



# Compartment Review Presentation

Shingleton Forest Management Unit

Compartment 41104

Entry Year 2022

Acreage: 2,415

County Alger

Management Area: Deer Park

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**Revision Date:** 2020-07-16

**Stand Examiner:** Bob Burnham

**Legal Description:**

T49N R13W secs. 22, 23, 26-28, 33-36, T48N R13W sec 1 and 2

**Identified Planning Goals:**

This compartment is at the west edge of the Deer Park Management Area.

**Soil and topography:**

The large opening complex portion of the compartment is on Kalkaska Sand, 0-6% slopes, severely burned. The hardwoods and upland conifers are on Garlic Sand, 0-35% slopes and Paquin Sand 0-3% slopes. There are some Tawas-Deford Mucks near drainages. The Sucker River has steep sandy bluffs along it.

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

Much of the surrounding forest land to the west and south is owned by Hancock Forest land, with a few private parcels. Burt Township owns some adjacent land to the north. A large land exchange was resolved with Burt Township involving the Airport since the last inventory cycle. In addition, the historic Gun Range that is partly on State land has been leased to Burt Township.

**Unique Natural Features:**

Wood Turtle (*Clemmys insculpta*, state special concern) could occur in and along Sucker River. There is also potential for nesting red-shouldered hawk (*Buteo lineatus*, state threatened) and Northern goshawks (*Accipiter gentilis*, state special concern) to occur throughout this compartment in stands of northern hardwoods, mixed swamp conifer, mature aspen and swamp hardwood

**Archeological, Historical, and Cultural Features:**

Turn of the century logging was conducted in this area; Whitewash Camp was active then.

**Special Management Designations or Considerations:**

None at this time.

**Watershed and Fisheries Considerations:**

The Sucker River runs along the eastern border of this compartment. This stream is a Type-4 designated trout stream and it's riparian zone and valley walls are unstable due to the very sandy soils covering the area. Any treatments near the riparian zone should consider a buffer from the top of the valley walls (bluff or ridge) for 100 ft plus 5 ft per 1% increase in slope.

**Wildlife Habitat Considerations:**

Compartment 104 lies within north east Schoolcraft county in the Grand Marias Sandy End Moraine and Outwash ecological sub-subsection and is a part of the Deer Park Management area with American marten, Kirtland's warbler, piping plover, and red crossbill as featured species. It is characterized by a growing season of between 100 and 140 days, winter temperatures as low as -40 degrees F, and average snowfalls of 180 inches. Pre-settlement vegetation within this compartment was dominated by an upland mix of northern hardwoods and conifers. Species included sugar maple, red maple, hemlock, beech, yellow birch, white birch, balsam fir, and white pine. Logging and intense wildfires substantially altered the soil composition. Today, much of the soil within the compartment is raw sand. There are some stands in the southern portion of the compartment that continue to exhibit a species mix similar to pre-settlement vegetation, however, the current landcover is early successional in nature. Upland openings dominate. Major timber types include aspen, planted jack pine, and northern hardwoods. The Grand Marias airport is in the northwest corner of the compartment. The Sucker River forms the eastern boundary of the compartment. Wildlife habitat objectives for this compartment are maintaining the large upland openings, and promoting mesic conifers,

species and structural diversity in hardwood stands. Other wildlife priorities include maintaining high biodiversity values in natural mixed pine and red pine stands, retention of large diameter red and white pine, retention of under-represented species in all forest types, promoting coarse woody debris and snags, and maintaining some larger than average jack pine cuts. Other wildlife species of interest include moose, gray wolves, sharp-tailed grouse and sandhill cranes.

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

No known potential exists for commercial oil & gas production in this part of the state, and there is no known metallic mineral potential in this area. The closest active sand/gravel pit is just over three miles to the northwest. Little information is available on the composition of the surficial sediments in the compartment, but there may be some sand & gravel potential. No current mineral leasing activity exists in the area. The state does not own all the mineral rights within the compartment and may or may not own the rights to the non-metallic minerals depending on deed language. Because the mineral estate is the dominant estate, reasonable access to the surface must be provided to private owners if they choose to explore or develop their mineral rights.

### **Vehicle Access:**

The Old Seney Road is a County Road and provided access along the west edge of the compartment. The compartment has a number of poor dirt roads providing access to the whole area.

### **Survey Needs:**

Corners will be needed to complete the stands that are proposed for harvest in Sections 33 and 22.

### **Recreational Facilities and Opportunities:**

Old Seney Road is a snowmobile trail. In addition, Burt Township has a Gun Range in Section 22. There are several sites along the Sucker River where dispersed camping occurs, usually in conjunction with fishing. Steps were built in two locations to provide fishing access down the steep sandy banks to the River. The two-track roads are often used by ORV's. Some hunting of bear, grouse, and deer occurs here.

### **Fire Protection:**

Existing roads provide adequate access for fire equipment.

### **Additional Compartment Information:**

#### **The following reports from the Inventory are attached:**

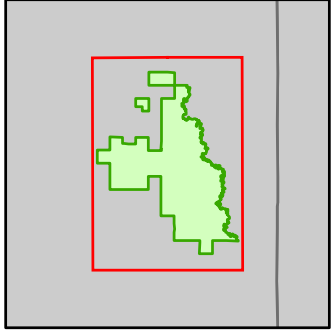
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

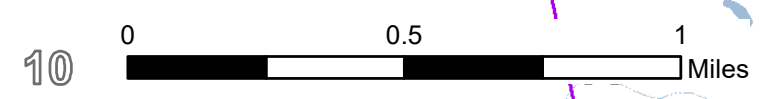
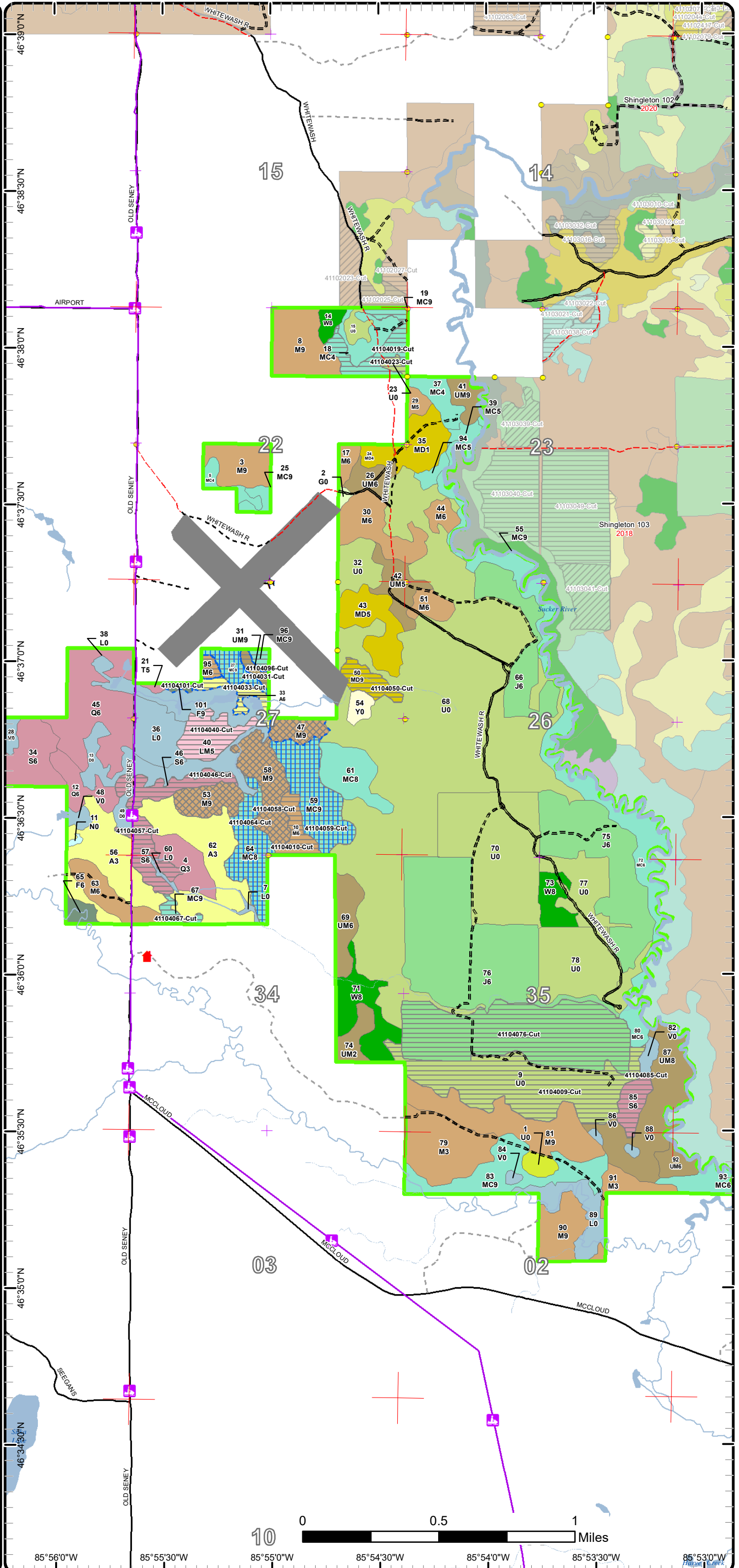
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

# Cover Type & Treatments Map

Compartment: 104  
 T49N, R13W, Sec. 22, 23, 26-28, 33-36  
 T48N, R13W, Sec. 1, 2  
 County: Alger  
 Unit: Shingleton  
 Mgmt Area: Deer Park  
 YOE: 2022  
 Acres: 2,415 GIS Calculated  
 Examiner: Bob Burnham  
 Map Revised: 8/25/2020  
 Map Phase: Web Post



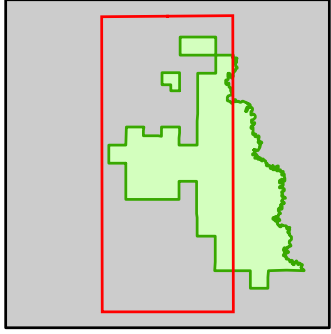
- Miris Corners
- + Remonumented Section Corners
- Survey Grade Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- Federal / State - Dirt / Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
- Snowmobile Trails
- Designated Snowmobile Trails
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Cabin
- ✈ Airport
- ✈ Airports
- Compartment Boundary
- Treatments with Site Conditions
- Selection (Group, Single Tree)
- Clearcut (w/Reserves)
- Seed Tree (w/Reserves)
- 411 - Northern Hardwood
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 710 - Sand/Soil



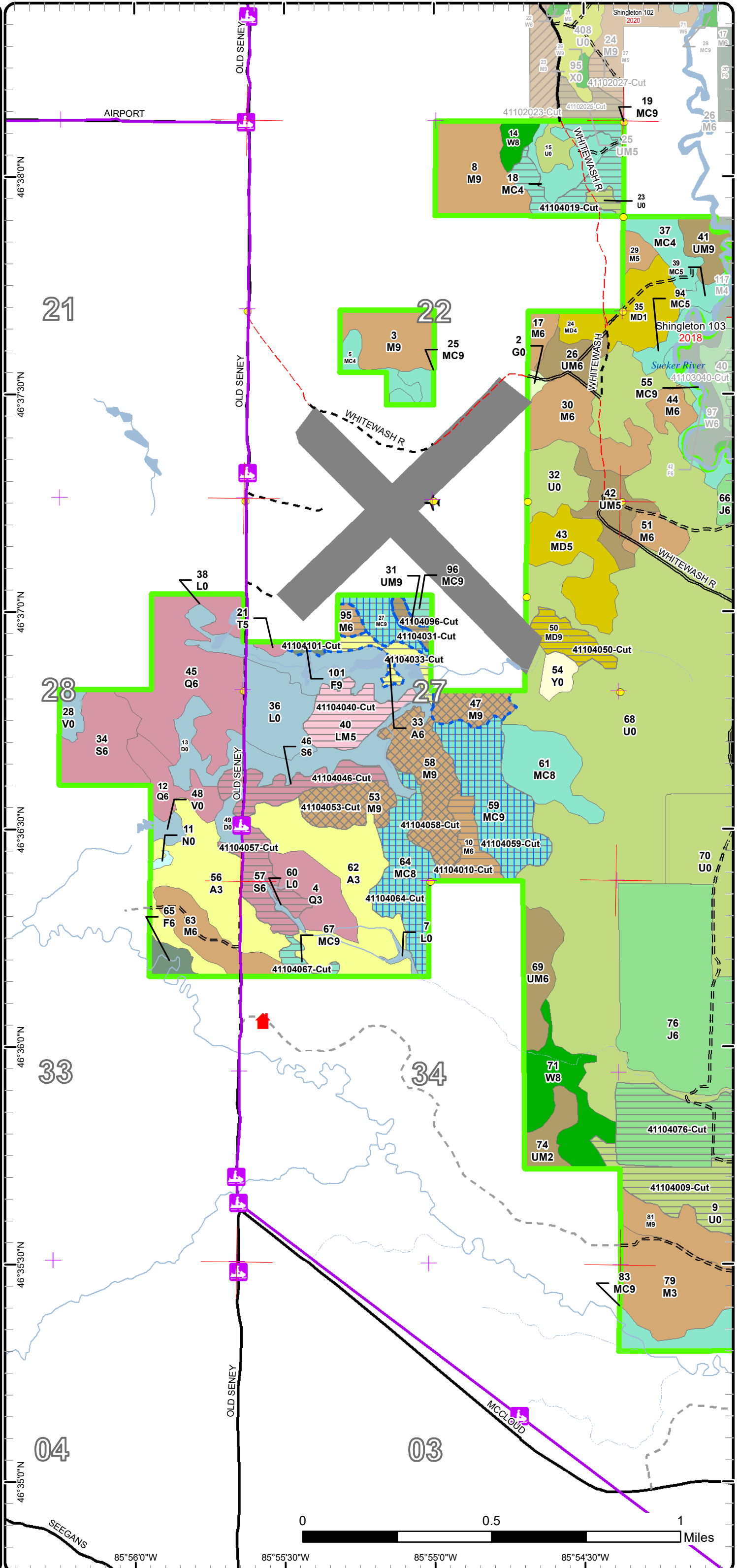
85°56'0"W 85°55'30"W 85°55'0"W 85°54'30"W 85°54'0"W 85°53'30"W

# Cover Type & Treatments Map

Compartment: 104  
 T49N, R10W, Sec. 13, 24, 25, 36  
 T49N, R09W, Sec. 18, 19, 30-32  
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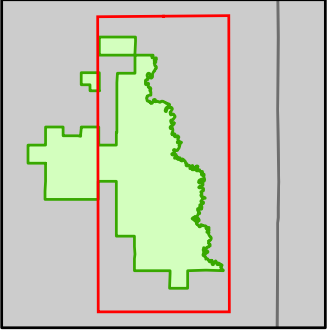


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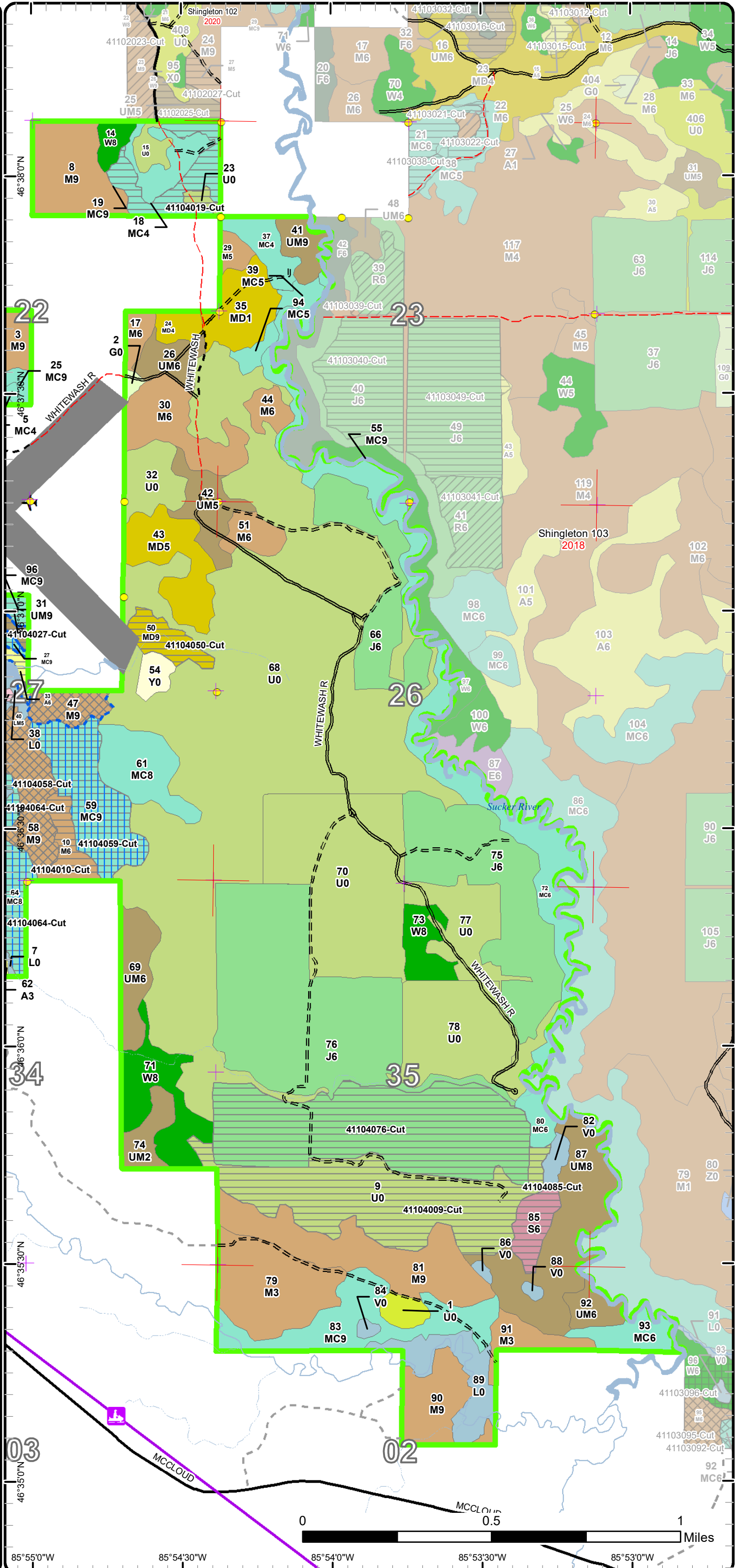


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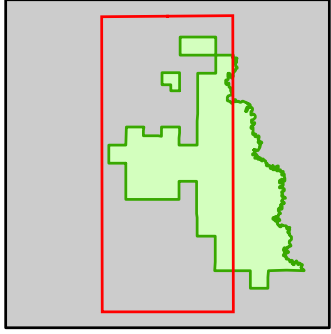


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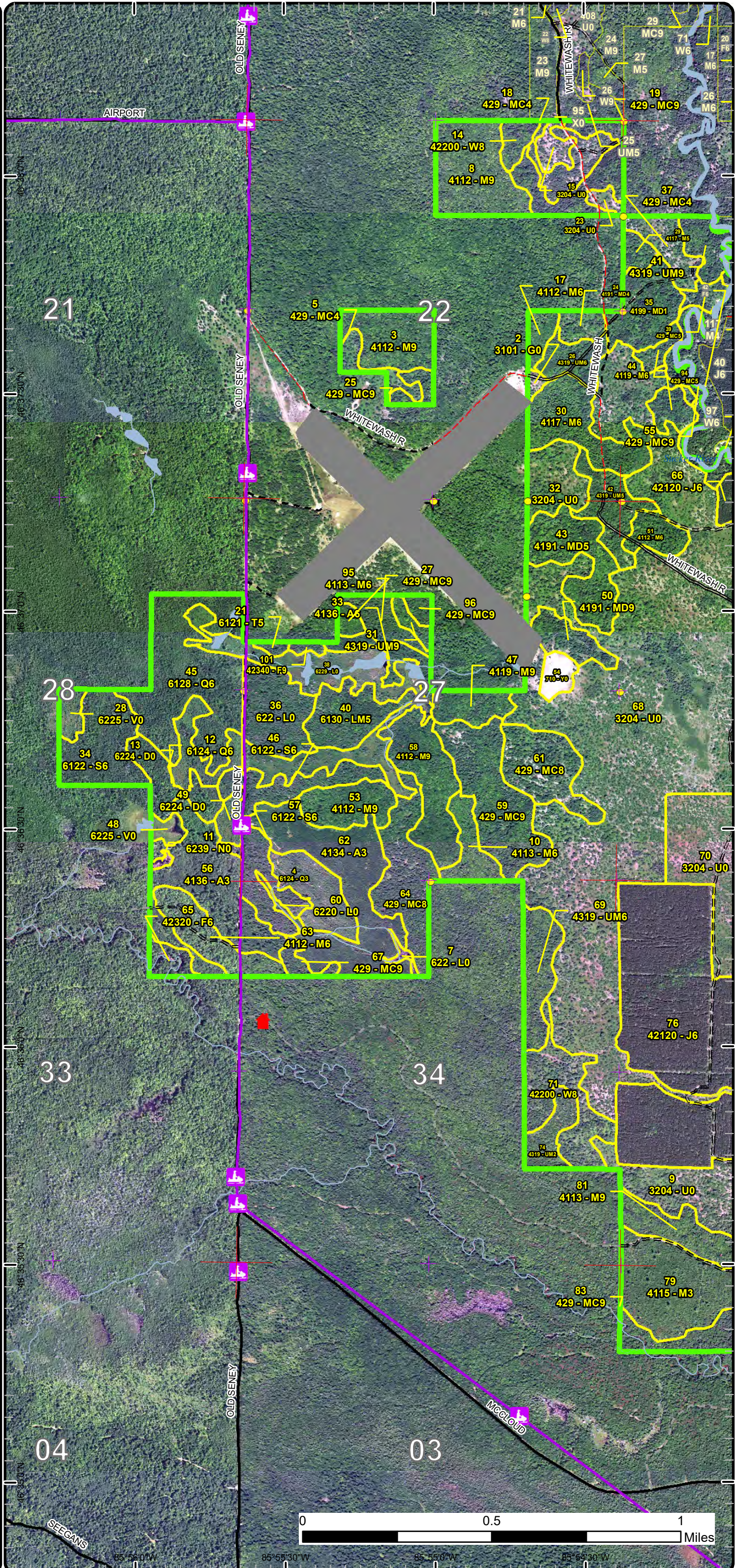


# Stand Boundary Map

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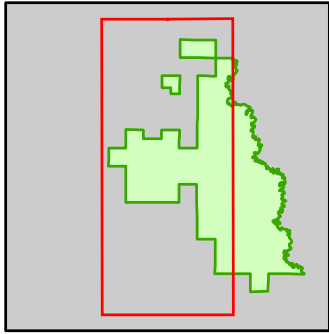
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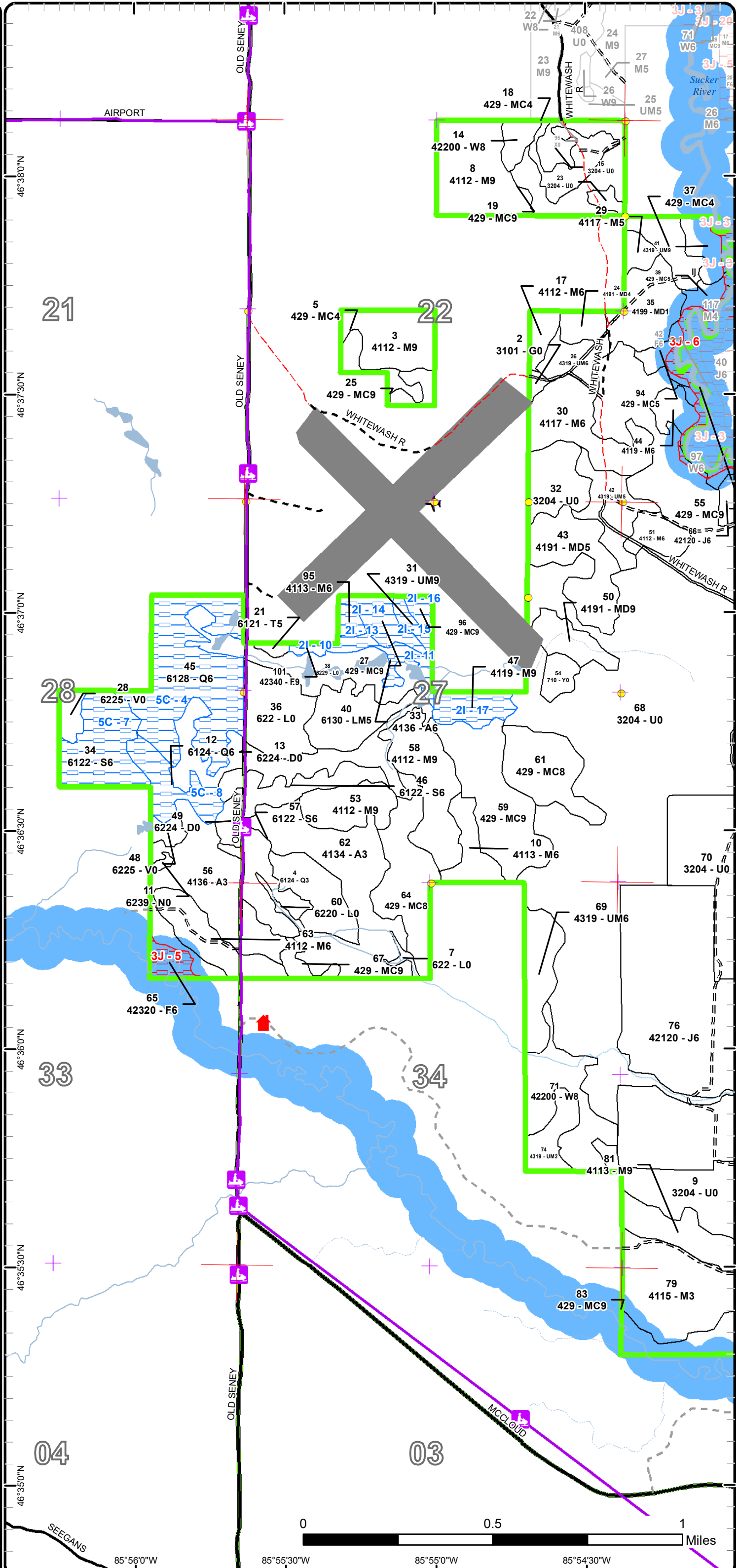


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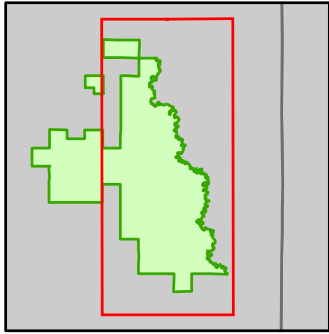
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- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 2I: Survey needed
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 3J: Water quality / BMPs (stream, river, or lake)
- Stand Boundaries
- Natural Beauty Roads
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer



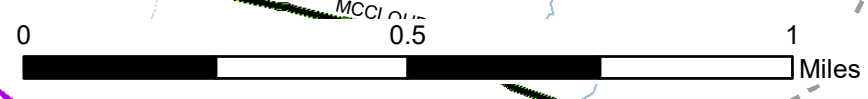
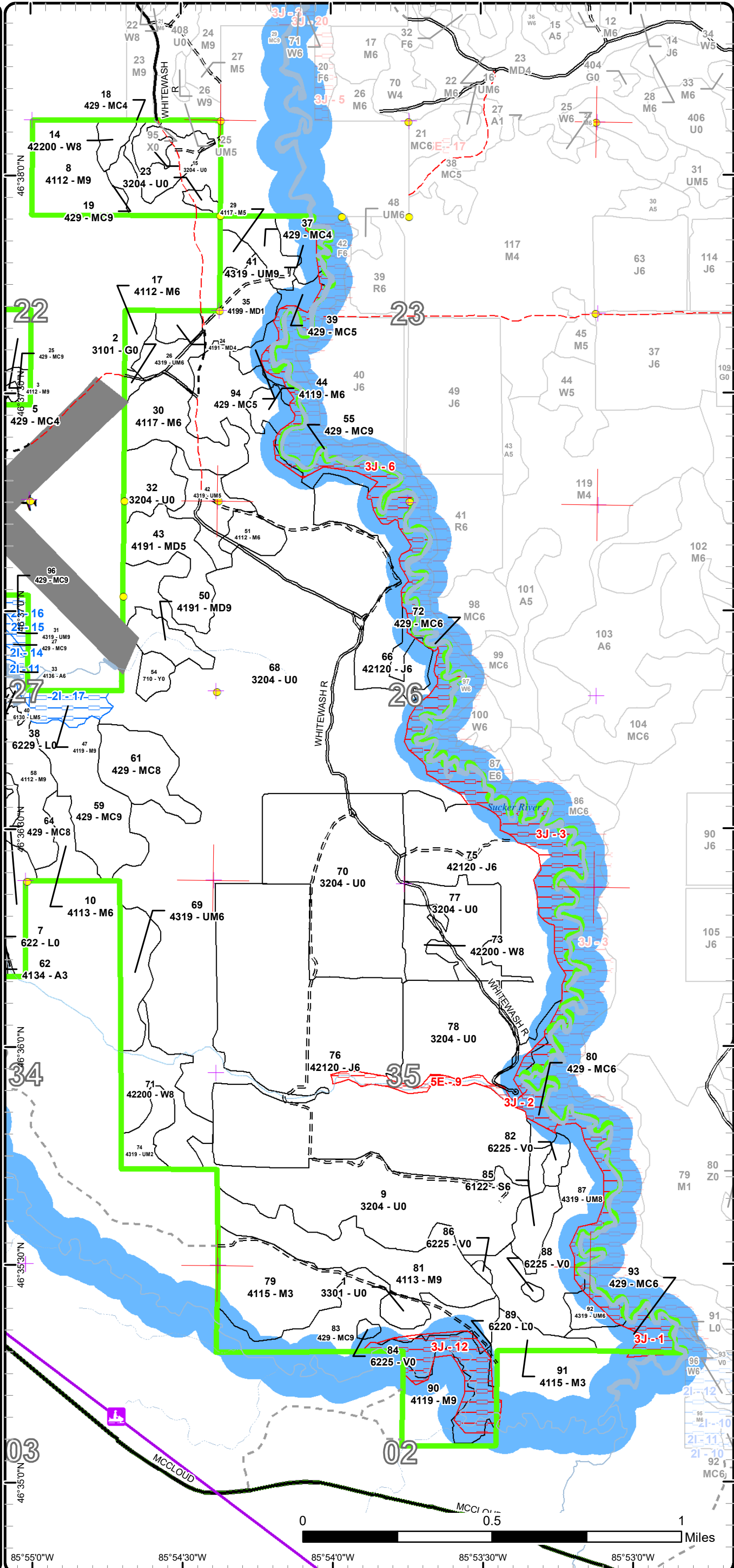


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- ✈ Airport
- ✈ Airports
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 2I: Survey needed
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- Natural Beauty Roads
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer



85°55'0"W    85°54'30"W    85°54'0"W    85°53'30"W    85°53'0"W



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	0	0	98	0	9	0	0	0	0	0	0	0	0	0	0	0	0	107
Bog	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Herbaceous Openland	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Jack Pine	0	0	0	0	0	357	0	0	0	0	0	0	0	0	0	0	0	0	357
Low-Density Trees	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Lowland Conifers	0	0	0	19	0	0	0	0	0	74	0	0	0	0	0	0	0	0	92
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	20
Lowland Shrub	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	73	0	0	0	0	0	0	0	0	72
Marsh	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Mixed Upland Deciduous	0	21	0	0	0	0	0	0	39	0	0	0	0	0	0	0	0	6	66
Northern Hardwood	0	0	53	0	0	5	0	0	64	204	0	0	0	0	0	0	0	0	326
Sand, Soil	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Tamarack	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Treed Bog	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Upland Conifers	0	0	0	0	25	7	29	83	0	30	0	0	0	0	0	0	0	145	319
Upland Mixed Forest	0	0	11	0	0	0	0	11	35	4	0	0	0	0	0	0	0	74	135
Upland Shrub	717	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	717
Upland Spruce/Fir	0	0	0	0	0	0	0	0	6	2	0	0	0	0	0	0	0	0	8
White Pine	0	0	0	0	0	0	28	0	0	6	0	0	0	0	0	0	0	13	47
<b>Total</b>	<b>864</b>	<b>21</b>	<b>64</b>	<b>117</b>	<b>25</b>	<b>378</b>	<b>57</b>	<b>96</b>	<b>144</b>	<b>413</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>238</b>	<b>2415</b>



## Report 2 – Treatment Summary

Shingleton Mgt. Unit

Year of Entry: 2022

Acres of Harvest

Compartment 104

Total Compartment Acres: 2,415

Commercial Harvest - 430  
 Harvests with Site Condition - 42  
 Next Step Harvest - 0  
 Habitat Cut - 0

### Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	9	0	0	0	0	0	0	0	0	9
Jack Pine	110	0	0	0	0	0	0	0	0	110
Lowland Mixed Forest	20	0	0	0	0	0	0	0	0	20
Lowland Spruce/Fir	46	0	0	0	0	0	0	0	0	46
Mixed Upland Deciduous	11	0	0	0	0	0	0	0	0	11
Northern Hardwood	15	56	0	0	0	0	0	0	0	71
Upland Conifers	28	0	0	79	0	0	0	0	0	107
Upland Mixed Forest	4	0	0	0	0	0	0	0	0	4
Upland Shrub	92	0	0	0	0	0	0	0	0	92
Upland Spruce/Fir	2	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>337</b>	<b>56</b>	<b>0</b>	<b>79</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>472</b>

### Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	472	0	0	0	0	0	0	0	0	472
Next Step	0	289	200	0	0	200	672	0	0	1361
<b>Total</b>	<b>472</b>	<b>289</b>	<b>200</b>	<b>0</b>	<b>0</b>	<b>200</b>	<b>672</b>	<b>0</b>	<b>0</b>	<b>1833</b>



Standard

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

<b>9</b>	<b>41104009-Cut</b>	89.6	3204 - Mast Producing Shrub	Nonstocked		Unspecified	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Clear cut all merchantable trees and convert stand to planted red pine. Cherry will need to be roller chopped and sprayed for certain.  <u>Specs:</u> Retention can be along the V Type on east side.</p> <p><u>Next Step</u> SitePrep, Roller Chopping; SitePrep, Trenching; Pesticide, Aerial - Site Prep; Planting, Initial Plant; Monitoring, Artificial Regen(1yr);  <u>Treatments:</u> Monitoring, Artificial Regen(3yr)</p> <p><u>Acceptable</u> Red Pine  <u>Regen:</u></p> <p><u>Other</u>  <u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											
<b>10</b>	<b>41104010-Cut</b>	11.7	4113 - R.Maple, Conifer	Poletimber Well	72	111-140	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	No
<p><u>Prescription</u> Clear cut all trees except hemlock. Retention should be a patch. Leave white pine that are over 24 inches for seed.  <u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)  <u>Treatments:</u></p> <p><u>Acceptable</u> Mix of current species on site.  <u>Regen:</u></p> <p><u>Other</u>  <u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											
<b>19</b>	<b>41104019-Cut</b>	20.8	429 - Mixed Upland Conifers	Sawtimber Well	60	111-140	Harvest	Clearcut	4319 - Mixed Upland Forest	Even-Aged	No
<p><u>Prescription</u> Clear cut stand, retain some large white pine with boundary lines. This will be the only retention which may be less than 3%.  <u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)  <u>Treatments:</u></p> <p><u>Acceptable</u> Any species currently on-site.  <u>Regen:</u></p> <p><u>Other</u> Harvest early to package with adjacent compartment.  <u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/16/2020</p>											
<b>23</b>	<b>41104023-Cut</b>	2.7	3204 - Mast Producing Shrub	Nonstocked		Unspecified	Harvest	Clearcut	3205 - Mixed Upland Shrub		No
<p><u>Prescription</u> Harvest all merchantable trees within the stand to keep stand open.  <u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)  <u>Treatments:</u></p> <p><u>Acceptable</u> None  <u>Regen:</u></p> <p><u>Other</u>  <u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/16/2020</p>											



Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
27	41104027-Cut	9.8	429 - Mixed Upland Conifers	Sawtimber Well	80	81-110	Harvest	Seed Tree with Retention	429 - Mixed Upland Conifers	Two-Aged	No
<p><u>Prescription</u> Leave 20-30 square feet of white pine for a seed source (oversize trees are preferred). Also leave cherry and hemlock. Also leave a retention patch (This patch will provide for retention for all adjacent stands)</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Any species currently on-site.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u> Survey Needed</p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											
31	41104031-Cut	3.8	4319 - Mixed Upland Forest	Sawtimber Well	80	81-110	Harvest	Clearcut	4319 - Mixed Upland Forest	Even-Aged	No
<p><u>Prescription</u> Remove all trees over 2" to encourage aspen reproduction. Leave some a few oversize white pine. No retention due to small size.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Mix of any species found on-site</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u> Survey Needed</p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											
33	41104033-Cut	9.1	4136 - Aspen, Mixed Conifer	Poletimber Well	48	Unspecified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	No
<p><u>Prescription</u> Remove all trees larger than 2" except hemlock. Retention will be one of the southern finger that are excluded with paint.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Mix of current species on-site</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u> Survey Needed</p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											
40	41104040-Cut	19.6	6130 - Fir, Aspen, Maple	Poletimber Medium	83	81-110	Harvest	Clearcut with Retention	613 - Lowland Mixed Forest	Even-Aged	No
<p><u>Prescription</u> Cut all trees except hemlock. Retention can be a patch on the edge. Also leave some large diameter white pine preferably on the edges of the stand.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Mix of current species on-site.</p> <p><u>Regen:</u></p> <p><u>Other</u> Green-up should be met without issue within the next year.</p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											



Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
46	41104046-Cut	17.0	6122 - Black Spruce	Poletimber Well	88	51-80	Harvest	Clearcut with Retention	6122 - Black Spruce	Even-Aged	No
<p><u>Prescription</u> Clear cut stand, retention should be a patch on the edge of the stand excluded with red line.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Mix of current species on-site</p> <p><u>Regen:</u></p> <p><u>Other</u> The Old Seney Rd is a snowmobile trail, no decking on the trail.</p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											
47	41104047-Cut	10.9	4119 - Mixed Northern Hardwoods	Sawtimber Well	79	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	No
<p><u>Prescription</u> Designate spruce, aspen and fir. Mark remaining trees including white pine concentrating on making quality gaps. Target BA is 80 where applicable but some areas may be 50-60 BA. Favor yellow birch where appropriate. Leave 1 healthy spruce or fir per acre for wildlife.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Mix of current species on-site</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u> Survey Needed</p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											
50	41104050-Cut	11.3	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	70	51-80	Harvest	Clearcut	4199 - Other Mixed Upland Deciduous	Even-Aged	No
<p><u>Prescription</u> Remove all trees 2 inches and greater. No retention due to small size. Leave some large diameter white pine with line work.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Mix of species currently found on-site.</p> <p><u>Regen:</u></p> <p><u>Other</u> Keep seasonal drainage clear of slash and limit crossings to 1 or 2 locations.</p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											
53	41104053-Cut	16.3	4112 - Maple, Beech, Cherry Association	Sawtimber Well	85	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	No
<p><u>Prescription</u> Remove aspen, fir and spruce. Mark hardwood to the compleat marker with a target residual BA of 80. Favor yellow birch where appropriate. Leave 1 healthy spruce or fir per acre for wildlife.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> A mix of species currently on-site.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
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<b>57</b>	<b>41104057-Cut</b>	17.2	6122 - Black Spruce Poletimber Well	85	81-110	Harvest	Clearcut with Retention	6122 - Black Spruce	Even-Aged	No
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Prescription Clear-cut stand. Retention should be a patch, consider leaving the piece west of the Old Seney Rd.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Mix of current species on-site.

Regen:

Other Old Seney Rd is a Snowmobile Trail. no decking on the trail.

Comment:

Site Condition

Proposed Start Date: 10/1 /2021

<b>58</b>	<b>41104058-Cut</b>	29.2	4112 - Maple, Beech, Cherry Association	Sawtimber Well	78	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	No
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Prescription Remove all aspen, spruce and fir. Mark remaining trees to complete marker standard with a target of 80 BA. Favor yellow birch where appropriate. Leave 1 healthy spruce or fir per acre for wildlife.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Mix of current species on-site.

Regen:

Other There may be some wetland fringes that are lower quality, these areas can be marked to a much lower BA.

Comment:

Site Condition

Proposed Start Date: 10/1 /2021

<b>59</b>	<b>41104059-Cut</b>	38.8	429 - Mixed Upland Conifers	Sawtimber Well	78	111-140	Harvest	Seed Tree with Retention	429 - Mixed Upland Conifers	Two-Aged	No
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Prescription Leave 20-30 square feet of white pine for a seed source (oversize trees are preferred). Also leave cherry and hemlock. Also leave a retention patch.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Mix of current species on-site.

Regen:

Other

Comment:

Site Condition

Proposed Start Date: 10/1 /2021

<b>64</b>	<b>41104064-Cut</b>	30.2	429 - Mixed Upland Conifers	Sawtimber Medium	86	51-80	Harvest	Seed Tree with Retention	429 - Mixed Upland Conifers	Two-Aged	No
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Prescription Leave 20-30 square feet of white pine (over-sized trees preferred) as well as all cherry and hemlock. Remove all remaining trees.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Mix of current species on-site

Regen:

Other

Comment:

Site Condition

Proposed Start Date: 10/1 /2021



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
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67	41104067-Cut	4.3	429 - Mixed Upland Conifers	Sawtimber Well	59	111-140	Harvest	Clearcut	429 - Mixed Upland Conifers	Even-Aged	No
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Prescription Harvest all trees no retention due to small size. Leave some white pine for seed (Incorporate into line).

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Any species currently on-site

Regen:

Other

Comment:

Site Condition

Proposed Start Date: 10/1 /2021

85	41104085-Cut	11.3	6122 - Black Spruce Poletimber	Well	88	81-110	Harvest	Clearcut	6122 - Black Spruce	Even-Aged	No
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Prescription Clearcut stand. Retention will be less than 3% but will be placed on north end near V Type.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Any mix of current species on-site

Regen:

Other

Comment:

Site Condition

Proposed Start Date: 10/1 /2021

95	41104095-Cut	3.3	4113 - R.Maple, Conifer	Poletimber Well	80	81-110	Harvest	Clearcut	411 - Northern Hardwood	Even-Aged	No
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Prescription Due to small size and being red maple dominated clearcut stand and manage as even aged.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Mix of current species found on -site.

Regen:

Other

Comment:

Site Condition Survey Needed

Proposed Start Date: 10/1 /2021

96	41104096-Cut	3.1	429 - Mixed Upland Conifers	Sawtimber Well	80	81-110	Harvest	Clearcut	429 - Mixed Upland Conifers	Even-Aged	No
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Prescription Remove all trees over 2" to encourage aspen reproduction. Leave some a few oversize white pine. No retention due to small size.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Mix of current species on-site.

Regen:

Other

Comment:

Site Condition Survey Needed

Proposed Start Date: 10/1 /2021





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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
101 41104101-Cut	1.7	42340 - Upland Spruce/Fir	Sawtimber Well	80	81-110	Harvest	Clearcut	42330 - Upland Fir	Even-Aged	No
<p><u>Prescription</u> Remove all trees except hemlock if present. No retention due to small size.  <u>Specs:</u>  <u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)  <u>Treatments:</u>  <u>Acceptable</u> Any mix of current species  <u>Regen:</u>  <u>Other</u>  <u>Comment:</u>  <u>Site Condition</u> Survey Needed  <u>Proposed Start Date:</u> 10/1 /2021</p>										

**Approved Treatments:**

76 41104076-Cut	110.2	42120 - Planted Jack Pine	Poletimber Well	48	81-110	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Clear cut south of drainage and regenerate to red pine. Drainage can be retention.  <u>Specs:</u>  <u>Next Step</u> SitePrep, Trenching; Pesticide, Aerial - Site Prep; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial  <u>Treatments:</u> Regen(3yr)  <u>Acceptable</u> Red Pine  <u>Regen:</u>  <u>Other</u>  <u>Comment:</u>  <u>Site Condition</u>  <u>Proposed Start Date:</u> 10/1 /2021</p>										

**Total Treatment Acreage Proposed: 471.9**

## Report 4 – Site Conditions

Shingleton Mgt. Unit  
Bob Burnham : Examiner

Compartment: 104  
Year of Entry: 2022

### Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions			
		With Condition	Not Available		2I	5C	3J	5E
107	98	9	0	Aspen	9			
17	17	0	0	Bog				
2	2	0	0	Herbaceous Openland				
357	350	0	7	Jack Pine			0	7
6	6	0	0	Low-Density Trees				
93	18	74	0	Lowland Conifers		74		
20	20	0	0	Lowland Mixed Forest				
98	79	0	19	Lowland Shrub			19	
72	46	27	0	Lowland Spruce/Fir		27		
1	1	0	0	Marsh				
66	66	0	0	Mixed Upland Deciduous				
326	309	14	3	Northern Hardwood	14		3	
6	6	0	0	Sand, Soil				
2	2	0	0	Tamarack				
17	17	0	0	Treed Bog				
318	215	13	90	Upland Conifers	13		90	
135	114	4	17	Upland Mixed Forest	4		17	
717	714	0	4	Upland Shrub			4	
8	0	2	6	Upland Spruce/Fir	2		6	
47	47	0	0	White Pine				
2,415	2,125	143	147	Total Forested Acres	42	101	140	7
	88%	6%	6%	Relative Percent				

*\*Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.*

Site No.	Dominant Site Cond	Dominant Site Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	3J: Water quality / BMPs (stream, river, or lake)		23	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified	Unspecified
<b>Comments:</b> River buffer will remove most area.								

## Report 4 – Site Conditions

Shingleton Mgt. Unit  
Bob Burnham : Examiner

Compartment: 104  
Year of Entry: 2022

2	<b>Unavailable</b>	<b>3J: Water quality / BMPs (stream, river, or lake)</b>	5	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified	Unspecified
<b>Comments:</b> River buffer will remove most area.							
3	<b>Unavailable</b>	<b>3J: Water quality / BMPs (stream, river, or lake)</b>	52	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified	Unspecified
<b>Comments:</b> River buffer will remove most area.							
4	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	59	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
5	<b>Unavailable</b>	<b>3J: Water quality / BMPs (stream, river, or lake)</b>	6	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified	Unspecified
<b>Comments:</b> River buffer will remove most area.							
6	<b>Unavailable</b>	<b>3J: Water quality / BMPs (stream, river, or lake)</b>	31	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified	Unspecified
<b>Comments:</b> River buffer will remove most area.							
7	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	27	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							

## Report 4 – Site Conditions

Shingleton Mgt. Unit  
 Bob Burnham : Examiner

Compartment: 104  
 Year of Entry: 2022

8	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	15	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
9	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	7	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
10	<b>Available</b>	<b>2I: Survey needed</b>	2	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
11	<b>Available</b>	<b>2I: Survey needed</b>	9	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
12	<b>Unavailable</b>	<b>3J: Water quality / BMPs (stream, river, or lake)</b>	25	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> RMZ							
13	<b>Available</b>	<b>2I: Survey needed</b>	3	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
14	<b>Available</b>	<b>2I: Survey needed</b>	10	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							

**Report 4 – Site Conditions**

**Shingleton Mgt. Unit**  
**Bob Burnham : Examiner**

**Compartment: 104**  
**Year of Entry: 2022**

15	Available	2I: Survey needed	4	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
16	Available	2I: Survey needed	3	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
17	Available	2I: Survey needed	11	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							

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
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Comments				
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## 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.

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

Conservation Area	Type	Description
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
SCA	Visual Management Area	An area of general social appreciation that is managed to recognize and preserve a particular visual value. Examples of these areas include scenic vistas, scenic or natural beauty roads, and lakeshore areas.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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**1** 3301 - Low Density Deciduous Trees Nonstocked 6.0 0 Unspecified 4319 - Mixed Upland Forest Stand was cut in fall of 2018. Starting to see cherry, maple and fir regen.

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	>20 feet	Log
Black Cherry	Medium	>20 feet	Log
Sugar Maple	Low	>20 feet	Log
Hemlock	Low	>20 feet	Log
Black Cherry	Medium	< 5 feet	Sapling
Red Maple	Low	< 5 feet	Sapling

**2** 3101 - Poverty Grass, Cladonia Nonstocked 1.7 Unspecified No This is part of the abandoned glide path of the Grand Marais Airport.

**3** 4112 - Maple, Beech, Cherry Association Sawtimber Well 21.7 80 81-110 N/A Unit 9 of Bullets Planes & Contractors

Canopy Species	% Cover	Size Class	DBH	Age
Sugar Maple	40	Log/Pole	12	
Red Maple	40	Log/Pole	11	80
White Spruce	5	Log/Pole	10	
White Pine	10	XLog/Log	18	
Black Cherry	5	Log/Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Sapling
White Spruce	Low	Variable	Sapling
White Pine	Low	Variable	Sapling
Red Maple	Medium	5 - 10 feet	Sapling
Sugar Maple	Medium	5 - 10 feet	Sapling
Beech	Medium	10 - 20 feet	Sapling

**4** 6124 - Lowland Spruce-Fir Sapling Well 18.5 24 Immature N/A This stand was originally part of stand 62 but was split out because it's mainly lowland and more conifer dominated.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	5	Sapling	1	24
Quaking Aspen	30	Sapling	3	24
Balsam Fir	10	Sapling	2	24
Black Spruce	40	Sapling	2	24
White Pine	10	Sapling	2	24
Tamarack	5	Sapling	2	

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	5 - 10 feet	Tall Shrub

**5** 429 - Mixed Upland Conifers Poletimber Poor 6.6 40 1-50 N/A This is an old opening that is filling into a mix of tree species.

Canopy Species	% Cover	Size Class	DBH	Age
White Pine	35	Pole	8	40
White Spruce	25	Pole	8	
Black Cherry	20	Pole	8	
Red Maple	20	Pole	8	

Sub-Canopy Species	Density	Avg. Height	Size
White Pine	Medium	Variable	Sapling
Pin Cherry	Medium	5 - 10 feet	Tall Shrub

**7** 622 - Lowland Shrub Nonstocked 1.6 0 Unspecified No





Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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**8**      4112 - Maple, Beech, Cherry Association      Sawtimber Well      32.5      80      81-110      N/A      Stand was Cut in 2017, Bullets, Planes and Contractors.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	20	Log/Pole	10		Sugar Maple	Medium	< 5 feet	Sapling
Red Maple	70	Log/Pole	10	80	Red Maple	Medium	5 - 10 feet	Sapling
Black Cherry	5	Pole/Sapling	9		Balsam Fir	Low	Variable	Sapling
White Spruce	5	Log/Pole	10		White Spruce	Low	Variable	Sapling
					White Pine	Medium	Variable	Sapling
					Beech	Low	5 - 10 feet	Sapling
					Black Cherry	Low	5 - 10 feet	Sapling
					Striped Maple	Medium	5 - 10 feet	Tall Shrub

**9**      3204 - Mast Producing Shrub      Nonstocked      89.6      Unspecified      42110 - Planted Red Pine      Old opening that has been filling in with cherry, juneberry, and hawthorn. Some scattered clumps of trees: white pine, aspen, red maple. Kalkaska sands, 0-15% slopes, severely burned.

Sub-Canopy Species	Density	Avg. Height	Size
Black Cherry	High	10 - 20 feet	Pole
Blueberry/Bilberry/Cranberry	High		Tall Shrub
Cladonia (Reindeer moss)	Medium		Non-Wood
Serviceberry (Juneberry)	Medium		Tall Shrub
Bracken Fern	High		Non-Wood
Pin Cherry	Medium	5 - 10 feet	Tall Shrub
White Pine	Medium	>20 feet	Log

**10**      4113 - R.Maple, Conifer      Poletimber Well      11.7      72      111-140      N/A      Low quality red maple with heavy fir understory.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	62	Pole/Log	9	72	Red Maple	Medium	10 - 20 feet	Sapling
Quaking Aspen	2	Pole	9		Balsam Fir	Full	Variable	Sapling
Balsam Fir	20	Pole	8		White Spruce	Low	Variable	Sapling
White Spruce	2	Pole/Log	9		White Pine	Medium	Variable	Sapling
White Pine	10	XLog/Log	20		Black Cherry	Low	10 - 20 feet	Sapling
Black Cherry	2	Log/Pole	10					
Sugar Maple	2	Log/Pole	10					

**11**      6239 - Mixed Emergent Wetland      Nonstocked      1.0      0      Unspecified      No

**12**      6124 - Lowland Spruce-Fir      Poletimber Well      14.8      80      51-80      N/A      Low, wet ground with ridges.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	5	Pole	8		Balsam Fir	Medium	Variable	Sapling
Balsam Fir	25	Pole	8		Black Spruce	Medium	Variable	Sapling
Black Spruce	25	Pole	8		Northern White Cedar	Medium	Variable	Sapling
Northern White Cedar	15	Pole	8	80	Labrador Tea	Medium	< 5 feet	Tall Shrub
White Pine	30	Log/Pole	16	80				



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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**13** 6224 - Treed Bog Nonstocked 12.5 0 Unspecified No Newly acquired land, no field work has been done. Information is just a guess based on surrounding stands.  
Should consist of mainly black spruce, balsam fir and some tamarack.

**14** 42200 - Natural White Pine Sawtimber Medium 5.7 80 51-80 N/A Stand was cut in 2017, Bullets, Planes and Contractors. Regenerating well.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
White Pine	100	Log/XLog	16	80	Sugar Maple	Low	< 5 feet	Sapling
					Red Maple	Medium	5 - 10 feet	Sapling
					Balsam Fir	Medium	Variable	Sapling
					White Spruce	Medium	Variable	Sapling
					White Pine	Medium	Variable	Sapling

**15** 3204 - Mast Producing Shrub Nonstocked 5.5 Unspecified No

Sub-Canopy Species	Density	Avg. Height	Size
Bracken Fern	Medium		Non-Wood
Serviceberry (Juneberry)	Low		Tall Shrub
Quaking Aspen	Low		Sapling
Cladonia (Reindeer moss)	Medium		Non-Wood
Blueberry/Bilberry/Cranberry	Medium		Tall Shrub
Black Cherry	Low		Sapling
White Pine	Low		Sapling

**17** 4112 - Maple, Beech, Cherry Association Poletimber Well 5.6 70 81-110 N/A Young maple stand that was thinned in the fall of 2016.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	25	Pole	8		Red Maple	Low	5 - 10 feet	Sapling
Red Maple	60	Pole	8	70	Beech	Low	5 - 10 feet	Sapling
Black Cherry	15	Pole	7		Balsam Fir	Low	Variable	Sapling
					White Spruce	Low	< 5 feet	Sapling
					White Pine	Low	< 5 feet	Sapling
					Sugar Maple	Low	< 5 feet	Sapling

**18** 429 - Mixed Upland Conifers Poletimber Poor 12.8 30 51-80 N/A Old opening filling in with trees.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Quaking Aspen	10	Pole	6	30	Red Maple	Low	5 - 10 feet	Sapling
Black Cherry	10	Pole	9		Quaking Aspen	Medium	Variable	Sapling
White Spruce	30	Pole	7		Balsam Fir	Low	Variable	Sapling
White Pine	50	Pole	7	30	White Spruce	Low	5 - 10 feet	Sapling
					White Pine	Medium	Variable	Sapling
					Black Cherry	Low	5 - 10 feet	Sapling
					Serviceberry (Juneberry)	Low	Variable	Tall Shrub



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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<b>19</b>	429 - Mixed Upland Conifers	Sawtimber Well	20.8	60	111-140	N/A	This stand is a mix of aspen clones & conifers of varying ages and sizes. The fir is starting to fall apart.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	8	Log/Pole	10		Red Maple	Low	5 - 10 feet	Sapling
Quaking Aspen	18	Log/Pole	10		Quaking Aspen	Low	5 - 10 feet	Sapling
White Spruce	27	Log/Pole	10	60	Balsam Fir	Medium	Variable	Sapling
White Pine	18	XLog/Log	18		White Spruce	Medium	Variable	Sapling
Black Cherry	9	Log/Pole	10		White Pine	Medium	Variable	Sapling
Balsam Fir	20	Pole	8		Black Cherry	Low	Variable	Sapling
					Serviceberry (Juneberry)	Low	Variable	Tall Shrub

<b>21</b>	6121 - Tamarack	Poletimber Medium	1.6	60	51-80	N/A	
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Canopy Species	% Cover	Size Class	DBH	Age
Black Spruce	30	Pole	6	
Tamarack	60	Pole	7	60
White Pine	10	Log/Pole	10	

<b>23</b>	3204 - Mast Producing Shrub	Nonstocked	2.7		Unspecified	No	
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Sub-Canopy Species	Density	Avg. Height	Size
White Pine	Low		Sapling
Blueberry/Bilberry/Cranberry	Medium		Tall Shrub
Bracken Fern	High		Non-Wood
Black Cherry	Low		Sapling
Serviceberry (Juneberry)	Low		Tall Shrub
Quaking Aspen	Low		Sapling

<b>24</b>	4191 - Mixed Upland Deciduous with Conifer	Poletimber Poor	6.1	45	1-50	N/A	Old opening filling in with trees, resulting in a varitey of sizes and ages.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	30	Pole	7	45	Serviceberry (Juneberry)	Medium	Variable	Sapling
Quaking Aspen	10	Pole/Sapling	7		White Pine	Medium	5 - 10 feet	Sapling
White Spruce	10	Pole	7		Pin Cherry	Low	5 - 10 feet	Tall Shrub
White Pine	25	Log/Pole	10		Balsam Fir	Low	Variable	Sapling
Black Cherry	25	Pole	8		Red Maple	Medium	5 - 10 feet	Sapling

<b>25</b>	429 - Mixed Upland Conifers	Sawtimber Well	4.8	60	81-110	N/A	Firewood removed south of road in 1998.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
White Pine	55	Log/Pole	14	60	Balsam Fir	Medium	Variable	Sapling
Balsam Fir	10	Pole/Log	9		White Pine	Medium	Variable	Sapling
Black Cherry	20	Pole	8					
Red Maple	10	Pole	9					
White Spruce	5	Pole	9					



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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<b>26</b>	4319 - Mixed Upland Forest	Poletimber Well	10.7	60	51-80	N/A	This is a young stand of maple with mature fir and spruce mixed throughout.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	40	Pole/Sapling	6	60	Red Maple	Low	5 - 10 feet	Sapling
Quaking Aspen	10	Pole	8		Quaking Aspen	Low	10 - 20 feet	Sapling
White Pine	10	Pole	8		Balsam Fir	Medium	Variable	Sapling
Balsam Fir	20	Log/Pole	10		White Spruce	Medium	Variable	Sapling
White Spruce	20	Log/Pole	12		White Pine	Low	Variable	Sapling
					Black Cherry	Low	5 - 10 feet	Sapling

<b>27</b>	429 - Mixed Upland Conifers	Sawtimber Well	9.8	80	81-110	N/A	Areas with large diameter White Pine; mix of tree sizes and species throughout.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	10	Pole/Log	9		Red Maple	Low	10 - 20 feet	Sapling
Quaking Aspen	5	Pole	8		Quaking Aspen	Low	5 - 10 feet	Sapling
Balsam Fir	15	Pole	8		Balsam Fir	Medium	Variable	Sapling
White Spruce	20	Log/Pole	10		White Spruce	Low	Variable	Sapling
White Pine	45	Log/Pole/XLog	16	80	White Pine	Low	Variable	Sapling
Black Cherry	5	Pole/Log	9		Black Cherry	Low	5 - 10 feet	Sapling

<b>28</b>	6225 - Bog	Nonstocked	5.1		Unspecified	No	
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<b>29</b>	4117 - Mixed N. Hardwood - Pine	Poletimber Medium	4.7	40	1-50	N/A	Mix of trees filling in old opening, resulting in a variety of ages and sizes.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	45	Pole	7	40	Red Maple	Low	5 - 10 feet	Sapling
White Spruce	5	Pole	7		Quaking Aspen	Low	10 - 20 feet	Sapling
White Pine	30	Pole	8		Balsam Fir	Low	Variable	Sapling
Black Cherry	20	Pole	7		White Spruce	Low	Variable	Sapling
					Serviceberry (Juneberry)	Low	10 - 20 feet	Sapling
					Pin Cherry	Medium	5 - 10 feet	Tall Shrub
					White Pine	Medium	Variable	Sapling

<b>30</b>	4117 - Mixed N. Hardwood - Pine	Poletimber Well	27.9	80	51-80	N/A	Cut in 2006, DOC Grand Marais. South end is heavier to aspen regen.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	15	Pole	8		Red Maple	Medium	5 - 10 feet	Sapling
Red Maple	45	Pole/Log	9	80	Balsam Fir	Low	Variable	Sapling
White Spruce	10	Log/Pole	10		White Spruce	Low	Variable	Sapling
White Pine	20	Log/XLog/Pole	16		White Pine	Low	Variable	Sapling
Black Cherry	5	Pole	8		Quaking Aspen	Low	10 - 20 feet	Sapling
Quaking Aspen	5	Pole	6		Bigtooth Aspen	Medium	10 - 20 feet	Sapling
					Pin Cherry	Low	< 5 feet	Sapling
					Sugar Maple	Low	5 - 10 feet	Sapling



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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**31** 4319 - Mixed Upland Forest Sawtimber Well 3.8 80 81-110 N/A Poor quality hardwood with scattered large white pine.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	30	Log/Pole	12	80	Red Maple	High	10 - 20 feet	Sapling
Balsam Fir	20	Pole	8		Balsam Fir	High	Variable	Sapling
Bigtooth Aspen	5	Pole/Log	9		White Pine	Medium	Variable	Sapling
White Pine	30	XLog/Log/Pole	20					
Black Cherry	5	Pole/Log	9					
Sugar Maple	10	Log	16					

**32** 3204 - Mast Producing Shrub Nonstocked 16.7 Unspecified No This old opening is filling in with trees.

Sub-Canopy Species	Density	Avg. Height	Size
Cladonia (Reindeer moss)	Medium		Non-Wood
Blueberry/Bilberry/Cranberry	Medium		Tall Shrub
Serviceberry (Juneberry)	Medium		Tall Shrub
Black Cherry	Medium	5 - 10 feet	Sapling
Bracken Fern	High		Non-Wood
White Pine	Medium	>20 feet	Log
Pin Cherry	Medium	5 - 10 feet	Tall Shrub

**33** 4136 - Aspen, Mixed Conifer Poletimber Well 9.1 48 Unspecified N/A

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	5	Pole	7		Balsam Fir	Low	Variable	Sapling
Quaking Aspen	65	Pole	7	48	Quaking Aspen	Medium	10 - 20 feet	Sapling
Balsam Fir	10	Pole	7					
White Spruce	5	Pole	7					
White Pine	10	Log	12					
Black Cherry	5	Pole	7					

**34** 6122 - Black Spruce Poletimber Well 27.0 80 51-80 N/A Tamarack is being impacted by larch beetle. There are a couple ridges in stand, spruce is mature bur overall healthy.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Paper Birch	5	Pole	8		Balsam Fir	Medium	10 - 20 feet	Sapling
Tamarack	15	Pole	8		Black Spruce	Medium	10 - 20 feet	Sapling
Balsam Fir	5	Pole	8		Tag Alder	Low	5 - 10 feet	Tall Shrub
Black Spruce	70	Pole	8	80	Red Maple	Low	5 - 10 feet	Sapling
White Pine	5	Log/Pole	12					



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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<b>35</b>	4199 - Other Mixed Upland Deciduous	Sapling Poor	21.3	2	1-50	N/A	Stand was cut in the spring of 2018, Bullets Planes and Contractors. Regen is sufficient to call forested.
<b>Canopy Species</b>		<b>% Cover</b>	<b>Size Class</b>	<b>DBH</b>	<b>Age</b>	<b>Sub-Canopy Species</b>	
Red Maple		40	Sapling	1	2	Pin Cherry	
Black Cherry		15	Sapling	1		Serviceberry (Juneberry)	
Quaking Aspen		10	Sapling	1		Density	
Balsam Fir		5	Sapling	1		Avg. Height	
White Spruce		5	Sapling	1		Size	
White Pine		5	Sapling	1			
Bigtooth Aspen		20	Sapling	1			

<b>36</b>	622 - Lowland Shrub	Nonstocked	24.1	0	Unspecified	613 - Lowland Mixed Forest	Unit 5 of Bullets Planes and Contractors Sale. Cut in winter of 18/19. There is a lot of 2-4 inch maple that was not harvested. Featuring under story. Acceptable regen was anything, its a bit soon to see the spruce regen but it is expected.
<b>Sub-Canopy Species</b>		<b>Density</b>	<b>Avg. Height</b>	<b>Size</b>			
Red Maple		Medium	>20 feet	Sapling			
White Pine		Low	>20 feet	Log			
Paper Birch		Low	>20 feet	Pole			

<b>37</b>	429 - Mixed Upland Conifers	Poletimber Poor	11.9	30	1-50	N/A	Stand is an old opening that has filled in with trees. Sparse trees.
<b>Canopy Species</b>		<b>% Cover</b>	<b>Size Class</b>	<b>DBH</b>	<b>Age</b>	<b>Sub-Canopy Species</b>	
White Pine		35	Pole/Sapling	5	30	Pin Cherry	
Red Maple		10	Sapling/Pole	4		Serviceberry (Juneberry)	
Black Cherry		20	Pole/Sapling	5		Density	
White Spruce		15	Pole/Sapling	5		Avg. Height	
Balsam Fir		10	Pole/Sapling	5		Size	
Quaking Aspen		10	Pole/Sapling	5			

<b>38</b>	6229 - Mixed lowland shrub	Nonstocked	49.5		Unspecified	No	Creek with seasonal ponds. Dense alder & other tall shrubs.
<b>Sub-Canopy Species</b>		<b>Density</b>	<b>Avg. Height</b>	<b>Size</b>			
Tag Alder		High		Tall Shrub			

<b>39</b>	429 - Mixed Upland Conifers	Poletimber Medium	4.5	45	1-50	N/A	Old opening - filling in with trees of varying sizes and ages.
<b>Canopy Species</b>		<b>% Cover</b>	<b>Size Class</b>	<b>DBH</b>	<b>Age</b>	<b>Sub-Canopy Species</b>	
Red Maple		10	Pole/Sapling	7		Red Maple	
Quaking Aspen		10	Pole/Sapling	8		Quaking Aspen	
Balsam Fir		10	Pole/Sapling	6		Balsam Fir	
White Spruce		25	Pole/Sapling	6		White Spruce	
White Pine		35	Pole/Sap/Log	8	45	White Pine	
Black Cherry		10	Pole/Sapling	6		Black Cherry	
						Serviceberry (Juneberry)	
						Density	
						Avg. Height	
						Size	



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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**40**      6130 - Fir, Aspen, Maple      Poletimber Medium      19.6      83      81-110      N/A      Stand has 2 ages, the fir, spruce and aspen need to be harvested.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	40	Pole/Log	9	83	Red Maple	Medium	5 - 10 feet	Sapling
Quaking Aspen	8	Pole	7		Balsam Fir	Medium	Variable	Sapling
Balsam Fir	26	Pole	8	47	Black Spruce	Medium	Variable	Sapling
Black Spruce	3	Pole	8	83	Black Cherry	Medium	5 - 10 feet	Sapling
White Pine	13	XLog/Log	18	83	Tag Alder	Medium	5 - 10 feet	Tall Shrub
White Spruce	8	Pole/Log	9	83				
Paper Birch	2	Pole	7					

**41**      4319 - Mixed Upland Forest      Sawtimber Well      10.3      80      51-80      N/A      Stand slopes gently to the Sucker River which may preclude a harvest due to the buffer. The fir and spruce are mature and falling apart.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	25	Log/Pole	10	80	Red Maple	Medium	10 - 20 feet	Sapling
Quaking Aspen	15	Log/Pole	10		Balsam Fir	High	Variable	Sapling
Balsam Fir	5	Pole	8		White Spruce	Medium	Variable	Sapling
White Spruce	15	Log/Pole	10		White Pine	Medium	Variable	Sapling
White Pine	30	Log/Pole/XLog	14	80	Pin Cherry	Low	5 - 10 feet	Tall Shrub
Black Cherry	10	Pole	8					

**42**      4319 - Mixed Upland Forest      Poletimber Medium      17.4      70      51-80      N/A      Stand is a natural stand that has filled in over time creating several age classes.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	20	Pole	8		Red Maple	Medium	5 - 10 feet	Sapling
Quaking Aspen	10	Pole	9		Quaking Aspen	Medium	10 - 20 feet	Sapling
White Spruce	10	Pole/Log	9		Balsam Fir	Medium	Variable	Sapling
White Pine	40	Log/Pole/XLog	12	70	White Spruce	Low	5 - 10 feet	Sapling
Black Cherry	20	Pole/Log	9		White Pine	Medium	Variable	Sapling
					Black Cherry	Low	5 - 10 feet	Sapling
					Serviceberry (Juneberry)	Low	5 - 10 feet	Tall Shrub

**43**      4191 - Mixed Upland Deciduous with Conifer      Poletimber Medium      27.7      75      1-50      N/A      Stand was cut in the spring of 2018, Bullets Planes and Contractors. Decent regen coming in.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	10	Pole/Log	9		Red Maple	Medium	5 - 10 feet	Sapling
Red Maple	50	Pole/Log	9	75	Quaking Aspen	Medium	10 - 20 feet	Sapling
Paper Birch	10	Pole	6		Balsam Fir	Low	Variable	Sapling
White Pine	10	Log/Pole	10		White Spruce	Low	Variable	Sapling
Black Cherry	20	Log/Pole	10		White Pine	Medium	Variable	Sapling
					Pin Cherry	Low	5 - 10 feet	Tall Shrub
					Serviceberry (Juneberry)	Low	10 - 20 feet	Tall Shrub
					Bigtooth Aspen	Medium	5 - 10 feet	Sapling



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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<b>44</b>	4119 - Mixed Northern Hardwoods	Poletimber Well	6.9	75	51-80	N/A	
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	5	Log/Pole	10		Red Maple	Medium	5 - 10 feet	Sapling
Red Maple	60	Pole/Sap/Log	8	75	Quaking Aspen	Medium	10 - 20 feet	Sapling
Quaking Aspen	15	Pole/Sapling	9		Balsam Fir	Medium	Variable	Sapling
White Pine	10	Pole/Sap/Log	9		White Spruce	Medium	Variable	Sapling
Black Cherry	10	Pole/Sapling	8		White Pine	Medium	Variable	Sapling
					Black Cherry	Medium	5 - 10 feet	Sapling

<b>45</b>	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	59.4	80	51-80	N/A	Low, wet ground.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	10	Pole/Log/Sap	9		Balsam Fir	Low	Variable	Sapling
Balsam Fir	5	Pole	8		Black Spruce	Medium	Variable	Sapling
Black Spruce	27	Pole	8		Northern White Cedar	Low	Variable	Sapling
Northern White Cedar	38	Pole/Log	8	80	Tag Alder	Medium	5 - 10 feet	Tall Shrub
White Pine	5	Log	14					
Tamarack	5	Pole	8					
Paper Birch	10	Pole/Log	8					

<b>46</b>	6122 - Black Spruce	Poletimber Well	17.0	88	51-80	N/A	Stand has a heavy maple understory in places. White pine is mixed throughout but heavier toward east. Stand is mature.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Quaking Aspen	5	Pole/Log	9		Balsam Fir	Low	Variable	Sapling
Balsam Fir	3	Pole/Sapling	7		Black Spruce	Medium	Variable	Sapling
Black Spruce	60	Pole/Log/Sap	8	88	Red Maple	High	10 - 20 feet	Sapling
Tamarack	2	Pole	8					
White Pine	25	XLog/Log	20					
Red Maple	3	Pole/Sapling	7					
Paper Birch	2	Pole	7					

<b>47</b>	4119 - Mixed Northern Hardwoods	Sawtimber Well	10.9	79	111-140	N/A	Stand has some decent quality.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	14	Log/Pole/XLog	12		Red Maple	Medium	5 - 10 feet	Sapling
Red Maple	61	Log/Pole/XLog	12	79	Balsam Fir	Medium	Variable	Sapling
Yellow Birch	2	Pole/Log/Sap	9		White Pine	Medium	Variable	Sapling
Balsam Fir	2	Pole	8		Striped Maple	Low	5 - 10 feet	Tall Shrub
White Spruce	2	Pole/Log	9		Sugar Maple	Medium	10 - 20 feet	Sapling
White Pine	14	XLog/Log/Pole	18					
Black Cherry	2	Pole/Log	9					
Quaking Aspen	3	Log/Pole	10					





Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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**48**      6225 - Bog      Nonstocked      3.7      Unspecified      No      Seasonally wet.

Sub-Canopy Species	Density	Avg. Height	Size
Labrador Tea	Full		Tall Shrub
Leatherleaf	Full		Tall Shrub

**49**      6224 - Treed Bog      Nonstocked      4.7      Unspecified      No      Seasonally wet drainage.

Sub-Canopy Species	Density	Avg. Height	Size
Leatherleaf	High		Tall Shrub
Tamarack	Low		Sapling
Tag Alder	High		Tall Shrub
Northern White Cedar	Low		Seeding
Willow spp.	High		Tall Shrub
Willow spp.	High		Tall Shrub
Willow spp.	High		Tall Shrub
Black Spruce	Low		Sapling
Labrador Tea	High		Tall Shrub
White Pine	Low		Seeding

**50**      4191 - Mixed Upland Deciduous with Conifer      Sawtimber Well      11.3      70      51-80      N/A      Mix of species. Portion of stand is somewhat lower - seasonal drainage. Aspen, spruce and fir are mature and need to be harvested. The seasonal drain doesn't appear to need any special protection other than limiting crosssongs.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	30	Log/Pole	10	70
Quaking Aspen	25	Log/Pole	10	
White Spruce	25	Pole/Log	9	
White Pine	10	Log/Pole/XLog	14	
Black Cherry	5	Pole/Log/Sap	9	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	5 - 10 feet	Sapling
Balsam Fir	Medium	Variable	Sapling
White Spruce	Medium	Variable	Sapling
White Pine	Medium	Variable	Sapling

**51**      4112 - Maple, Beech, Cherry Association      Poletimber Well      9.1      80      51-80      N/A      Cut in the summer of 2006, DOC Grand Marais.

Canopy Species	% Cover	Size Class	DBH	Age
Sugar Maple	30	Pole/Log	9	
Red Maple	50	Pole/Log	9	80
White Pine	20	Log/Pole	12	

Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	Medium	< 5 feet	Sapling
Red Maple	Medium	5 - 10 feet	Sapling
Balsam Fir	Low	Variable	Sapling
White Spruce	Low	Variable	Sapling
White Pine	Medium	Variable	Sapling
Pin Cherry	Low	5 - 10 feet	Tall Shrub



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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**53** 4112 - Maple, Beech, Cherry Association Sawtimber Well 16.3 85 111-140 N/A Stand last thinned in 1997. Stand needs a heavy harvest to open up canopy and create quality gaps.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	26	Log/Pole	11		Sugar Maple	Medium	10 - 20 feet	Sapling
Red Maple	60	Log/Pole	12	85	Red Maple	Medium	10 - 20 feet	Sapling
Yellow Birch	2	Log/Pole	11		Balsam Fir	Low	Variable	Sapling
White Pine	5	Log/Pole	12					
Black Cherry	5	Log/Pole	11					
White Spruce	2	Pole/Log	9					

**54** 710 - Sand, Soil Nonstocked 5.8 Unspecified No Sand pit at end of airport runway.

**55** 429 - Mixed Upland Conifers Sawtimber Well 29.9 69 51-80 N/A Steep hill along the Sucker River. Contains a few dispersed campsites.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	10	Pole/Sap/Log	8		Red Maple	Medium	5 - 10 feet	Sapling
Quaking Aspen	10	Pole/Sapling	9		Quaking Aspen	Low	Variable	Sapling
Balsam Fir	10	Pole/Sapling	8		Balsam Fir	Medium	Variable	Sapling
White Spruce	30	Log/Pole	10		White Spruce	Medium	Variable	Sapling
White Pine	30	Log/Pole/XLog	14	69	White Pine	Medium	Variable	Sapling
Black Cherry	10	Pole/Sap/Log	8		Black Cherry	Low	5 - 10 feet	Sapling
					Serviceberry (Juneberry)	Low	10 - 20 feet	Tall Shrub

**56** 4136 - Aspen, Mixed Conifer Sapling Well 44.1 24 1-50 N/A Hilly terrain. Scattered large diameter white pine residuals, especially in SE near county road. Wet drainage in stand.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	10	Sapling/Pole	3		Pin Cherry	Low	< 5 feet	Tall Shrub
Quaking Aspen	55	Sapling/Pole	4	24				
Balsam Fir	10	Sapling/Pole	4					
White Spruce	5	Sapling	3					
White Pine	15	Log	16					
Black Cherry	5	Sapling	2					

**57** 6122 - Black Spruce Poletimber Well 17.2 85 81-110 N/A This stand looks healthy but is mature. There is an upland ridge within stand.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	6	Pole	8		Red Maple	Medium	10 - 20 feet	Sapling
Quaking Aspen	5	Log	10		Balsam Fir	Medium	5 - 10 feet	Sapling
Tamarack	2	Pole	8		Black Spruce	Low	5 - 10 feet	Sapling
Black Spruce	72	Pole/Log/Sap	8	85	Tag Alder	Low	5 - 10 feet	Tall Shrub
White Pine	15	Log	16					



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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**58** 4112 - Maple, Beech, Cherry Association Sawtimber Well 29.2 78 111-140 N/A Garlic Sand, 0-6% slopes.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	26	Log/Pole	16		Red Maple	Medium	10 - 20 feet	Sapling
Red Maple	60	Log/Pole	14	78	Balsam Fir	Low	5 - 10 feet	Sapling
Yellow Birch	2	Log/Pole	10		White Pine	Low	5 - 10 feet	Sapling
Balsam Fir	2	Pole	7					
White Pine	3	XLog/Log	18					
Black Cherry	7	Log/Pole	10					

**59** 429 - Mixed Upland Conifers Sawtimber Well 38.8 78 111-140 N/A

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	15	Log/Pole	10		Red Maple	Medium	10 - 20 feet	Sapling
Quaking Aspen	10	Pole	8		Balsam Fir	High	Variable	Sapling
Balsam Fir	25	Pole	8		White Spruce	Low	Variable	Sapling
White Spruce	10	Log/Pole	10		White Pine	Low	Variable	Sapling
White Pine	30	Log/Pole/XLog	16	78	Black Cherry	Low	10 - 20 feet	Sapling
Black Cherry	10	Pole/Log	9					

**60** 6220 - Alder/willow Nonstocked 1.6 Unspecified No

Sub-Canopy Species	Density	Avg. Height	Size
Mixes Sedges/Grasses	Medium		Non-Wood
Tag Alder	High		Tall Shrub

**61** 429 - Mixed Upland Conifers Sawtimber Medium 24.7 59 1-50 N/A Trees of varying sizes and ages in an old opening. Kalkaska Sand, 0-6% slopes, severely burned.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	10	Pole/Sapling	6		Red Maple	Low	10 - 20 feet	Sapling
Quaking Aspen	15	Pole	7		Quaking Aspen	Medium	10 - 20 feet	Sapling
Balsam Fir	10	Pole	6		Balsam Fir	Low	Variable	Sapling
White Pine	50	Log/Pole	12	59	White Spruce	Low	Variable	Sapling
Black Cherry	15	Pole	8		White Pine	Medium	Variable	Sapling
					Black Cherry	Medium	10 - 20 feet	Sapling
					Serviceberry (Juneberry)	Low	10 - 20 feet	Tall Shrub



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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<b>62</b>	4134 - Aspen, Spruce/Fir	Sapling Well	53.6	24	Immature	N/A	
<b>Canopy Species</b>		<b>% Cover</b>	<b>Size Class</b>	<b>DBH</b>	<b>Age</b>	<b>Sub-Canopy Species</b>	
Red Maple		5	Sapling	3	24	Tag Alder	
Quaking Aspen		70	Sapling	3	24	Pin Cherry	
Balsam Fir		10	Sapling	2	24		
White Spruce		5	Sapling	2	24		
White Pine		5	Sapling	2	24		
Black Spruce		5	Sapling	2	24		
						<b>Density</b>	<b>Avg. Height</b>
							<b>Size</b>

<b>63</b>	4112 - Maple, Beech, Cherry Association	Poletimber Well	19.0	80	81-110	N/A	Thinned in 1997. Hilly terrain. BBD is present, though there are few beech trees. BA variable 60-130.
<b>Canopy Species</b>		<b>% Cover</b>	<b>Size Class</b>	<b>DBH</b>	<b>Age</b>	<b>Sub-Canopy Species</b>	
Sugar Maple		15	Pole/Log	9		Red Maple	
Red Maple		65	Log/Pole	14	80	Balsam Fir	
Yellow Birch		2	Log/Pole	12		Hemlock	
Beech		2	Pole	6		Sugar Maple	
Balsam Fir		10	Pole	8		Beech	
Hemlock		3	Log	14			
Black Cherry		3	Log/Pole	12			
						<b>Density</b>	<b>Avg. Height</b>
							<b>Size</b>

<b>64</b>	429 - Mixed Upland Conifers	Sawtimber Medium	30.2	86	51-80	N/A	
<b>Canopy Species</b>		<b>% Cover</b>	<b>Size Class</b>	<b>DBH</b>	<b>Age</b>	<b>Sub-Canopy Species</b>	
Red Maple		5	Pole	8		Red Maple	
Quaking Aspen		10	Pole	9		Balsam Fir	
Balsam Fir		5	Pole	7		White Spruce	
White Spruce		10	Log/Pole	10	59	White Pine	
White Pine		50	Log/Pole/XLog	16	86	Black Cherry	
Black Cherry		20	Log/Pole	10			
						<b>Density</b>	<b>Avg. Height</b>
							<b>Size</b>

<b>65</b>	42320 - Upland Spruce	Poletimber Well	6.1	70	81-110	N/A	Sucker River riparian zone. Hilly. South of river has more hardwood and less conifer.
<b>Canopy Species</b>		<b>% Cover</b>	<b>Size Class</b>	<b>DBH</b>	<b>Age</b>	<b>Sub-Canopy Species</b>	
Red Maple		10	Pole/Log	10		Balsam Fir	
Quaking Aspen		5	Pole	10		White Spruce	
Balsam Fir		15	Pole	8		White Pine	
White Spruce		60	Pole/Log	10	70		
White Pine		10	Pole/Log	10			
						<b>Density</b>	<b>Avg. Height</b>
							<b>Size</b>



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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<b>66</b>	42120 - Planted Jack Pine	Poletimber Well	38.8	48	111-140	N/A	Adjacent to Sucker River. Dispersed camp sites near river. Kalkaska Sand 0-6% slopes, severely burned.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Red Maple		3	Pole/Sapling	7		Red Maple		Low	5 - 10 feet	Sapling
White Pine		4	Pole	8		White Pine		Low	Variable	Sapling
Jack Pine		90	Pole	8	48	Black Cherry		Low	5 - 10 feet	Tall Shrub
Black Cherry		3	Pole/Sapling	7						

<b>67</b>	429 - Mixed Upland Conifers	Sawtimber Well	4.3	59	111-140	N/A	Variable species density & BA.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Red Maple		10	Log/Pole	10		Red Maple		Medium	5 - 10 feet	Sapling
Quaking Aspen		3	Pole/Log	9		Balsam Fir		Medium	Variable	Sapling
Balsam Fir		25	Pole	6		White Spruce		Low	5 - 10 feet	Sapling
White Spruce		10	Pole	8	59	White Pine		Medium	5 - 10 feet	Sapling
White Pine		50	Log/Pole	16	59					
Black Cherry		2	Pole	8						

<b>68</b>	3204 - Mast Producing Shrub	Nonstocked	424.1		Unspecified	No	Large opening that has been filling in with cherry, juneberry, and hawthorn. Some scattered clumps of trees: white pine, aspen, red maple. Rolling terrain. Kalkaska sands, 0-15% slopes, severely burned.
Sub-Canopy Species		Density	Avg. Height	Size			
Pin Cherry		High	5 - 10 feet	Tall Shrub			
Blueberry/Bilberry/Cranberry		High		Tall Shrub			
Cladonia (Reindeer moss)		Medium		Non-Wood			
Serviceberry (Juneberry)		Medium		Tall Shrub			
White Pine		Low	>20 feet	Pole			

<b>69</b>	4319 - Mixed Upland Forest	Poletimber Well	17.9	75	81-110	N/A	Garlic Sands, 0-6% slopes.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Red Maple		46	Pole/Log	9	75	Red Maple		Medium	10 - 20 feet	Sapling
Balsam Fir		16	Pole	6		Balsam Fir		High	Variable	Sapling
White Spruce		10	Log/Pole	10		White Spruce		Low	5 - 10 feet	Sapling
White Pine		22	XLog/Log/Pole	18		White Pine		Medium	Variable	Sapling
Black Cherry		6	Pole/Log/Sap	9						

<b>70</b>	3204 - Mast Producing Shrub	Nonstocked	96.7		Unspecified	4212 - Planted Jack Pine	Planted to JP 2009. Regen check in fall 2009 detected some failure due to grubs. Sand failed regen survey in 2013 with only 122 T/A.
Sub-Canopy Species		Density	Avg. Height	Size			
Pin Cherry		High	5 - 10 feet	Tall Shrub			
Blueberry/Bilberry/Cranberry		High		Tall Shrub			
Serviceberry (Juneberry)		Medium		Seeding			
Jack Pine		Low	5 - 10 feet	Sapling			
Quaking Aspen		Low	5 - 10 feet	Sapling			

Replanted summer 2016. Passed 3rd year check fall 2019. Re-inventory notes: Cherry and some aspen dominate the stand and are shading out the smaller jack pine. The larger jack pine were severely damaged by ice this past winter. Cherry is too large to kill with herbicide and therefore this stand may never become forested.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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**71**      42200 - Natural White Pine      Sawtimber Medium      28.4      59      1-50      N/A      Trees of varying sizes & ages in an old opening.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	5	Pole/Sapling	8		Red Maple	Low	5 - 10 feet	Sapling
Balsam Fir	15	Pole/Sapling	7		Balsam Fir	Medium	Variable	Sapling
White Spruce	20	Pole/Sapling	8		White Spruce	Medium	Variable	Sapling
White Pine	60	Log/Pole/XLog	12	59	White Pine	Medium	Variable	Sapling
					Black Cherry	Low	5 - 10 feet	Sapling

**72**      429 - Mixed Upland Conifers      Poletimber Well      49.6      69      51-80      N/A      Steep hill along the Sucker River, and flat at bottom. Dispersed campsites. Variable size and density of trees.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	10	Log/Pole	10		Red Maple	Low	Variable	Sapling
Quaking Aspen	10	Pole	8		Quaking Aspen	Low	Variable	Sapling
Balsam Fir	20	Pole/Sapling	8		Balsam Fir	Medium	Variable	Sapling
White Spruce	20	Pole/Log/Sap	9		White Spruce	Medium	Variable	Sapling
White Pine	30	Log/Pole	14	69	White Pine	Medium	Variable	Sapling
Black Cherry	10	Pole	8		Black Cherry	Low	Variable	Sapling

**73**      42200 - Natural White Pine      Sawtimber Medium      13.0      63      51-80      N/A      Area of trees within large opening. Higher BA in center, sparse at edges. Mix of conifers and hardwood. Kalkaska sand, 0-6% slopes, severely burned.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	5	Pole/Log/Sap	9		Red Maple	Medium	5 - 10 feet	Sapling
White Spruce	20	Pole	8		Quaking Aspen	Low	10 - 20 feet	Sapling
White Pine	70	Log/XLog/Pole	16	63	Balsam Fir	Medium	Variable	Sapling
Black Cherry	5	Pole/Log	9		White Spruce	Low	Variable	Sapling
					White Pine	Medium	Variable	Sapling
					Black Cherry	Low	Variable	Sapling
					Serviceberry (Juneberry)	Low	Variable	Tall Shrub

**74**      4319 - Mixed Upland Forest      Sapling Medium      11.0      16      1-50      N/A      Clearcut 1994. Regenerating to a mix of conifer and hardwood. Kalkaska sand, 6-15% slopes, severely burned.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	30	Sapling	3	16
Balsam Fir	10	Sapling	2	16
White Spruce	25	Sapling	3	16
White Pine	10	Sapling	2	16
Black Cherry	25	Sapling	3	16



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																	
<b>75</b>	42120 - Planted Jack Pine	Poletimber Well	76.1	48	81-110	N/A	JP plantation adjacent to Sucker River. Kalkaska Sand 0-6% slopes, severely burned.																																																	
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<b>76</b>	42120 - Planted Jack Pine	Poletimber Well	242.1	48	81-110	N/A	Jack Pine plantation. Seasonal drainage through stand with red pine along it. Some issues with ORV in past - appears mainly eliminated due to blocking of the trails. Kalkaska sand, 0-15% slopes, severely burned.																																																	
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<b>77</b>	3204 - Mast Producing Shrub	Nonstocked	35.8		Unspecified	No	Rolling terrain. Kalkaska sand, 0-6% slopes, severely burned. 2 small ponds within stand.																																																	
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<b>78</b>	3204 - Mast Producing Shrub	Nonstocked	46.3		Unspecified	4212 - Planted Jack Pine	Planted to JP 2009. Regen check in fall 2009 detected some failure due to grubs. Sand failed regen survey in 2013 with only 122 T/A. Replanted summer 2016. Passed 3rd year check fall 2019. Re-inventory notes: Cherry and some aspen dominate the stand and are shading out the smaller jack pine. The larger jack pine were severely damaged by ice this past winter. Cherry is too large to kill with herbicide and therefore this stand may never become forested.																																																	
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Quaking Aspen	Low	5 - 10 feet	Sapling																																																					
<b>79</b>	4115 - Y.Birch, Hemlock NH	Sapling Well	42.1	16	1-50	N/A	Harvested in 2004. Residual trees include hemlock, and a few supercanopy white pine.																																																	
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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<b>80</b>	429 - Mixed Upland Conifers	Poletimber Well	7.4	65	51-80	N/A	
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	35	Pole/Sapling	8	65	Red Maple	Medium	5 - 10 feet	Sapling
Balsam Fir	10	Pole/Sapling	6		Balsam Fir	Medium	Variable	Sapling
White Spruce	20	Pole/Sapling	8		White Spruce	Low	Variable	Sapling
White Pine	30	Log/Pole	12		White Pine	Low	Variable	Sapling
Black Cherry	5	Pole/Sapling	8					

<b>81</b>	4113 - R.Maple, Conifer	Sawtimber Well	50.6	80	81-110	N/A	BA range from 50-160. Stand was part of Bullets Planes and Contractors timbersale, this stand was returned un-cut because the producer lost access through private land.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	2	Log/Pole	10		Red Maple	Medium	5 - 10 feet	Sapling
Red Maple	50	Pole/Log/Sap	9	80	Balsam Fir	Medium	Variable	Sapling
Yellow Birch	2	Log/Pole	12		White Spruce	Medium	Variable	Sapling
Beech	2	Pole/Log	9		White Pine	Medium	Variable	Sapling
Balsam Fir	2	Pole/Sapling	7					
White Spruce	2	Pole/Log/Sap	9					
White Pine	30	Log/Pole/XLog	12					
Hemlock	2	Log/Pole	12					
Black Cherry	8	Pole/Log/Sap	9					

<b>82</b>	6225 - Bog	Nonstocked	4.1		Unspecified	No	
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Sub-Canopy Species	Density	Avg. Height	Size
Mixes Sedges/Grasses	High		Non-Wood
Leatherleaf	High		Tall Shrub

<b>83</b>	429 - Mixed Upland Conifers	Sawtimber Well	41.5	63	81-110	N/A	Sucker River runs through a portion of the stand. Dispersed campsite along river.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	15	Log/Pole	10		Red Maple	Low	5 - 10 feet	Sapling
Quaking Aspen	3	Pole	8		Balsam Fir	Medium	Variable	Sapling
Balsam Fir	12	Pole	8		White Spruce	Medium	Variable	Sapling
White Spruce	15	Log/Pole	10		White Pine	Medium	Variable	Sapling
White Pine	40	Log/Pole/XLog	16	63	Black Cherry	Low	5 - 10 feet	Sapling
Black Cherry	15	Pole/Log	9					

<b>84</b>	6225 - Bog	Nonstocked	1.5		Unspecified	No	
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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**85**      6122 - Black Spruce      Poletimber Well      11.3      88      81-110      N/A      Stand is upland around the edges. Mature spruce.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Black Spruce	70	Pole	8	88	Balsam Fir	Low	Variable	Sapling
Northern White Cedar	5	Pole	8		Black Spruce	Low	Variable	Sapling
Balsam Fir	5	Pole	8					
White Spruce	5	Pole/Log	9					
Red Maple	5	Pole	8					
White Pine	10	Log/Pole	12					

**86**      6225 - Bog      Nonstocked      1.1           Unspecified      No

**87**      4319 - Mixed Upland Forest      Sawtimber Medium      54.8      75      81-110      N/A      This is an open grown stand dominated by white pine with several age classes.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	5	Pole/Log	9		Red Maple	Medium	5 - 10 feet	Sapling
Balsam Fir	5	Pole	7		Balsam Fir	Medium	Variable	Sapling
White Spruce	20	Pole/Log	9		White Spruce	Low	Variable	Sapling
White Pine	60	Log/Pole/XLog	16	75	White Pine	Medium	Variable	Sapling
Black Cherry	10	Pole/Log	9		Black Cherry	Low	5 - 10 feet	Sapling

**88**      6225 - Bog      Nonstocked      1.2           Unspecified      No

**89**      6220 - Alder/willow      Nonstocked      21.4           Unspecified      No      Sucker River floodplain.

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	High		Tall Shrub
Red Maple	Medium	>20 feet	Pole
Balsam Fir	Medium	10 - 20 feet	Sapling

**90**      4119 - Mixed Northern Hardwoods      Sawtimber Well      23.7      80      81-110      N/A      Select harvested in 1989. Seasonal drainages flowing into the Sucker River within the stand. Areas with large diameter hemlock and cedar (especially in the west). Cedar and hemlock regen in skid roads.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	25	Pole/Log/Sap	10		Sugar Maple	High	5 - 10 feet	Sapling
Red Maple	40	Pole/Log/Sap	10	80	Red Maple	High	5 - 10 feet	Sapling
Balsam Fir	5	Pole	8		Balsam Fir	Medium	Variable	Sapling
White Spruce	5	Pole/Log	10		White Spruce	Low	< 5 feet	Sapling
Northern White Cedar	5	Log	14		Northern White Cedar	Low	< 5 feet	Seeding
White Pine	5	Log	14		White Pine	Medium	Variable	Sapling
Hemlock	5	Log	14		Hemlock	Low	< 5 feet	Seeding
Black Cherry	10	Pole/Log/Sap	10					



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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<b>91</b>	4115 - Y.Birch, Hemlock NH	Sapling Well	11.3	16	1-50	N/A	Harvested in 2004. Hemlock and scattered supercanopy white pine reserve trees remain.
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Canopy Species	% Cover	Size Class	DBH	Age
Sugar Maple	10	Sapling	2	16
Red Maple	25	Sapling	2	16
Yellow Birch	10	Sapling	2	16
Balsam Fir	5	Sapling	2	16
White Spruce	5	Sapling	2	16
White Pine	10	XLog	18	
Hemlock	10	Pole/Sap/Log	9	16
Black Cherry	25	Sapling	2	16

Sub-Canopy Species	Density	Avg. Height	Size
Serviceberry (Juneberry)	Low	Variable	Sapling

<b>92</b>	4319 - Mixed Upland Forest	Poletimber Well	8.8	60	81-110	N/A	Steep hills. Garlic Sand 15-35% slopes. Mix of hardwood and conifer.
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Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	40	Pole/Log	9	60
Balsam Fir	20	Pole	8	
White Spruce	10	Pole/Log	9	
White Pine	12	Log/Pole/XLog	12	
Hemlock	3	Log/Pole	10	
Bigtooth Aspen	15	Log/Pole	11	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	5 - 10 feet	Sapling
Balsam Fir	High	Variable	Sapling
White Spruce	Medium	Variable	Sapling
White Pine	Medium	Variable	Sapling

<b>93</b>	429 - Mixed Upland Conifers	Poletimber Well	13.1	60	81-110	N/A	Scattered large white pine among fir/spruce.
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Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	15	Pole	9	
Quaking Aspen	10	Log/Pole	10	
Balsam Fir	45	Pole	8	60
White Spruce	10	Pole	8	
White Pine	20	Log/Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	High	Variable	Sapling
White Spruce	Medium	Variable	Sapling
White Pine	Medium	Variable	Sapling

<b>94</b>	429 - Mixed Upland Conifers	Poletimber Medium	4.3	45	1-50	N/A	Old opening - filling in with trees of varying sizes and ages.
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Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Pole/Sapling	7	
Quaking Aspen	10	Pole/Sapling	8	
Balsam Fir	10	Pole/Sapling	6	
White Spruce	25	Pole/Sapling	6	
White Pine	35	Pole/Sap/Log	8	45
Black Cherry	10	Pole/Sapling	6	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	5 - 10 feet	Sapling
Quaking Aspen	Medium	10 - 20 feet	Sapling
Balsam Fir	Low	Variable	Sapling
White Spruce	Low	5 - 10 feet	Sapling
White Pine	Medium	Variable	Sapling
Black Cherry	Medium	5 - 10 feet	Sapling
Serviceberry (Juneberry)	Low	10 - 20 feet	Tall Shrub



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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**95**      4113 - R.Maple, Conifer      Poletimber Well      3.3      80      81-110      N/A      Red Maple dominated stand that is too small to manage as all aged.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	55	Pole/Log	9	80	Balsam Fir	High	Variable	Sapling
Balsam Fir	10	Pole	8		White Spruce	Low	5 - 10 feet	Sapling
White Spruce	5	Pole/Log	9		Red Maple	Medium	10 - 20 feet	Sapling
Quaking Aspen	15	Pole	8					
Black Cherry	10	Pole/Log	9					
White Pine	5	XLog/Log	18					

**96**      429 - Mixed Upland Conifers      Sawtimber Well      3.1      80      81-110      N/A      Areas with large diameter White Pine; mix of tree sizes and species throughout.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
White Pine	45	XLog/Log/Pole	18	80	Balsam Fir	Medium	Variable	Sapling
White Spruce	3	Log/Pole	10		Red Maple	Medium	10 - 20 feet	Sapling
Balsam Fir	15	Pole	8		White Spruce	Low	5 - 10 feet	Sapling
Bigtooth Aspen	20	Log/Pole	10					
Black Cherry	2	Pole/Log	9					
Red Maple	15	Pole/Log	9					

**101**      42340 - Upland Spruce/Fir      Sawtimber Well      1.7      80      81-110      N/A      Stand is mostly upland.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
White Pine	25	XLog/Log/Pole	18		Balsam Fir	Medium	Variable	Sapling
White Spruce	10	Log/Pole	12		Red Maple	Medium	10 - 20 feet	Sapling
Black Spruce	35	Pole/Log	9	80	Black Spruce	Low	5 - 10 feet	Sapling
Balsam Fir	20	Pole/Log	9					
Quaking Aspen	10	Log/Pole	14					