16 | 42220 - Natural Jack Pine | Poletimber Poor | 14.8 | 38 | Unspecified | <p>Stand harvest in mid 70's resulting a poorly formed natural stand of jack pine. Ground cover of sweet fern, blueberry and grass, PARVHa/PARVVb with an SI of 48.</p> <p>OPIC - FMD: Found timber cutting report (stand harvested 1975-1976 Dec.31). J4/07/J3 STD, STD OBVIOUSLY WAS CUT IN PAST AS ADJ PVT LAND HAS MATURE JP ON IT, CALL J3 W1 SCATTERED MATURE OAK & JPINE</p> |
| 17 | 4130 - Aspen | Poletimber Well | 2.5 | 45 | Unspecified | <p>Small aspen stand that is developing conks. Sweet fern, blueberry as ground cover. Does have old rr grade running thru stand and adjacent to recreation trail. Harvest with stand 19.</p> <p>OPIC - FMD: YR OF ORIGIN ESTIMATED AT 1975 OFF OLD PHOTOS. Stand treated between 1964-1975. The 64 photos show a jack pine/oak stand, 1975 timber map indicates J2O2 stand. Cored a sample but could not read the ring color was too faint. Old railroad grade running east west. Red maple understory, with some deer browse.</p> |
| 18 | 4126 - White, Black, N. Pin Oak | Sawtimber Poor | 13.6 | 89 | 1-50 | <p>Seed tree cut in 2008 (#72-057-07-01). Understory is primarily from stump sprouts and heavy to red maple, there is a fair amount of oak less than 2' tall also pockets of frost damage to oak regen. Three BA swings were taken with stand average at 36, individual species BA's were 23 Hybrid Oak, 10 White oak and 3 red maple. Residual stems look good, some epicormic branching let stand go another 10 years then final harvest. As per the OI notes of stands acceptable regen as being natural regen the stand does pass the regen check. Entire stand is PARVHa/PARVVb.</p> <p>OPIC - FMD: Some very nice oak stems. Red maple understory mostly a few white pine, but not oak visible. A little lighter BA in the middle, looks like it was used for access to adjacent strip cuts. Stand is close to I-75 interstate highway, and snowmobile trail is in the adjacent stand. Seed tree and prescribed burn after harvest. Will result in a mixture of species with natural regeneration. If unable to burn within 3 years of the cut, then will accept the natural regen on site. Will plant low stocked area by planting a mix of pine species. Harvest update: Seed tree cut in 2008 (#72-057-07-01), leaving stated residual of 20 sq. ft. green-marked oak. Was low priority for burning, given post-harvest conditions (good mineral soil exposure from equipment operation, and well-distributed slash to impede deer movement). OYOE natural regen check scheduled for 2013.</p> |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|----|-------------------------------------|---------------------|-------|--------------|-------------|---|
| 19 | 4125 - Black, N. Pin Oak | Sawtimber Medium | 36.6 | 88 | 51-80 | Southern third of stand has a higher BA, mixed oak, maple and aspen with oak starting to die off. Understory well developed and heavy to red maple. Ground cover is primarily bracken fern. Stand is PARVHa/PArVVb with a site index of 50.OPIC - FMD: 2-AGED STD,9" & 14" OAK- LARGER OAK DECLINING- OPEN STD W/ OAK POCKETS. Deer browse on what regeneration there is. Stand is adjacent to I-75 interstate highway, and has a snowmobile trail running through. Prescribed burn with stand 18 if possible. If unable to burn within 3 years of the cut, then will accept the natural regen on site. Will plant low stocked area with a mix of pine species |
| 20 | 4126 - White, Black, N. Pin Oak | Sawtimber Medium | 9.5 | 90 | 81-110 | Stand is between recreation trail and I-75 fence. This stand provides a nice visual buffer along I-75. Leave stand as is. OPIC - FMD: A ROW OF TREES BETWEEN FWY RIGHT OF WAY AND SNOWMOBILE. Used stand 19 data. The old comments cover this stand. Leave as is for visual management. Stand is adjacent to I75 interstate highway, and has a snowmobile trail running through. |
| 21 | 4199 - Other Mixed Upland Deciduous | Sapling Well | 17.5 | 17 | Immature | 5 spots where species dominance switches at each spot either oak or red maple. Understory oak and maple seedlings. Density within spots also variable but within the top canopy classe. Grass, bracken and blueberry ground cover. OPIC - FMD: FTP# C72-629 , TS#720080701, "oak and more oak". Will accept mixed species of natural regeneration. Stands 1, 55, 54, 11, 56, 57, 60, 65 and 66 should be treated all at once as a final harvest, with leaving islands for structure and visual mangement. Need to mark out islands of healthy oak to comprise approximately 10% of stand to serve as visual barriers, wildlife mast, cover, and structural diversity. Can allow loggers to work in oak wilt period if islands are adqutely designed to protect residual oak from skid damage. Need to underplant entire area randomly with jack pine to try to introduce pine component back into ecosystem. Heavy sedge and deer browse is a problem for oak regeneration. Heavy gypsy moth egg masses noted, thus expect an outbreak this spring 2006 and hoping it will then crash. That will leave two years before treatment to allow stand to recover before harvest. Don't expect good natural oak regeneration due to aging oak, heavy deer browse, sedge and stresses on site. Will supplement with heavier jack pine planting in areas that do not come back well naturally. It was noted sedge is a problem in the stand, am hoping long term the pine will shade out sedge. Note, this is the first step in a long term process to return stand back to its natural oak-red and white pine mixture. Will need to convert stand to a heavier jack pine cover then to allow oak seedlings to be come established and allow few established white pine saplings to grow. Eventually oak and white pine will reseed and replace jack pine on site. This is a first step in a long-term process to return stand back to its natural oak, red pine and white pine mix. |
| 23 | 4125 - Black, N. Pin Oak | Sawtimber Well | 27.2 | 93 | 51-80 | Nice stand with good quality regen of red maple, oak regen is fairly sparse. Stem quality if fair to good. Ground cover is bracken fern. Stand is PARVHa/PArVVb with a SI of 54. OPIC - FMD: Bracken fern serviceberry, open areas and some dense red maple regen. Aspen fingering in along south and east border BRUSHY STD W/ LOTS OF GOOD OAK,MAPLE,& ASPEN REPRO- HOLD, MORE WPINE IN SW PORTION OF STD |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|----|-------------------------------------|-----------------|-------|--------------|-------------|--|
| 25 | 4130 - Aspen | Sapling Well | 15.0 | 8 | Immature | <p>Young aspen stand harvested in 2007 under contract #006-07-01. This stand passed its regeneration survey.</p> <p>OPIC - FMD: Hawthorn, mostly red maple with some oak in the understory. AJD did not clear all the way to their new property line. Aspen has heavy heart rot. Need to harvest now. Soil a mix of graycalm/grayling sand. Will get a mix species of natural regeneration. Stand was harvested the spring of 2007, TS#72-006-07-01. Treatment was a clearcut (>2 inches in diameter) with the red and white pine being left as residual.</p> |
| 26 | 4126 - White, Black, N. Pin Oak | Sawtimber Well | 2.9 | 92 | 51-80 | <p>Small stand just north of Kirtland CC land. Large crown trees, thick regen mostly oak with some red maple. Ground cover bracken fern. Site conditioned due to size.</p> |
| 28 | 4126 - White, Black, N. Pin Oak | Sawtimber Well | 19.9 | 96 | 51-80 | <p>Fairly nice stand of sawlog species. Bracken and grass as ground cover. Three BA swings were taken with an average BA of 65. There has been evidence of fuelwood cutting.</p> <p>OPIC - FMD: Bracken fern main ground cover. Stand is located between a powerline and railroad tracks. Fuelwood cutters have taken care of the dead oak (down and standing). Stand 23 in the adjacent compartment has already been set up. One of the better growing oak stands. THIN IN 10 YRS BY REMOVING ASPEN, PINE, & MAPLE - TREAT ADJ STD 23 IN COMPT 222 AT SAME TIME, RMAPLE UNDERSTRY</p> |
| 37 | 4199 - Other Mixed Upland Deciduous | Sawtimber Well | 6.1 | 92 | 81-110 | <p>Mixed hardwood stand with aspen along the north and east sides. Few pockets of natural mortality that are filling in with maple regen. Stand is behind rest area and next to RR tracks. Hold stand as north of this stand has been treated by salvage harvest following 4 mile fire.</p> <p>OPIC - FMD: Bracken fern ground, mix of cherry and witchhazel. Aspen along edges, but did not find any in the interior. Lots of fuelwood cutting, forward this activity to Law Enforcement. The new industrial road is to the west, overhead powerline along the north edge and railroad to the east.</p> |
| 38 | 4130 - Aspen | Poletimber Well | 32.5 | 39 | Unspecified | <p>Aspen pole stand doing very well with scattered oak and maple. Stand lies between Kirtland CC land and RR tracks. Treat during next inventory cycle. Stand is PARVHa/PARVVb with an SI of 52.</p> <p>OPIC - FMD: OLD SI DATA USED- IT APPEARS TO BE LOW, WOULD ESTIMATE IT SHOULD BE IN LOW 50'S</p> |
| 39 | 4125 - Black, N. Pin Oak | Sawtimber Poor | 23.4 | 89 | 1-50 | <p>Prior OI had stand labeled as M2, overstory occupies more than 30% of canopy with an average BA of 30. Stems are small sawlogs with pretty good form. Mainly oak with a few maple scattered about. Stand was shelterwooded and regen is looking good, maple regen is considerably taller than oak. Wait another 10 years then remove overstory, this should give oak regen more time. OPIC - FMD: Stand was shelterwood harvest 2000 start showing the regen. Heavy deer browse on most of the oak regen. Most of the adjacent stands showed moderate browse. RMAPLE UNDERSTRY, SOME DECLINE IN STD, CLEARCUT IN 10 YRS?? 06/07/M2-309 CROWN CLOSURE THINNING. Stand harvested and closed 2000.</p> |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|----|--|--------------------|-------|--------------|-------------|---|
| 40 | 4130 - Aspen | Poletimber Well | 39.0 | 40 | 51-80 | Good looking stand of pole timber, red maple and oak mostly clumps. Stand seems to be on the small size for diameter but stems look healthy. Should be ready for treatment in 20 years. OPIC - FMD: CC UNDER SALE NO 32-75A, EXCELLENT REPRO- MIX OF BTA/OAK/RMAPLE, OLDSI DATA USED. Becoming pole size. |
| 42 | 4199 - Other Mixed Upland Deciduous | Sapling Well | 41.1 | 26 | Immature | Nice regenerating stand of mixed aspen, oak and maple. OPIC - FMD: CLEARCUT IN 1989 UNDER SALE NO. 65-87, OLD SI DATA USED, MORE ASPEN IN SW BLOCK, 03/A2/M2. Stumpe sprouts mostly, hilly lots of witchhazel |
| 43 | 4199 - Other Mixed Upland Deciduous | Poletimber Well | 51.3 | 40 | 81-110 | Stand has good stem density not much for self thinning, small diameter for age, good mixed stand of oak, maple and aspen. Nice wildlife stand. OPIC - FMD: A3/O2/M1/U1 MIX, OLD SI USED, CC IN 1975, EXCELLENT REPRO. Mix of regen, mostly all stump sprout |
| 44 | 4130 - Aspen | Sapling Well | 35.2 | 26 | Immature | Nicely regenerating stand of aspen with associated species. Stand is on the edge of being pole size. OPIC - FMD: CLEARCUT IN 1989 UNDER SALE NO. 65-87, OLD SI DATA USED, MORE ASPEN IN SW BLOCK, 01/A2/M2. Stumpe sprouts mostly, hilly lots of witchhazel |
| 45 | 4199 - Other Mixed Upland Deciduous | Sapling Well | 120.7 | 15 | Immature | Very good regen as well as mixture of species. Species densities varies across the stand majority of stems originate from stump sprouts. Merged old OI Stand 80 into this stand. OPIC - FMD: CLEARCUT, GOOD REPRO ON ADJ CC'S, 99= RMAPLE& ASPEN. Stand final harvested 4-2000. Stand starting to show some nice regen, combination of (02,M2,A2). It all depends on where you are stand within the stand. |
| 46 | 4126 - White, Black, N. Pin Oak | Sawtimber Poor | 123.9 | 91 | 51-80 | Stand shelterwooded in 2000 stems have responded well descent stand of timber with a very well developed understory. Stand has snowmobile trail on north end and adjacent to 4 mile road. Stand can be held for another 10 years. Ten BA swings were taken and stand average was 55. OPIC - FMD: HEALTHY, AVE 10 BA OF DEAD OAK, RMAPLE-OAK-HAZEL. HORSE TRAIL RUNS THRU S PORTION OF STD-DO 30% CROWN CLOSURE THIN. Stand harvested 2000, marked to leave 30% crown closure. Red maple stumps sprouts, with deer browse everywhere. Have some nice oak stump spout, but the RM appears to be winning. Do a burn may help to slow down the maple give the oak a little better chance. |
| 47 | 4130 - Aspen | Poletimber Well | 8.2 | 56 | Unspecified | Pole sized stand of aspen next to AJD, final harvest in next inventory cycle. OPIC - FMD: Narrow stand sandwiched between private/pipeline, and and old harvest. Mostly aspen but some oak north end.. Cored a sample but could not read the ring color was to faint. Old railroad grade running east west. Red maple understory, with some deer browse. |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|----|--|--------------------|-------|--------------|-------------|--|
| 48 | 4310 - Pine, Oak Mix | Poletimber Well | 7.9 | 70 | Unspecified | Hodge podge stand of mixed upland species with scotch pine in both over and understory. Old site conditioned for visual concerns will carry that over this cycle as well. Has snowmobile trail running thru stand and adjacent to 4mile rd.OPIC - FMD: Scotch Pine was harvested 1997. SI TAKEN FROM STD 36, HEALTHY-HOLD FOR VISUAL ALONG HORSE/SNOWMOBILE TRAILS & ROAD |
| 52 | 4199 - Other Mixed Upland Deciduous | Sawtimber Poor | 14.9 | 60 | 51-80 | JPoor quality stand with about half of stand open. OPIC - FMD: Heavy heart rot on the mature aspen. Ground cover is bracken fern. Heavy mix of aspen, red maple and cherry regeneration 1-3" dia. Scattered large crowned oak trees. A couple of little grassy pockets. Stand is the results of the transition zone between stands (46 and 53). Stand is also in a narrow valley.. The 52 photos show open areas with scattered individual trees. |
| 53 | 42220 - Natural Jack Pine | Poletimber Well | 105.1 | 57 | 1-50 | Jack pine stand not to dense lower side of 75, poor quality stems with pockets of aspen and oak. Short trees not much for sticks, would treat during next inventory cycle. OPIC - FMD: Blueberry/bracken fern. Multiple treatments of various harvests have occurred from the Late 50's to the 90's. A few aspen and oak regen pockets. Very open and brushy Jack pine. Budworm problems later. Stand is adjacent to 4-mile road. A couple house visible from southeast corner of stand. |
| 58 | 4199 - Other Mixed Upland Deciduous | Poletimber Well | 4.3 | 30 | Immature | Small pole sized stand less dense and older then the 5 spot stands. Research is or has taken place in this stand. Series of orange painted 1" pipes in ground running North/south. OPIC - FMD: RMAPLE-OAK MIX,CUT UNDER RESEARCH STUDY,EXCELLENT REPRO. Oak is staying up with the red maple. Used old SI, should thin out the stump sprouts to one or two. |
| 60 | 4119 - Mixed Northern Hardwoods | Sapling Well | 8.4 | 8 | Immature | Stand harvested behind Rest area, regeneration passes natural regen survey, good looking stand with primarily stump sprouts. OPIC - FMD: Stand is adjacent to a rest area along I-75. Selection cut remove most of the oak. Leave red maple and aspen for fall colors. Buleberry and bracken fern ground cover with plenty of witch hazal, very little deer browse. Old comments(TREAT IN 10-20 YRS W/ STD 23 OF COMPT 222(ADJ STD)- THEN REMOVE ALL ASPEN & RMAPLE). Will get a mix species of natural regeneration. Stand was harvested the spring of 2007, TS#72-006-07-01. Treatment was a clearcut (>5 inches in diameter) with the red and white pine being left as residual. |
| 64 | 4130 - Aspen | Sapling Well | 2.3 | 5 | Immature | Narrow strip of land extending north from paved industrial road, this is access rd to stands north of Kirtland CC. OPIC - FMD: Filling with some aspen, and a little oak. Adjacent to the railroad. Sweet fern part of the ground cover. |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|----|---------------------------------|--------------------|-------|--------------|-------------|--|
| 67 | 4125 - Black, N. Pin Oak | Sawtimber Well | 14.9 | 90 | 51-80 | Mortality of oak is really starting to set in, sparse understory. Stand is being illegally cut for firewood as well. Recreation trail 7 runs along the north border of stand. Stand is PARVHa/PArVVb.OPIC - FMD: Bracken fern. Little pocket of northern pin oak. Stand not that healthy looking, but seem to be doing OK, a few dead trees. Jack pine seeding in along the south edge. Stand's north edge/boundary is the snowmobile trail. |
| 69 | 4126 - White, Black, N. Pin Oak | Sawtimber Well | 8.2 | 92 | 51-80 | Older oak stand with some dead stems, sign of illegal firewood cutting. Stand could be cut now however with all the prescribed treatments going to hold off on this one. OPIC - FMD: Bracken fern. Jack in was cut in the early 60's. Little pocket of northern pin oak. Stand not that healthy looking, but seem to be doing OK, a few dead trees. Jack pine seeding in along the south edge. Stand's north edge is a grassy open. |
| 71 | 4130 - Aspen | Poletimber Well | 4.0 | 45 | Unspecified | Small pole sized aspen of fair quality, understory is well developed dominated by red maple. Stand is PARVHa/PArVVb. OPIC - FMD: Stand was cut in the late 60's-early 70's. Poor quality aspen. More of a wildlife stand. |
| 77 | 4126 - White, Black, N. Pin Oak | Sawtimber Well | 2.9 | 80 | 81-110 | Stand was left as retention from the shelterwood harvest on stand 39 has been site conditioned as such. OPIC - FMD: Bracken fern main ground cover. Stand created due the treatment of stand #39. Leave for diversity, it is a small residual pocket of oak . Fuelwood cutters have taken care of the dead oak (down and standing). Stand 23 in the adjacent compartment has already been set up. One of the better growing oak stands.THIN IN 10 YRS BY REMOVING ASPEN,PINE,&MAPLE- TREAT ADJ STD 23 IN COMPT 222 AT SAME TIME, RMAPLE UNDERSTRY |
| 78 | 4126 - White, Black, N. Pin Oak | Sawtimber Well | 12.1 | 88 | 51-80 | Very little understory is present, there is heavy deer browse in this area. Stem quality is poor to fair and oak is starting to die out a bit. Site is PARVHa/PArVVb. Average BA was 70 with an SI of 50. OPIC - FMD: Jack pine, aspen , oak and red maple was harvested early 60's, the dead oak was cut 1967. Bracken fern ground cover, mostly cherry with rem and jp regen. Open dry site, with heavy deer browse. |



| Stand | Cover Type | Acres | Managed Site | General Comments: |
|-------|-----------------------------------|-------|--------------|--|
| 63 | 3303 - Mixed Low Density Trees | 3.1 | No | Opening with scattered trees. OPIC - FMD: Sweet fern, spotted knap weed. Some cherry, and little bluestem. |
| 81 | 3209 - Upland Shrub (OI) | 35.5 | No | Upland brush, no usable wood products, consider wildlife opening? OPIC - FMD: SI NOT AVAILABLE. Grass, sedge, some sweet fern. Stand harvested 1975, not much regeneration mostly pin chery. |
| 400 | 3302 - Low Density Conifer Trees | 5.3 | No | Scattered jack pine with grass/sweet fern ground cover. OPIC - FMD: Snowmobile trail runs along the north boundary. |
| 401 | 3301 - Low Density Deciduous Tree | 1.6 | No | Stand is close be being forested, species make up similar to prior OI comments. OPIC - FMD: more open on north side. Filling with some aspen, JP, cherry brush and oak regen south side. A few clones of TA north side. |
| 404 | 3303 - Mixed Low Density Trees | 6.0 | No | Scatter trees throughout opening. OPIC - FMD: Sweet fern, blueberry, little blue stem. Aspen along north edge, JP south edge. A couple clumps of oak and cherry scattered. |
| 405 | 3102 - Grass | 4.6 | No | Same as old OI comment. OPIC - FMD: Sweet fern, spotted knap weed. Some cherry and a few individual JP. |
| 406 | 3102 - Grass | 5.6 | No | Same as old OI comments. OPIC - FMD: Filling with some aspen, and a little oak. Some nice pin cherry also. |
| 414 | 3102 - Grass | 3.4 | No | Same as old OI comments. OPIC - FMD: Filling with some aspen, and a little oak. Snowmobile runs through it. |
| 415 | 3102 - Grass | 8.7 | Yes | See old OI comments. OPIC - FMD: Filling with some aspen, and a little oak. Lots of sweet fern, with a little bit of bluestem.. An old homestead. Borders 4-mile road.. Per wildlife comments- Remove invaking trees for opening and perform opening and maintenance as needed (mowing /fertilizing). |