



Compartment Review Presentation

Grayling Forest Management Unit

Compartment 72237

Entry Year 2017

Acreage: 1,441

County Crawford

Management Area: Camp Grayling

Revision Date: 2015-03-27

Stand Examiner: Joan Charlebois

Legal Description:

T27N R03W Sections 22, 27, 34

Identified Planning Goals:

To provide an area that allows for National Guard training while maintaining forest health, productivity, sustainability, species diversification and structural diversity throughout the compartment.

Soil and topography:

Terrain is level in Section 22 and gently rolling in Sections 27 & 34, with one steep ridge paralleling the south side of Jones Lake Road. Soils consist primarily of Croswell, AuGres and Grayling Sands in the upland areas, with Tawas-Lupton, Leafriver and AuSable-Bowstring Mucks associated with the bogs, swamps and river corridor.

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

All state land within the compartment is either owned by the Military Board or is under the long-term lease agreement L-1479 (Act 154 P.A. 1935) with the Michigan National Guard, DMA for purposes of military training. On these lands, military needs take precedence over resource management activities. The DNR will coordinate all prescribed activities with the National Guard to ensure that they are compatible with military training needs. Private ownership along the river and Jones Lake Road in Section 22 & 27 consists of small tracts with a mix of seasonal and year-round residences. Hartwick Pines State Park is located to the north in Section 15.

Unique Natural Features:

Michigan Natural Features Inventory (MNFI) identified three natural communities types within section 22: a Poor Conifer Swamp, Northern Shrub Thicket, and Poor Fen. There is the potential for dry prairie plants to occur in upland openings, and for uncommon plants and animals to occur in the lowlands and riparian areas.

Archeological, Historical, and Cultural Features:

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

Special Management Designations or Considerations:

The compartment is a Special Conservation Area (SCA), falling within the Research, Development and Military Lands category. Approximately 400 acres of the compartment fall within the Military's fenced Range 30 Complex or associated heavy equipment facility (MATES). The MNFI-identified Poor Fen has been designated as an Ecological Reference Area (ERA). The East Branch of the AuSable's Natural Rivers corridor is a designated High Conservation Value Area (HCVA).

Watershed and Fisheries Considerations:

The East Branch of the AuSable River, a high priority cold water trout stream, crosses just into the east and south edges of section 22. A Fisheries Division sand trap is located upstream of the Tank Trail's timber bridge.

Wildlife Habitat Considerations:

Wildlife habitat management activities are limited by military training in the restricted areas of the compartment but opening-dependent species benefit from the Military's prescribed burn regime. Outside of the ranges, a variety of game and non-game species benefit from maintaining the current mix of grass, upland brush, jack pine, oak, aspen and swamp cover types.

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 are the coldwater Shale and Marshal Sandstone formations. The Marshal was quarried for building stone in the past. A gravel pit is located in Section 20 and potential is good. The compartment is not leased for oil and gas. The nearest production is from the Antrim Shale, four miles to the northwest.

Vehicle Access:

Access to the north, center & south sides of the compartment is adequate from county roads. Access within the fenced Range 30 Complex is limited to Military vehicles. Jones Lake Road & North Down River Road are both paved. Lewiston Grade Road is seasonally maintained and serves as a snowmobile trail in the winter. The Tank Trail is the primary north-south corridor within the compartment, but it is sandy and not always negotiable by conventional vehicles. In the NE quarter of Section 22, a state forest trail road signed "Woodruff Way" is used to access several residences along the river. In the NE quarter of Section 27, a state forest trail road signed "Newatch Ave" is used to access a residence along the river.

Survey Needs:

None at this time.

Recreational Facilities and Opportunities:

The Lovells Trail (#47), a designated snowmobile trail, runs down Lewiston Grade Road in the northwest quarter of Section 22. The compartment's mix of lowland swamp types & upland aspen, jack pine, oak and shrub types, provide hunting opportunities for a variety of game species. Fishing opportunities exist on the East Branch of the AuSable River.

Fire Protection:

The Military regularly conducts prescribed burns within the fenced range area in order to reduce the vegetative fuel load. A wide sandy perimeter road (Tank Trail) also serves as a fuel break. Water sources for fire suppression include river crossings on Bobcat Trail, Wilcox Bridge Road and the Tank Access Trail.

Additional Compartment Information:**The following reports from the Inventory are attached:**

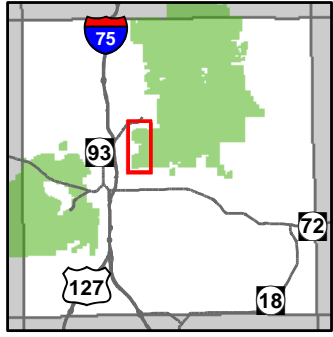
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

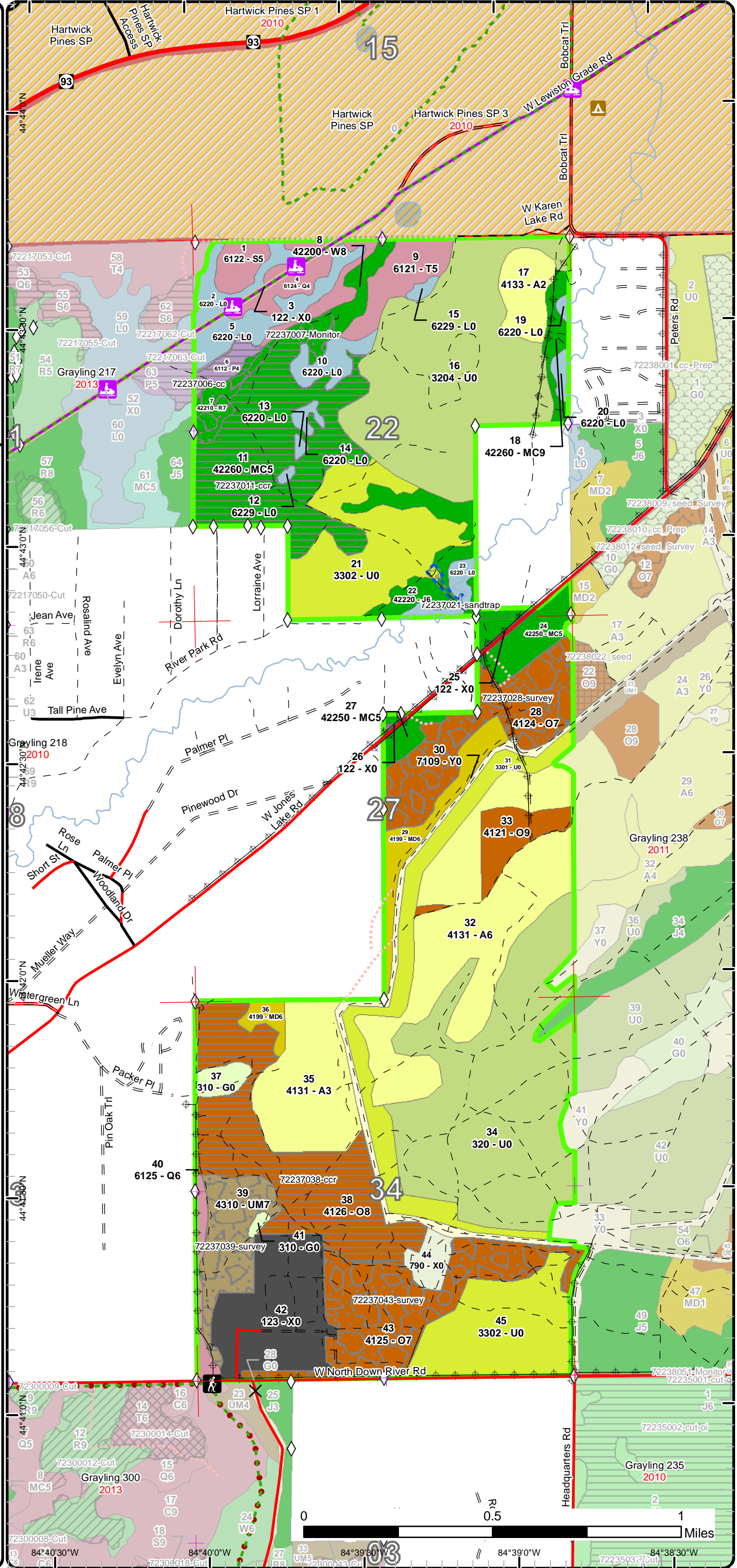
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 237
 T27N,R03W, Sec. 22, 27, 34
 County: Crawford
 Unit: Grayling
 Mgmt Area: Camp Grayling
 YOE: 2017
 Acres: 1441 GIS Calculated
 Examiner: Joan Charlebois
 Map Revised: 5/17/2016
 Map Phase: Post-Review

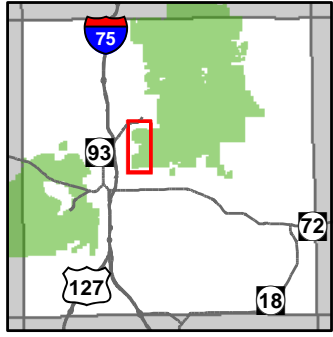


- Miris Corners
- + Remonumented Section Corners
- ◇ Field Grade GPS Corners
- X Gate
- ▲ Campground
- ⚡ Hiking Trails
- 🐎 Horse Trails
- ⚡ Snowmobile Trails
- Designated Hiking Trails
- Designated Equestrian Trails
- Designated Snowmobile Trails
- Designated Railtrail
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Closed Roads
- Rivers
- Pipeline
- ⚡ Powerline
- Compartment Boundary
- Treatments with Site Conditions
- Clearcut (w/Reserves)
- Other Treatment - See Comments
- Regeneration Survey
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 422 - Natural Pines
- 430 - Upland Mixed Fores
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 122 - Roads/Parking Lot
- 123 - Other High Intensity Urban
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 622 - Lowland Shrub
- 710 - Sand/Soil
- 790 - Other Bare/Sparsely Vegetated
- Lakes

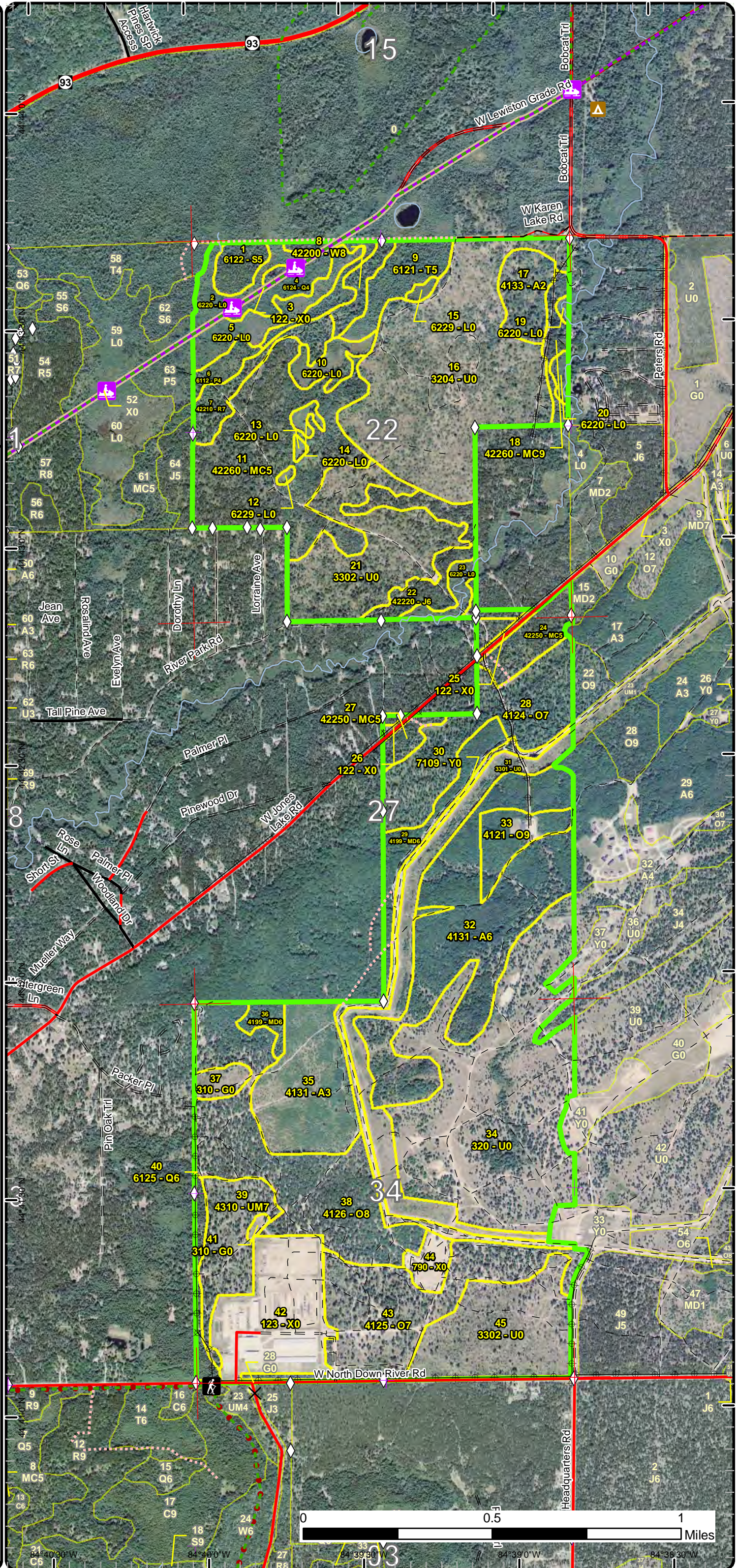


Stand Boundary Map

Compartment: 237
 T27N,R03W, Sec. 22, 27, 34
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 Map Phase: Post-Review

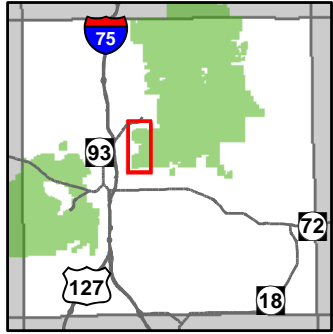


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- ◇ Field Grade GPS Corners
- X Gate
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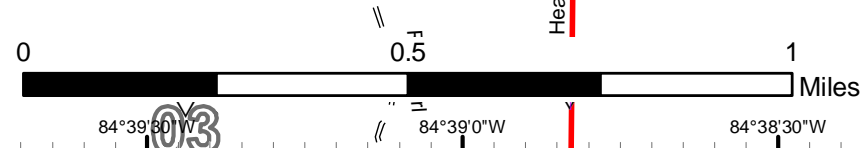
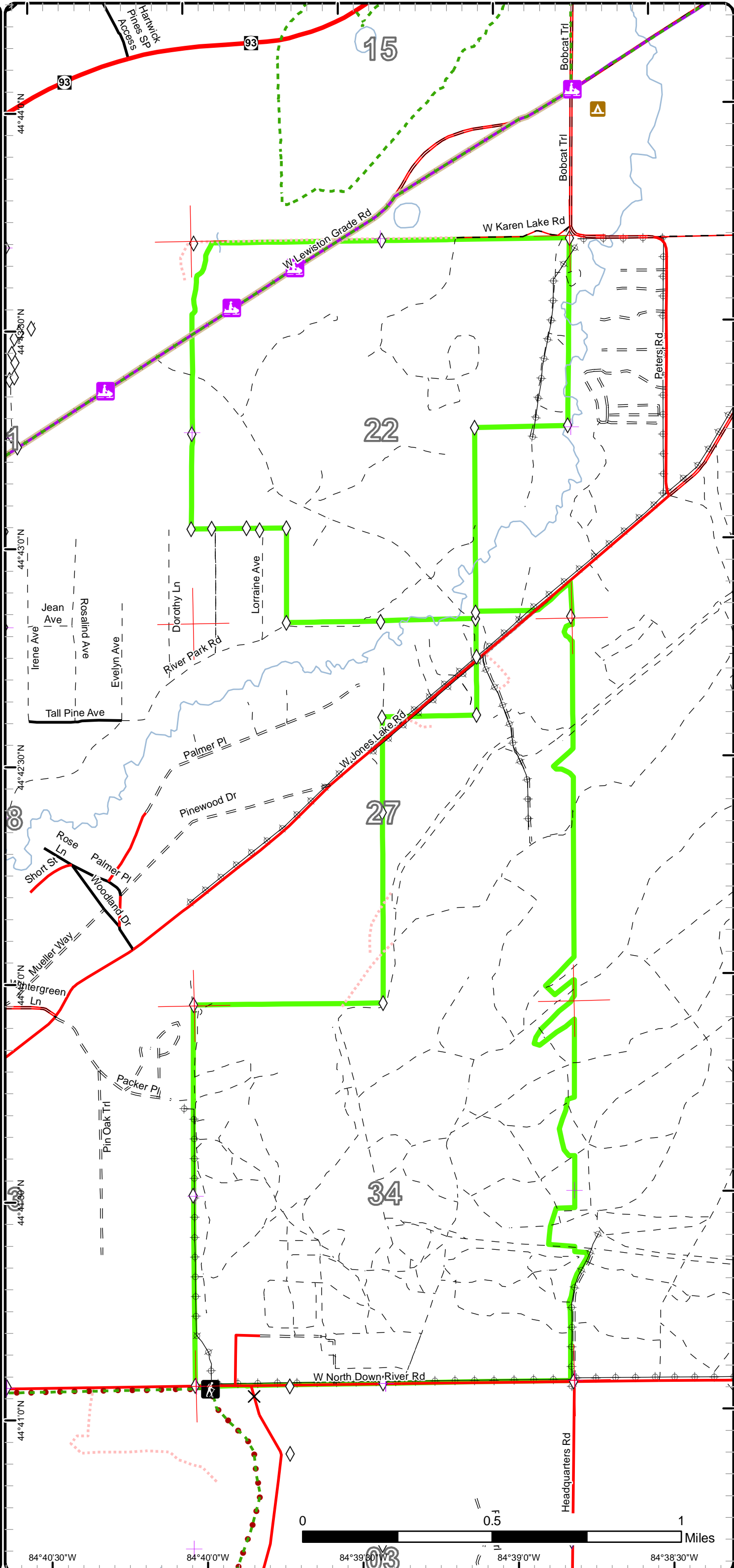


Special Conservation Areas & Site Conditions Map

Compartment: 237
 T27N,R03W, Sec. 22, 27, 34
 County: Crawford
 Unit: Grayling
 Mgmt Area: Camp Grayling
 YOE: 2017
 Acres: 1441 GIS Calculated
 Examiner: Joan Charlebois
 Map Revised: 5/17/2016
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- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- - - Closed Roads
- Rivers
- Pipeline
- Powerline
- Compartment Boundary
- - - SCA
- - - SCA Removal
- Unavailable
- 1C: Other dept or div proc/practices
- 2G: Too wet (sensitive soils, does not include access issues)
- 3B: Threatened, endangered, and special concern species/communities
- 3F: Military easement / lease
- Stand Boundaries
- Special Conservation Areas
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Kirtland Warbler Habitat
- Cold Water Streams
- High Priority Trout Stream Buffer
- Research, Development, and Military Lands
- Other SCA (No Category Assigned)



84°40'30"W 84°40'0"W 84°39'30"W 84°38'30"W

Report 1 – Total Acres by Cover Type and Age Class

Mgt. Unit
: Examiner

Compartment

Year of Entry



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 |
|--------------|------------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|---------|---------|---------|---------|---------|--------|-------------|-------|
| | #Error | #Error | ##### | #Error | ##### | #Error | ##### | #Error | ##### | #Error | ##### | #Error | #Error | #Error | #Error | #Error | #Error | #Error | |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



Report 2 – Treatment Summary

Grayling Mgt. Unit

Year of Entry: 2017

Acres of Harvest

Compartment 237

Total Compartment Acres: 1,441

Commercial Harvest - 201
 Harvests with Site Condition - 0
 Next Step Harvest - 0
 Habitat Cut - 0

Cover Type by Harvest Method

| | Clearcut | Selection | Patch Clearcut | Seed Tree | Shelterwood | Thinning | Overstory Removal | Salvage | Other | Total Acres |
|-----------------------------|------------|-----------|----------------|-----------|-------------|----------|-------------------|----------|----------|-------------|
| Lowland Aspen/Balsam Poplar | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Natural Mixed Pines | 96 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 96 |
| Oak | 97 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 97 |
| Total | 201 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 201 |

Proposed and Next Step Treatments by Method

| | Harvest | Site Prep | Planting | Seeding | Burning | Pesticide | Monitoring | Other | Non-Forest Mgt. | Total Acres |
|--------------|------------|-----------|----------|----------|----------|------------|------------|----------|-----------------|-------------|
| Current | 201 | 0 | 0 | 0 | 0 | 181 | 0 | 2 | | 383 |
| Next Step | 0 | 0 | 0 | 0 | 0 | 201 | 0 | 0 | | 201 |
| Total | 201 | 0 | 0 | 0 | 0 | 382 | 0 | 2 | | 584 |



| Stand | Treatment Name | Acres | Stand CoverType | Size Density | Stand Age | BA Range | Treatment Type | Treatment Method | Cover Type Objective | Age Structure | Approval Status |
|-------|----------------|-------|----------------------|-----------------|-----------|----------|----------------|------------------|----------------------|---------------|-----------------|
| 6 | 72237006-cc | 7.5 | 6112 - Lowland Aspen | Poletimber Poor | 44 | 1-50 | Harvest | Clearcut | 6112 - Lowland Aspen | Even-Aged | Proposal |

Habitat Cut: No **Site Condition:**

Prescription Final harvest to regenerate aspen. No retention due to small stand size. If old RR grade ditches have current, exclude from the harvest area.
Specs:

Next Step
Treatments:

Acceptable A mix of lowland aspen and lowland shrub cover.
Regen:

Other Add snowmobile trail specs to post warning signs, protect trail markers, flush-cut stumps and maintain free of slash within 20 feet of the centerline, limit trailside decking, & maintain the trail surface (grading if used snow-off, maintaining a snow-covered base if used during the snowmobile season). Try to add to existing timber sale proposal 72-019-13-01 to the west in comp 217 stand 63. If it cannot be cut commercially, consider regenerating the stand through a manual habitat cut, including brush mowing to regenerate the tag alder. The tree cover is sparse & marginal, on low ground. Old next step comments:

Proposed Start Date: 5 /1 /2015

| | | | | | | | | | | | |
|---|------------------|------|--------------------------|----------------|----|------|------------|------------------------------|----------------------------|----------|----------|
| 7 | 72237007-Monitor | 16.0 | 42210 - Natural Red Pine | Sawtimber Poor | 57 | 1-50 | Monitoring | Natural Regen (Intermediate) | 42290 - Natural Mixed Pine | Two-Aged | Proposal |
|---|------------------|------|--------------------------|----------------|----|------|------------|------------------------------|----------------------------|----------|----------|

Habitat Cut: No **Site Condition:**

Prescription check regen
Specs:

Next Step
Treatments:

Acceptable A moderately-stocked mix of WP, RP, JP & balsam fir.
Regen:

Other Give stand more time for in-growth of regen. Old next step comments:
Comment:

Proposed Start Date: 10/1 /2019

| | | | | | | | | | | | |
|----|--------------|------|---------------------------------------|-------------------|----|-------|---------|-------------------------|-------------|-----------|----------|
| 11 | 72237011-ccr | 96.4 | 42260 - Natural Pine, Mixed Deciduous | Poletimber Medium | 60 | 51-80 | Harvest | Clearcut with Retention | 413 - Aspen | Even-Aged | Proposal |
|----|--------------|------|---------------------------------------|-------------------|----|-------|---------|-------------------------|-------------|-----------|----------|

Habitat Cut: No **Site Condition:**

Prescription Final harvest 2"+ DBH except leave the oak & supercanopy RP-WP. Leave retention around the wetlands. Exclude couple acres on south side
Specs: where the 2008 harvest released WP-RP sapling cover.

Next Step
Treatments:

Acceptable Aspen with mixed conifer and upland brush.
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

| | | | | | | | | | | | |
|----|-------------------|-----|----------------------------------|------------|---|--------|--------------|-------------------|------------------|--|----------|
| 21 | 72237021-sandtrap | 1.5 | 3302 - Low Density Conifer Trees | Nonstocked | 0 | Unspec | NonForestMgt | Other - Specified | 710 - Sand, Soil | | Proposal |
|----|-------------------|-----|----------------------------------|------------|---|--------|--------------|-------------------|------------------|--|----------|

Habitat Cut: No **Site Condition:** Other Dept./Div. Processes

Prescription Stand 21: Stockpile site for spoils dredged from Fisheries Division sand trap. Stand 23: Work pad for dredging operations.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other 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 |
|-----------------------|-----------------|-------|---------------------------|----------------|-----------|----------|----------------|------------------------------|----------------------|---------------|-----------------|
| 28 | 72237028-survey | 58.0 | 4124 - Red with White Oak | Sawtimber Poor | 89 | 1-50 | Monitoring | Natural Regen (Intermediate) | 4122 - Oak, Pine | Two-Aged | Proposal |

Habitat Cut: No

Site Condition:

Prescription Check regen to see if the rest of the oak has recruited.

Specs:

Next Step

Treatments:

Acceptable Regen: Oak, pine, aspen & RM at moderate stocking, with poorly-stocked areas accepted on the north edge flats, and regen not expected where heavier residual was left.

Other Comment: Old next step comments:

Proposed Start Date: 10/1 /2016

| | | | | | | | | | | | |
|----|--------------|------|---------------------------------|------------------|----|-------|---------|-------------------------|------------------|-----------|----------|
| 38 | 72237038-ccr | 96.9 | 4126 - White, Black, N. Pin Oak | Sawtimber Medium | 90 | 51-80 | Harvest | Clearcut with Retention | 4122 - Oak, Pine | Even-Aged | Proposal |
|----|--------------|------|---------------------------------|------------------|----|-------|---------|-------------------------|------------------|-----------|----------|

Habitat Cut: No

Site Condition:

Prescription Final harvest 2"+ DBH except cut only the merch oak and leave all RP & WP. Mark small patches of oak to leave to in addition to the RP-WP to reach 3% by area.

Specs:

Next Step

Treatments:

Acceptable Regen: Oak, pine, aspen & RM at moderate stocking, with poorly-stocked areas accepted where maneuvers take place.

Other Comment: Old next step comments:

Proposed Start Date: 10/1 /2016

| | | | | | | | | | | | |
|----|-----------------|------|----------------------|----------------|----|------|------------|------------------------------|------------------|----------|----------|
| 39 | 72237039-survey | 32.5 | 4310 - Pine, Oak Mix | Sawtimber Poor | 97 | 1-50 | Monitoring | Natural Regen (Intermediate) | 4122 - Oak, Pine | Two-Aged | Proposal |
|----|-----------------|------|----------------------|----------------|----|------|------------|------------------------------|------------------|----------|----------|

Habitat Cut: No

Site Condition:

Prescription Check regen to see if the rest of the oak has recruited.

Specs:

Next Step

Treatments:

Acceptable Regen: Oak, pine & RM at moderate stocking, with poorly-stocked areas accepted where maneuvers take place.

Other Comment: Old next step comments:

Proposed Start Date: 10/1 /2019

| | | | | | | | | | | | |
|----|-----------------|------|--------------------------|----------------|----|------|------------|------------------------------|------------------|----------|----------|
| 43 | 72237043-survey | 74.6 | 4125 - Black, N. Pin Oak | Sawtimber Poor | 81 | 1-50 | Monitoring | Natural Regen (Intermediate) | 4122 - Oak, Pine | Two-Aged | Proposal |
|----|-----------------|------|--------------------------|----------------|----|------|------------|------------------------------|------------------|----------|----------|

Habitat Cut: No

Site Condition:

Prescription Check regen to see if the rest of the oak has recruited.

Specs:

Next Step

Treatments:

Acceptable Regen: Oak & pine at moderate stocking, with poorly-stocked areas accepted where bivouac, maneuvers take place.

Other Comment: Old next step comments:

Proposed Start Date: 10/1 /2019

Total Treatment Acreage Proposed: 383.5

Report 5 – Site Conditions

Grayling Mgt. Unit
Joan Charlebois : Examiner

Compartment: 237
Year of Entry: 2017

Dominant Site Conditions

| | 1C | 2G | 3B | 3F |
|-----------------------------|----|----|----|-----|
| Aspen | | | | 123 |
| Bare/Sparsely Vegetated | | | | |
| Herbaceous Openland | | | | |
| Jack Pine | 26 | | | |
| Low-Density Trees | | | | 53 |
| Lowland Aspen/Balsam Poplar | | | | |
| Lowland Conifers | | | 14 | |
| Lowland Shrub | 0 | | 0 | |
| Lowland Spruce/Fir | | | 10 | |
| Mixed Upland Deciduous | | | | |
| Natural Mixed Pines | | | | |
| Oak | | | | 19 |
| Red Pine | | | | |
| Sand, Soil | | | | |
| Tamarack | | 20 | | |
| Upland Mixed Forest | | | | |
| Upland Shrub | | 0 | | 177 |
| Urban | | | | |
| White Pine | | | | |
| Total Forested Acres | 26 | 20 | 23 | 372 |
| 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 Availability | Dominant Site Condition | Acres | Other Site Condition | Other Site Condition | Other Site Condition | Other Site Condition |
|--|----------------------------|--|-------|--|----------------------|----------------------|----------------------|
| 1 | Unavailable | 3B: Threatened, endangered, and special concern species/communities | 10 | 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area) | Unspecified | Unspecified | Unspecified |
| Comments: | | | | | | | |
| Stand is surrounded by ~120-ft wide moat of L3. Half of the L3 that wraps around the stand is a Poor Fen ERA, with management recommendations to maintain an undisturbed buffer adjacent to the fen to minimize the threat of hydrological alteration. An old RR grade runs E-W a half chain north of the stand on Hartwick Pines State Park property. That grade is narrow, long abandoned, and cuts through long stretches of low ground (growing over with tag alder) | | | | | | | |

Report 5 – Site Conditions

Grayling Mgt. Unit

Joan Charlebois : Examiner

Compartment: 237

Year of Entry: 2017

| | | | | | | | |
|--|--------------------|--|-----|---|-------------|-------------|-------------|
| 2 | Unavailable | 2G: Too wet (sensitive soils, does not include access issues) | 20 | Unspecified | Unspecified | Unspecified | Unspecified |
| Comments: Without a snow-off site visit to indicate otherwise, this stand appears to be on very wet ground. | | | | | | | |
| 3 | Unavailable | 1C: Other dept or div proc/practices | 27 | 3J: Water quality / BMPs (stream, river, or lake) | Unspecified | Unspecified | Unspecified |
| Comments: The stand was part of a larger previous-YOE JP stand, but this portion was excluded from the 2011 harvest in order to discourage off-road driving from the tank trail and because the stand's SE falls within the East Branch of the AuSable's Natural Rivers restricted cutting zone. | | | | | | | |
| 4 | Unavailable | 3F: Military easement / lease | 372 | Unspecified | Unspecified | Unspecified | Unspecified |
| Comments: Fenced M.P.R.C Range 30 Complex. No access for inventory or management except at the request of the Military to facilitate range construction & maintenance projects. | | | | | | | |
| 5 | Unavailable | 3B: Threatened, endangered, and special concern species/communities | 14 | Unspecified | Unspecified | Unspecified | Unspecified |
| Comments: The stand's north edge borders a Poor Fen ERA, with management recommendations to maintain an undisturbed buffer adjacent to the fen to minimize the threat of hydrological alteration. | | | | | | | |



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 |
|---|--------------|-------------|--------------------|-------|
| 237 N RMZ | Other SCA | | SCA Removal | 21 |
| Comments | | | | |
| OI stand condition code 8 due to overlap with Natural Rivers HCVA | | | | |
| 237 RMZ | Other SCA | | SCA Removal | 31 |
| Comments | | | | |
| OI stand condition code 8 due to overlap with Natural Rivers HCVA | | | | |

**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 | Cold Water Stream | A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210. |
| SCA | 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. |
| SCA | Riparian Area | A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity. |
| HCVA | Designated Critical Habitat | Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat. |
| HCVA | Natural Rivers | There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder. |
| ERA | Ecological Reference Areas | Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form. |



| Stand | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|-------|---------------------------|----------------------|-------|-----------|----------|--|
| 1 | 6122 - Black Spruce | Poletimber Medium | 9.6 | 90 | 51-80 | Spruce stand on low to intermediate ground; wettest on the perimeter, somewhat drier PARVCo ground interior. Roughly two age classes in the spruce, but had to merge together due to MiFI rule. The mature spruce is tall & shallow-crowned, around 90 years old, with a portion just into the saw category. Younger black spruce has been filling in along the perimeter and in interior canopy gaps where the mature spruce has root-tipped. Only cored one of the younger poles (61 yrs), but there's likely a range of ages due to progressive establishment. The canopy paper birch has been dropping out. Much of the mature balsam fir has already broken up. Balsam fir, spruce & RM make up the understory along with the lowland shrubs. |
| 4 | 6124 - Lowland Spruce-Fir | Poletimber Poor | 21.8 | 58 | 1-50 | Marginal swamp conifer stand that's been slowly colonizing the lowland shrub type it wraps around. Spruce, fir & WP make up nearly 80% of the cover, with aspen, tamarack, RM, paper birch, NWC & RP filling in the rest. The transition ground near the adjacent upland stands and the small inclusions of slightly drier ground flanking Lewiston Grade Road have denser, better-growing cover, including some supercanopy WP. The majority low ground has sparser, smaller-diameter material over L3. Slow-growing there, and older than it looked. Trees cored landed in a fairly narrow age band (in their 50's & 60's), but there's likely a wide range of ages present, given the progressive stand establishment. |
| 6 | 6112 - Lowland Aspen | Poletimber Poor | 7.2 | 44 | 1-50 | Marginal lowland aspen stand growing over diverse L3. The best aspen cover flanks the tank trail. Moving east from there, the canopy becomes increasingly sparse. The balsam poplar has been top-dying and dropping out. Conks and black canker are common on the quaking aspen. Cored a few trees before finding one without heart rot in the east half, was younger than expected. The stand doesn't appear to have had a uniform regen event. The aspen to the west looks older. With the snowpack, did not recognize the drainage noted during previous inventory -- may be the ditch associated with the old RR grade that arcs through the stand. |
| 7 | 42210 - Natural Red Pine | Sawtimber Poor | 17.0 | 57 | 1-50 | Most of the stand had RP & WP sawtimber selectively removed in 1989 (72-013-88-01). RP & WP recruited in areas left with seed-tree level residuals. In Oct 2008, most of the mature pine was removed above patches of established pine understory, and dense pockets of small saw-large pole RP where thinned within (72-658-07-01, Old Grades Pine). Residual cover drifts on either side of 25-50% closure, from seed-treed areas with xlog stems over large sapling-small pole WP, to the thinning-level RP pockets. The median RP & WP small saw cored were 55-60 years old, but both species have a second older component that couldn't be listed separately due to a MiFI rule. The second age listed for WP was on the minority older component, even though the typical small saw WP cored ave 55 years. Couldn't represent the two-aged condition otherwise. The stand boundary picks up denser uncut cover flanking the lowland stands and there are small wetland inclusions. Very little RP seeded in except in main skid route. Abandoned pop-up camper. |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|----|---------------------------------------|----------------------|-------|--------------|-------------|---|
| 8 | 42200 - Natural White Pine | Sawtimber Medium | 8.8 | 56 | 51-80 | The stand has a two-layered canopy, with supercanopy WP & RP above the younger main canopy of small saw-large pole WP & RP. The stand has a lot of low ground edge and picks up some pole black spruce & balsam fir. Sapling fir & WP fills canopy gaps but isn't recordable in the canopy yet. The supercanopy WP is xxlog & heavy-limbed. The RP component has a significant amount of xlog stems, and the second age was on that supercanopy component. WP xxlog material beyond the scope of a standard increment corer. |
| 9 | 6121 - Tamarack | Poletimber Medium | 19.6 | 106 | 51-80 | Tamarack-dominated lowland stand with WP, black spruce, and a patch of NWC (north end). The stand's perimeter transition ground and an upland island in the middle is where most of the WP and trace amounts of RM, paper birch & balsam fir occur. The rest of the ground is low, with full L3, marsh grass and traces of cattail visible above the snowpack. A small drainage noted at the north end during the previous inventory was not recognized with the snowpack this winter. |
| 11 | 42260 - Natural Pine, Mixed Deciduous | Poletimber Medium | 96.5 | 60 | 51-80 | Part of the stand had merch JP & aspen removed in 1972 (#33-71). Five acres in small patches then had RP & WP removed in Oct 2008 (part of 72-658-07-01, Old Grades Pine). The stand is a variable mosaic of JP, aspen, RP-WP, and upland brush cover. There is younger JP colonizing the upland brush inclusions, but the majority mature JP is declining. The quaking aspen is relatively young (cored 35-46, set age to 1972 harvest) but also starting to break up, with black canker and hypoxylon present. Larger wetland patches within the stand were separated out as lowland shrub types. Sub-acre lowland patches flank the tank trail and there is intermediate ground bordering the wetland stands. Traces of balsam poplar, balsam fir and RM are concentrated there. |
| 17 | 4133 - Aspen, Mixed Pine | Sapling Medium | 18.5 | 5 | 1-50 | The stand was part of a larger area harvested in Feb 2011 (72-665-07-01, Opening Restoration), cutting only the JP & aspen 2"+ DBH. The aspen regen is the featured canopy, with two layers of RP-WP-oak residual above it: sapling-pole, and log-xlog. The RP has a notable supercanopy component that seeded in the rest over time. Only cored one median younger saw for a second stand age. There are likely >2 age classes present in the RP though. The aspen regen is sparse in places, in keeping with the treatment's upland brush management intent. |
| 18 | 42260 - Natural Pine, Mixed Deciduous | Sawtimber Well | 10.0 | 72 | 51-80 | This stand contains portions of three previous-YOE stands that were boundary-excluded from the 2011 harvest. Most of this catch-all stand lies within the East Branch of the AuSable's Natural Rivers restricted cutting zone. Aspen, WP & oak cover alternates with RP & JP; most of those species have a 2+ age & size classes present. The overmature JP has been breaking up. The stand's south end has a sub-acre inclusion of tag alder and river floodplain. Driveways to private property cross through the stand. |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|----|--|----------------------|-------|--------------|-------------|---|
| 22 | 42220 - Natural Jack Pine | Poletimber Well | 27.5 | 60 | 81-110 | The stand was part of a larger previous-YOE JP stand, but this portion was excluded from the 2011 opening restoration harvest in order to discourage off-road driving from the tank trail and because the stand's SE falls within the East Branch of the AuSable's Natural Rivers restricted cutting zone. Dense patches of JP poletimber alternate with variable cover in WP, aspen, RP, NPO and upland brush. A few acres in the south half had merch JP & quaking aspen cut in 1976 (#39-76). Aspen age was set to that harvest. There is a small amount of balsam poplar on low ground inclusions by the river floodplain. A Fisheries Division sand trap is accessed through this stand. The south 100 feet of the SESE was added to the compt this YOE following a LOTS correction. |
| 24 | 42250 - Pine, Oak | Poletimber Medium | 20.6 | 50 | 1-50 | The stand was harvested in 1997 (72-004-97-01), cutting only the 6"+ DBH JP & aspen. There are patches of JP & oak regen from the cut, but the residual is the featured canopy: small pole-large sapling JP, terrible quality, large old NPO, and nice large sapling-small pole oak. There's a trace of BTA in the NE. Canopy closure is at the low end of 50-75%, with understory JP & oak regen filling in gaps. Dominant age was on the median JP poles and second age on the mature oak, but there are minor younger and older components present as a result of the disturbance history. JP regen age set to the harvest. |
| 27 | 42250 - Pine, Oak | Poletimber Medium | 7.7 | 46 | 1-50 | Most of the stand was harvested in 1997 (72-004-97-01), cutting only the 6"+ DBH JP & aspen. This was part of the same harvest as stand 24, but the canopy here has slightly younger JP (40-50 yrs old), more WP, less of the mature NPO and more of the small pole-large sapling oak. Current MiFI rule prevents entering a separate line of canopy data for the younger oak so it was merged into the mature NPO line. Would have recorded that NPO as 20% 6" P-S 41 years old. The sub-acre forested poly on the north side of Jones Lk Rd was not within the 1997 harvest. It has a low-density "supecanopy" layer of overmature JP above the main canopy of pole-sapling JP-WP-oak. |
| 28 | 4124 - Red with White Oak | Sawtimber Poor | 58.6 | 89 | 1-50 | The stand was harvested in fall 2009 (72-655-07-01, Hill Side Seed), cutting merch trees except RP, WP & green-marked oak (32 sq. ft. cruised residual). Heavier cover was left along the tank trail and steep slopes. There is decent-quality NRO on the hill, with NPO on the flats. WP & RP of all size classes are present at variable distribution across the stand. Second age was on the WP, which likely has a wide range of ages present. Most of the oak stump sprouts have recruited and advanced oak saplings were released, but the flush of single-stem oak has a ways to go and is experiencing some browse. There's a fair amount of deer traffic entering the stand from the north. Browse is heaviest on the stand's north edge and successful regen there is sparse. |
| 29 | 4199 - Other Mixed Upland Deciduous | Poletimber Well | 21.6 | 37 | 51-80 | Most of the stand was harvested in 1978 (#6-77A), cutting all merch stems. The narrow south peninsula has a 2-acre uncut inclusion with mature oak (105 years old), RM, pine & aspen. The majority cover from the harvest is made up of vigorous oak (both stump-origin and single-stem), dense RM stump clumps, BTA clones, and scattered WP-RP-JP. |
| 32 | 4131 - Aspen, Oak | Poletimber Well | 123.1 | 37 | 51-80 | NW part of the stand was harvested in 1978 (#6-77A), cutting all merch stems. The rest of the stand appeared recently cut on the '78 photos. Stand is probably still transitioning into the pole class, with a mix of aspen, RM & oak. |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|----|---|---------------------|-------|--------------|-------------|--|
| 33 | 4121 - Oak, Aspen | Sawtimber Well | 18.6 | 80 | 81-110 | Likely mature oak, RM & aspen cover, left when the surrounding stands were cut in 1978. Stand data projected from the last inventory entry (1985) before the Range was fenced. That inventory typed it as an oak-RM-aspen pole stand. |
| 35 | 4131 - Aspen, Oak | Sapling Well | 54.5 | 6 | Immature | Most of the stand was harvested in fall 2009 (72-619-07-01, MATES Oak & Jack), cutting everything 2"+ DBH, with an aspen-oak M.O. The stand regenerated well to aspen with a significant oak component. Vigorous oak stump sprouts (recruited) and single-stem saplings mix into the clones at low densities and are concentrated on the perimeter and in valleys in the stand's W1/3. Cover drops into the 50-75% category where oak dominates, but the rest of the stand's dense aspen cover keeps the overall average in 75-100% range. A strip of mature timber was boundary-excluded along the tank trail. |
| 36 | 4199 - Other Mixed Upland Deciduous | Poletimber Well | 6.3 | 37 | 1-50 | Stand was harvested in 1978 (#23-77), cutting all merch stems. Cover includes vigorous oak (both stump-origin and single-stem), dense RM stump clumps, and small amounts of BTA, WP & RP. The oak has mostly shifted into the pole class. The RM is well behind the oak in diam growth and self-weeding. The oak stump sprouts are level with or overtopping the RM stump sprouts. |
| 38 | 4126 - White, Black, N. Pin Oak | Sawtimber Medium | 98.2 | 90 | 51-80 | Oak stand on shallow-rolling terrain. A lot of vehicle traffic, some heavy equipment maneuvering (tracked) in the past. Mainly mature oak (90 years, dominant age), with pockets of younger log-pole material (cored 76 years old, but didn't average with the dominant age. Oak quality and canopy closure is best on the hilltops (more BRO, WO & a little BTA, RM). On the lower slopes & flats, cover is sparser and heavier to NPO, with increasing mortality. Canopy averages toward the high end of 50-75% closure. Most of the JP is on the perimeter flats. RP present in small pockets and widely scattered elsewhere. |
| 39 | 4310 - Pine, Oak Mix | Sawtimber Poor | 32.5 | 97 | 1-50 | The stand was harvested in fall 2009 (72-619-07-01, MATES Oak & Jack), cutting only the merch JP. The stand is sparse in places but meets the forested benchmark overall. The residual includes mature poor-quality NPO, RP of all size classes, & spindly JP poles. The subcanopy has an oak sapling layer, much of it <5' tall, with some browse. If the level of browsing doesn't intensify, the released oak regen will likely become the featured canopy at re-inventory. Part of the stand is already regen-dominated, and expect to see continued decadence in the residual overstory NPO. |
| 40 | 6125 - Lowland Black Spruce, Jack Pine | Poletimber Well | 8.7 | 53 | 81-110 | Narrow stand between MATES fence and adjacent private deer fence. The stand picks up fingers of swamp with upland inclusions in between. The cover changes every few hundred feet from lowland spruce-fir to upland oak-pine. JP is the common thread, sharing the high & the low ground. Didn't spend much time in the stand, only cored a couple trees, but there appears to be immature-to-overmature representation across most species. Not uneven-aged, but with multiple age bands. A narrow swath was cleared along most of the stand's west edge last year for installation of an underground electric utility. |

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Grayling Mgt. Unit

Report 8 – Forested Stands

Compartment: 237
Year of Entry: 2017



| Stand | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|-------|--------------------------|-------------------|-------|-----------|----------|--|
| 43 | 4125 - Black, N. Pin Oak | Sawtimber Poor | 74.6 | 81 | 1-50 | Most of the stand was harvested in fall 2009 (72-619-07-01, MATES Oak & Jack), cutting only the merch JP. The stand is sparse in places but meets the forested benchmark overall. Featuring the mature residual vs. the released regen as the canopy was a close call. The residual includes mature NPO, spindly JP poles, large sapling JP & oak, and a pocket of RP. Uncut inclusions of J6 border the MATES fence. The subcanopy has advanced oak regen, with some JP. The stand's west half has been used as a bivouac site. |



| Stand | Cover Type | Acres | Managed Site | General Comments: |
|-------|-----------------------------|-------|--------------|---|
| 2 | 6220 - Alder/willow | 12.6 | No | L3 bordering Lewiston Grade. Primarily salix & tag alder, with small amounts of highbush cranberry, spiraea, bog birch, red osier dogwood, ilex, wild raisin, etc. Tamarack, WP, black spruce & balsam fir have been progressively colonizing this lowland shrub type. The east half was identified by MNFI as a Poor Fen natural community which has since been designated as an ERA. |
| 3 | 122 - Road/Parking Lot | 2.5 | No | Lewiston Grade Road. Seasonal county road, snowmobile trail corridor. |
| 5 | 6220 - Alder/willow | 19.0 | No | L3 bordering Lewiston Grade. Primarily salix & tag alder, with small amounts of highbush cranberry, spiraea, bog birch, red osier dogwood, ilex, wild raisin, etc. Tamarack, WP, black spruce & balsam fir have been progressively colonizing this lowland shrub type. Scattered aspen have been dying out. |
| 10 | 6220 - Alder/willow | 11.0 | No | Tag alder & salix with patches of marsh & encroaching tamarack & WP saplings. The southeast peninsula has a spine of low-density mature tree cover (L-XL-P white pine & P-L tamarack) above the L3. |
| 12 | 6229 - Mixed lowland shrub | 0.9 | No | Mixed lowland shrub cover with heavy deer browse on the dogwood & viburnum. Salix, tag alder & hawthorn present. Quaking aspen has been encroaching into the wetland. |
| 13 | 6220 - Alder/willow | 1.1 | No | Sparse salix, tag alder, likely some marsh. |
| 14 | 6220 - Alder/willow | 2.9 | No | Salix with some tag alder, red osier dogwood and nannyberry or wild raisin. |
| 15 | 6229 - Mixed lowland shrub | 1.9 | No | Bog birch with some salix, and encroaching tamarack, WP, black spruce & JP saplings. |
| 16 | 3204 - Mast Producing Shrub | 148.6 | No | Most of the stand was harvested in Feb 2011 (72-665-07-01, Opening Restoration), cutting only the JP & aspen 2"+ DBH. The management goal was to set back encroaching JP cover within the large upland opening. RP, WP & oak were left scattered across this mast-producing shrub stand. Black cherry is the majority shrub cover, with small amounts of serviceberry and hawthorn. Patches of aspen have sprouted along the perimeter. The north end of the stand was excluded from the harvest because of the sparser cover (part east of the two-track signed "Woodruff Way" had burned a few years ago). Also excluded from the harvest was a narrow strip of JP & WP poletimber between the west edge two-track and the swamp. Small wetlands occur along the stand's north and west edges.. |
| 19 | 6220 - Alder/willow | 1.3 | No | Tag alder on the floodplain of the East Branch of the AuSable River. |
| 20 | 6220 - Alder/willow | 3.3 | No | Tag alder on the floodplain of the East Branch of the AuSable River. By aerial imagery, east side of river appears to have uplands. |



| Stand | Cover Type | Acres | Managed Site | General Comments: |
|-------|------------------------------------|-------|--------------|---|
| 21 | 3302 - Low Density Conifer Trees | 69.8 | No | The stand was part of a larger previous-YOE upland brush stand, but this portion was excluded from the 2011 opening restoration harvest in order to discourage off-road driving from the tank trail. There was heavy tracked equipment operation in the past. The stand has mast-producing shrub cover (mostly black cherry, some serviceberry), slowly expanding patches of JP, and scattered perimeter RP, NPO & quaking aspen. That encroachment has reached Low-Density Tree status. Three acres in the NW were harvested as part of 72-658-07-01, Old Grades Pine. Dredged material from Fisheries Division sand trap maintenance is stockpiled in this stand. |
| 23 | 6220 - Alder/willow | 7.6 | No | Floodplain of the East Branch of the AuSable River. Mostly tag alder, with salix & some grey dogwood. A Fisheries Division sand trap work pad is located within the stand, northwest of the tank trail's timber bridge. |
| 25 | 122 - Road/Parking Lot | 2.2 | No | Cleared road corridor. |
| 26 | 122 - Road/Parking Lot | 1.0 | No | Cleared road corridor. |
| 30 | 7109 - Sand (OI) | 21.8 | No | Tank trail just outside of the Range 30 fence. Sandy corridor with narrow strips of tree cover included. |
| 31 | 3301 - Low Density Deciduous Tree | 53.5 | No | Swath inside the Range 30 fence was cut spring 2001 (72-024-01-02, West Range 30) for tank trail & fuel break purposes. Maintained open along the fence, with patches of oak & aspen regen encroaching from the range interior. |
| 34 | 320 - Upland Shrub | 177.4 | No | Within fenced MPRC Range 30 area. Likely to have low-density oak, RM, aspen, JP and cherry regen scattered across the upland opening. Experiences periodic fire. |
| 37 | 310 - Herbaceous Openland | 6.7 | No | Shallow valley opening with encroaching brushy NPO, JP & cherry. |
| 41 | 310 - Herbaceous Openland | 1.4 | No | Grassy opening with encroaching JP & oak. Grown-over dirt piles. |
| 42 | 123 - Other High Intensity Urban | 62.7 | No | North Down River Road corridor and fenced MATES facility. |
| 44 | 790 - Other Bare/Sparsely Vegetate | 8.9 | No | Opening with a few brushy RP, NPO & JP. Heavy equipment maneuvers site. |
| 45 | 3302 - Low Density Conifer Trees | 61.6 | No | Stand was harvested in fall 2009 (72-619-07-01, MATES Oak & Jack), cutting only the merch JP. The stand has patchy residual cover in spindly JP poles, large sapling JP & oak, mature NPO, cherry brush and widely scattered RP. Locally, canopy cover is >25%, but the stand averages out to non-forested, with low-density tree cover. The treatment type was a delayed removal, with the goal of releasing the advanced JP & oak regen. That was achieved, but the released material doesn't meet the forested benchmark. |