

# **Compartment Review Presentation**

**Grayling Forest Management Unit** 

Compartment 72021

Entry Year 2021

Acreage: 2,394

County Oscoda

Management Area: Kirtland's Warbler

Revision Date: 2019-07-09

Stand Examiner: Kevin Ehlert

**Legal Description:** 

T28N R1E Sections 7, 18, 19, 20, 30, 31, Greenwood Township

### **Identified Planning Goals:**

To maintain forest health, productivity, sustainability, species diversification, and structural diversity throughout the compartment while providing for multiple use and visual management. In addition, to maintain a healthy habitat for the endangered species Dendroica kirtlandii (Kirtland's warbler), taking into account warbler management plan directives, species diversity, and visual management.

### Soil and topography:

The terrain varies from outwash plains on Grayling Sand to swamp and lowland floodplains on organic soils with seasonal high water tables.

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

The compartment is bordered primarily by other state land, along with USFWS ownership. There is a small amount of private interface, including the Consumers Power ROW. The compartment is part of the Big Creek Kirtland's Warbler Management Unit.

### **Unique Natural Features:**

In addition to Kirtland's warbler habitat, the Middle Branch of Big Creek is part of a designated Natural Rivers system. Kirtland's warbler and dry prairie plants associated with pine barrens have been found within the compartment. In addition, there is the potential for rare insect species to be found within the pine barrens types, and for rare reptiles to occur along the riparian corridors.

#### Archeological, Historical, and Cultural Features:

Old railroad grades cross through the compartment and turn-of-the century logging era pine stumps are common. See Locked Comments.

#### **Special Management Designations or Considerations:**

The compartment is part of the Big Creek Kirtland's Warbler Management Unit, a High Conservation Value Area (HCVA). In addition, the Middle Branch of Big Creek's corridor is within another HCVA

#### **Watershed and Fisheries Considerations:**

This compartment is in the Au Sable River watershed, and contains a portion of Pickerel Lake and the Middle Branch Big Creek downstream of Big Creek Impoundment. Middle Branch Big Creek is a designated trout stream. Prescribed management activities are appropriate for the protection of these waterbodies.

#### Wildlife Habitat Considerations:

Habitat management for the Kirtland's warbler not only benefits that species, but also provides habitat for other opening-dependent songbirds, and white-tailed deer. Four maintained wildlife openings occur within the compartment. The compartment's aspen and lowland type interface provide habitat for grouse, woodcock and hare. Bear also frequent the area.

#### Mineral Resource and Development Concerns and/or Restrictions

The nearest active sand/gravel pits are located approximately six miles away, but there is good sand & gravel potential within the compartment. The compartment is located at the southern edge of the Antrim Shale gas play. All state mineral rights in Section 7 are currently under lease and held by production. The remainder of the compartment has not been developed for natural gas, and there is unlikely to be further Antrim development within the compartment in the near future. No other known oil & gas potential exists in this area. There is no known metallic mineral potential in this part of the state.

#### Vehicle Access:

Most of the compartment is accessible by county roads, including Pickerel Lake, Williams, Henning, Farrington and Walsh Roads. The snowmobile trail, gas well access roads and two-tracks along utility corridors provide additional access.

#### **Survey Needs:**

None

# **Recreational Facilities and Opportunities:**

Part of the Roll Snowmobile trail (#4) runs through the compartment, in addition to the entrance drive for the Walsh Road Trail Camp. Fishing and backcountry camping opportunities exist on Pickerel Lake and the nearby Pickerel Lake Impoundment. The compartment's diversity of habitat types provides good opportunity for deer, bear, grouse, woodcock and hare hunting.

#### **Fire Protection:**

Gas wells and buried pipelines occur within the compartment. Wide cleared utility corridors serve as fuel breaks. Water access points include small ponds adjacent to Pickerel Lake Road and the watering hole on the Middle Branch of Big Creek.

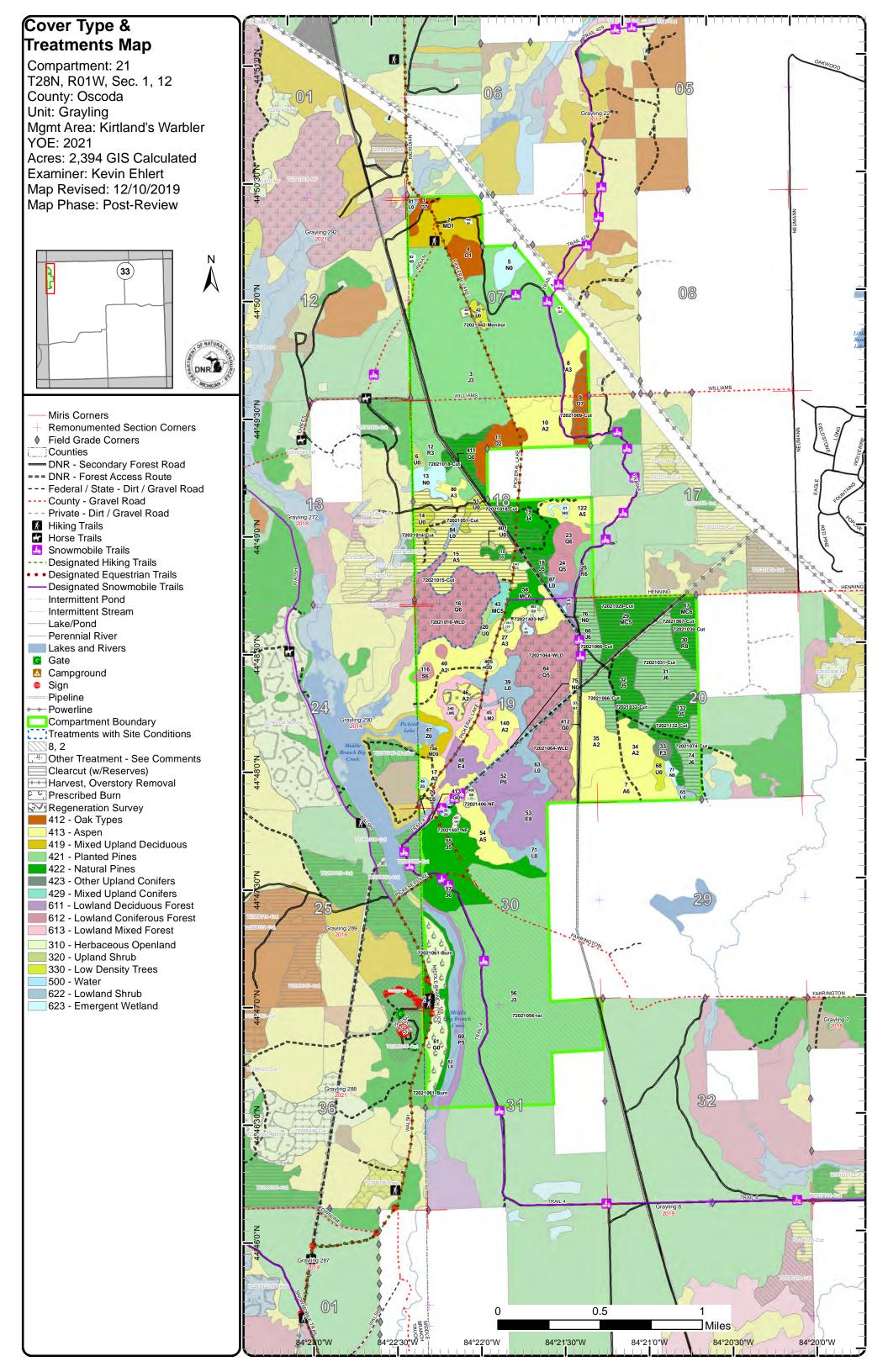
# **Additional Compartment Information:**

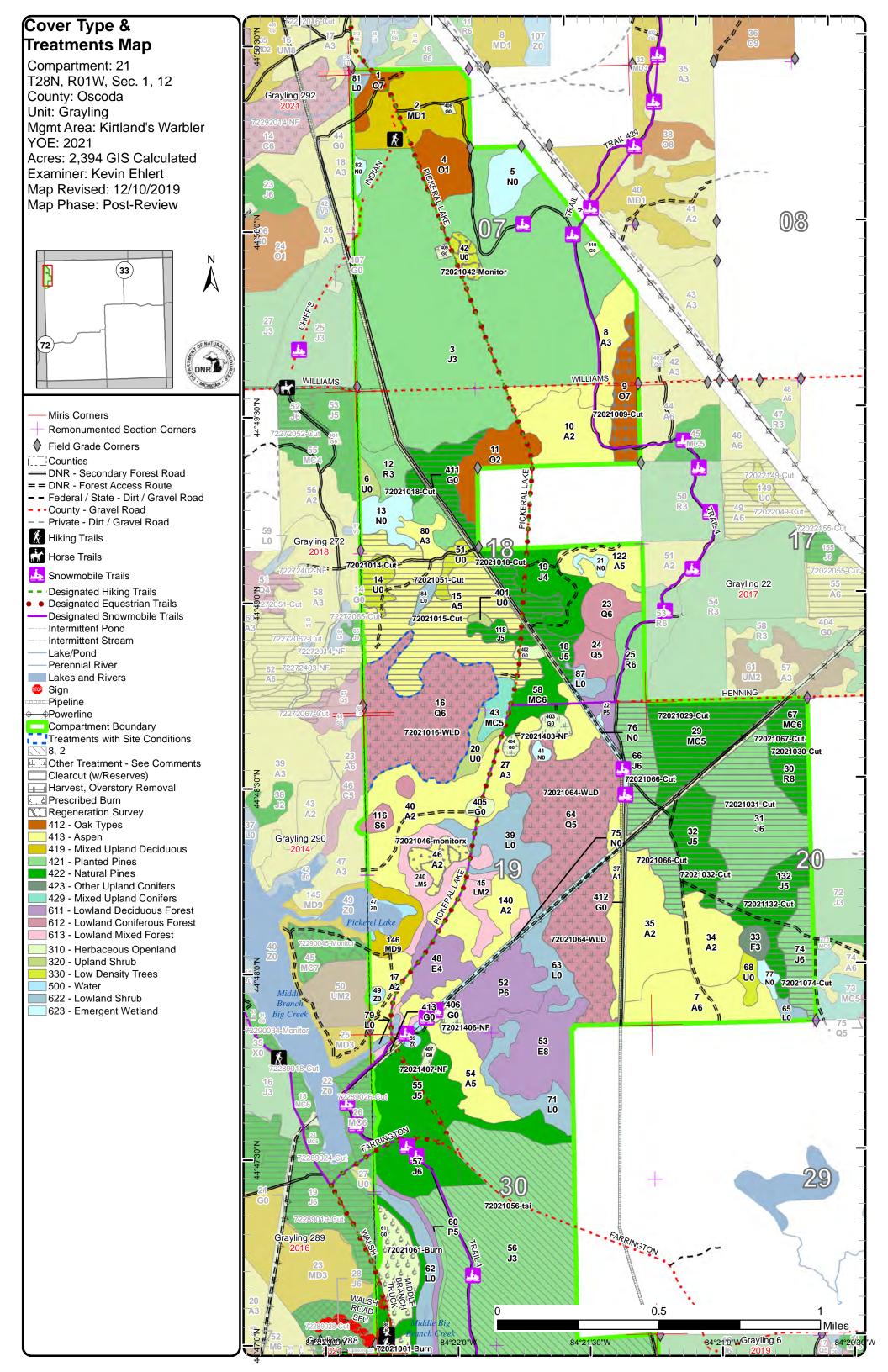
The following reports from the Inventory are attached:

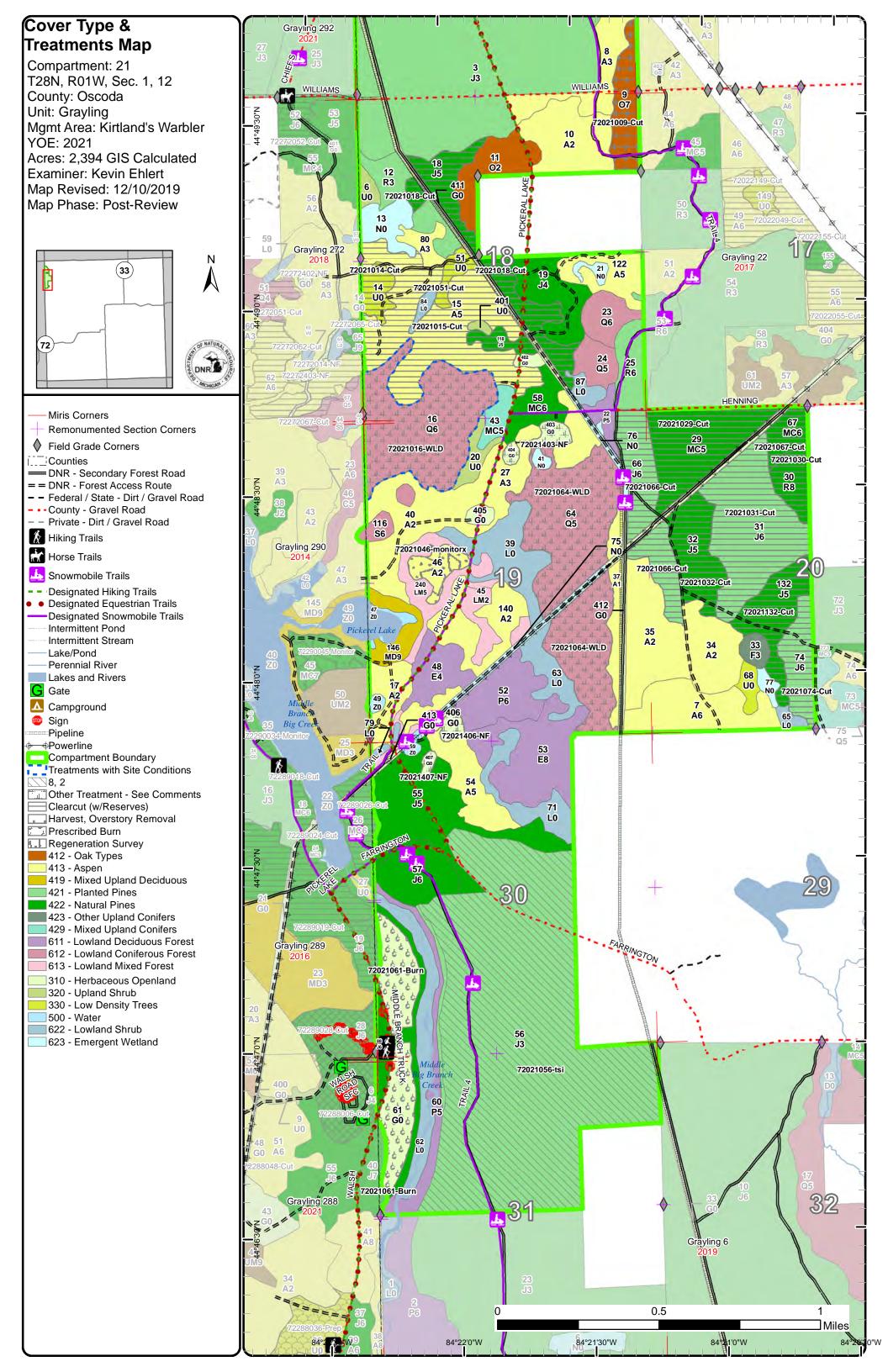
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

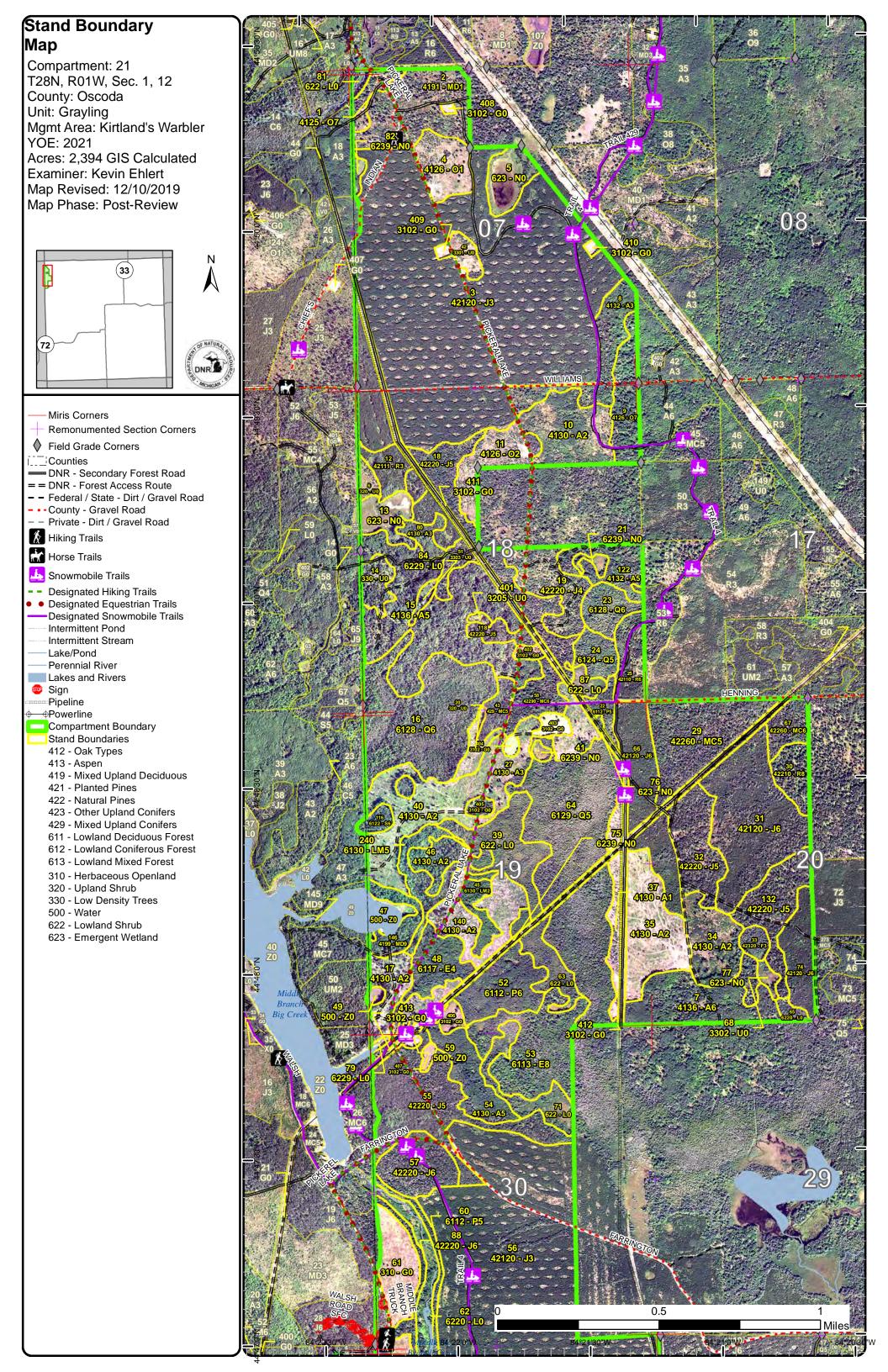
The following information is displayed, where pertinent, on the attached compartment maps:

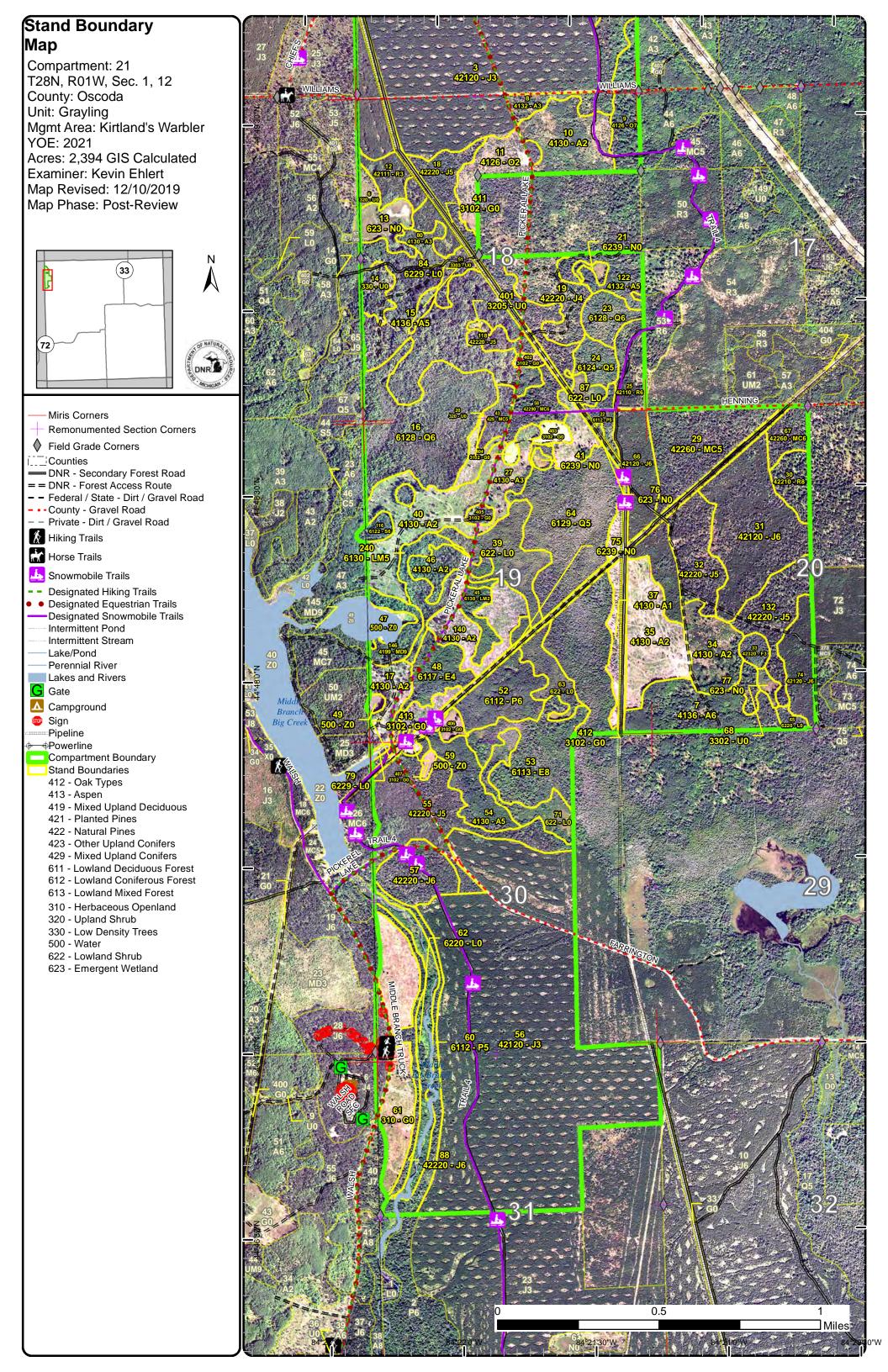
Base feature information, stand boundaries, cover types, and numbers Proposed treatments
Site condition boundaries
Details on the road access system

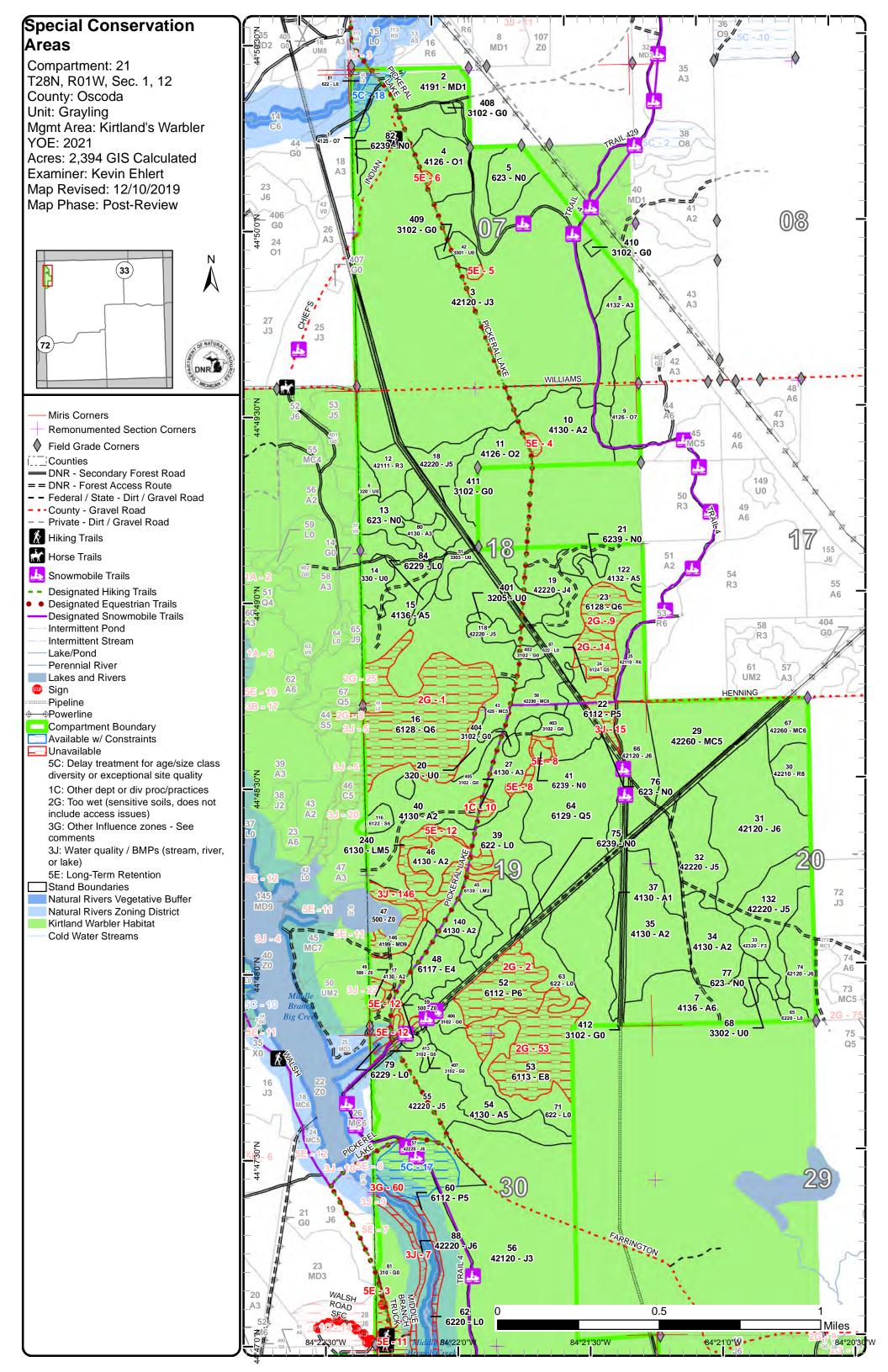


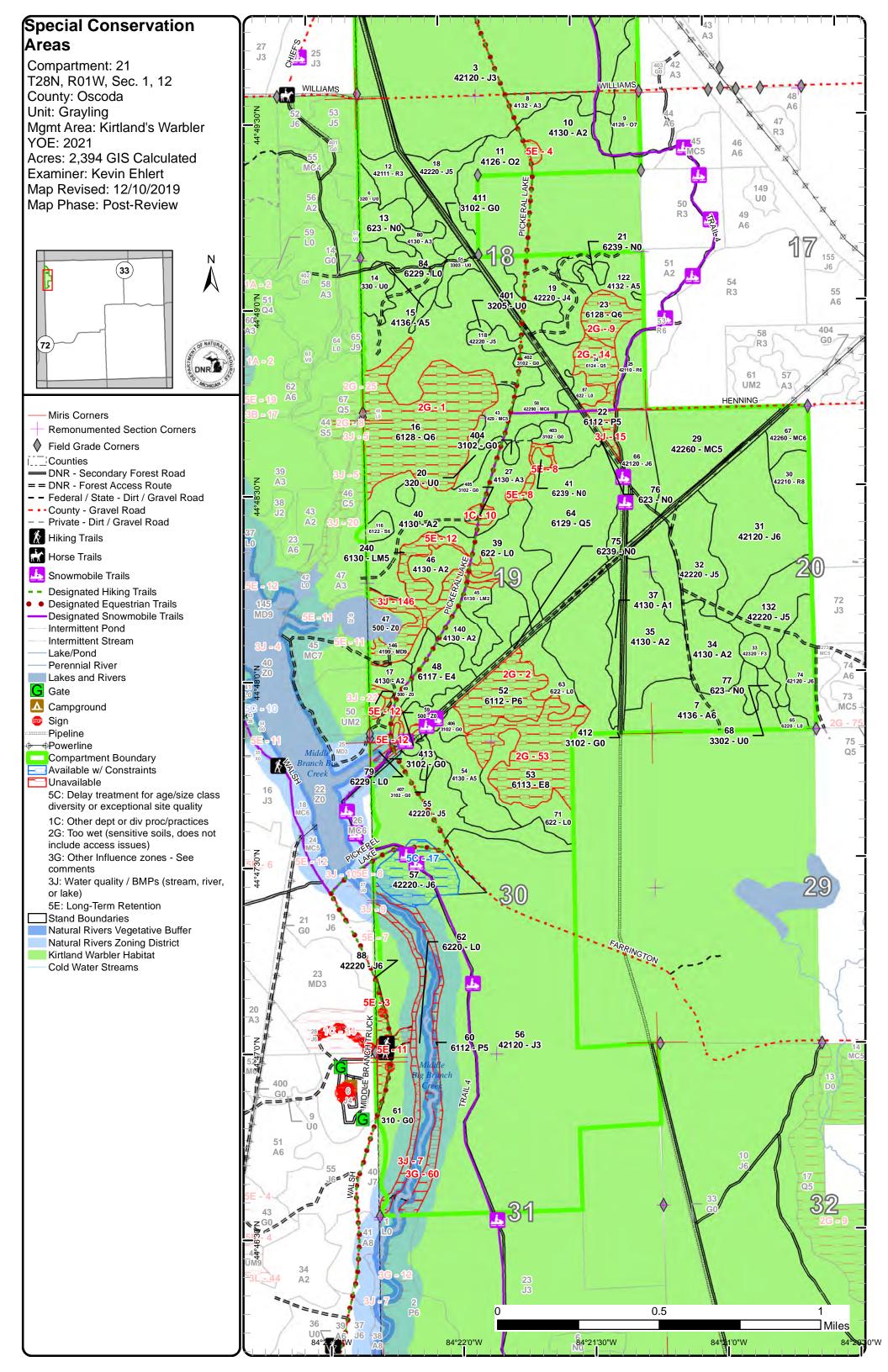












Compartment 21

Year of Entry 2021

Grayling Mgt. Unit
Kevin Ehlert : Examiner



## Age Class

|                             |             |                                       | //    |     |     |     | <u> </u> |    | <u>/</u> |    |    |     | <u>/</u> / | , <u> </u> | <del>/</del> | <u>/</u> | <u>/</u> | //      | x  |
|-----------------------------|-------------|---------------------------------------|-------|-----|-----|-----|----------|----|----------|----|----|-----|------------|------------|--------------|----------|----------|---------|--|
|                             | <b>₹</b> or | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 3 / 2 |     | d k | No. | S (S     | 8  |          |    |    |     | 'Z',       | § /4       |              |          |          | St June | TO TO STATE OF THE PERSON NAMED IN COLUMN TO STATE OF THE |
| Aspen                       | 0           | 181                                   | 58    | 33  | 0   | 58  | 86       | 0  | 0        | 0  | 0  | 0   | 0          | 0          | 0            | 0        | 0        | 18      | 433  |
| Herbaceous Openland         | 96          | 0                                     | 0     | 0   | 0   | 0   | 0        | 0  | 0        | 0  | 0  | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 96   |
| Jack Pine                   | 0           | 0                                     | 0     | 698 | 125 | 25  | 79       | 68 | 55       | 0  | 0  | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 1050   |
| Low-Density Trees           | 26          | 0                                     | 0     | 0   | 0   | 0   | 0        | 0  | 0        | 0  | 0  | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 26   |
| Lowland Aspen/Balsam Poplar | 0           | 0                                     | 0     | 0   | 0   | 26  | 6        | 19 | 0        | 0  | 0  | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 50   |
| Lowland Conifers            | 0           | 0                                     | 0     | 0   | 0   | 10  | 0        | 0  | 0        | 13 | 0  | 110 | 77         | 0          | 0            | 0        | 0        | 0       | 210  |
| Lowland Deciduous           | 0           | 0                                     | 0     | 18  | 0   | 0   | 0        | 0  | 0        | 45 | 0  | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 63   |
| Lowland Mixed Forest        | 0           | 0                                     | 0     | 9   | 0   | 0   | 26       | 0  | 0        | 0  | 0  | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 35   |
| Lowland Shrub               | 100         | 0                                     | 0     | 0   | 0   | 0   | 0        | 0  | 0        | 0  | 0  | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 100  |
| Lowland Spruce/Fir          | 0           | 0                                     | 0     | 0   | 0   | 0   | 0        | 0  | 7        | 0  | 0  | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 6  |
| Marsh                       | 51          | 0                                     | 0     | 0   | 0   | 0   | 0        | 0  | 0        | 0  | 0  | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 51   |
| Mixed Upland Deciduous      | 0           | 0                                     | 43    | 0   | 0   | 0   | 0        | 0  | 0        | 0  | 12 | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 55   |
| Natural Mixed Pines         | 0           | 0                                     | 0     | 0   | 0   | 0   | 14       | 0  | 44       | 11 | 0  | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 69   |
| Oak                         | 0           | 0                                     | 40    | 0   | 0   | 0   | 0        | 0  | 0        | 0  | 28 | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 68   |
| Red Pine                    | 0           | 0                                     | 0     | 18  | 0   | 0   | 16       | 0  | 0        | 0  | 12 | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 46   |
| Upland Conifers             | 0           | 0                                     | 0     | 0   | 8   | 0   | 0        | 0  | 0        | 0  | 0  | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 8  |
| Upland Shrub                | 12          | 0                                     | 0     | 0   | 0   | 0   | 0        | 0  | 0        | 0  | 0  | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 12   |
| Upland Spruce/Fir           | 0           | 0                                     | 0     | 0   | 0   | 5   | 0        | 0  | 0        | 0  | 0  | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 5  |
| Water                       | 11          | 0                                     | 0     | 0   | 0   | 0   | 0        | 0  | 0        | 0  | 0  | 0   | 0          | 0          | 0            | 0        | 0        | 0       | 11   |
| Total                       | 296         | 181                                   | 141   | 776 | 133 | 124 | 227      | 87 | 106      | 69 | 52 | 110 | 77         | 0          | 0            | 0        | 0        | 18      | 2394   |



# **Report 2 – Treatment Summary**

Grayling Mgt. Unit Year of Entry: 2021

## **Acres of Harvest**

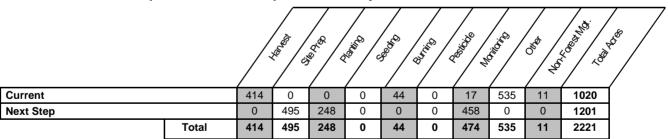
Compartment 21
Total Compartment Acres: 2,394

Commercial Harvest - 414 Harvests with Site Condition - 0 Next Step Harvest - 0 Habitat Cut - 0

## **Cover Type by Harvest Method**

|                     |       | 1   |   |   |   |   |           |  |         |  |       |     |
|---------------------|-------|-----|---|---|---|---|-----------|--|---------|--|-------|-----|
|                     |       | /'  |   |   |   |   | Dougles / | in the state of th | ROUGH O | ************************************** | de la | £ / |
| Aspen               |       | 86  | 0 | 0 | 0 | 0 | 0         | 0  | 0       | 0                                      | 86    |     |
| Jack Pine           |       | 224 | 0 | 0 | 0 | 0 | 0         | 0  | 0       | 0                                      | 224   |     |
| Low-Density Trees   |       | 15  | 0 | 0 | 0 | 0 | 0         | 0  | 0       | 0                                      | 15    |     |
| Natural Mixed Pines |       | 55  | 0 | 0 | 0 | 0 | 0         | 0  | 0       | 0                                      | 55    |     |
| Oak                 |       | 0   | 0 | 0 | 0 | 0 | 0         | 21   | 0       | 0                                      | 21    |     |
| Red Pine            |       | 12  | 0 | 0 | 0 | 0 | 0         | 0  | 0       | 0                                      | 12    |     |
|                     | Total | 393 | 0 | 0 | 0 | 0 | 0         | 21   | 0       | 0                                      | 414   |     |

# **Proposed and Next Step Treatments by Method**



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Compartment: 21 Year of Entry: 2021



**Treatment** Stand Size Stand BA **Treatment Treatment** Cover Type Acres Age Habitat Name CoverType Density Age Range Type Method Objective Structure Cut

**Approved Treatments:** 

72021009-Cut 20.9 4126 - White, Sawtimber 98 1-50 Harvest Overstory 4191 - Mixed Even-Aged No Black, N. Pin Oak Poor Removal Upland

> Deciduous with Conifer

Prescription Harvest all merchantable trees to release advanced regeneration of oak. Protect advanced regeneration of oak through sale specs. Utilize Specs:

island retention, totaling 3-10% of the stand. Focus retention around areas with higher concentration of conifer(red pine). Protect the

snowmobile trail.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Acceptable regeneration is mixed oak and other deciduous species with a component of red and white pine. Target 40% canopy cover of

Regen:

Other Boundary with Federal land on South Line

Comment:

Site Condition

Proposed Start Date: 10/1 /2020

72021014-Cut 9.1 330 - Low-Density Nonstocked Harvest Clearcut with 3303 - Mixed No Trees Retention Low Density

Trees

Prescription Final harvest all species greater than 2"DBH. Follow BMP recommendations around lowland pockets near the stands West boundary. Treat

with adjacent stand 15. Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Expect a mosaic of forested/non forested including any combination of mixed shrubs, conifer and deciduous trees.

Regen: Other

Comment:

Site Condition

Proposed Start Date: 10/1 /2020

72021015-Cut 86.2 4136 - Aspen, Poletimber 1-50 Harvest Clearcut with 413 - Aspen No Even-Aged Mixed Conifer Retention Medium

Prescription Final harvest all species greater than 2" DBH. Follow guidelines for area based retention, focused around the small lowland pockets near

stand 84. Harvest when dormant, Nov. 1 - April 1 in order to maximize regeneration. Hiking/Equestrian trail runs on Pickerel Lake Rd, Specs:

include appropriate trail protection specs.

Monitoring, Natural Regen (Re-Inventory) Next Step

**Treatments:** 

Acceptable Aspen with mixed deciduous and conifer.

Regen:

Other Comment:

Site Condition

| S<br>t  | Grayling          | g Mgt. Unit                                      | I                   | Repor        | rt 3 T      | Treatments          |                            | Compartmen<br>Year of Entry                         | /                | DNR MICHIGAN  |
|---|-------------------|--|---------------------|--------------|-------------|---------------------|----------------------------|---|------------------|---------------|
| a<br>n Treatment<br>d Name                              | Acres             | Stand<br>CoverType                               | Size<br>Density     | Stand<br>Age | BA<br>Range | Treatment<br>Type   | Treatment<br>Method        | Cover Type<br>Objective                             | Age<br>Structure | Habita<br>Cut |
| 16 72021016-<br>WLD                                     | 76.6              | 6128 - Lowland<br>Coniferous, Mixed<br>Deciduous | Poletimbe<br>Well   | r 116        | 51-80       | Other               | Other                      | 6129 - Mixed<br>Coniferous<br>Lowland Forest        | Even-Aged        | No            |
| Next Step Treatments:  Acceptable Regen: Other Comment: |                   | o create horizontal<br>balsam fir. We wil        |                     |              |             |                     |                            |   | ifer species, p  | rimarily      |
| Proposed Start Date                                     | <u>:</u> 10/1 /20 | )20  |                     |              |             |                     |                            |   |                  |               |
| 18 72021018-Cut   | 37.7              | 42220 - Natural<br>Jack Pine                     | Poletimbe<br>Medium | r 64         | 51-80       | Harvest             | Clearcut with<br>Retention | 42221 - Natural<br>Jack Pine,<br>Mixed<br>Deciduous | Even-Aged        | No            |
| Prescription Final h<br>Specs: for the                  |                   | species 2" and up.<br>n/hiking trail.            | Follow stan         | dard re      | tention gu  | uidelines utilizing | g area based reten         | tion. Use appropri                                  | ate trail proted | tion spe      |
| Next Step Monito<br>Treatments:                         | ring, Natur       | al Regen (Re-Inver                               | ntory)              |              |             |                     |                            |   |                  |               |
| Acceptable A stan-<br>Regen: curren                     | d of natural      |  | and oak mee         | eting mi     | inimum ad   | cceptable stocki    | ng levels. Stockin         | g levels may vary                                   | due to variabil  | ity in        |
| Other Interface Comment:                                | ce with Fed       | deral land on E edg                              | je.                 |              |             |                     |                            |   |                  |               |
| Site Condition  |                   |  |                     |              |             |                     |                            |   |                  |               |
| Proposed Start Date                                     | <u>:</u> 10/1 /20 | )20  |                     |              |             |                     |                            |   |                  |               |
| 29 72021029-Cut   | 44.4              | 42260 - Natural<br>Pine, Mixed<br>Deciduous      | Poletimbe<br>Medium | r 78         | 1-50        | Harvest             | Clearcut with<br>Retention | 4222 - Natural<br>Jack Pine                         | Even-Aged        | No            |
|   |                   |  |                     |              |             |                     |                            |   |                  |               |

Acceptable Regen: A combination of natural regeneration of jack pine and mixed deciduous with planted jack pine where natural regen does not meet stocking levels of 800 stems per acre at 3rd year regen survey.

Other Comment:

Site Condition

Red Pine Medium Retention Prescription Final harvest stand, all species 2"+ DBH. Follow standard retention guidelines. Design retention islands to represent fire vortices layed out Specs:

in a method to capture the XLog red pine on East boundary. Require low stumps. Leave tops scattered throughout site to promote natural

regeneration.

SitePrep, Scarification; Monitoring, Natural Regen (Intermediate); SitePrep, Trenching; Planting, Interplant Next Step

Treatments:

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Acceptable A combination of natural regeneration of jack pine and mixed deciduous with planted jack pine where natural regen does not meet stocking

Regen: levels of 800 stems per acre at 3rd year regen survey.

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

42120 - Planted 66.5 Poletimber 32 1-50 Harvest Clearcut with 4222 - Natural No 72021031-Cut Even-Aged Jack Pine Well Retention Jack Pine

Prescription Final harvest stand, all species 2"+ DBH. Follow standard retention guidelines. Design retention islands to represent fire vortices. Require Specs:

low stumps. Leave tops scattered throughout site to promote natural regeneration.

SitePrep, Scarification; Monitoring, Natural Regen (Intermediate); SitePrep, Trenching; Planting, Interplant Next Step

Treatments:

Acceptable A combination of natural regeneration of jack pine and mixed deciduous with planted jack pine where natural regen does not meet stocking

levels of 800 stems per acre at 3rd year regen survey.

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

32 72021032-Cut 27.6 42220 - Natural Poletimber 51-80 Harvest Clearcut with 4222 - Natural Even-Aged No Jack Pine Jack Pine Medium Retention

Prescription Final harvest stand, all species 2"+ DBH. Follow standard retention guidelines. Design retention islands to represent fire vortices. Require Specs: low stumps. Leave tops scattered throughout site to promote natural regeneration.

Next Step SitePrep, Scarification; Monitoring, Natural Regen (Intermediate); SitePrep, Trenching; Planting, Interplant **Treatments:** 

A combination of natural regeneration of jack pine and mixed deciduous with planted jack pine where natural regen does not meet stocking levels of 800 stems per acre at 3rd year regen survey. Regen:

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

72021042-5.9 3301 - Low Density 42 Nonstocked Immatu Monitoring Natural Regen 4122 - Oak, Pine Even-Aged No Monitor **Deciduous Trees** (Re-Inventory) re

**Prescription** Specs:

Next Step Treatments:

Acceptable oak and jack pine.

Regen:

Other Percent to Treat = 100%

Comment:

Site Condition

Proposed Start Date: 9 /8 /2015

| S<br>t       |                            | Grayling                      | Mgt. Unit                        |                   | Repo         | rt 3 1       | <b>Treatments</b> |                                 | Compartmer<br>Year of Entr           | /                | OF NATURAL PROPERTY OF NAT |
|--------------|----------------------------|-------------------------------|----------------------------------|-------------------|--------------|--------------|-------------------|---------------------------------|--------------------------------------|------------------|--|
| a<br>n<br>d  | Treatment<br>Name          | Acres                         | Stand<br>CoverType               | Size<br>Density   | Stand<br>Age | BA<br>Range  | Treatment<br>Type | Treatment<br>Method             | Cover Type<br>Objective              | Age<br>Structure | Habitat<br>Cut   |
| 46           | 72021046-<br>monitorx      | 10.7                          | 4130 - Aspen                     | Sapling<br>Medium | 2            | Immatu<br>re | Monitoring        | Natural Regen<br>(Re-Inventory) | 4139 - Aspen,<br>Mixed<br>Deciduous  | Even-Aged        | No   |
| Pres<br>Spec | scription check<br>cs:     | regen                         |                                  |                   |              |              |                   |                                 |                                      |                  |  |
|              | t Step<br>atments:         |                               |                                  |                   |              |              |                   |                                 |                                      |                  |  |
| Acce<br>Rege |                            | with RM-PE                    | and mixed conife                 | ers.              |              |              |                   |                                 |                                      |                  |  |
| Othe<br>Com  | <u>er</u> Percer<br>nment: | nt to Treat =                 | 100%                             |                   |              |              |                   |                                 |                                      |                  |  |
| Site         | Condition                  |                               |                                  |                   |              |              |                   |                                 |                                      |                  |  |
| Prop         | oosed Start Date           | <u>:</u> 10/1 /201            | 0                                |                   |              |              |                   |                                 |                                      |                  |  |
| 51           | 72021051-Cut               | 6.3 3                         | 303 - Mixed Low<br>Density Trees | Nonstocke         | ed           |              | Harvest           | Clearcut                        | 3303 - Mixed<br>Low Density<br>Trees |                  | No   |
| Pres<br>Spec |                            | arvest all sp<br>nt lowland ( |                                  | n 2" DBH. 1       | No rete      | ntion due t  | o small stand s   | ize Include with tre            | eatment of stand                     | 15. Follow BM    | Ps near  |
|              | t Step Monito<br>atments:  | ring, Natura                  | l Regen (Re-Inver                | ntory)            |              |              |                   |                                 |                                      |                  | ļ  |
| Acce         |                            | a mosaic o                    | f forested/non fore              | ested includ      | ing any      | combinat     | ion of mixed sh   | rubs, conifer and d             | eciduous trees.                      |                  |  |
| Rege         |                            |                               |                                  |                   |              |              |                   |                                 |                                      |                  |  |
| Rege<br>Othe | <u>er</u><br>nment:        |                               |                                  |                   |              |              |                   |                                 |                                      |                  |  |
| Othe<br>Com  |                            |                               |                                  |                   |              |              |                   |                                 |                                      |                  |  |
| Other Com    | nment:                     | : 10/1 /202                   | 0                                |                   |              |              |                   |                                 |                                      |                  |  |

administration for this project will be completed by MSU. The work will be contracted out either for precommercial thinning by hand in 2021, Specs: with every 3rd tree in each row being removed, or by mechanical thinning in 2020, with every 3rd row being removed.

Next Step Treatments:

<u>Acceptable</u> Regen:

Protect the Snowmobile Trail. The Natural Rivers 150-foot restricted cutting zone has been removed from the draft treatment area.

Comment:

<u>Other</u>

Site Condition

| S<br>t                            | Grayling      | Mgt. Unit                                   | R                    | epor        | t 3 1       | Treatments        |                         | Compartment<br>Year of Entry                 |                  | DNR DNR      |
|-----------------------------------|---------------|---|----------------------|-------------|-------------|-------------------|-------------------------|--|------------------|--------------|
| a<br>n Treatment<br>d Name        | Acres         | Stand<br>CoverType                          | Size S<br>Density    | tand<br>Age | BA<br>Range | Treatment<br>Type | Treatment<br>Method     | Cover Type<br>Objective                      | Age<br>Structure | Habit<br>Cut |
| 61 72021061-<br>Burn              | 43.5 3        | 10 - Herbaceous<br>Openland                 | Nonstocked           | 0           |             | Burn              | Opening                 | 310 -<br>Herbaceous<br>Openland              |                  | No           |
| Prescription Burn pe<br>Specs:    | riodically ir | order to promote                            | dry sand pra         | iirie ar    | nd pine ba  | arrens species a  | nd set back woody       | plant succession                             |                  |              |
| Next Step Monitori<br>Treatments: | ng, Natura    | l Regen (Re-Inven                           | tory)                |             |             |                   |                         |  |                  |              |
| Acceptable Dry sand<br>Regen:     | d prairie ar  | nd pine barrens nat                         | tural commu          | nities.     |             |                   |                         |  |                  |              |
| Other<br>Comment:                 |               |   |                      |             |             |                   |                         |  |                  |              |
| Site Condition                    |               |   |                      |             |             |                   |                         |  |                  |              |
| Proposed Start Date:              | 10/1 /201     | 9   |                      |             |             |                   |                         |  |                  |              |
| 64 72021064-<br>WLD               | 110.1<br>Co   | 6129 - Mixed<br>oniferous Lowland<br>Forest | Poletimber<br>Medium | 105         | 51-80       | Other             | Other                   | 6129 - Mixed<br>Coniferous<br>Lowland Forest | Even-Aged        | No           |
| Prescription WLD wo Specs: WLD wo |               | create horizontal c                         |                      |             |             |                   | , ,                     |  | ifer species, p  | orimarily    |
| Next Step<br>Treatments:          |               |   |                      |             |             |                   |                         |  |                  |              |
| Acceptable<br>Regen:              |               |   |                      |             |             |                   |                         |  |                  |              |
| <u>Other</u>                      |               |   |                      |             |             |                   |                         |  |                  |              |
| Comment:                          |               |   |                      |             |             |                   |                         |  |                  |              |
| Comment: Site Condition           |               |   |                      |             |             |                   |                         |  |                  |              |
|                                   | 10/1 /202     | 0   |                      |             |             |                   |                         |  |                  |              |
| Site Condition                    |               | 0<br>42120 - Planted<br>Jack Pine           | Poletimber<br>Well   | 32          | 1-50        | Harvest           | Clearcut with Retention | 4222 - Natural<br>Jack Pine                  | Even-Aged        | No           |

Acceptable Regen: A combination of natural regeneration of jack pine and mixed deciduous with planted jack pine where natural regen does not meet stocking levels of 800 stems per acre at 3rd year regen survey.

Other Comment:

Site Condition

| S<br>t      |                            | Grayling     | Mgt. Unit                                   |                   | Repo         | rt 3 1      | Freatments        |                            | Compartmen<br>Year of Entry |                  | DNR DNR        |
|-------------|----------------------------|--------------|---|-------------------|--------------|-------------|-------------------|----------------------------|-----------------------------|------------------|----------------|
| a<br>n<br>d | Treatment<br>Name          | Acres        | Stand<br>CoverType                          | Size<br>Density   | Stand<br>Age | BA<br>Range | Treatment<br>Type | Treatment<br>Method        | Cover Type<br>Objective     | Age<br>Structure | Habitat<br>Cut |
| 67          | 72021067-Cut               | 10.9         | 42260 - Natural<br>Pine, Mixed<br>Deciduous | Poletimbe<br>Well | r 80         | 81-110      | Harvest           | Clearcut with<br>Retention | 4222 - Natural<br>Jack Pine | Even-Aged        | No             |
| Pres<br>Spe |                            |              | d, all species 2"+ I<br>e tops scattered th |                   |              |             |                   | Design retention is on.    | lands to represen           | t fire vortices. | Require        |
|             | t Step SitePre<br>atments: | p, Scarifica | ation; Monitoring,                          | Natural Re        | gen (Int     | termediate  | e); SitePrep, T   | renching; Planting         | , Interplant                |                  |                |
| Acce<br>Reg |                            |              | natural regenerations per acre at 3rd y     |                   |              | mixed ded   | ciduous with pla  | anted jack pine whe        | re natural regen d          | loes not meet    | stocking       |
| Othe<br>Com | e <u>r</u><br>nment:       |              |   |                   |              |             |                   |                            |                             |                  |                |
| Site        | Condition                  |              |   |                   |              |             |                   |                            |                             |                  |                |
| Prop        | osed Start Date:           | 10/1 /202    | 20  |                   |              |             |                   |                            |                             |                  |                |
| 74          | 72021074-Cut               | 20.1         | 42120 - Planted<br>Jack Pine                | Poletimbe<br>Well | r 32         | 1-50        | Harvest           | Clearcut with<br>Retention | 4222 - Natural<br>Jack Pine | Even-Aged        | No             |
| Pres<br>Spe |                            |              | d, all species 2"+ I<br>e tops scattered th |                   |              |             |                   | Design retention is on.    | lands to represen           | t fire vortices. | Require        |
|             | t Step SitePre<br>atments: | p, Scarifica | ation; Monitoring,                          | Natural Re        | gen (Int     | termediate  | e); SitePrep, T   | renching; Planting         | , Interplant                |                  |                |
| Acce<br>Reg |                            |              | natural regenerations per acre at 3rd y     |                   |              | mixed ded   | ciduous with pla  | anted jack pine whe        | re natural regen d          | loes not meet    | stocking       |
| Othe<br>Com | <u>er</u><br>nment:        |              |   |                   |              |             |                   |                            |                             |                  |                |
| Site        | Condition                  |              |   |                   |              |             |                   |                            |                             |                  |                |
| Prop        | osed Start Date:           | 10/1 /202    | 20  |                   |              |             |                   |                            |                             |                  |                |
| 118         | 72021118-Cut               | 6.4          | 42220 - Natural                             | Poletimbe         | r 64         | 51-80       | Harvest           | Clearcut                   | 42221 - Natural             | Even-Aged        | No             |

| 1 | 18 72021118-Cut | 6.4 | 42220 - Natural | Poletimber | 64 | 51-80 | Harvest | Clearcut | 42221 - Natural | Even-Aged | No |
|---|-----------------|-----|-----------------|------------|----|-------|---------|----------|-----------------|-----------|----|
|   |                 |     | Jack Pine       | Medium     |    |       |         |          | Jack Pine,      |           |    |
|   |                 |     |                 |            |    |       |         |          | Mixed           |           |    |
|   |                 |     |                 |            |    |       |         |          | Deciduous       |           |    |

<u>Prescription</u> Final harvest all species greater than 2" DBH. No retention due to small stand size. Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

<u>Acceptable</u> Any combination of jack pine, aspen and mixed deciduous <u>Regen:</u>

Other Comment:

Site Condition

Grayling Mgt. Unit Report 3 -- Treatments Compartment: 21 S Year of Entry: 2021 t а **Treatment** Stand Size Stand BA **Treatment Treatment** Cover Type Acres Age Habitat n Method Name CoverType Density Age Range Type Objective Structure Cut d 132 72021132-Cut 27.3 42220 - Natural Poletimber 51-80 Harvest Clearcut with 4222 - Natural Even-Aged No Jack Pine Medium Retention Jack Pine Prescription Final harvest stand, all species 2"+ DBH. Follow standard retention guidelines. Design retention islands to represent fire vortices. Require low stumps. Leave tops scattered throughout site to promote natural regeneration. Next Step SitePrep, Scarification; Monitoring, Natural Regen (Intermediate); SitePrep, Trenching; Planting, Interplant Treatments: Acceptable A combination of natural regeneration of jack pine and mixed deciduous with planted jack pine where natural regen does not meet stocking levels of 800 stems per acre at 3rd year regen survey. Regen: Other Comment: Site Condition Proposed Start Date: 10/1 /2020 3102 - Grass 403 72021403-NF 4.2 3102 - Grass Nonstocked NonForestMgt Other - Specify No Prescription 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. Specs: 2010 YOE opening maintenance FTP C72-658 Next Step Treatments: **Acceptable** Regen: Other Comment: Site Condition

Proposed Start Date: 10/1 /2020

1.8

404 72021404-NF 3102 - Grass NonForestMgt Other - Specify 3102 - Grass

Nonstocked

Prescription 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. Specs:

2010 YOE opening maintenance FTP C72-658

Next Step Treatments:

**Acceptable** Regen:

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

No

Grayling Mgt. Unit Report 3 -- Treatments Compartment: 21 S Year of Entry: 2021 t а **Treatment** Stand Size Stand BA **Treatment Treatment** Cover Type **Acres** Age Habitat n Name CoverType Density Age Range Type Method Objective Structure Cut d 406 72021406-NF 3.9 3102 - Grass Nonstocked NonForestMat Other - Specify 3102 - Grass No Prescription 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. 2010 YOE opening maintenance FTP C72-658 Next Step Treatments: <u>Acceptable</u> Regen: Other Comment: Site Condition Proposed Start Date: 10/1 /2020 407 72021407-NF 1.8 3102 - Grass Nonstocked Immatu NonForestMgt Other - Specify 3102 - Grass No Prescription Periodic opening maintenance, as needed, that may include disking, fertilizing, food plot seeding, no-till prairie grass drill seeding, mowing, Specs: brushing, tree and shrub planting, Rx burning and herbicide application. 2010 YOE opening maintenance FTP C72-658 Next Step Treatments: <u>Acceptable</u> Regen: Other Comment: Site Condition Proposed Start Date: 10/1 /2020 409 72021409-NF 1.3 3102 - Grass Nonstocked NonForestMgt Other - Specify 3102 - Grass No

Specs:

Prescription 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.

2010 YOE opening maintenance FTP C72-658

Next Step **Treatments:** 

<u>Acceptable</u> Regen:

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

**Total Treatment** 1022.2 **Acreage Proposed:** 

Compartment: 21

**Grayling Mgt. Unit** 

Kevin Ehlert : Examiner Year of Entry: 2021

| Availa | ability for | Managemen      | nt            |                             |       |         |        |         |    |    |
|--------|-------------|----------------|---------------|-----------------------------|-------|---------|--------|---------|----|----|
| Total  | Acres       | Acres Avail    | Acres         | Do                          | omina | nt Site | e Cond | ditions | S  |    |
| Acres  | Available   | With Condition | Not Available |                             | 5C    | 1C      | 2G     | 3G      | 3J | 5E |
| 433    | 430         | 0              | 3             | Aspen                       |       |         |        |         | 0  | 3  |
| 96     | 93          | 0              | 3             | Herbaceous Openland         |       | 3       | 0      |         | 0  | 0  |
| 1050   | 1006        | 24             | 20            | Jack Pine                   | 24    | 0       |        | 0       | 11 | 9  |
| 26     | 25          | 0              | 1             | Low-Density Trees           |       |         |        |         |    | 1  |
| 51     | 1           | 0              | 50            | Lowland Aspen/Balsam Poplar |       |         | 26     | 17      | 7  |    |
| 210    | 106         | 0              | 103           | Lowland Conifers            |       |         | 100    |         |    | 4  |
| 63     | 18          | 0              | 45            | Lowland Deciduous           |       |         | 45     |         |    |    |
| 34     | 12          | 0              | 22            | Lowland Mixed Forest        |       |         |        |         | 0  | 22 |
| 100    | 100         | 0              | 0             | Lowland Shrub               |       |         |        | 0       | 0  | 0  |
| 6      | 6           | 0              | 0             | Lowland Spruce/Fir          |       |         |        |         |    |    |
| 50     | 50          | 0              | 0             | Marsh                       |       |         |        |         |    | 0  |
| 55     | 43          | 0              | 12            | Mixed Upland Deciduous      |       |         |        |         | 12 | 0  |
| 69     | 69          | 0              | 0             | Natural Mixed Pines         |       |         |        |         |    |    |
| 69     | 59          | 8              | 2             | Oak                         | 8     |         |        |         |    | 2  |
| 46     | 46          | 0              | 0             | Red Pine                    |       |         |        |         |    |    |
| 8      | 8           | 0              | 0             | Upland Conifers             |       |         |        |         |    |    |
| 12     | 12          | 0              | 0             | Upland Shrub                |       |         |        |         |    |    |
| 5      | 5           | 0              | 0             | Upland Spruce/Fir           |       |         |        |         |    |    |
| 11     | 11          | 0              | 0             | Water                       |       |         |        |         | 0  | 0  |
| 2,394  | 2,101       | 31             | 261           | Total Forested Acres        | 31    | 3       | 171    | 17      | 29 | 41 |
|        | 88%         | 1%             | 11%           | 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.

|   | Dominant Site<br>Cond Availability | Dominant Site Condition                                       | Acres | Other Site Condition | Other Site Condition | Other Site Condition | Other Site Condition |
|---|------------------------------------|---|-------|----------------------|----------------------|----------------------|----------------------|
| 1 | Unavailable                        | 2G: Too wet (sensitive soils, does not include access issues) | 77    | Unspecified          | Unspecified          | Unspecified          | Unspecified          |
| ( | Comments:                          |   |       |                      |                      |                      |                      |
|   |                                    |   |       |                      |                      |                      |                      |
|   |                                    |   |       |                      |                      |                      |                      |

# Report 4 – Site Conditions

Grayling Mgt. Unit

Kevin Ehlert : Examiner

| 2 | Unavailable                                 | 2G: Too wet (sensitive soils, does not include access issues)  | 26                | 5F: Evaluated for Forest<br>Health Considerations  | Unspecified   | Unspecified  | Unspecified       |
|---|---|--|-------------------|--|---|--|-------------------|
|   | A majority of the ba<br>more balsam fir shi | to recon for SBW risk. Snowsh<br>Isam fir encountered is sub-car<br>fted into the pole class. There<br>this aspen stand early in order | nopy in<br>is SBW | stature and pre-commercial defoliation present in the commercial defoliation defoliation present in the commercial defoliation defoliation present in the commercial defoliation defoliation present in the commercial defoliation defol | al. Approx. 2.5 acres flanki<br>older fir along the powerline | ng the powerline corridor's corridor, but little interior. | driest ground has |
| 3 | Unavailable                                 | 5E: Long-Term Retention  | 8                 | 1C: Other dept or div proc/practices   | Unspecified   | Unspecified  | Unspecified       |
|   | Comments:                                   |  |                   |  |   |  |                   |
| 4 | Unavailable                                 | 5E: Long-Term Retention  | 2                 | Unspecified  | Unspecified   | Unspecified  | Unspecified       |
|   | Comments:                                   |  |                   |  |   |  |                   |
| 5 | Unavailable                                 | 5E: Long-Term Retention  | 1                 | Unspecified  | Unspecified   | Unspecified  | Unspecified       |
|   | Comments:                                   |  |                   |  |   |  |                   |
| 6 | Unavailable                                 | 5E: Long-Term Retention  | 1                 | Unspecified  | Unspecified   | Unspecified  | Unspecified       |
|   | Comments:                                   |  |                   |  |   |  |                   |
| 7 | Unavailable                                 | 3J: Water quality / BMPs<br>(stream, river, or lake)   | 12                | Unspecified  | Unspecified   | Unspecified  | Unspecified       |
|   | Comments:<br>Riparian buffer left           | when stand 61 was harvested.   |                   |  |   |  |                   |
|   |   | when stand 61 was harvested.   |                   |  |   |  |                   |
|   |   |  |                   |  |   |  |                   |

# Report 4 – Site Conditions

Grayling Mgt. Unit Kevin Ehlert : Examiner

| 8  | Unavailable                       | 5E: Long-Term Retention                                       | 4        | Unspecified  | Unspecified             | Unspecified   | Unspecified |
|----|-----------------------------------|---|----------|--|-------------------------|---------------|-------------|
|    | Comments:<br>Part of stand 27's p | proposed treatment area that wa                               | as not c | ut. Merged as inclusions in s  | tand 38 during post-har | vest updates. |             |
| 9  | Unavailable                       | 2G: Too wet (sensitive soils, does not include access issues) | 13       | Unspecified  | Unspecified             | Unspecified   | Unspecified |
|    | Comments:                         |   |          |  |                         |               |             |
| 10 | Unavailable                       | 1C: Other dept or div proc/practices                          | 3        | Unspecified  | Unspecified             | Unspecified   | Unspecified |
|    | Comments:<br>see locked comme     | nts   |          |  |                         |               |             |
| 11 | Unavailable                       | 5E: Long-Term Retention                                       | 2        | (Inactive)3I: Historical /<br>archeological (add<br>locked comments) | Unspecified             | Unspecified   | Unspecified |
|    | Comments:<br>Long-term retention  | n for stand 61's harvest.                                     |          |  |                         |               |             |
| 12 | Unavailable                       | 5E: Long-Term Retention                                       | 25       | Unspecified  | Unspecified             | Unspecified   | Unspecified |
|    | Comments:<br>Retention left when  | n stands 40, 46 & 50 were cut (#                              | 033-12   | ), most of it buffers along inte                                     | ermittent streams and w | etlands.      |             |
| 14 | Unavailable                       | 2G: Too wet (sensitive soils, does not include access issues) | 10       | Unspecified  | Unspecified             | Unspecified   | Unspecified |
|    | Comments:                         |   |          |  |                         |               |             |
|    |                                   |   |          |  |                         |               |             |
|    |                                   |   |          |  |                         |               |             |

# Report 4 – Site Conditions

Grayling Mgt. Unit
Kevin Ehlert : Examiner

| 15  | Unavailable                     | 3J: Water quality / BMPs<br>(stream, river, or lake)                         | 6        | 2G: Too wet (sensitive soils, does not include access issues) | Unspecified               | Unspecified   | Unspecified |
|-----|---------------------------------|--|----------|---|---------------------------|---------------|-------------|
| C   | Comments:                       |  |          |   |                           |               |             |
| 17  | Available                       | 5C: Delay treatment for age/size class diversity or exceptional site quality | 24       | Unspecified   | Unspecified               | Unspecified   | Unspecified |
|     | Comments:<br>Part of KW Manag   | ement Block 59. Delay treatme  | nt and   | harvest with stand 56.  |                           |               |             |
| 18  | Available                       | 5C: Delay treatment for age/size class diversity or exceptional site quality | 8        | Unspecified   | Unspecified               | Unspecified   | Unspecified |
|     | Comments:<br>Small, low density | and volume stand adjacent to M   | 1iddle B | ranch, Big Creek. Leave unt                                   | il adjacent stand 2 has g | rown up more. |             |
| 53  | Unavailable                     | 2G: Too wet (sensitive soils, does not include access issues)                | 45       | Unspecified   | Unspecified               | Unspecified   | Unspecified |
| (   | Comments:                       |  |          |   |                           |               |             |
| 60  | Unavailable                     | 3G: Other Influence zones - See comments                                     | 17       | Unspecified   | Unspecified               | Unspecified   | Unspecified |
| (   | Comments:                       |  |          |   |                           |               |             |
| 146 | Unavailable                     | 3J: Water quality / BMPs<br>(stream, river, or lake)                         | 12       | Unspecified   | Unspecified               | Unspecified   | Unspecified |
| (   | Comments:                       |  |          |   |                           |               |             |

Mgt. Unit

Compartment: #Type! Year of Entry:

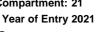


## Report 5 - PROPOSED SPECIAL CONSERVATION AREA\* (SCA) DETAILS

\* 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 |              |             |                |       |
|          |              |             |                |       |

Grayling Mgt. Unit Compartment: 21





# Report 6 – 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.

| Conservation<br>Area | n Type                         | Description   | ERA = Ecological Reference Area<br>HCVA = High Conservation Value Area<br>SCA = Special Conservation Area                |
|----------------------|--------------------------------|---|--|
| SCA                  | Cold Water<br>Stream           | A coldwater stream has temperature and dissolved oxygen condistocked trout populations and those of other coldwater fish speci year to year. Coldwater streams in Michigan typically provide the contributions of groundwater to their stream flows. Such streams designated as trout resources by Fisheries Order 210.                           | es (e.g., slimy sculpin) to persist from se conditions due to substantial  |
| HCVA                 | Designated<br>Critical Habitat | Critical habitat areas are established via a consultative and coop U.S. Fish and Wildlife service for the recovery of threatened and 365, Endangered Species Protection, of the Natural Resources a PA 451, and the Federal Endangered Species Act of 1973. This species plans in various stages of review. As of now only two ex Plover Habitat. | endangered species, as governed by Part<br>and Environmental Protection Act, 1994<br>is an active program, with proposed |
| HCVA                 | Natural Rivers                 | There are two Natural Rivers datasets which are derived from sp approved distance from the river centerlines. The Natural Rivers most Natural Rivers. The Vegetative Buffer ranges from 25 to 10 and Vegetative Buffers for each Natural River see the table locat folder.  | Zoning District is a 400 foot buffer for 00 feet. To view specific Zoning Districts                                      |



| MICHIGAN         | General Comments   | е       | Managed Si  | A Range | tand Age B | Acres   | nsity   | Size De   |            | ver Type   | d Level 4 Co            | Stan |
|------------------|--|---------|-------------|---------|------------|---------|---------|-----------|------------|------------|-------------------------|------|
|                  | JP removed from part of stand in '05 (48-03-01). Very sp<br>BA poor health/quality NPO, RP of all age/size classes, ar   |         | N/A         | 1-50    | 99         | 7.5     | er Poor | Sawtimbe  | ak         | , N. Pin O | 4125 - Black            | 1    |
| West edge within | TA. Little bit of aspen regen in places, but largely U/G. W  | Size    | Avg. Height | Density | py Species | Sub-Car | Age     | DBH       | Size Class | % Cover    | Canopy Species          |      |
| 3                | Natural River corridor, HCVA. See locked comments.   | Sapling | Variable    | Low     | Pine       | Jac     | 99      | 13        | Log/Pole   | 70         | Northern Pin Oak        |      |
|                  |  | Sapling | Variable    | Trace   | Pine       | Re      |         | 8         | Pole/Log   | 15         | Red Maple               |      |
|                  |  | Sapling | 5 - 10 feet | Low     | Pin Oak    | Northe  |         |           |            |            |                         |      |
|                  |  | Sapling | 5 - 10 feet | Low     | Cherry     | Blac    |         |           |            |            |                         |      |
|                  | OPIC - FMD: Cut in 2006 (0480301), removing JP, aspen all oak and red pine. Older oak dying back, nice large sap   |         | N/A         | 1-50    | 13         | 42.6    | Poor    | Sapling   | ous with   | nd Decidu  | 4191 - Mixed Upla<br>Co | 2    |
|                  | size classes. Regen is a mix of aspen, oak and JP.   |         |             |         |            |         | Age     | DBH       | Size Class | % Cover    | Canopy Species          |      |
|                  |  |         |             |         |            |         | 62      | 8         | Pole/Log   | 25         | Red Pine                |      |
|                  |  |         |             |         |            |         | 13      | 1         | Sapling    | 35         | Quaking Aspen           |      |
|                  |  |         |             |         |            |         |         | 2         | Sapling    | 20         | Northern Pin Oak        |      |
|                  |  |         |             |         |            |         |         |           | · -        |            |                         |      |
|                  | Big Creek KW management unit, HCVA. Cut in '85, plant opposing wave pattern, except NW of snow trail which wa  |         | N/A         | nmature | 28 I       | 345.0   |         | Sapling   | Pine       | ted Jack P | 42120 - Plan            | 3    |
|                  | planted. Scattered cherry in the diamond openings. Trac  |         |             |         |            |         | Age     | DBH       | Size Class | % Cover    | Canopy Species          |      |
|                  | pine residual.   |         |             |         |            |         | 28      | 3         | Sapling    | 95         | Jack Pine               |      |
|                  | Completed sale in the summer of 2015 leaving all advance   |         | N/A         | nmature | 14 I       | 18.7    | Poor    | Sapling   | n Oak      | ack, N. Pi | 4126 - White, B         | 4    |
|                  | regeneration. For retention, leave two 1/4-acre islands. A regen from prior treatment is 10-20' tall. some areas are I   |         |             |         |            |         | Age     | DBH       | Size Class | % Cover    | Canopy Species          |      |
|                  | but enough oak to be forested stand. South and East end  |         |             |         |            |         |         | 1         | Sapling    | 20         | White Oak               |      |
|                  | some larger U/G areas.   |         |             |         |            |         |         | 1         | Sapling    | 25         | ck/Red (Hybrid) Oak     | Bla  |
|                  |  |         |             |         |            |         | 14      | 1         | Sapling    | 40         | Northern Pin Oak        |      |
|                  |  |         |             |         |            |         |         | 1         | Sapling    | 15         | Quaking Aspen           |      |
| aea & salix).    | Marsh grass/rushes in standing water, rimmed by L (spiral Some areas of open water.  |         | No          |         |            | 14.6    | cked    | Nonsto    | nd         | ent Wetla  | 623 - Emerç             | 5    |
| rested. Contains | Big Creek KW management unit, HCVA. Cut in 1992, was be planted to red pine in 1994. Stand is currently non-fore a few scattered jack pine, pin oak, and cherry saplings, an scattered red pine poles. |         | No          |         | 0          | 4.0     | cked    | Nonsto    |            | and Shrub  | 320 - Upl               | 6    |
|                  | Originally part of stand 35, this section was not cut in the 2   |         | N/A         | 51-80   | 46         | 36.3    | er Well | Poletimbe | nifer      | Mixed Co   | 4136 - Aspen,           | 7    |
|                  | Aspen clones separated by U/G and balsam fir inclusions treatment history, but ages are close enough to combine i  | Size    | Avg. Height | Density | py Species | Sub-Car | Age     | DBH       | Size Class | % Cover    | Canopy Species          |      |
| rtions of the    | Merch stems (mostly JP) were cut in the NW and SE porti  | Sapling | 5 - 10 feet | Low     | Maple      | Red     | 46      | 8         | Pole/Log   | 25         | Quaking Aspen           |      |
| the aspen in     | stand in '84 (023-84 & 088-82A). Old notes indicate that t   | Sapling | Variable    | Low     | ım Fir     | Bal     |         | 8         | Pole/Log   | 25         | Bigtooth Aspen          |      |
|                  | those areas had been "cut out earlier", and that the S end had been manually cut under FTP W-73 in 1973. Contain   |         |             |         |            |         |         | 7         | Pole       | 20         | Red Maple               |      |
|                  | conifer throughout and some pockets a few acres in size.   |         |             |         |            |         |         | 8         | Pole       | 10         | Balsam Fir              |      |
|                  |  |         |             |         |            |         |         | 12        | Log/Pole   | 10         | Red Pine                |      |



| Stand | Level 4 Co              | over Type    | ;            | Size De  | nsity   | Acres    | Stand Age      | BA Range  | Managed S    | ite     | General Comments  |
|-------|-------------------------|--------------|--------------|----------|---------|----------|----------------|-----------|--------------|---------|---|
| 8     | 4132 - Aspe             | en, Jack Pi  | ne           | Sapling  | Well    | 25.9     | 25             | Immature  | N/A          |         | Big Creek KW management unit, HCVA. Windthrown trees salvaged   |
|       | Canopy Species          | % Cover      | Size Class   | DBH      | Age     |          |                |           |              |         | under two sales in 1993. Low-density resid oak, JP & aspen poles over a nice mix of natural regen (aspen, JP, oak & RM).  |
|       | Quaking Aspen           | 60           | Sapling/Pole | 4        | 25      |          |                |           |              |         | Thee this of Hatara regen (aspen, or , oak a tim).  |
|       | Jack Pine               | 20           | Pole/Sapling | 5        |         |          |                |           |              |         |   |
|       | Red Maple               | 10           | Sapling/Pole | 2        |         |          |                |           |              |         |   |
| 9     | 4126 - White, E         | Black, N. Pi | n Oak S      | awtimbe  | er Poor | 20.9     | 98             | 1-50      | N/A          |         | Previous notes indicate "wind blown trees were salvaged in 1993 from  |
|       | Canopy Species          | % Cover      | Size Class   | DBH      | Age     | Sub-Ca   | nopy Species   | s Density | Avg. Height  | Size    | wind storm" North of Williams Rd. Mostly mature pin and white oak with scattered white, red and jack pine in all size classes. Oak is ranges from   |
| Blac  | ck/Red (Hybrid) Oak     | 48           | Log          | 14       | 98      | Black/Re | d (Hybrid) Oal | k Medium  | 5 - 10 feet  | Sapling | poor form with multiple stems or large wolfy branches to good quality   |
|       | White Oak               | 40           | Log          | 14       |         | W        | hite Oak       | Medium    | 5 - 10 feet  | Sapling | sawtimber. Sub-canopy is mixed deciduous resulting from the previous  |
|       |                         |              |              |          |         | Re       | ed Maple       | Medium    | 5 - 10 feet  | Sapling | storm and salvage. Some areas heavy to aspen red maple, but a lot of areas with significant white and pin oak components, much of which is 5-   |
|       |                         |              |              |          |         | Qual     | king Aspen     | Medium    | 10 - 20 feet | Sapling | 10' tall.   |
| 10    | 4130                    | - Aspen      | S            | apling M | ledium  | 33.1     | 14             | Immature  | N/A          |         | Cut 2005 (0480301). Variable regen coverage (aspen with U1/O1   |
|       | Canopy Species          | % Cover      | Size Class   | DBH      | Age     | Sub-Ca   | nopy Species   | s Density | Avg. Height  | Size    | inclusions), along with resid from cut (small JP, RP and aspen poles).  Big Creek KW management unit, HCVA.   |
|       | Quaking Aspen           | 70           | Sapling      | 1        | 14      | Bla      | ck Cherry      | Low       | 5 - 10 feet  | Sapling | big Greek KW management unit, FICVA.  |
| Bla   | ck/Red (Hybrid) Oak     | 15           | Sapling/Pole | 3        |         |          |                |           |              |         |   |
|       | Jack Pine               | 15           | Sapling      | 1        |         |          |                |           |              |         |   |
| 11    | 4126 - White, E         | Black, N. Pi | n Oak S      | apling M | ledium  | 21.4     | 19             | Immature  | N/A          |         | Stand was cut protecting all advanced oak regeneration. Mostly  |
|       | Canopy Species          | % Cover      | Size Class   | DBH      | Age     | Sub-Ca   | nopy Species   | s Density | Avg. Height  | Size    | immature oak with scattered red maple. Some jack pine filling in where other regen was light. Retention island of jp poles with mixed oak   |
|       | White Oak               | 20           | Sapling      | 3        | 19      |          | ck Cherry      | Medium    | 5 - 10 feet  | Sapling | underneath on east side of the rd.  |
| Blac  | ck/Red (Hybrid) Oak     | 65           | Sapling      | 3        | 19      |          |                |           |              |         |   |
|       | Red Maple               | 10           | Sapling      | 1        |         |          |                |           |              |         |   |
| 12    | 42111 - Planted<br>Deci | Red Pine,    | Mixed        | Sapling  | Well    | 17.8     | 25             | Immature  | N/A          |         | Big Creek KW management unit, HCVA. Cut in 1992, planted to red pine in 1994. RP is 15-20' tall, mostly large saps, some large enough to  |
|       | Canopy Species          | % Cover      | Size Class   | DBH      | Age     |          |                |           |              |         | be 1 stick poles. Was largely overtopped by deciduous regen competition (cherry, aspen & oak) & JP early on. ~ 1-foot of internodal   |
|       | Quaking Aspen           | 15           | Sapling/Pole | 4        |         |          |                |           |              |         | growht/yr. Contains a few inclusions of quaking aspen, and a small  |
|       | Red Pine                | 70           | Sapling/Pole | 4        | 25      |          |                |           |              |         | lowland pocket in the north section that contains tag alder surrounded by aspen. Adjacent stand 6 was trenched with stand 12, but either not planted or failed.  Previous notes: "herbicide to release the red pine". Stand 112 is rest of type split off to south. |
| 13    | 623 - Emer              | gent Wetla   | nd           | Nonsto   | cked    | 12.9     |                |           | No           |         | Marsh with some open water, surrounded by L (salix, spiraea, swamp birch, tag alder). Island has low ground jp and rp saps scattered  |

# Report 7 - Stands



| Stand | Level 4 Co         | over Type   | s            | Size De    | nsity   | Acres  | Stand Age    | BA Range | Managed S    | ite     | General Comments  |
|-------|--------------------|---|--------------|------------|---------|--------|--------------|----------|--------------|---------|---|
| 14    | 330 - Low-[        | 330 - Low-Density Trees 4136 - Aspen, Mixed Conifer |              | Nonstocked |         | 9.1 0  |              |          | No           |         | U/G type (cherry, hawthorn & amelanchier) with brushy JP & RP and aspen pockets. Old notes indicate that it was cut by timber sale in 1977. Regeneration has slowly filled in since, resulting in a multi aged mix of poles and saplings scattered through the mostly open stand. Contains scrubby jack pine, pin oak, quaking aspen and black cherry. West end contains two lowland inclusions. there is a small amount of balsam fir, mostly in groups near the lower ground areas. When stand 15 is harvested, it may be a good idea to expand treatment into this stand where there is merchantable timber to try expanding forested area back into this stand. |
| 15    | 4136 - Aspen       | , Mixed Co  | nifer Pole   | etimbe     | Medium  | n 86.2 | 56           | 1-50     | N/A          |         | Previous notes indicate that the area was KG bladed in 1963. The  |
|       | Canopy Species     | % Cover   | Size Class   | DBH        | l Age   | Sub-Ca | nopy Species | Density  | Avg. Height  | Size    | resulting stand is highly variable, with multiple age/size classes of aspen (older resid that wasn't run over, poles regenerated the year after the   |
|       | Quaking Aspen      | 70  | Pole/Sap/Log | 8          | 56      | Bla    | ck Cherry    | Medium   | 5 - 10 feet  | Sapling | blading, and younger poles/large saps as the clones continue to colonize  |
|       | Black Cherry       | 10  | Pole/Sapling | 7          |         | Qua    | king Aspen   | Medium   | 10 - 20 feet | Sapling | U/G inclusions). Stand is a real mixed bag; in addition to the variable   |
|       | Jack Pine          | 15  | Pole/Log     | 8          |         | North  | ern Pin Oak  | Low      | Variable     | Sapling | aspen, there is JP, RP, WP, balsam fir, etc. in small inclusions and as scattered individual stems. Aspen ages range from 32-68 years, with most of it in the younger cohort. Some top die-back in the oldest aspen   |
| 16    | 6128 - Lowland (   | Coniferous,   | , Mixed Po   | oletimb    | er Well | 76.6   | 116          | 51-80    | N/A          |         | component. See locked comments.  Lowland conifer stand. Cedar mixed with black spruce, balsam fir and   |
|       | Deci               | iduous  |              |            |         |        |              |          |              |         | lowland hardwoods and a few scattered super canopy white/red pine in  |
|       | Canopy Species     | % Cover   | Size Class   | DBH        | l Age   | Sub-Ca | nopy Species | Density  | Avg. Height  | Size    | higher spots. Lots of standing water. Has a lot of snags and woody debris, especially among the hardwoods. Thick areas of balsam fir  |
|       | Balsam Fir         | 20  | Pole/Log     | 8          |         | Ва     | alsam Fir    | High     | Variable     | Sapling | saplings common in sub canopy. Some flooded areas with lowland  |
|       | rthern White Cedar | 40  | Pole/Log     | 9          | 116     |        |              |          |              |         | shrubs. Swamp drains to SW to eventually drain into Middle Branch Of  |
| No    | Black Spruce       | 20  | Pole/Log     | 8          |         |        |              |          |              |         | Big Creek. West end of stand has an upland inclusion that is approximately 2.5 acres, containing a mix of log/xlog red pine, white pine,  |
| No    | Didok Oprace       |   |              |            |         |        |              |          |              |         |   |



| Stan | d Level 4 Co  | over Type                        | S            | Size De     | ensity          | Acres  | Stand Age   | BA Range    | Managed S                  | Site    | General Comments   |
|------|---|----------------------------------|--------------|-------------|-----------------|--------|-------------|-------------|----------------------------|---------|--|
| 17   | Canopy Species Quaking Aspen Northern Pin Oak Red Maple | - Aspen  - Cover  - 70 - 15 - 10 |              | <b>DB</b> I | Medium  1 Age 3 | 21.1   | 3           | Immature    | N/A                        |         | Was final harvested by Dec 2015 (#033-12), cutting stems 2"+ DBH except oak, hemlock, cedar, and RP-WP >26" diam at stump. Residual in this section of the previous stand is mostly oak, with approximately 10sqft per acre average present. Tops were bunched for chipping but couldn't be skidded due to wet ground in Dec, then had to be left because the regen had jumped up before the contractor had chipping capacity the following summer. Snowmobile trail bisects stand. Previous stand comments: Ownership cards show that the area has a long, varied treatment history (portions treated by salvage/removals in the 50's & 60's, KG blading in the mid '60's, manual cutting by Wildlife FTP in '72). Aspen with RM, PB, WP & RP on mostly dry ground with L/Q/P mixing in along the stand's wide transition zone with adjacent lowland types. Dense large sap/small pole balsam fir in the understory across much of the stand, with inclusions of majority fir coverage. Far southwest corner is on a dry ridge, with bigtooth aspen, oak and RP. Two intermittent drains cross through the type west of Pickerel Lake Rd. The stand is on ground close to the water table, with parts experiencing seasonal flooding during snowmelt. The increasing balsam fir component is a concern in maintaining the aspen management objective. Harvest all stems 2" and up. Leave the super-canopy WP & RP trees that occur in small clumps along Pickerel Lake Road. If prescription approved, harvest stand 50 at the same time. Maximize horizontal cover, leave tops, fell marked boundary line trees into adjacent stand 16. Retention priority is along drains. 11/10/09 Compt Review comments: Wildlife priority to remove balsam fir protect snowmobile trail if winter cut. See locked comments regarding where not to put landing. |
| 18   | 42220 - Natu  | ıral Jack F                      | Pine Pol     | etimbe      | r Mediun        | n 37.7 | 64          | 51-80       | N/A                        |         | North part of stand is within the Big Creek KW management unit, HCVA.  Lower stocking in the North part of the stand. JP poles with occasional   |
|      | Canopy Species  | % Cover                          | Size Class   | DBH         | l Age           |        | nopy Specie | es Density  | y Avg. Height              | Size    | saw. Poor form, open grown stems are common. TA mixed in. Narrow   |
|      | Jack Pine   | 75                               | Pole/Log     | 8           | 64              | North  | ern Pin Oak | Low         | 5 - 10 feet                | Sapling | strip of older JP rimming the L/Q types to southeast. Portions were  |
|      | Quaking Aspen   | 18                               | Pole         | 8           |                 | Ja     | ack Pine    | Mediur      | n 10 - 20 feet             | Sapling | salvaged in 1993 following a tornado (0299302).  |
| 19   | 42220 - Natu  |                                  |              |             | er Poor         | 24.8   | 42          | 1-50        | N/A                        |         | Open grown jack pine with patches of quaking aspen. Mix of poles and saplings. Cherry and some serviceberry in the sub canopy.   |
|      | Canopy Species  |                                  | Size Class   |             | I Age           |        | nopy Specie |             |                            | Size    |  |
|      | Jack Pine   | 80                               | Pole/Sapling | 6           | 42              | Bla    | ck Cherry   | High        | 5 - 10 feet                | Sapling |  |
|      | Quaking Aspen   | 20                               | Pole/Sapling | 5           |                 |        |             |             |                            |         |  |
| 20   | 320 - Upl   | and Shrub                        |              | Nonsto      | ocked           | 6.7    | 0           | Unspecified | 1 429 - Mixed l<br>Conifer | •       | Stand was final harvested by June, 2015 (#033-12). Regen is mostly cherry, aspen, red maple and pin oak. Some jack pine and spruce regen scattered throughout. Grades down to adjacent lowland stand. Presence of alder throughout it low spots indicates a high water table.  OI Rx: Final harvest patches/strips near the swamp (stand 16) in conjunction with the adjacent aspen harvest (stand 40) and/or by WLD FTP. Maximize horizontal cover, leave tops, and drop marked boundary line trees into the adjacent swamp (stand 16).   |
| 21   | 6239 - Mixed Er   | mergent W                        | /etland      | Nonsto      | ocked           | 2.6    |             |             | No                         |         | Marsh grass, standing water, with salix, spiraea, tag alder. Stand line brought out to west to pick up smaller similar L-type.   |



| Stand | d Level 4 C           | Level 4 Cover Type    |              |         | Size Density A |        | Stand Age E  | BA Range | Managed S   | Site       | General Comments   |
|-------|-----------------------|-----------------------|--------------|---------|----------------|--------|--------------|----------|-------------|------------|--|
| 22    | 6112 - Lo             | wland Aspe            | n Pol        | etimbe  | r Medium       | 6.2    | 56           | 1-50     | N/A         |            | Quaking aspen on ground close to the water table, with the NW  |
|       | Canopy Species        | % Cover               | Size Class   | DBH     | I Age          | Sub-Ca | nopy Species | Density  | Avg. Height | Size       | seasonally flooded and an intermittent drain cutting through. Size classes range from large sap to small saw. Balsam fir present in canopy   |
|       | Quaking Aspen         | 70                    | Pole/Sap/Log | 8       | 56             | Ва     | llsam Fir    | Low      | Variable    | Sapling    | and sub-canopy. Small stand split by road and stream into 4 pieces.  |
|       | Balsam Fir            | 28                    | Pole/Log     | 8       |                | Qual   | king Aspen   | Low      | Variable    | Sapling    |  |
| 23    | 6128 - Lowland<br>Dec | Coniferous,<br>iduous | , Mixed P    | oletimb | er Well        | 12.9   | 87           | 51-80    | N/A         |            | Was in the same harvest boundary as stand 24, but the contract expired before this north unit was cut. Scattered short NWC & spindly black   |
|       | Canopy Species        | % Cover               | Size Class   | DBH     | I Age          | Sub-Ca | nopy Species | Density  | Avg. Height | Size       | spruce poles over large sap balsam fir and tag alder. Sphagnum moss groundcover on open root mat over black muck, standing water. Drier to   |
|       | Black Spruce          | 30                    | Pole/Log     | 9       | 87             | Ta     | ag Alder     | Medium   | 5 - 10 feet | Tall Shruk | N, with TA mixing in transition to stand 122. Stand has higher density   |
| No    | orthern White Cedar   | 20                    | Pole/Log     | 9       |                | Blac   | ck Spruce    | Medium   | Variable    | Sapling    | and older dominant age than stand 24, but other than that they are very  |
|       | Balsam Fir            | 15                    | Pole/Log     | 8       |                | Ва     | ılsam Fir    | Medium   | Variable    | Sapling    | similar.   |
|       | Quaking Aspen         | 10                    | Pole/Log     | 9       |                |        |              |          |             |            | 1  |
|       | Red Maple             | 10                    | Pole/Log     | 8       |                |        |              |          |             |            |  |
| 24    | 6124 - Lowla          | and Spruce            | -Fir Pol     | etimbe  | r Medium       | 10.4   | 49           | 1-50     | N/A         |            | Large sap/small pole BS, BF & tamarack with occasional large pole/small  |
|       | Canopy Species        | % Cover               | Size Class   | DBH     | I Age          | Sub-Ca | nopy Species | Density  | Avg. Height | Size       | cull saw NWC. Tag alder over sphagnum groundcover on open root mat with black mud/standing water. Sparse areas and L-type inclusions   |
|       | Balsam Fir            | 20                    | Pole/Sapling | 7       |                |        | ck Spruce    | Low      | 5 - 10 feet | Sapling    | (particularly to the west side). Merchantable softwood was removed over  |
|       | Black Spruce          | 33                    | Pole/Sapling | 7       | 49             | Ва     | ılsam Fir    | Medium   | Variable    | Sapling    | most of the stand under timbersale 006-83A until the sale expired in   |
|       | Tamarack              | 28                    | Pole/Sapling | 6       |                | Ta     | amarack      | Low      | Variable    | Sapling    | 1986. Notes indicate that the best available timber was removed and  |
|       | Red Maple             | 10                    | Pole/Sapling | 6       |                |        | Alder        | Medium   | 5 - 10 feet | Tall Shrub | Ctana 20 to the rectan mas also menaded in the sale, but nothing mas sal   |
|       |                       |                       |              |         |                |        |              |          |             |            | in that unit before contract expired.  |
| 25    | 42110 - Pla           | nted Red P            | ine P        | oletimb | er Well        | 15.6   | 55           | 81-110   | N/A         |            | RP plantation third-row thinned in 2006 (72-049-03-01). Highly variable  |
|       | Canopy Species        | % Cover               | Size Class   | DBH     | I Age          | Sub-Ca | nopy Species | Density  | Avg. Height | Size       | stocking; was planted around residual oak, and had inclusions of JP. quaking aspen inclusions are primarily west of the snow trail. Consider   |
|       | Red Pine              | 90                    | Pole/Log     | 8       | 55             | North  | ern Pin Oak  | Low      | < 5 feet    | Sapling    | final harvesting this stand west of the snowmobile trail and converting  |
|       | Quaking Aspen         | 10                    | Pole/Log     | 8       |                | Re     | ed Maple     | Low      | < 5 feet    | Sapling    | that portion to aspen when adjacent stand 22 is cut.   |
| 27    | 4130                  | - Aspen               |              | Sapling | g Well         | 26.1   | 3            | Immature | N/A         |            | Was final harvested by Dec 2015 (#033-12), cutting stems 2"+ DBH   |
|       | Canopy Species        | % Cover               | Size Class   | DBH     | I Age          |        |              |          |             |            | except oak, hemlock, cedar, and RP-WP > 26" diam at stump. Approx. 2 acres near the swamp were too wet for operations within the rutting spec.   |
|       | Quaking Aspen         | 75                    | Sapling      | 1       | 3              |        |              |          |             |            | so they were left uncut. Tops were bunched for chipping but couldn't be  |
|       | Red Maple             | 15                    | Sapling      | 1       |                |        |              |          |             |            | skidded in Dec due to wet ground, then had to be left because the regen  |
|       |                       |                       |              |         |                |        |              |          |             |            | jumped up before the contractor had chipping capacity the following summer. Stand passed regen survey. Stocking is variable, with some sparse areas, mostly near lowland shrub inclusions. Residual RP, WP, oak, and cedar total is less than 10 sqft/acre. Old notes indicate the stand was KG bladed 1966. Adjacent to the snowmobile trail. OI Rx: Final harvest 2" and up except the oak and few large RP & WP saw. Maximize horizontal cover, leave tops, fell marked boundary line trees into adjacent stand 38. |



| Stand | d Level 4 C        | over Type    | \$           | Size D  | ensity   | Acres  | Stand Age I   | BA Range | Managed S    | ite     | General Comments   |  |  |  |
|-------|--------------------|--------------|--------------|---------|----------|--------|---------------|----------|--------------|---------|--|--|--|--|
| 29    | 42260 - Natural Pi | ine, Mixed D | eciduous Pol | etimbe  | r Mediur | n 44.4 | 78            | 1-50     | N/A          |         | Big Creek KW management unit, HCVA. JP stand. Much of the JP is  |  |  |  |
|       | Canopy Species     | % Cover      | Size Class   | DBI     | H Age    | Sub-Ca | anopy Species | Density  | Avg. Height  | Size    | over mature with significant mortality. Pockets of TA to N & NE, more oak mixed in to the N.   |  |  |  |
|       | Jack Pine          | 57           | Pole/Log     | 9       | 78       | North  | nern Pin Oak  | Medium   | 10 - 20 feet | Sapling | Old notes: "Hold and cut the whole block in 20 years. Then the J3 will   |  |  |  |
|       | Quaking Aspen      | 15           | Pole/Log     | 8       |          | V      | /hite Oak     | Low      | 10 - 20 feet | Sapling | be 34 years old and big enough to cut. This block if cut then will be thirt  |  |  |  |
|       | Red Pine           | 10           | Log/Pole     | 10      |          | В      | alsam Fir     | Trace    | Variable     | Sapling | years younger then blocks 3 and 4 and 25 years younger then blocks 1 and 2. Just about the time blocks 1 and 2 are getting to big for nesting.     |  |  |  |
|       | Northern Pin Oak   | 12           | Log/Pole     | 12      |          | Bla    | ack Cherry    | Low      | 5 - 10 feet  | Sapling | and 2. Sust about the time blocks I and 2 are getting to big for nesting.  |  |  |  |
| 30    | 42210 - Na         | tural Red Pi | ne Sav       | wtimbe  | r Mediur | n 12.2 | 99            | 51-80    | N/A          |         | Big Creek KW management unit, HCVA. Previous notes indicate to cut in 2021. Open-grown RP & oak saw with some RP, JP & oak poles &                 |  |  |  |
|       | Canopy Species     | % Cover      | Size Class   | DBI     | H Age    |        |               |          |              |         | saps, but generally open below. East side of stand contains some large   |  |  |  |
|       | Red Pine           | 60           | Log/XLog     | 16      | 99       |        |               |          |              |         | diameter red pine, 24"DBH+. Consider retaining part of this area during  |  |  |  |
|       | Northern Pin Oak   | 25           | Log/Pole     | 14      |          |        |               |          |              |         | layout of KW block.  |  |  |  |
|       | Jack Pine          | 15           | Pole/Sapling | 7       |          |        |               |          |              |         |  |  |  |  |
| 31    | 42120 - Pla        | nted Jack P  | ine P        | oletiml | oer Well | 66.5   | 32            | 1-50     | N/A          |         | OPIC - FMD: Big Creek KW management unit, HCVA. Previous notes indicate that it was planted in 1987, that part of it burned in a wildfire          |  |  |  |
|       | Canopy Species     | % Cover      | Size Class   | DBI     | H Age    | Sub-Ca | anopy Species | Density  | Avg. Height  | Size    | (west center), and to cut it in 2021. The 1987 planting filled in open   |  |  |  |
|       | Jack Pine          | 85           | Pole/Sapling | 5       | 32       | North  | ern Pin Oak   | Medium   | 5 - 10 feet  | Sapling | areas, with swaths of residual JP & RP inclusions. Used previous SI.   |  |  |  |
|       | Red Pine           | 7            | Log/Pole     | 12      |          |        |               |          |              |         | •  |  |  |  |
| 32    | 42220 - Nat        | tural Jack P | ine Pol      | etimbe  | r Mediur | n 27.6 | 71            | 51-80    | N/A          |         | Big Creek KW management unit, HCVA. Previous notes indicate to cut   |  |  |  |
|       | Canopy Species     | % Cover      | Size Class   | DBI     | H Age    | Sub-Ca | anopy Species | Density  | Avg. Height  | Size    | the stand in 2021, and that a wildfire burned part of the stand. Variable age & stocking in JP poles, pockets of RP, U/G inclusions, small pockets |  |  |  |
|       | Jack Pine          | 65           | Pole/Log     | 9       | 71       | North  | nern Pin Oak  | Medium   | 10 - 20 feet | Sapling | of J3 planted in 1987. Very similar to stand 29 with slightly less   |  |  |  |
|       | Red Pine           | 15           | Log/Pole     | 12      |          | Bla    | ack Cherry    | Low      | 5 - 10 feet  | Sapling | mortality.   |  |  |  |
|       | Quaking Aspen      | 10           | Pole/Log     | 8       |          |        |               |          |              |         | •  |  |  |  |
| 33    | 42320 - U          | pland Sprud  | e            | Saplin  | g Well   | 4.9    | 42            |          | N/A          |         | Dense saplings and small pole size black spruce on sphagnum matt.  |  |  |  |
|       | Canopy Species     | % Cover      | Size Class   | DBI     | H Age    | Sub-Ca | anopy Species | Density  | Avg. Height  | Size    | Most stems are sub-merchantable with scattered spruce and spindly tamarack poles. Tag alder in openings. Grades down to stand 77 marsh             |  |  |  |
|       | Tamarack           | 15           | Sapling/Pole | 4       |          | В      | alsam Fir     | Medium   | < 5 feet     | Sapling | tumaran poles. Tag alasi in openings. Stades down to stand 17 maish  |  |  |  |
|       | Black Spruce       | 70           | Sapling/Pole | 4       | 42       | Bla    | ick Spruce    | Medium   | Variable     | Sapling |  |  |  |  |
|       | Jack Pine          | 15           | Pole/Sap/Log | 8       |          |        |               | '        |              |         | •  |  |  |  |
| 34    | 4130               | - Aspen      | Sa           | apling  | Medium   | 24.7   | 13            | Immature | N/A          |         | Cut in 2006 (72-050-03-01). Scattered oak and RP saw were left, mostly   |  |  |  |
|       | Canopy Species     | % Cover      | Size Class   | DBI     | H Age    |        |               |          |              |         | in the SE. Aspen, RM and oak regen; some lower density pockets, but filling in nicely.   |  |  |  |
|       | Quaking Aspen      | 80           | Sapling      | 1       | 13       |        |               |          |              |         | 99   |  |  |  |
|       | Red Maple          | 10           | Sapling      | 1       |          |        |               |          |              |         |  |  |  |  |
| 35    | 4130               | - Aspen      | Sa           | apling  | Medium   | 38.1   | 3             | Immature | N/A          |         | Stand 35 was harvested early through a variance due to spruce budworm concerns by August 2016 (#13-16), cutting stems 2"+ DBH except the           |  |  |  |
|       | Canopy Species     | % Cover      | Size Class   | DBI     | H Age    |        |               |          |              |         | trace of oak and the green-ringed witness trees. The variance also   |  |  |  |
|       | Quaking Aspen      | 85           | Sapling      | 1       | 3        |        |               |          |              |         | approved follow-up habitat improvement work by WLD under an FTP they   |  |  |  |
|       |                    |              |              |         |          |        |               |          |              |         | will initiate.   |  |  |  |



| Stan | d Level 4 C                                  | over Type  |                            | Size Density                    | Acres | Stand Age | BA Range | Managed Site | General Comments   |
|------|--|--|----------------------------|---------------------------------|-------|-----------|----------|--------------|--|
| 37   | 4130 Canopy Species Quaking Aspen Balsam Fir | - Aspen  % Cover  85 10  | Size Class Sapling Sapling | Sapling Poor  DBH Age  1 3 2    | 13.0  | 3         | Immature | N/A          | Was harvested by August 2016 (#13-16) through a variance due to spruce budworm infestation, cutting 2"+ DBH except the trace of oak. Standing dead and some nearly dead fir were left for the future habitat work also approved by the variance (WLD will initiate that FTP). The narrow uncut west edge of this stand on the low ground was merged with the adjacent cedar stand 64, but that strip is still available for the habitat work.  |
| 39   | 622 - Lov                                    | vland Shrub  | )                          | Nonstocked                      | 28.8  |           |          | No           | Low ground with tag alder and low density balsam fir, black spruce, scattered NWC and small pockets of Bam & TA. Most of the stand is flooded. Grades into adjacent swamp type.  |
| 40   | Canopy Species Quaking Aspen Red Maple       | - Aspen  **Representation of the second seco | Size Class Sapling Sapling | Sapling Medium  DBH Age  1 4 11 | 44.8  | 4         | Immature | N/A          | Was final harvested by June 2015 (#033-12), cutting stems 2"+ DBH except oak, hemlock, cedar, and RP-WP >26" diam at stump. There are narrow inclusions of uncut timber around grassy openings and adjacent wetland stands. Regeneration is filling in well. Some super canopy RP, WP and oak left, mostly in small clumps. Some areas required frozen conditions during harvest to prevent rutting. lots of lowland indicators throughout. some U inclusions. OPIC - FMD: Ownership cards show that the area has a long, varied treatment history (portions treated by salvage/removals in the 50's & 60's, KG blading in the mid '60's, manual cutting by Wildlife FTP in '72). Aspen with RM, PB, WP & RP on mostly dry ground with L/Q/P mixing in along the stand's wide transition zone with adjacent lowland types. Dense large sap/small pole balsam fir in the understory across much of the stand, with inclusions of majority fir coverage. Far southwest corner is on a dry ridge, with bigtooth aspen, oak and RP. Two intermittent drains cross through the type west of Pickerel Lake Rd. The stand is on ground close to the water table, with parts experiencing seasonal flooding during snowmelt. The increasing balsam fir component is a concern in maintaining the aspen management objective. Harvest all stems 2" and up. Leave the super-canopy WP & RP trees that occur in small clumps along Pickerel Lake Road. If prescription approved, harvest stand 50 at the same time. Maximize horizontal cover, leave tops, fell marked boundary line trees into adjacent stand 16. Retention priority is along drains. 11/10/09 Compt Review comments: Wildlife priority to remove balsam fir protect snowmobile trail if winter cut. Used previous SI. See locked comments regarding where not to put landing. |
| 41   | 6239 - Mixed E                               | mergent W  | etland                     | Nonstocked                      | 1.8   |           |          | No           | Emergent grasses, standing water, with L at margins (tag alder, salix).  |
| 42   | 3301 - Low Densi                             | ity Deciduo  | us Trees                   | Nonstocked                      | 5.9   |           | Immature | No           | Big Creek KW management unit, HCVA. Open stand. scattered pin and white oak saps. Some 10-20' tall and some not passing browse line. Less than 25% canopy cover. Previous treatment: Remove the merch JP, releasing the oak regen. For retention, leave a 1/4-acre island at the south end.  |



| Stand | d Level 4 Co             | over Type            | s                  | Size De  | nsity   | Acres  | Stand Age    | BA Range  | Managed S    | Site       | General Comments   |
|-------|--------------------------|----------------------|--------------------|----------|---------|--------|--------------|-----------|--------------|------------|--|
| 43    | 429 - Mixed U            | Ipland Con           | ifers Pole         | etimber  | Medium  | 7.7    | 39           | 1-50      | N/A          |            | Dry ground grading down to swamp. Heavy Ig sap/small pole BF just  |
|       | Canopy Species           | % Cover              | Size Class         | DBH      | Age     | Sub-Ca | nopy Species | s Density | Avg. Height  | Size       | below the short JP poles. Some TA along PL Rd., few super canopy rp<br>Final harvest patches/strips near the swamp (stand 16) in conjunction   |
|       | Balsam Fir               | 45                   | Pole/Sap/Log       | 6        |         | Ва     | alsam Fir    | High      | Variable     | Sapling    | with the adjacent aspen harvest (stand 40) and/or by WLD FTP.  |
|       | Jack Pine                | 45                   | Pole/Log           | 8        | 39      | Bla    | ck Cherry    | High      | 5 - 10 feet  | Sapling    | Maximize horizontal cover, leave tops, and drop marked boundary line trees into the adjacent swamp (stand 16).   |
| 45    | 6130 - Fir, <i>F</i>     | Aspen, Mar           | ole Sa             | apling M | 1edium  | 8.6    | 25           | Immature  | N/A          |            | Cut in '94 (20-91-01) merch stems. RM & TA stems following harvest,  |
|       | Canopy Species           | % Cover              | Size Class         | DBH      | Age     | Sub-Ca | nopy Species | s Density | Avg. Height  | Size       | along with resid (small pole RM, TA, & BF). Tag alder and F2 inclusions, sedges, blue flag iris. Regen would have been less patchy if the cut was  |
|       | Red Maple                | 10                   | Sapling            | 3        |         |        | ag Alder     | Low       | 5 - 10 feet  | Tall Shrub |  |
|       | Balsam Fir               | 45                   | Sapling/Pole       | 3        | 25      |        |              |           |              |            | that was sub merchantable at the time is now 45-50 years old, and in the   |
|       | Quaking Aspen            | 35                   | Sapling/Pole       | 3        | 25      |        |              |           |              |            | small pole class. There is little to no aspen regeneration in areas where this was residual was heavy.   |
| 46    |                          | - Aspen              |                    | apling M |         | 10.8   | 2            | Immature  | N/A          |            | Regen dominated by t aspen. Trace amount of residual x-log red and white pine, and pole size cedar. High water table indicated by tag alder  |
|       | Canopy Species           |                      | Size Class         | DBH      |         |        |              |           |              |            | and cattails. Regen patchy in spots but passes overall.  |
|       | Quaking Aspen Red Maple  | 90                   | Sapling<br>Sapling | 1        | 2       |        |              |           |              |            | Post-harvest update: Was final harvested by Sept 2016 (#033-12),   |
|       |                          |                      |                    |          |         |        |              |           |              |            | narrow black ash/NWC swales cutting through it along the intermittent streams, but other than that, it is relatively dry. While typed Aspen, there is about equal parts TA, RM & RP, with somewhat lesser components of paper birch and JP. The aspen and RM saw is largely cull. There is thick BF in the stand's east half, between the two drains. The west half is more upland, with inclusions of RP in the NW. |
| 47    | 500 -                    | Water                |                    | Nonsto   | cked    | 7.5    |              |           | No           |            | Pickerel Lake. Drive-in backcountry campsite at the SE end.  |
| 48    | 6117 - Lowland I<br>Coni | Deciduous,<br>ferous | , Mixed Po         | oletimbe | er Poor | 18.3   | 25           | 1-50      | N/A          |            | Most of it cut in '94 (20-91-01) merch stems, although some RP & WP small sawtimber was left. Primarily small pole residual from the cut (WP,  |
|       | Canopy Species           | % Cover              | Size Class         | DBH      | -       | Sub-Ca | nopy Species | s Density | Avg. Height  | Size       | RM, paper birch, TA) over RM, TA and Balsam fir regen. There is a cohort of aspen and balsam fir in the 45-50 age range that was likely sub-   |
|       | Red Maple                | 30                   | Sapling/Pole       | 4        | 25      | Ta     | ag Alder     | Low       | 5 - 10 feet  | Tall Shrub | merchantable and not cut during the 1994 harvest, and looks like it  |
|       | Quaking Aspen            | 25                   | Sapling/Pole       | 4        | 25      | Ва     | alsam Fir    | High      | 10 - 20 feet | Sapling    | negative impacted aspen regeneration. Stand also has open wet-   |
|       | Balsam Fir               | 28                   | Sapling/Pole       | 4        |         |        |              |           |              |            | meadow inclusions, and the SW edge incorporates an uncut swale of black ash & aspen. Small sections are upland, but most of the stand has  |
|       | White Pine               | 10                   | Sapling/Pole       | 4        |         |        |              |           |              |            | a high water table, with standing water common.  |
| 49    | 500 -                    | Water                |                    | Nonsto   | cked    | 1.7    |              |           | No           |            | Small pond, numerous snags, yellow water lilly.  |
| 51    | 3303 - Mixed Lo          | ow Density           | Trees              | Nonsto   | cked    | 6.3    |              |           | No           |            | Cherry, amelanchier with scattered brushy JP.  |



| Stand | I Level 4 C              | over Type   | \$                      | Size De  | nsity     | Acres   | Stand Age I       | BA Range | Managed S                  | Site               | General Comments   |
|-------|--------------------------|-------------|-------------------------|----------|-----------|---------|-------------------|----------|----------------------------|--------------------|--|
| 52    | 6112 - Lo                | wland Aspe  | n P                     | oletimb  | er Well   | 26.1    | 45                | 51-80    | N/A                        |                    | Aspen, red maple, and balsam fir on ground close to the water table,   |
|       | Canopy Species           | % Cover     | Size Class              | DBH      | Age       | Sub-Can | opy Species       | Density  | Avg. Height                | Size               | areas seasonally-flooded, small inclusions of L (tag alder). Drier near powerline, with white and jack pine mixed in. Lower ground to SE, more   |
|       | Quaking Aspen            | 60          | Pole/Sapling            | 6        | 45        | Bals    | sam Fir           | High     | 10 - 20 feet               | Sapling            | black ash & bam there. Balsam fir in the understory, also bands of   |
|       | Red Maple                | 10          | Pole/Sapling            | 5        |           | Red     | Maple             | Low      | Variable                   | Sapling            | almost exclusively BF coverage. Many low ground flooded pockets  |
|       | Balsam Fir               | 25          | Pole/Sapling            | 5        |           | Тад     | Alder             | Low      | 5 - 10 feet                | Tall Shrub         | throughout the stand.  |
| 53    | 6113 - Lo                | wland Mapl  | e Sa                    | wtimber  | Mediun    | n 44.9  | 82                | 1-50     | N/A                        |                    | The west third of this stand was set up for harvest under 72-050-03-01 but was dropped from the contract due to access problems. The contract  |
|       | Canopy Species           | % Cover     | Size Class              | DBH      | Age       | Sub-Can | opy Species       | Density  | Avg. Height                | Size               | was amended, a variance approved, and limit factor added. See notes in   |
|       | Red Maple                | 70          | Log/Pole                | 12       | 82        | Bals    | sam Fir           | High     | Variable                   | Sapling            | closed tsale folder for complete background. The area within that  |
|       | Quaking Aspen            | 10          | Log/Pole                | 12       |           | Tag     | Alder             | Medium   | 5 - 10 feet                | Tall Shrub         | intended harvest boundary is possibly operable, but it is bounded by a drainage to the N & E and a tag alder swale to the W & S. There is  |
|       |                          |             |                         |          |           |         |                   |          |                            |                    | about as much pole-sized aspen, red maple, and spruce/fir mixed in, along with scattered and white pine of all sizes. The most common age for the red maple is 82, with a cohort in the 115-120 age range as well. Thick balsam fir regen filling in below. East of the drainage, there are some isolated islands of slightly drier ground surrounded by lowland. There is some lowland cedar and tag alder on transition into adjacent L0 stands. |
| 54    |                          | - Aspen     |                         | letimber |           |         | 47                | 51-80    | N/A                        |                    | TA pole stand with RM & WP and balsam fir poles and saps. Scattered old RP saw. Seasonally wet areas. Large sap/small pole WP is   |
|       | Canopy Species           | % Cover     |                         |          | Age       |         | opy Species       |          | Avg. Height                | Size               | concentrated toward the stand's S third, but much of that WP has died  |
|       | Quaking Aspen            | 84          | Pole/Log                | 8        | 47        |         | Cherry            | Low      | 5 - 10 feet                | Sapling            | out.   |
|       | Red Maple                | 10          | Pole                    | 7        |           | Norther | n Pin Oak         | Trace    | Variable                   | Sapling            |  |
| 55    | 42220 - Nat              | ural Jack P | ine Pol                 | letimber | Mediun    | n 57.4  | 55                | 51-80    | N/A                        |                    | Big Creek KW management unit, HCVA. Pole size JP, some areas more  |
|       | Canopy Species           | % Cover     | Size Class              | DBH      | Age       | Sub-Can | opy Species       | Density  | Avg. Height                | Size               | open, with small inclusions of trembling aspen.  |
|       | Jack Pine                | 85          | Pole                    | 7        | 55        | Norther | n Pin Oak         | Low      | 5 - 10 feet                | Sapling            |  |
|       | Quaking Aspen            | 15          | Pole                    | 6        |           |         |                   |          |                            |                    |  |
| 56    | 42120 - Plai             |             |                         | Sapling  |           | 352.6   | 23                | Immature | N/A                        |                    | Big Creek KW management unit, HCVA. JP planted in the opposing wave pattern. Scattored cherry in diamonds. JP is 3-5" diameter.  |
|       | Canopy Species Jack Pine | % Cover     | Size Class Sapling/Pole | DBH<br>4 | Age<br>23 |         |                   |          |                            |                    |  |
|       |                          |             |                         |          |           |         |                   |          |                            |                    |  |
| 57    | 42220 - Nat              |             |                         | oletimb  |           | 23.6    | 66                | 81-110   | N/A                        |                    | Big Creek KW management unit, HCVA. Primarily JP poles, less than 10 BA small JP saw. Suppressed stems weeding out. Pockets of nice oak  |
|       | Canopy Species           |             | Size Class              |          | Age       |         | opy Species       |          | Avg. Height                | Size               | saps, but not widespread coverage.   |
|       | Jack Pine                | 95          | Pole/Log                | 8        | 66        |         | n Pin Oak         | Low      | 5 - 10 feet                | Sapling            |  |
|       |                          |             |                         |          |           |         | te Pine<br>te Oak | Trace    | 5 - 10 feet<br>5 - 10 feet | Sapling<br>Sapling |  |
|       |                          |             |                         |          |           |         |                   |          |                            |                    |  |



| Stan | d Level 4 C    | over Type    |            | Size De  | nsity   | Acres  | Stand Age B  | A Range | Managed S   | Site       | General Comments   |
|------|----------------|--------------|------------|----------|---------|--------|--------------|---------|-------------|------------|--|
| 58   | 42290 - Nati   | ural Mixed F | Pine       | Poletimb | er Well | 13.9   | 58           | 81-110  | N/A         |            | Mixed stand. RP, JP with TA, BF & cherry mixed in. Variable: mostly  |
|      | Canopy Species | % Cover      | Size Class | DBH      | l Age   | Sub-Ca | nopy Species | Density | Avg. Height | Size       | small poles, but ranging up to saw (minority of stems). Younger poles S of Henning Rd.   |
|      | Jack Pine      | 45           | Pole/Log   | 8        | 58      | North  | ern Pin Oak  | Low     | < 5 feet    | Sapling    |  |
|      | Red Pine       | 25           | Log/Pole   | 12       |         | Ва     | lsam Fir     | Low     | 5 - 10 feet | Sapling    |  |
|      | Balsam Fir     | 10           | Pole/Log   | 8        |         | Blad   | ck Cherry    | Medium  | 5 - 10 feet | Sapling    |  |
|      | Quaking Aspen  | 15           | Pole/Log   | 8        |         |        |              |         |             |            |  |
| 59   | 500            | - Water      |            | Nonsto   | ocked   | 1.7    |              |         | No          |            | Small ponds on powerline corridor. Salix at edges.   |
| 60   | 6112 - Lo      | wland Aspe   | n Po       | oletimbe | Medium  | n 18.5 | 60           | 1-50    | N/A         |            | A narrow band of TA, bam, BF & RP on steep sideslope extending down  |
|      | Canopy Species | % Cover      | Size Class | DBH      | l Age   | Sub-Ca | nopy Species | Density | Avg. Height | Size       | to the floodplain, left when the adjacent uplands were cut. Tag alder at the lower end of slope. Beaver activity along the creek. Within Natural   |
|      | Quaking Aspen  | 70           | Pole/Log   | 8        | 60      | Ta     | ag Alder     | Low     | 5 - 10 feet | Tall Shrub | Rivers zone, HCVA.   |
|      | Red Pine       | 15           | Log/Pole   | 12       |         | Quak   | king Aspen   | Medium  | Variable    | Sapling    |  |
|      | Balsam Fir     | 10           | Pole       | 8        |         |        |              |         |             |            |  |
| 61   | 310 - Herbac   | ceous Openi  | land       | Nonsto   | ocked   | 43.5   | 0            |         | Managed O   | pening     | Mature JP stand was final harvested in 2014 (#039-12, Walsh Camp Jack), cutting stems 2"+ DBH except RP-WP and island retention. Retention included the portion of the stand between the Walsh Road Equestrian Trail Camp and the county road, an island encompassing the trail leading to the equestrian water hole on the Middle Branch of Big Creek, and the east edge of the stand lying within the 150' Natural Rivers restricted cutting zone. A variance was approved in August 2016 to change the management objective from planted JP to planted RP in order to maintain a longer-lived species that would help with visual management relative to the campground and horse trail. The variance allowed for the use of site prep as needed, including roller chopping and herbicide application. The site was roller-chopped in 2016 (C72-741). A pre-herbicide site survey conducted by MNFI in 2017 confirmed the presence of rare dry prairie plant species. The planned site prep work was put on hold and the overall management objective re-evaluated in light of those survey results. A variance to manage for dry sand prairie and pine barrens ecosystem restoration through prescribed burning was approved March 19, 2018. |
| 62   | 6220 - A       | Alder/willow |            | Nonsto   | ocked   | 26.7   |              |         | No          |            | L/N on floodplain along Middle Branch of Big Creek. Beaver activity. Tag alder, salix, spiraea, over marsh grass. Horse watering access point with washed stone approach and fence in creek. Natural Rivers zone, HCVA.  |
| 63   | 622 - Lov      | wland Shrub  | )          | Nonsto   | ocked   | 13.5   |              |         | No          |            | Dense, tall tag alder with scattered large sap/small pole PB, BF & aspen.  |



| Stand | nd Level 4 Cover Type                     |             | S            | ize Density     | Acres       | Stand Age B  | A Range    | Managed S    | Site       | General Comments   |  |  |
|-------|---|-------------|--------------|-----------------|-------------|--------------|------------|--------------|------------|--|--|--|
| 64    | 6129 - Mixed Coniferous Lowland<br>Forest |             | owland Pole  | etimber Medium  | m 110.1 105 |              | 51-80      | N/A          |            | Mostly cedar poles with tamarack, spruce & balsam fir on sphagnum mat. Thick balsam and tag alder in sub canopy. Cedar tops thinning,  |  |  |
|       | Canopy Species                            | % Cover     | Size Class   | DBH Age         | Sub-Ca      | nopy Species | Density    | Avg. Height  | Size       | some dieback occurring. Lots of low, wet ground with drainages and surface water. Stand has stunted growth in the wetter areas. Dominant   |  |  |
|       | Balsam Fir                                | 15          | Pole         | 8               | Ва          | lsam Fir     | Full       | 10 - 20 feet | Sapling    | age of canopy trees were 100-105 years old, but there was also a cohort  |  |  |
|       | Black Spruce                              | 25          | Log/Pole     | 10 100          | Ta          | ag Alder     | High       | 5 - 10 feet  | Tall Shrub |  |  |  |
| No    | orthern White Cedar                       | 40          | Pole/Sap/Log | 7 105           |             |              |            |              |            | •  |  |  |
| 65    | 6220 - A                                  | lder/willow |              | Nonstocked      | 2.9         |              |            | No           |            | Tag alder with low-density Q (BF & NWC) between marsh and swamp.   |  |  |
| 66    | 66 42120 - Planted Jack Pine              |             |              | oletimber Well  | 38.7 32     |              | 1-50       | N/A          |            | Big Creek KW management unit, HCVA. Planted JP (not opposing wave  |  |  |
|       | Canopy Species                            | % Cover     | Size Class   | DBH Age         | Sub-Ca      | nopy Species | Density    | Avg. Height  | Size       | pattern) with small pockets and scattered stems of residual JP, RP, NPO & aspen. Previous notes: "Cut in 20 years (2021 YOE) with the rest of  |  |  |
|       | Jack Pine                                 | 82          | Pole/Sapling | 5 32            | Northe      | ern Pin Oak  | Medium     | 5 - 10 feet  | Sapling    | the stands in this block".   |  |  |
|       | Quaking Aspen                             | 10          | Sapling/Pole | 4               |             |              | ,          |              |            | •  |  |  |
| 67    | 67 42260 - Natural Pine, Mixed Deciduous  |             |              | oletimber Well  | 10.9 80     |              | 81-110     | N/A          |            | Big Creek KW management unit, HCVA. Mixture of red pine, overmature  |  |  |
|       | Canopy Species                            | % Cover     | Size Class   | DBH Age         | Sub-Ca      | nopy Species | Density    | Avg. Height  | Size       | plack pine, quaking aspen and pin oak. Understory is a mixture of WP, RP & nice large sap oak. Previous notes: "Hold and cut the whole block   |  |  |
|       | Red Pine                                  | 35          | Log/Pole     | 12 80           | Wh          | nite Pine    | Low        | Variable     | Sapling    | in 20 years (2021 YOE). Then the J3 will be 34 years old and big enough  |  |  |
|       | Jack Pine                                 | 35          | Pole/Log     | 9               | Northe      | ern Pin Oak  | Medium     | 5 - 10 feet  | Sapling    | to cut. This block if cut then will be thirty years younger then blocks 3  |  |  |
|       | Northern Pin Oak                          | 15          | Log/Pole     | 12              |             |              |            |              |            | and 4 and 25 years younger then blocks 1 and 2. Just about the time blocks 1 and 2 are getting to big for nesting."  |  |  |
|       | Quaking Aspen                             | 10          | Pole/Log     | 8               |             |              |            |              |            | blocks I and 2 are getting to big for heating.   |  |  |
| 68    | 3302 - Low Den                            | sity Conife | r Trees      | Nonstocked      | 4.8         | 35 U         | nspecified | No           |            | U/G (mostly cherry) filling in with brushy JP, RP & BF that appear to be residual from prior harvest. Part of '84 harvest area (023-84). Consider harvesting when stand 7 is harvested to encourage aspen expansion. |  |  |
| 71    | 622 - Low                                 | vland Shrub | )            | Nonstocked      | 17.1        |              |            | No           |            | L (tag, spiraea, salix) over marsh grass. N-type along 4' wide stream that wanders through the stand. P/Q mixed in along north finger.   |  |  |
| 74    | 42120 - Planted Jack Pine                 |             | rine Po      | Poletimber Well |             | 32           | 1-50       | N/A          |            | Big Creek KW management unit, HCVA. Previous notes indicate planted in 1987 and plan to cut in YOE 2021. JP (not in opposing wave pattern)   |  |  |
|       | Canopy Species                            |             | Size Class   | DBH Age         |             | nopy Species | Density    | Avg. Height  | Size       | planted around residual JP & RP (mostly to S & W.)   |  |  |
|       | Jack Pine                                 | 85          | Pole/Sapling | 5 32            | Northe      | ern Pin Oak  | Medium     | 5 - 10 feet  | Sapling    | ·  |  |  |
|       | Red Pine                                  | 7           | Log/Pole     | 12              |             |              |            |              |            |  |  |  |
| 75    | 6239 - Mixed E                            | mergent W   | etland       | Nonstocked      | 9.0         |              |            | No           |            | Wet meadow/marshy segment of powerline corridor. Saturated soils, sedges, blue flag iris, lowland brush. Standing water in ruts; not drivable.   |  |  |
| 76    | <b>76</b> 623 - Emergent Wetland          |             |              | Nonstocked      | 4.3         |              |            | No           |            | OPIC - FMD: Wet meadow/marshy segment of pipeline corridor. Saturated soils, sedges, blue flag iris, lowland brush. Standing water in ruts; not drivable.  |  |  |
| 77    | 623 - Emer                                | gent Wetla  | nd           | Nonstocked      | 3.0         |              |            | No           |            | Marsh with some open water, will and tag alder around the edges.   |  |  |

Report 7 - Stands

Compartment: 21 Grayling Mgt. Unit Year of Entry: 2021 **Size Density** Stand Level 4 Cover Type Acres Stand Age BA Range Managed Site **General Comments** 6229 - Mixed lowland shrub Nonstocked No Finger of the Pickerel Lake Flooding. Some open water to the west, but 1.7 79 mostly L (salix) with marsh grass, snags. 4130 - Aspen Sapling Well 66 26 N/A Cut in 1992 (006-91) but not planted to red pine as the rest of the 80 Immature harvest area was. TA saps, with WP concentrated along the wetland Size Class **DBH Age Sub-Canopy Species** Size **Canopy Species** % Cover Density Avg. Height Quaking Aspen 80 Sapling/Pole 3 26 White Pine Low 5 - 10 feet Sapling 6 White Pine 10 Pole/Sapling Northern Pin Oak Low 5 - 10 feet Sapling 622 - Lowland Shrub Nonstocked 2.4 Nο Floodplain along Middle Branch of Big Creek. Tag alder over marsh 81 grass, sedges, scattered aspen, BF. Natural Rivers zone, HCVA, Also includes the slope leading directly down to the creek containing mostly quaking aspen, red maple and balsam fir poles and saps. 82 6239 - Mixed Emergent Wetland Nonstocked 2.4 No Marsh grass with spiraea, leatherleaf, iris, rimmed with sap/pole TA. 6229 - Mixed lowland shrub Nonstocked 2.7 No Small swale with salix, alnus, spiraea, marsh grass, iris and a patch of 84 open water. Rimmed by fading SCRP & WP. FIA or Forest Health monitoring plot on E side. 622 - Lowland Shrub Nonstocked 4.5 No **Immature** Mostly salix, lesser amounts of tag alder and spiraea, over marsh grass. 87 TA along pipeline. 42220 - Natural Jack Pine Poletimber Well 21.7 58 81-110 N/A This stand was designated as retention for adjacent sale to the east. 88 contract #72-039-12-01. The long N/S strip to the east is on the steep Size Class Size **Canopy Species** % Cover **DBH Age Sub-Canopy Species** Density Avg. Height slope down to stand 62, and lies within the 150' Natural Rivers boundary Jack Pine 90 Pole 9 58 Northern Pin Oak Low 5 - 10 feet Sapling for the Middle Branch of Big Creek. 8 Quaking Aspen 10 Pole/Sap/Log 6122 - Black Spruce Poletimber Well 6.5 75 51-80 N/A Treed bog. Spindly lg sap/small pole BS over thick sphagnum. 116 leatherleaf, pitcher plant. Very slow growing, scattered wp. b fir Size Class **DBH Age Canopy Species** % Cover Pole/Sapling Black Spruce 90 7 75 42220 - Natural Jack Pine Poletimber Medium 6.4 64 51-80 N/A JP poles and small saw with TA mixed in -- is not much more than an 118 inclusion within stand 15's aspen type and could be incorporated into the **Canopy Species** % Cover Size Class **DBH Age Sub-Canopy Species** Avg. Height Size Density same harvest. Jack Pine 85 Pole/Loa 8 64 Black Cherry 5 - 10 feet Sapling Low 7 10 Pole/Sapling Jack Pine Low < 5 feet Sapling Quaking Aspen Northern Pin Oak Low 5 - 10 feet Sapling 4132 - Aspen, Jack Pine 56 Poletimber Medium 17.5 51-80 N/A Highly variable in species and stocking: 3 age classes of TA (mostly 122 poles with a minority of cull saw, and saps along the north edge), 2 age **DBH Age Canopy Species** % Cover Size Class **Sub-Canopy Species** Density Avg. Height Size classes of JP (scattered and in small pockets), scattered oak seeding in 9 56 Quaking Aspen 60 Pole/Log/Sap Quaking Aspen Low Variable Sapling nice regen, BF & BS near the Q & L types, and generous helpings of

20

8

Jack Pine

Red Maple

7

8

Pole/Sapling

Pole/Sap/Log

strategically to protect lower ground areas.

U/G. When this stand is harvested, retention should be placed



| Stand              | Level 4 C                                | over Type   | s S              | ize De            | ensity | Acres             | Stand Age E | BA Range            | Managed S    | ite     | General Comments  |  |  |
|--------------------|--|-------------|------------------|-------------------|--------|-------------------|-------------|---------------------|--------------|---------|---|--|--|
| 132 42220 - Natura |  | ural Jack F | Pine Pole        | Poletimber Mediur |        | 27.3              | 71          | 51-80<br>es Density | N/A          |         | Big Creek KW management unit, HCVA. Previous notes indicate to cut  |  |  |
| C                  | Canopy Species                           |             | r Size Class     | DBH               | I Age  | Sub-Canopy Specie |             |                     | Avg. Height  | Size    | the stand in 2021, and that a wildfire burned part of the stand. Variable age & stocking in JP poles, pockets of RP, U/G inclusions, small pocket |  |  |
|                    | Jack Pine                                | 65          | Pole/Log         | 9                 | 71     | North             | ern Pin Oak | Medium              | 10 - 20 feet | Sapling | of J3 planted in 1987. Very similar to stand 29 with slightly less  |  |  |
|                    | Red Pine                                 | 15          | Log/Pole         | 12                |        | Bla               | ck Cherry   | Low                 | 5 - 10 feet  | Sapling | mortality.  |  |  |
| Q                  | uaking Aspen                             | 10          | Pole/Log         | 8                 |        |                   |             | '                   | 1            | '       |   |  |  |
| 140                | 140 4130 - Aspen  Canopy Species % Cover |             |                  |                   |        | 26.8 3 Immature   |             |                     | N/A          |         | Bunched top piles left. Lots of low ground areas. Aspen is regenerating well. Just a few red maple scattered in the stand. X Log red and white    |  |  |
|                    | uaking Aspen                             | 70          | Sapling          | 1                 | 3      |                   |             |                     |              |         | pine residual, less than 10sqft.  |  |  |
|                    | orthern Pin Oak                          |             | Sapling/Pole/Log | g 1               |        |                   |             |                     |              |         | Was final harvested by Dec 2015 (#033-12), cutting stems 2"+ DBH  |  |  |
| ı                  | Red Maple                                | 10          | Sapling          | 1                 |        |                   |             |                     |              |         | except oak, hemlock, cedar, and RP-WP >26" diam at stump. Residual in this section of the previous stand is mostly oak, with approximately        |  |  |
|                    |  |             |                  | '                 | -      |                   |             |                     |              |         | 10sqft per acre average present. Tops were bunched for chipping but couldn't be skidded due to wet ground in Dec, then had to be left             |  |  |

because the regen had jumped up before the contractor had chipping capacity the following summer. Snowmobile trail bisects stand. Previous stand comments: Ownership cards show that the area has a long, varied treatment history (portions treated by salvage/removals in the 50's & 60's. KG blading in the mid '60's, manual cutting by Wildlife FTP in '72). Aspen with RM, PB, WP & RP on mostly dry ground with L/Q/P mixing in along the stand's wide transition zone with adjacent lowland types. Dense large sap/small pole balsam fir in the understory across much of the stand, with inclusions of majority fir coverage. Far southwest corner is on a dry ridge, with bigtooth aspen, oak and RP. Two intermittent drains cross through the type west of Pickerel Lake Rd. The stand is on ground close to the water table, with parts experiencing seasonal flooding during snowmelt. The increasing balsam fir component is a concern in maintaining the aspen management objective. Harvest all stems 2" and up. Leave the super-canopy WP & RP trees that occur in small clumps along Pickerel Lake Road. If prescription approved, harvest stand 50 at the same time. Maximize horizontal cover, leave tops, fell marked boundary line trees into adjacent stand 16. Retention priority is along drains. 11/10/09 Compt Review comments: Wildlife priority to remove balsam fir . . . protect snowmobile trail if winter cut. See locked comments regarding where not to put landing.

| <b>146</b> 419 | 99 - Other Mixed | d Upland | Deciduous    | Sawtimb | er Wel | l 12.0    | 98         | 81-110     | N/A          |         |
|----------------|------------------|----------|--------------|---------|--------|-----------|------------|------------|--------------|---------|
| Can            | opy Species      | % Cove   | r Size Class | DBH     | l Age  | Sub-Can   | opy Speci  | es Density | Avg. Height  | Size    |
| Black/Re       | d (Hybrid) Oak   | 55       | Log          | 14      | 98     | Whi       | te Pine    | Medium     | 10 - 20 feet | Sapling |
| Re             | d Maple          | 25       | Pole/Log     | 8       |        | Red       | Maple      | Low        | 10 - 20 feet | Sapling |
| Quak           | ing Aspen        | 10       | Pole/Log     | 8       |        | Black/Red | (Hybrid) O | ak Low     | Variable     | Sapling |

Mixed upland oak/RM/aspen/pine stand wrapping around Pickerel Lake. WP filling in below. G-inclusion along S side. Drive-in backcountry camp sites, one each on N & S sides of Lake. Steep sideslopes down to water's edge. This type's boundary has a wide transition zone with the adjacent types; the stand boundary was drawn to define a buffer around the lake. Used SI from the rest of the oak type in comt 290. 2-26-10 update: variance approved to remove the 2001 YOE stand condition code 8 from this lake-bordering stand, removing it from the SCA layer. Drainage passes through from adjacent stand 240 and into pickerel lake. buffer this if harvested.



| Stand | Level 4 Co           | over Type               | Type Size Density Acres Stand Age BA Range Managed Site |         | Site     | General Comments |              |         |  |            |  |  |  |
|-------|----------------------|-------------------------|---|---------|----------|------------------|--------------|---------|--|------------|--|--|--|
| 240   | 6130 - Fir, <i>i</i> | Aspen, Mar              | ole Pole  | etimbei | r Mediun | n 25.6           | 55           | 51-80   | N/A  |            | highly variable lowland stand that was excluded from adjacent harvest to buffer drainages that flow to Pickerel Lake. pb, bf, ga, bam, b sp, nwc,  |  |  |
|       | Canopy Species       | % Cover                 | Size Class  | DBH     | I Age    | Sub-Ca           | nopy Species | Density | Avg. Height  | Size       | range of poles saps and logs. creeks, lots of woody debrisPost-  |  |  |
|       | Quaking Aspen        | 45                      | Pole/Log  | 8       | 55       | Ва               | alsam Fir    | High    | Variable   | Sapling    | harvest update: this portion of the original stands 40+ & 46 was exclu-  |  |  |
|       | Balsam Fir           | 23                      | Pole/Sapling  | 7       |          | Pa               | per Birch    | Low     | 10 - 20 feet   | Sapling    | from harvest mainly to buffer intermittent streams and wetlands or   |  |  |
|       | Black Spruce         | 15                      | Pole/Sapling  | 7       |          | T                | ag Alder     | Medium  | 5 - 10 feet  | Tall Shrub | because the ground was too wet. Some upland portions were excluded because they were narrow or isolated. The canopy data was roughed-in  |  |  |
|       | Paper Birch          | 12                      | Pole/Sapling  | 6       |          |                  |              |         |  |            | to allow stand updates; re-inventory will reflect the range of associates (RM, bam, balsam fir, NWC, black spruce etc.). OPIC - FMD: Ownership cards show that the area has a long, varied treatment history (portions treated by salvage/removals in the 50's & 60's, KG blading in the mid '60's, manual cutting by Wildlife FTP in '72). Aspen with RM, PB, WP & RP on mostly dry ground with L/Q/P mixing in along the stand's wide transition zone with adjacent lowland types. Dense large sap/small pole balsam fir in the understory across much of the stand, with inclusions of majority fir coverage. Far southwest corner is on a dry ridge, with bigtooth aspen, oak and RP. Two intermittent drains cross through the type west of Pickerel Lake Rd. The stand is on ground close to the water table, with parts experiencing seasonal flooding during snowmelt. The increasing balsam fir component is a concern in maintaining the aspen |  |  |
| 401   | 3205 - Mixed         | I Upland Sh             | nrub  | Nonsto  | ocked    | 1.4              |              |         | No   |            | management objective.  Grassy opening, old pine stumps, encroaching shrubby cherry, JP, & TA.  |  |  |
| 402   | 3102                 | 3102 - Grass Nonstocked |   | ocked   | 2.2      |                  | No           |         | Grassy opening filling in with U, brushy JP, TA, along Pickerel Lake Rd. |            |  |  |  |
| 403   | 3102                 | 3102 - Grass Nonstocke  |   |         | ocked    | 4.2              |              |         | Managed Opening  |            | Maintained WL opening, a handful of oak. Some clumps of big blue stem. Areas with thin grass coverage are being colonized by spotted knapweed. Buckwheat & clover planted in 2016 (C72-658).   |  |  |
| 404   | 3102                 | - Grass                 |   | Nonsto  | ocked    | 1.8              |              |         | Managed C  | pening     | Maintained WL opening. Spotted knapweed colonizing thin areas. Old notes indicate it was planted to rye grass. Buckwheat & clover planted in 2016 (C72-658).   |  |  |
| 405   | 3102                 | - Grass                 |   | Nonsto  | ocked    | 3.0              |              |         | No   |            | Grassy opening with cherry, shrubby JP, big blue stem, sweetfern. See locked comments  |  |  |
| 406   | 3102                 | - Grass                 |   | Nonsto  | ocked    | 3.9              |              |         | Managed O  | pening     | Maintained WL opening, handful of oak. Old notes indicate it was planted to rye grass.   |  |  |
| 407   | 3102                 | - Grass                 |   | Nonsto  | ocked    | 1.8              | l.           | mmature | Managed O  | pening     | Maintained WL opening. Old notes indicate it was planted to rye grass.   |  |  |
| 408   | 3102                 | - Grass                 |   | Nonsto  | ocked    | 0.8              |              |         | No   |            | Wellsite: Linn Operating, LLC State Greenwood #A2-7 Emergency phone: 231-932-7302 6304 Grass and knapweed  |  |  |

Grayling Mgt. Unit

# Report 7 - Stands



| Stand | Level 4 Cover Type | Size Density | Acres | Stand Age BA Range | Managed Site    | General Comments  |
|-------|--------------------|--------------|-------|--------------------|-----------------|---|
| 409   | 3102 - Grass       | Nonstocked   | 1.3   |                    | Managed Opening | Former wellpad. Within KW unit. No plumbing. Mostly grass, some knapweed. Old treatment to Convert to maintained WL opening.(C72-658) |
| 410   | 3102 - Grass       | Nonstocked   | 1.1   |                    | No              | Wellsite: Linn Operating, LLC State Greenwood #A2-7 Emergency phone: 231-932-7302 Knapweed cover                                      |
| 411   | 3102 - Grass       | Nonstocked   | 14.5  |                    | No              | Cleared utility corridor. Lakehead gas pipeline.  |
| 412   | 3102 - Grass       | Nonstocked   | 16.4  |                    | No              | Cleared utility corridors. Lakehead gas pipeline and overhead powerline.  |
| 413   | 3102 - Grass       | Nonstocked   | 1.6   |                    | No              | Cleared utility corridor. Overhead powerline segment near Pickerel Lake Flooding.   |