



# Compartment Review Presentation

Grayling Forest Management Unit

Compartment 72195

Entry Year 2023

Acreage: 1,128

County Crawford

Management Area: AuSable Outwash

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**Revision Date:** 2021-06-15

**Stand Examiner:** Joan Charlebois

**Legal Description:**

T25N R04W Sections 24, 25, 26

**Identified Planning Goals:**

To maintain riparian & forest health, productivity, sustainability, species diversification, and structural diversity throughout the compartment while providing for multiple use and visual management.

**Soil and topography:**

Upland soils are predominantly Graycalm-Grayling sands, with minor representation in Grayling and Croswell sands and the more productive Klacking loamy sand. The compartment's relatively small amount of low ground is characterized by poorly-drained soil complexes such as Kinross-AuGres and Tawas-Leafriver mucks. Terrain is generally level, with slight elevation drops associated with the lowland ground.

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

The compartment has no private in-holdings, but roughly half of its boundary is adjacent to private property. Most of that private property has been developed for year-round residences.

**Unique Natural Features:**

There is the potential for rare dry prairie plants and insects to occur within suitable upland habitats.

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

This area was the site of extensive plantings and forestry research projects, including the former Bosom Field Pine Study Area. It contains some of the first plantings of seedling stock from the North Higgins Lake Nursery. Known archeological concerns within the compartment have been protected.

**Special Management Designations or Considerations:**

The Bosom Field Pine Study Area was one of the State's earliest pine plantation research sites. The Hartman-Buckley-Sharik oak/pine study was more recently conducted within the compartment, as well as MTU's Sirex woodwasp monitoring.

**Watershed and Fisheries Considerations:**

The compartment has an intermittent stream that connects with the headwaters of Beaver Creek (the Creek's Natural Rivers designation starts in T25N R3W).

**Wildlife Habitat Considerations:**

The compartment's aspen, pine and increasing oak components provide a variety of habitat types for game and non-game wildlife.

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

Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 200 and 600 feet. Beneath the glacial drift is the Michigan Formation, quarried for gypsum elsewhere in the State. The nearest gravel pit is located just to the south and potential is thought to be good along the south edge of the compartment. Section 27 is leased and is part of the Beaver Creek Field. The field has produced over 21 MBO from the Devonian Richfield. Sections 25 and 26 are leased for oil and gas development.

**Vehicle Access:**

County roads include Old 27, Fletcher, King & Oak Roads. Two-tracks constructed in the early 1900's run along most forty lines.

**Survey Needs:**

None at this time.

**Recreational Facilities and Opportunities:**

The Beaver Creek MCCCT trail runs through the compartment's north end, as well as the 2021 snowmobile trail re-route. The North Higgins Lake State Park's Beaver Creek Trail system extends into the compartment's south half. This non-motorized pathway is used for hiking, biking and cross-country skiing. A portion of the pathway was upgraded in 2021 for inclusion in the statewide Iron Belle Trail network.

**Fire Protection:**

Access is good for fire protection. Beaver Creek at Oak Road is the nearest water point.

**Additional Compartment Information:**

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

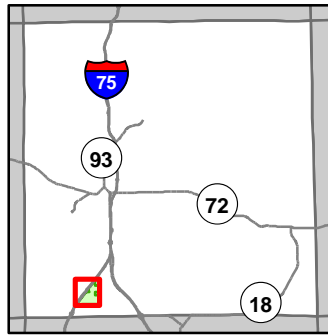
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

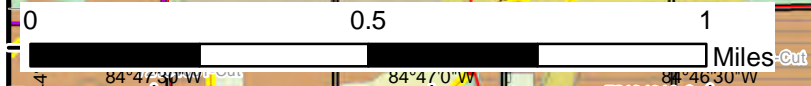
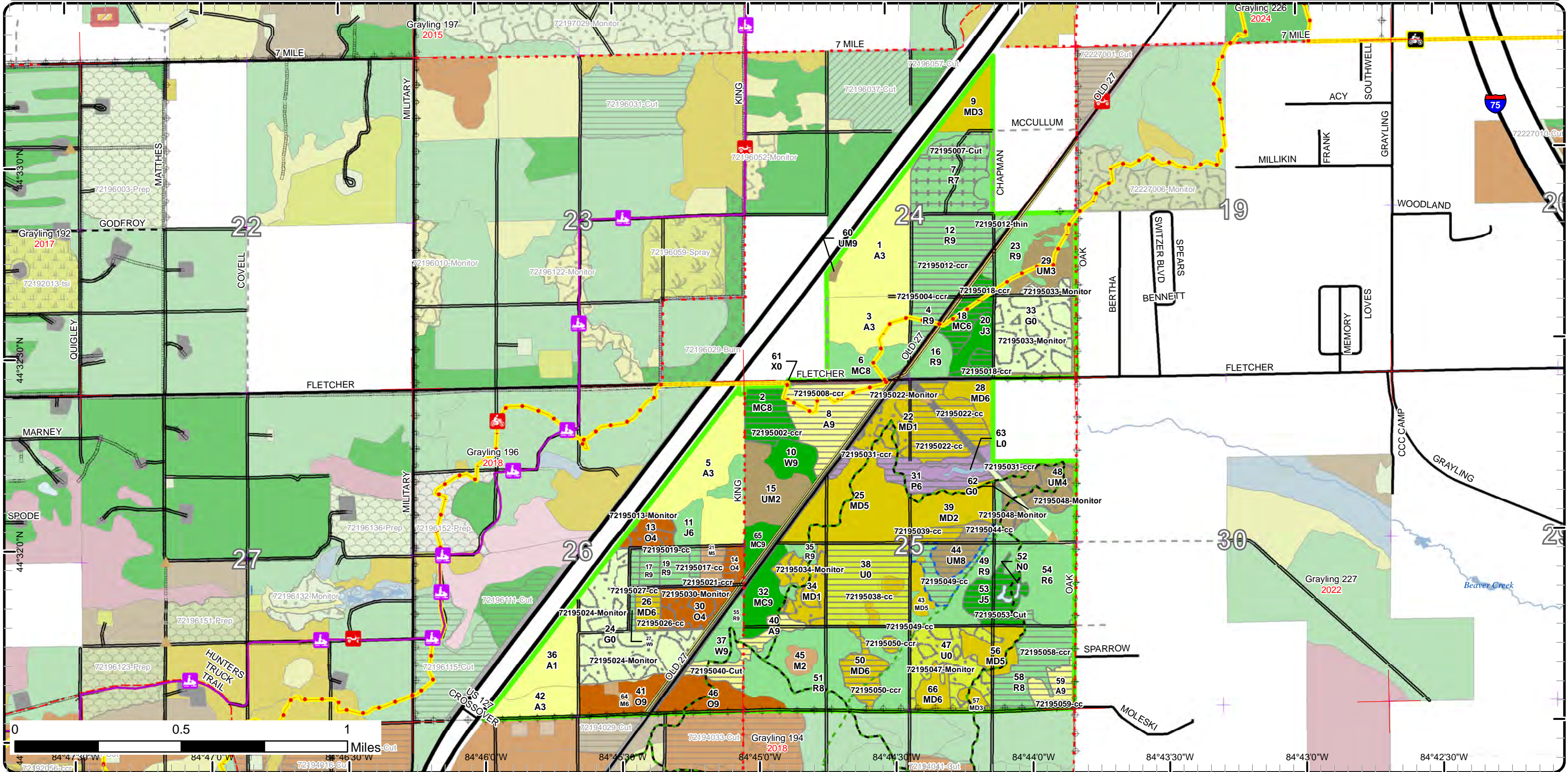
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

# Cover Type & Treatments Map

Compartment: 195  
 T25N, R04W, Sec. 24-26  
 County: Crawford  
 Unit: Grayling  
 Mgmt Area: AuSable Outwash  
 YOE: 2023  
 Acres: 1128.4 GIS Calculated  
 Examiner: Joan Charlebois  
 Map Revised: 9/7/2021  
 Map Phase: Review



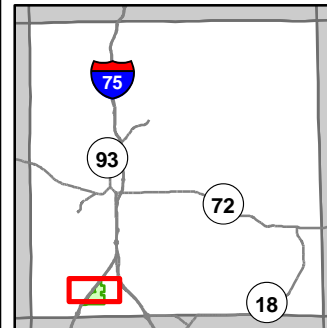
- Miris Corners
- + Remonumented Section Corners
- Counties
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- DNR - Forest Access Route
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- Federal / State / County - Paved Road
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- ▲ Berms
- Perennial River
- Pipeline
- Unspecified
- Compartment Boundary
- Treatments with Site Conditions
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- 421 - Planted Pines
- 422 - Natural Pines
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 622 - Lowland Shrub
- 623 - Emergent Wetland



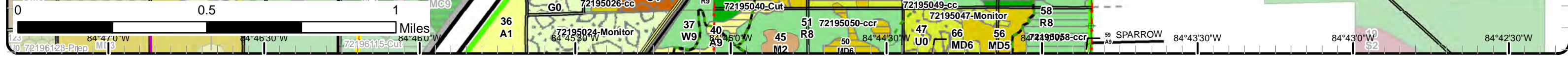
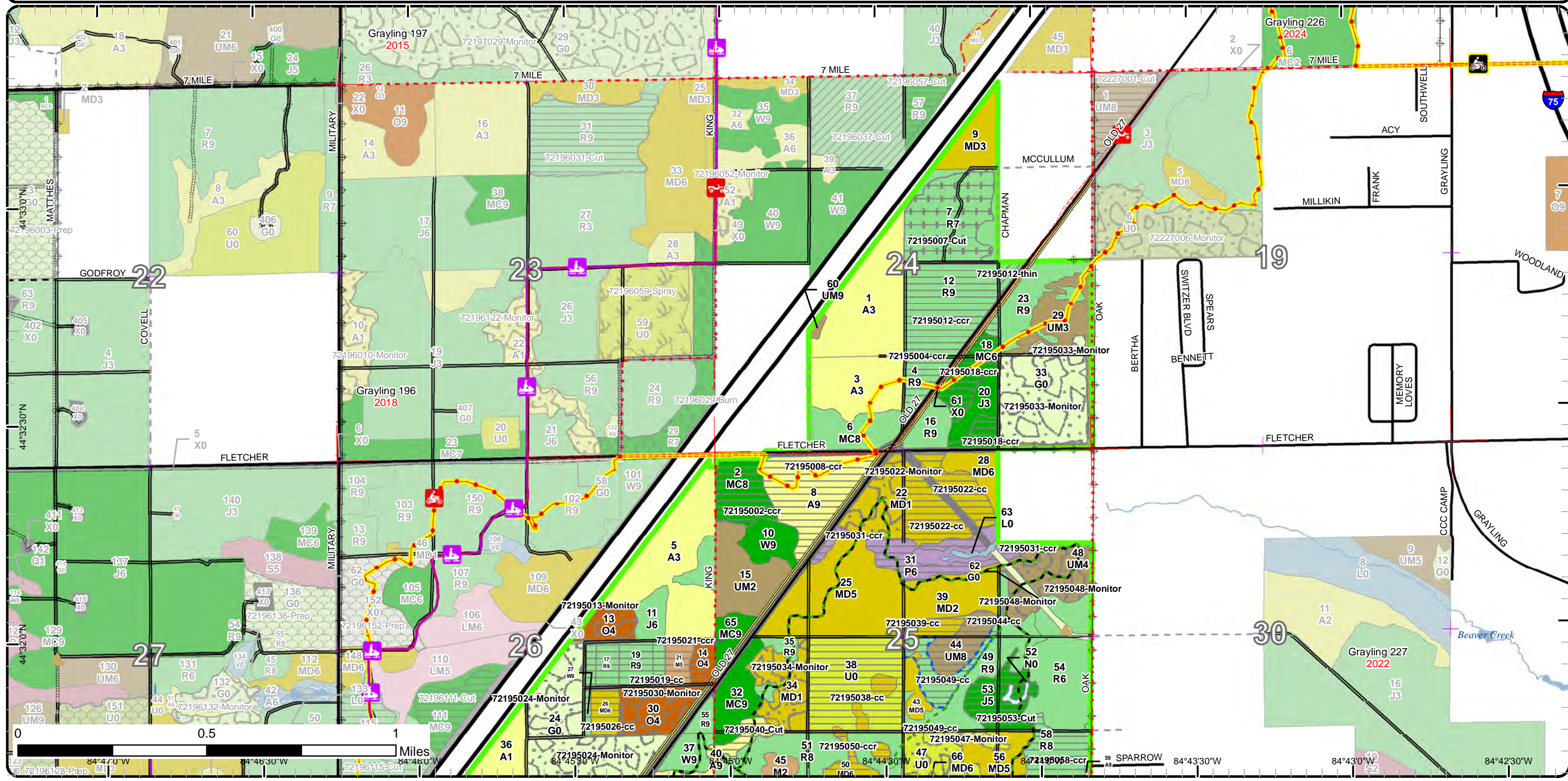
44°32'0"N 84°44'30"W 84°44'0"W 84°43'30"W 84°43'0"W 84°42'30"W

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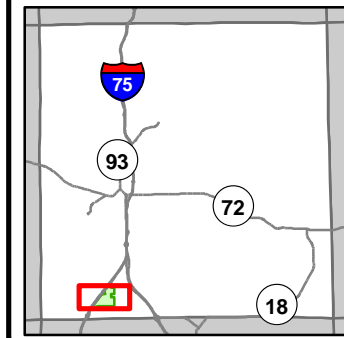


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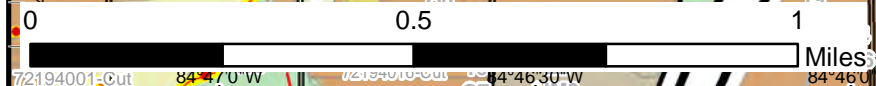
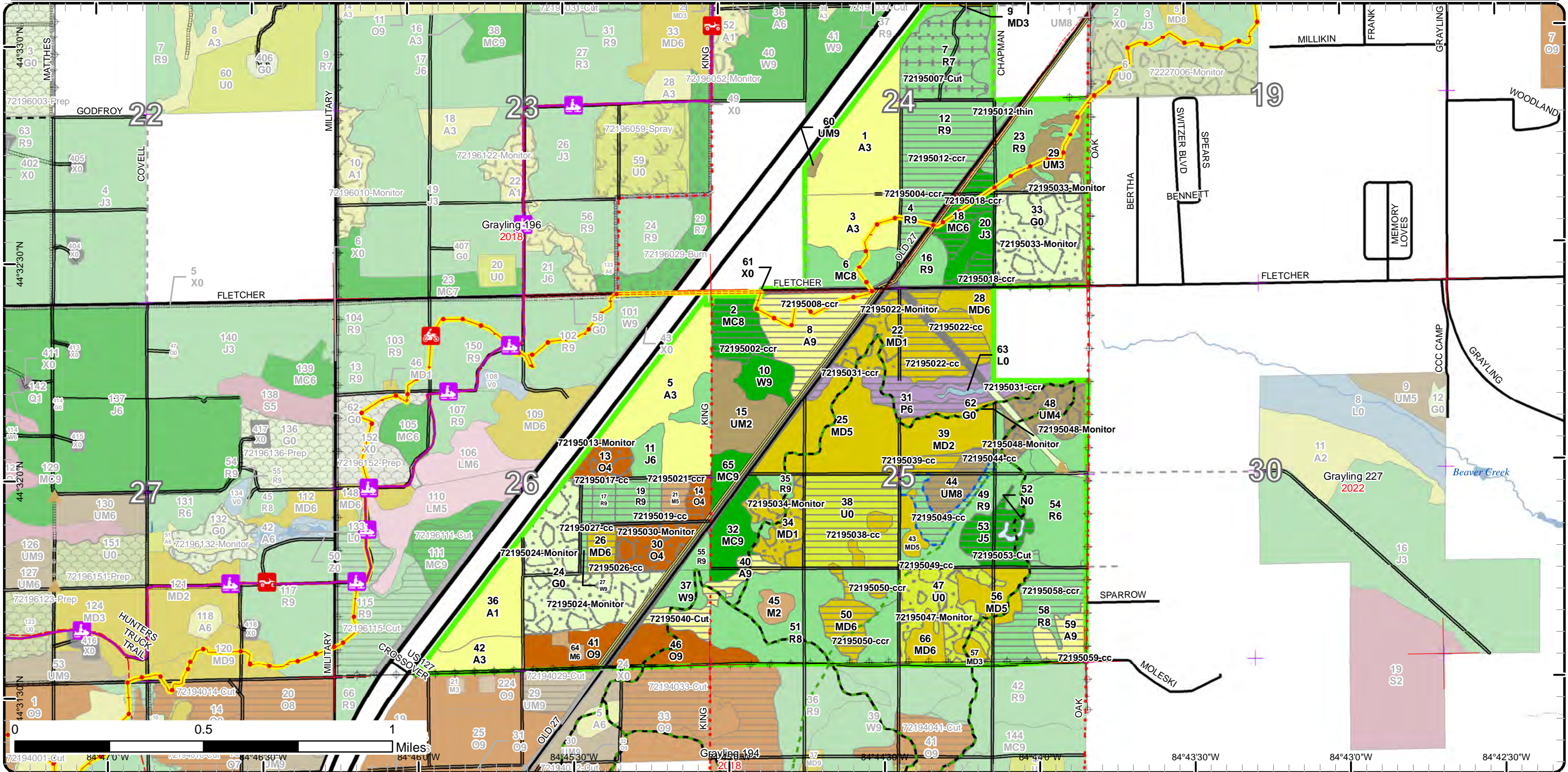


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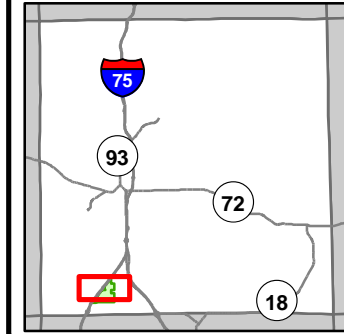
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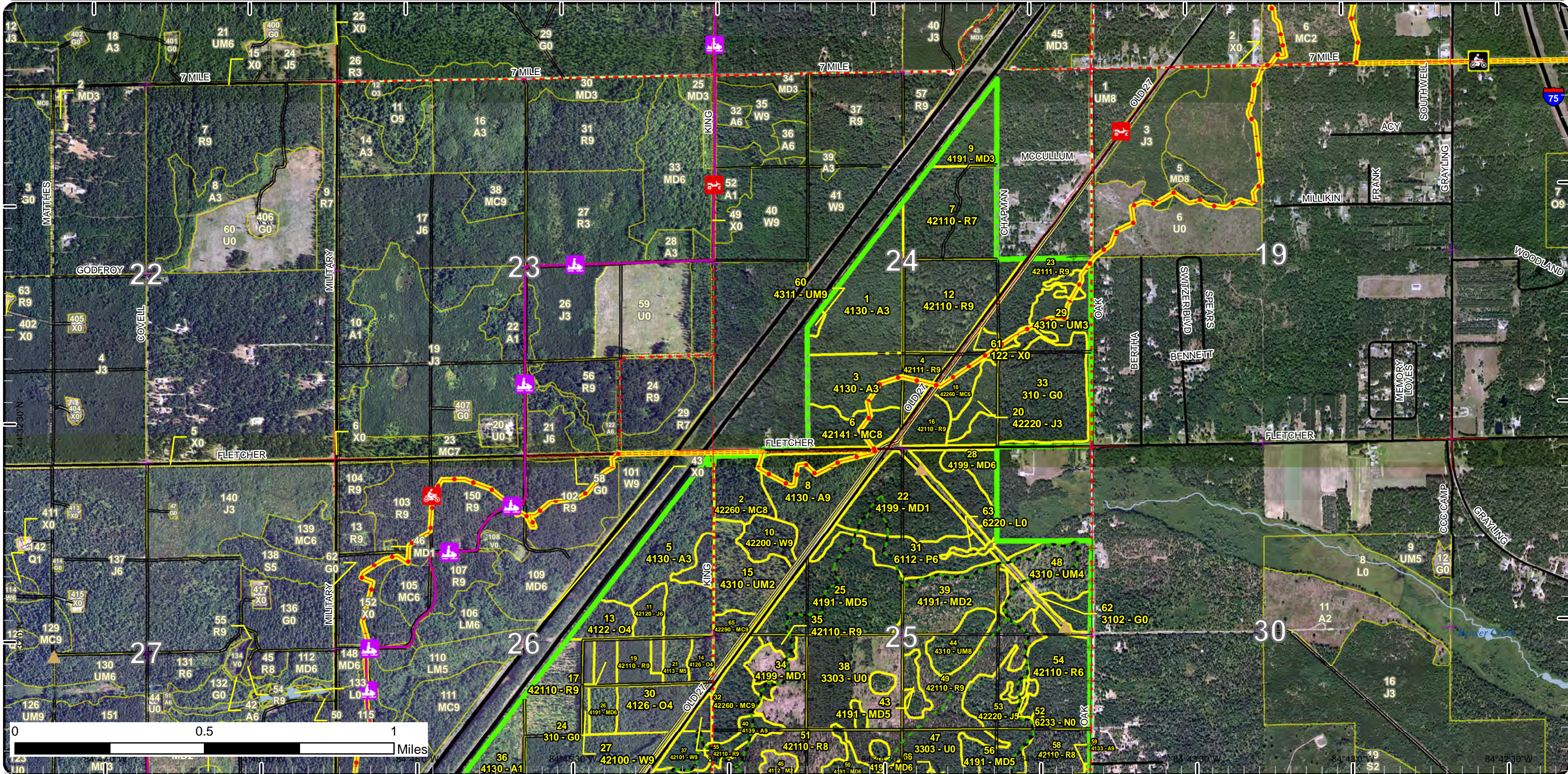
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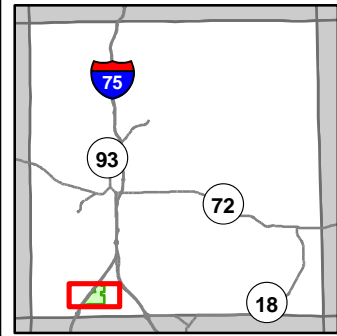
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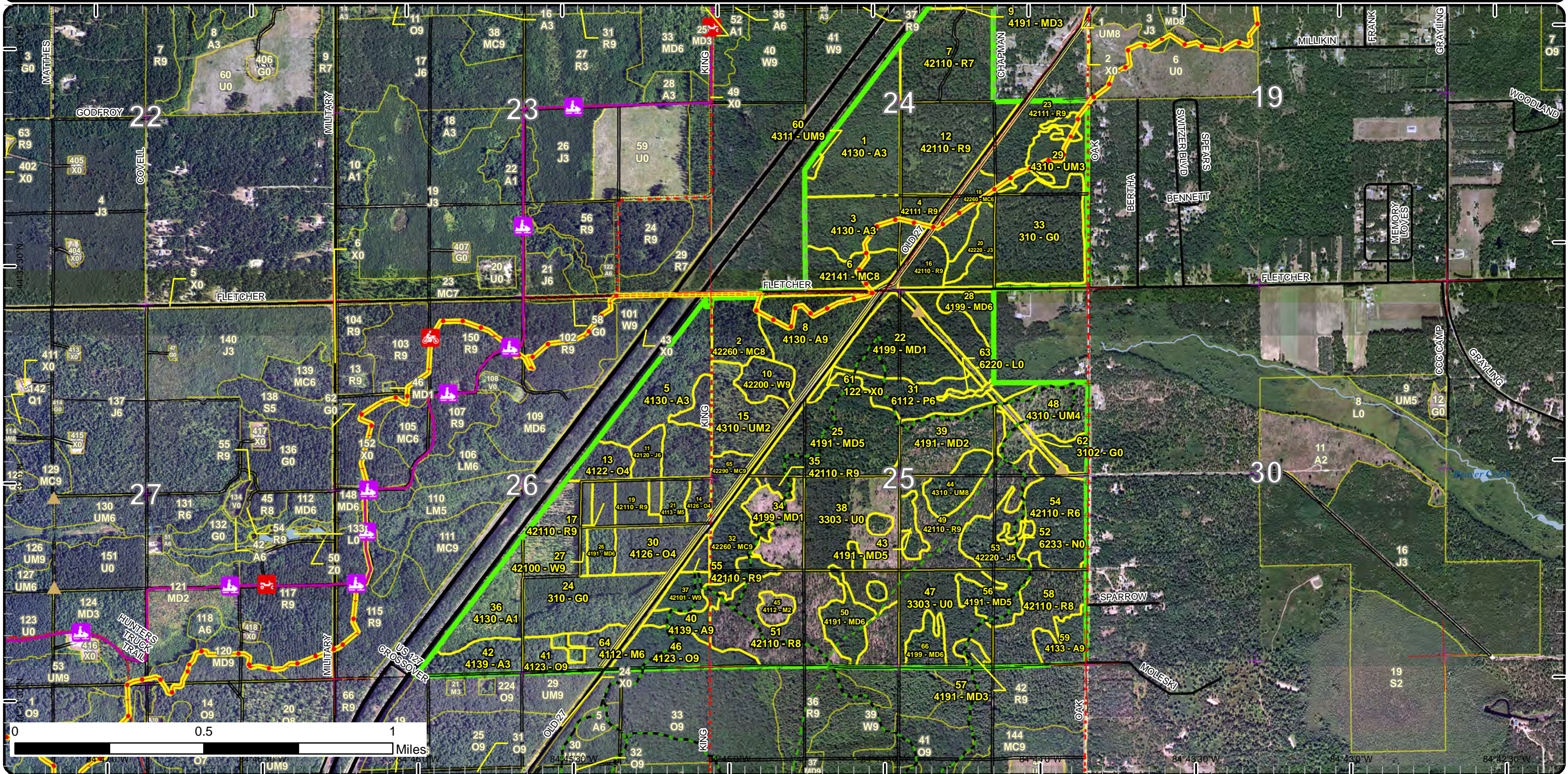


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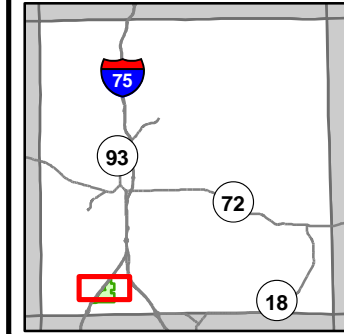


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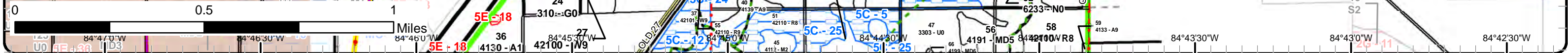
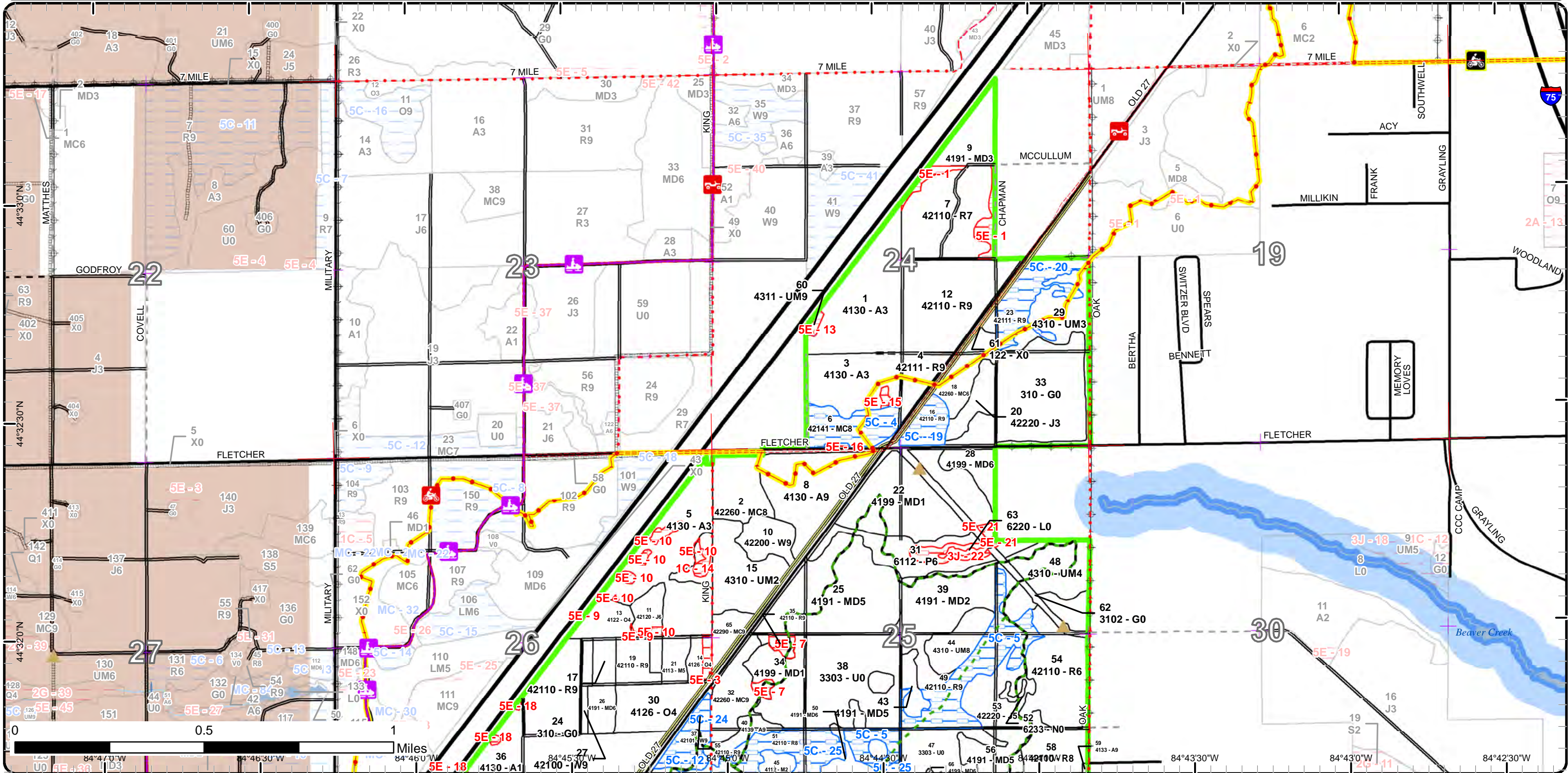


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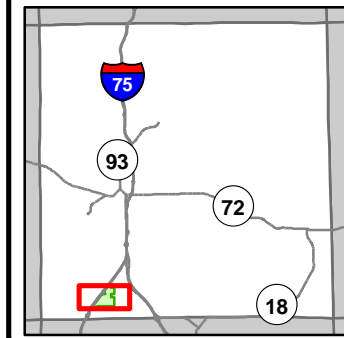
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- Available w/ Constraints
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- 5E: Long-Term Retention
- Stand Boundaries
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Cold Water Streams
- Cold Water Lakes
- Research, Development, and Military Lands
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 1C: Other dept or div proc/practices
- 3J: Water quality / BMPs (stream, river, or lake)



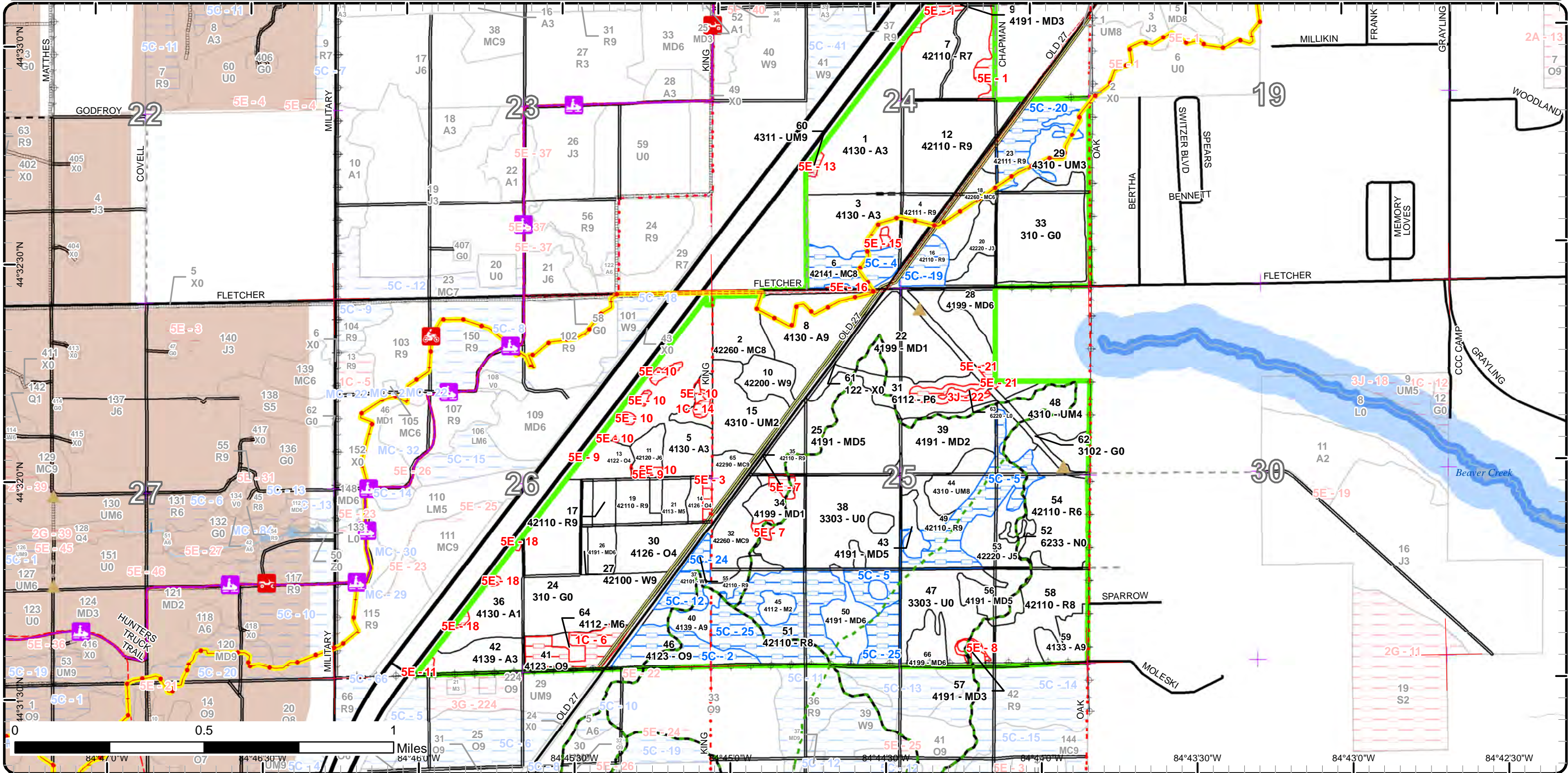


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# Report 1 – Total Acres by Cover Type and Age Class

Grayling Mgt. Unit

Compartment 195 Year of Entry 2023

Joan Charlebois : Examiner



## 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	115	20	0	0	0	51	0	0	0	0	0	0	0	0	0	0	0	186
Herbaceous Openland	94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94
Jack Pine	0	0	0	8	11	0	15	0	0	0	0	0	0	0	0	0	0	0	34
Low-Density Trees	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63
Lowland Aspen/Balsam Poplar	0	0	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	22
Lowland Shrub	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Marsh	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Mixed Upland Deciduous	0	57	3	13	30	6	70	7	8	0	0	0	0	0	0	0	0	0	194
Natural Mixed Pines	0	0	0	0	0	29	15	7	0	0	0	0	0	0	0	0	0	0	51
Northern Hardwood	0	4	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Oak	0	0	0	0	0	0	29	0	0	0	0	0	14	18	0	0	0	0	61
Planted Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	15
Red Pine	0	0	0	0	32	0	0	0	0	0	0	242	0	0	0	0	0	0	274
Upland Mixed Forest	0	0	21	19	0	21	0	0	11	0	0	1	0	0	0	0	0	0	73
Urban	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
White Pine	0	0	0	0	0	0	0	0	0	9	0	9	0	0	0	0	0	0	18
<b>Total</b>	<b>189</b>	<b>176</b>	<b>44</b>	<b>40</b>	<b>81</b>	<b>56</b>	<b>202</b>	<b>14</b>	<b>19</b>	<b>9</b>	<b>0</b>	<b>267</b>	<b>14</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1129</b>



## Report 2 – Treatment Summary

Grayling Mgt. Unit

Year of Entry: 2023

Acres of Harvest

Compartment 195

Total Compartment Acres: 1,128

Commercial Harvest - 340  
 Harvests with Site Condition - 10  
 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	52	0	0	0	0	0	0	0	0	52
Jack Pine	15	0	0	0	0	0	0	0	0	15
Low-Density Trees	40	0	0	0	0	0	0	0	0	40
Lowland Aspen/Balsam Poplar	17	0	0	0	0	0	0	0	0	17
Mixed Upland Deciduous	48	0	0	0	0	0	0	0	0	48
Natural Mixed Pines	32	0	0	0	0	0	0	0	0	32
Northern Hardwood	5	0	0	0	0	0	0	0	0	5
Oak	3	0	0	0	0	0	0	0	0	3
Red Pine	93	0	0	0	0	2	31	0	0	126
Upland Mixed Forest	11	0	0	0	0	0	0	0	0	11
White Pine	2	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>317</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>350</b>

### Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	350	0	0	0	0	0	188	0	0	537
Next Step	0	254	164	0	0	413	597	251	0	1679
<b>Total</b>	<b>350</b>	<b>254</b>	<b>164</b>	<b>0</b>	<b>0</b>	<b>413</b>	<b>784</b>	<b>251</b>	<b>0</b>	<b>2216</b>



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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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**Proposed Treatments:**

<b>2</b>	<b>72195002-ccr</b>	14.9	42260 - Natural Pine, Mixed Deciduous	Sawtimber Medium	58	51-80	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	No
<p><u>Prescription</u> Harvest stems 2"+ DBH except leave the xxlog WP and island retention.  <u>Specs:</u>  <u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)  <u>Treatments:</u>  <u>Acceptable</u> Moderate stocking in A-O-Pine with upland shrub inclusions.  <u>Regen:</u>  <u>Other</u> Add MCCCT trail protection specs. Add shrub protection spec. Note the low swale at the south end with a seasonal high water table.  <u>Comment:</u>  <u>Site Condition</u>  <u>Proposed Start Date:</u> 10/1 /2022</p>											
<b>4</b>	<b>72195004-ccr</b>	8.3	42111 - Planted Red Pine, Mixed Deciduous	Sawtimber Well	105	141-170	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Harvest stems 1"+ DBH except leave the legacy RP and 3% retention. Avoid including scotch pine in the island. Spec cutting the solid JP snags. Check into re-routing the MCCCT trail to the new snowmobile trail. Treat concurrent with stand 12 and manage as one plantation.  <u>Specs:</u>  <u>Next Step</u> SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant; Pesticide, Skidder - Release; Monitoring, Artificial  <u>Treatments:</u> Regen(1yr); Monitoring, Artificial Regen(3yr); Other, Pre-Commercial Thinning - Hand  <u>Acceptable</u> full stocking in planted RP  <u>Regen:</u>  <u>Other</u> Add snowmobile trail and MCCCT trail protection specs. Apply low stump and chipping specs.  <u>Comment:</u>  <u>Site Condition</u>  <u>Proposed Start Date:</u> 10/1 /2022</p>											
<b>7</b>	<b>72195007-Cut</b>	30.7	42110 - Planted Red Pine	Sawtimber Poor	105	51-80	Harvest	Overstory Removal	4199 - Other Mixed Upland Deciduous	Two-Aged	No
<p><u>Prescription</u> Remove the overstory RP. Retention established for the stand's 2009 shelterwood harvest has been excluded from the draft treatment boundary.  <u>Specs:</u>  <u>Next Step</u> Monitoring, Natural Regen (Intermediate)  <u>Treatments:</u>  <u>Acceptable</u> Release the advanced RM-O-A regen.  <u>Regen:</u>  <u>Other</u> Spec to cut clean operational paths through the dense understory. Add snowmobile trail and MCCCT trail protection specs.  <u>Comment:</u>  <u>Site Condition</u>  <u>Proposed Start Date:</u> 10/1 /2022</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
<b>8 72195008-ccr</b>	30.2	4130 - Aspen	Sawtimber Well	58	51-80	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	No
<p><u>Prescription</u> Harvest stems 2"+ DBH except the xlog WP &amp; island retention.  <u>Specs:</u>  <u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)  <u>Treatments:</u>  <u>Acceptable</u> Moderate stocking in aspen with O-RM-pine.  <u>Regen:</u>  <u>Other</u> Add MCCCT trail protection specs. Protect shrubs except cut clean operational paths. Note low ground at south end with seasonal high water table.  <u>Comment:</u>  <u>Site Condition</u>  <u>Proposed Start Date:</u> 10/1 /2022</p>										
<b>12 72195012-ccr</b>	33.9	42110 - Planted Red Pine	Sawtimber Well	106	111-140	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Harvest stems 1"+ DBH except leave the legacy RP. The portion of stand 12 with the thinning Rx will be designated as stand 12's retention post-harvest. Treat concurrent with stand 4 and manage as one plantation.  <u>Specs:</u>  <u>Next Step</u> SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant; Pesticide, Skidder - Release; Monitoring, Artificial  <u>Treatments:</u> Regen(1yr); Monitoring, Artificial Regen(3yr); Other, Pre-Commercial Thinning - Hand  <u>Acceptable</u> full stocking in planted RP  <u>Regen:</u>  <u>Other</u> Add snowmobile trail &amp; cycle trail protection specs. Apply low stump and chipping specs.  <u>Comment:</u>  <u>Site Condition</u>  <u>Proposed Start Date:</u> 10/1 /2022</p>										
<b>12 72195012-thin</b>	2.1	42110 - Planted Red Pine	Sawtimber Well	106	111-140	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Thin this triangle of stand 12 that will be designated (post-harvest) as retention for the bulk of stand 12's final harvest. Reduce the basal area sufficiently to promote forest health and long-term resiliency.  <u>Specs:</u>  <u>Next Step</u> Other, Other  <u>Treatments:</u>  <u>Acceptable</u>  <u>Regen:</u>  <u>Other</u> Add snowmobile trail &amp; cycle trail protection specs  <u>Comment:</u>  <u>Site Condition</u>  <u>Proposed Start Date:</u> 10/1 /2022</p>										
<b>13 72195013-Monitor</b>	8.3	4122 - Oak, Pine	Poletimber Poor	55	1-50	Monitoring	Natural Regen (Intermediate)	4121 - Oak, Aspen	Two-Aged	No
<p><u>Prescription</u> Check stand again after two more growing seasons.  <u>Specs:</u>  <u>Next Step</u>  <u>Treatments:</u>  <u>Acceptable</u> A mix of O-A-RM-pine residual and regen from the cut at moderate stocking, with upland shrub inclusions accepted.  <u>Regen:</u>  <u>Other</u>  <u>Comment:</u>  <u>Site Condition</u>  <u>Proposed Start Date:</u> 10/1 /2023</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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**14 72195014-ccr** 2.9 4126 - White, Black, N. Pin Oak Poletimber 59 1-50 Harvest Clearcut with Retention 4211 - Planted Red Pine Even-Aged No

Prescription Harvest stems 1"+ DBH except for retention along King Rd. Proposed retention has been removed from the draft treatment area.  
Specs:

Next Step SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant; Pesticide, Skidder - Release; Other, Pre-Commercial  
Treatments: Thinning - Hand; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Acceptable Full stocking in planted RP  
Regen:

Other Apply low stump and chipping specs.  
Comment:

Site Condition

Proposed Start Date: 10/1 /2022

**17 72195017-cc** 6.6 42110 - Planted Red Pine Sawtimber 109 141-170 Harvest Clearcut 4211 - Planted Red Pine Even-Aged No

Prescription Harvest stems 1"+ DBH, with no retention due to forest health concerns. The expanding pockets of stressed and dying trees will be evaluated by forest health specialists later this fall, during the optimal survey season for HRD. If HRD is found, the proposed follow-up planting plans may be cancelled.  
Specs:

Next Step SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant; Pesticide, Skidder - Release; Other, Pre-Commercial  
Treatments: Thinning - Hand; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Acceptable Full stocking in planted RP  
Regen:

Other Apply low stump and chipping specs.  
Comment:

Site Condition

Proposed Start Date: 10/1 /2022

**18 72195018-ccr** 17.4 42260 - Natural Pine, Mixed Deciduous Poletimber 49 51-80 Harvest Clearcut with Retention 4199 - Other Mixed Upland Deciduous Even-Aged No

Prescription Harvest stems 2"+ DBH except leave the legacy RP and 3% retention. Include the aspen at the north end of stand 20 to re-start it with stand 18's adjacent aspen. Also include the acre of stand 23 on this side of the forty road.  
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)  
Treatments:

Acceptable Moderate stocking in A-RM-O with pine and upland shrub inclusions.  
Regen:

Other Add snowmobile trail and MCCCT trail protection specs. Add shrub protection spec. Check into re-routing the MCCCT trail onto the new snowmobile trail.  
Comment:

Site Condition

Proposed Start Date: 10/1 /2022

**19 72195019-cc** 9.7 42110 - Planted Red Pine Sawtimber 109 201+ Harvest Clearcut 4211 - Planted Red Pine Even-Aged No

Prescription Harvest stems 1"+ DBH, with no retention due to forest health concerns. The expanding pockets of stressed and dying trees will be evaluated by forest health specialists later this fall, during the optimal survey season for HRD. If HRD is found, the proposed follow-up planting plans may be cancelled.  
Specs:

Next Step SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant; Pesticide, Skidder - Release; Other, Pre-Commercial  
Treatments: Thinning - Hand; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Acceptable Full stocking in planted RP  
Regen:

Other Apply low stump and chipping specs. Green-up concern with 2021-planted stand 24, but any retention would be a windthrow hazard.  
Comment:

Site Condition

Proposed Start Date: 10/1 /2022



Standard

Standard	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
21	72195021-ccr	5.3	4113 - R.Maple, Conifer	Poletimber Medium	30	1-50	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Harvest stems 1"+ DBH, excluding retention along King Rd. Proposed retention has been removed from the draft treatment area.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant; Pesticide, Skidder - Release; Other, Pre-Commercial</p> <p><u>Treatments:</u> Thinning - Hand; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)</p> <p><u>Acceptable</u> Full stocking in planted RP</p> <p><u>Regen:</u></p> <p><u>Other</u> Apply low stump and chipping specs.</p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											
22	72195022-cc	24.6	4199 - Other Mixed Upland Deciduous	Sapling Poor	5	Immature	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Harvest stems 1"+ DBH east of the forty road, in that part of stand 22 where the natural regen was largely unsuccessful. Retention for stand 22 will be maintained west of the forty road, where the natural regen is filling in better.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> SitePrep, Roller Chopping; SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant; Monitoring, Artificial Regen(1yr);</p> <p><u>Treatments:</u> Monitoring, Artificial Regen(3yr); Pesticide, Skidder - Site Prep; Other, Pre-Commercial Thinning - H</p> <p><u>Acceptable</u> Full stocking in planted RP</p> <p><u>Regen:</u></p> <p><u>Other</u> Apply low stump and chipping specs. The mature red pine retention will be reduced in order to facilitate site restoration and minimize forest health risks to the planned red pine plantation.</p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											
22	72195022-Monitor	15.3	4199 - Other Mixed Upland Deciduous	Sapling Poor	5	Immature	Monitoring	Natural Regen (Intermediate)	4121 - Oak, Aspen	Two-Aged	No
<p><u>Prescription</u> Check regen again after two more growing seasons. This portion west of the forty road has the best potential for in-growth.</p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Moderate stocking in a mix of residual and regen from the cut (O-A-RM-pine), with upland shrub inclusions accepted.</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 /2023</p>											
26	72195026-cc	6.1	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	47	51-80	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Harvest stems 1"+ DBH, with no retention due to small stand size.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant; Pesticide, Skidder - Release; Other, Pre-Commercial</p> <p><u>Treatments:</u> Thinning - Hand; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)</p> <p><u>Acceptable</u> Full stocking in planted RP</p> <p><u>Regen:</u></p> <p><u>Other</u> Apply low stump and chipping specs. Green-up concern with 2021-planted stand 24.</p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											



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Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
27	72195027-cc	1.5	42100 - Planted White Pine	Sawtimber Well	109	201+	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Harvest stems 1"+ DBH, with no retention due to small stand size.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Replant; Pesticide, Skidder - Release; Other, Pre-Commercial Thinning -  <u>Treatments:</u> Hand; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)</p> <p><u>Acceptable</u> Full stocking in planted RP  <u>Regen:</u></p> <p><u>Other</u> Apply low stump and chipping specs. Green-up concern with 2021-planted stand 24, but any retention would be a windthrow hazard.  <u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											
31	72195031-ccr	16.7	6112 - Lowland Aspen	Poletimber Well	56	51-80	Harvest	Clearcut with Retention	6112 - Lowland Aspen	Even-Aged	No
<p><u>Prescription</u> Harvest stems 2"+ DBH except for the 100 ft RMZ along the seasonal drainage, and legacy pine. Mark to leave trees that will contribute to visual management for the PRD pathways. The approximate RMZ and proposed retention has been excluded from the draft Rx boundary.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)  <u>Treatments:</u></p> <p><u>Acceptable</u> Moderate stocking in aspen with O-RM-Pine and shrub inclusions.  <u>Regen:</u></p> <p><u>Other</u> Add pathway protection specs. Protect shrubs but spec to cut clean operational paths. Add low ground operating restrictions.  <u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											
34	72195034-Monitor	16.7	4199 - Other Mixed Upland Deciduous	Sapling Poor	4	Immature	Monitoring	Natural Regen (Intermediate)	4199 - Other Mixed Upland Deciduous	Two-Aged	No
<p><u>Prescription</u> Check regen again after two more growing seasons.</p> <p><u>Specs:</u></p> <p><u>Next Step</u>  <u>Treatments:</u></p> <p><u>Acceptable</u> A moderately stocked mix of RM-O-pine regen and residual from the cut, with upland shrub inclusions accepted.  <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 /2023</p>											
38	72195038-cc	39.9	3303 - Mixed Low Density Trees	Nonstocked	0	Unspecified	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Harvest stems 1"+ DBH except for the retention in stand 47 designated through the original stand 47's 2017 harvest. Also cut the west poly of stand 43 and the north poly of stand 50 and manage as one plantation.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant; Pesticide, Skidder - Release; Other, Pre-Commercial  <u>Treatments:</u> Thinning - Hand; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); SitePrep, Roller Choppin</p> <p><u>Acceptable</u> Full stocking in planted RP  <u>Regen:</u></p> <p><u>Other</u> Apply low stump and chipping specs. The mature red pine retention will be reduced in order to facilitate site restoration and minimize forest health risks to the planned red pine plantation.  <u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											





Standard

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
39	72195039-cc	4.7	4191 - Mixed Upland Deciduous with Conifer	Sapling Medium	34	1-50	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Harvest stems 1"+ DBH in the partially-failed plantation portion of the stand; no retention. Manage as one plantation block with stand 44 and NW stand 49.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Planting, Initial Plant; SitePrep, Trenching; SitePrep, Roller Chopping; Pesticide, Skidder - Site Prep; Pesticide, Skidder - Release; <u>Treatments:</u> Other, Pre-Commercial Thinning - Hand; Monitoring, Artificial Regen(1yr)</p> <p><u>Acceptable Regen:</u> Full stocking in planted RP</p> <p><u>Other Comment:</u> Apply pathway protection specs. Add low stump and chipping specs.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											
40	72195040-Cut	12.1	4139 - Aspen, Mixed Deciduous	Sawtimber Well	53	111-140	Harvest	Clearcut	4139 - Aspen, Mixed Deciduous	Even-Aged	No
<p><u>Prescription</u> Harvest stems 2"+ DBH, with no retention due to small stand size and aspen objective. Mark to leave trees that will contribute to visual management for the PRD pathways.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory) <u>Treatments:</u></p> <p><u>Acceptable Regen:</u> Moderate stocking in aspen with RM-O and pine.</p> <p><u>Other Comment:</u> Add pathway protection specs.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											
44	72195044-cc	10.8	4310 - Pine, Oak Mix	Sawtimber Medium	72	51-80	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Harvest stems 1"+ DBH. No retention due to small stand size. Manage as one plantation block with stands 39 &amp; 49.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant; Pesticide, Skidder - Release; Other, Pre-Commercial <u>Treatments:</u> Thinning - Hand; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); SitePrep, Roller Choppin</p> <p><u>Acceptable Regen:</u> Full stocking in planted RP</p> <p><u>Other Comment:</u> Apply pathway protection specs. Add low stump and chipping specs.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											
47	72195047-Monitor	26.3	3303 - Mixed Low Density Trees	Nonstocked	0	Unspecified	Monitoring	Natural Regen (Intermediate)	4310 - Pine, Oak Mix	Two-Aged	No
<p><u>Prescription</u> Check regen again in one year. Oak heavily frosted in late spring 2021 and mortality starting in the RP seedlings.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> <u>Treatments:</u></p> <p><u>Acceptable Regen:</u> Moderate stocking in RP-O-RM.</p> <p><u>Other 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
<b>48 72195048-Monitor</b>	21.0	4310 - Pine, Oak Mix	Poletimber Poor	46	51-80	Monitoring	Natural Regen (Intermediate)	4122 - Oak, Pine	Two-Aged	No
<p><u>Prescription</u> Check regen again after two more growing seasons.  <u>Specs:</u>  <u>Next Step</u>  <u>Treatments:</u>  <u>Acceptable</u> A mix of O-A-RM-pine residual and regen from the cut at moderate stocking, with upland shrub inclusions accepted.  <u>Regen:</u>  <u>Other</u>  <u>Comment:</u>  <u>Site Condition</u>  <u>Proposed Start Date:</u> 10/1 /2023</p>										
<b>49 72195049-cc</b>	9.7	42110 - Planted Red Pine	Sawtimber Well	107	111-140	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Harvest stems 1"+ DBH. No retention in this subset of stand 49 being proposed this YOE.  <u>Specs:</u> Manage as one plantation block with stand 44 and SW stand 39.  <u>Next Step</u> Planting, Initial Plant; SitePrep, Trenching; SitePrep, Roller Chopping; Pesticide, Skidder - Site Prep; Pesticide, Skidder - Release;  <u>Treatments:</u> Other, Pre-Commercial Thinning - Hand; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)  <u>Acceptable</u> Full stocking in planted RP  <u>Regen:</u>  <u>Other</u> Add pathway protection specs. Apply low stump and chipping specs.  <u>Comment:</u>  <u>Site Condition</u> Age-Class or Site Quality  <u>Proposed Start Date:</u> 10/1 /2022</p>										
<b>50 72195050-ccr</b>	12.7	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	53	51-80	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	No
<p><u>Prescription</u> Harvest stems 2"+ DBH except for island retention. Protect legacy pine. Mark to leave trees that will contribute to visual management for the PRD pathway.  <u>Specs:</u>  <u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)  <u>Treatments:</u>  <u>Acceptable</u> Moderate stocking in A-O-RM with pine.  <u>Regen:</u>  <u>Other</u> Add pathway protection specs. Add shrub protection spec.  <u>Comment:</u>  <u>Site Condition</u>  <u>Proposed Start Date:</u> 10/1 /2022</p>										
<b>53 72195053-Cut</b>	14.8	42220 - Natural Jack Pine	Poletimber Medium	55	51-80	Harvest	Clearcut with Retention	3303 - Mixed Low Density Trees		No
<p><u>Prescription</u> Harvest merch stems except WP. For retention, exclude a buffer around the marsh. Mark to leave trees that will contribute to visual management for the PRD pathway.  <u>Specs:</u>  <u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)  <u>Treatments:</u>  <u>Acceptable</u> A mosaic of shrub cover and pine, oak and aspen regen.  <u>Regen:</u>  <u>Other</u> Add pathway protection specs.  <u>Comment:</u>  <u>Site Condition</u>  <u>Proposed Start Date:</u> 10/1 /2022</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
<b>58 72195058-ccr</b>	24.7	42110 - Planted Red Pine	Sawtimber Medium	107	81-110	Harvest	Clearcut with Retention	4126 - White, Black, N. Pin Oak	Even-Aged	No
<p><u>Prescription Specs:</u> Harvest stems 2"+ DBH, with retention in the healthier NW (by the pathway) and NE peninsulas. Thin the retention islands. If natural regen fails, plant RP.</p> <p><u>Next Step Treatments:</u> Monitoring, Natural Regen (Intermediate)</p> <p><u>Acceptable Regen:</u> Moderate stocking in oak with RM and pine. Aspen is also expected to expand into the stand from stand 59.</p> <p><u>Other Comment:</u> Add pathway protection specs.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>										
<b>59 72195059-cc</b>	9.2	4133 - Aspen, Mixed Pine	Sawtimber Well	57	81-110	Harvest	Clearcut	4139 - Aspen, Mixed Deciduous	Even-Aged	No
<p><u>Prescription Specs:</u> Harvest stems 2"+ DBH, with no retention due to small stand size and aspen objective. Protect legacy pine.</p> <p><u>Next Step Treatments:</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Acceptable Regen:</u> Moderate stocking in aspen with O-RM and pine.</p> <p><u>Other Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>										

**Approved Treatments:**

<b>24 72195024-Monitor</b>	48.2	310 - Herbaceous Openland	Nonstocked		Unspecified	Monitoring	Artificial Regen(1yr)	42110 - Planted Red Pine	Even-Aged	No
<p><u>Prescription Specs:</u></p> <p><u>Next Step Treatments:</u> Other, Pre-Commercial Thinning - Hand; Pesticide, Skidder - Release; Monitoring, Artificial Regen(3yr)</p> <p><u>Acceptable Regen:</u> Full stocking in planted RP.</p> <p><u>Other Comment:</u> Percent to Treat = 100%</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2020</p>										



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d

Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
<b>30 72195030-Monitor</b>	15.1	4126 - White, Black, N. Pin Oak	Poletimber Poor	54	1-50	Monitoring	Natural Regen (Re-Inventory)	4122 - Oak, Pine	Even-Aged	No
<p><u>Prescription</u> Stand was hit by another hard frost, then gypsy moth defoliation after inventory. The oak was re-leafing in late July. Check stand again after two growing seasons.</p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable Regen:</u> Between the residual and the regen, the stand is expected to have a mixture of oak &amp; pine at moderate stocking, with sparse inclusions accepted.</p> <p><u>Other Comment:</u> Percent to Treat = 100%</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2023</p>										
<b>33 72195033-Monitor</b>	36.9	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Monitoring	Artificial Regen(1yr)	42110 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> check regen</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Pesticide, Skidder - Release; Other, Pre-Commercial Thinning - Hand; Monitoring, Artificial Regen(3yr)</p> <p><u>Treatments:</u></p> <p><u>Acceptable Regen:</u> Trench &amp; plant to RP. Use of herbicide may be needed to control competing vegetation before and after planting, in addition to other cultural techniques, in order to ensure prompt RP stand establishment. Follow-up with regen survey.</p> <p><u>Other Comment:</u> Percent to Treat = 100%</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2020</p>										

**Total Treatment Acreage Proposed: 537.3**

## Report 4 – Site Conditions

Grayling Mgt. Unit  
Joan Charlebois : Examiner

Compartment: 195  
Year of Entry: 2023

### Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions			
		With Condition	Not Available		5C	1C	3J	5E
16	16	0	0	Aspen				6
35	23	0	12	Herbaceous Openland		0		
3	3	0	0	Jack Pine		1		2
448	416	33	0	Low-Density Trees				0
114	65	39	9	Lowland Aspen/Balsam Poplar			4	1
86	16	70	0	Lowland Shrub				
14	0	14	0	Marsh				
396	396	0	0	Mixed Upland Deciduous				1
345	97	185	63	Natural Mixed Pines				0
2	2	0	0	Northern Hardwood		0		
344	161	148	35	Oak	18	13		2
37	37	0	0	Planted Mixed Pines	14			0
8	8	0	0	Red Pine	109			9
12	12	0	0	Upland Mixed Forest				1
2	2	0	0	Urban				
26	2	24	0	White Pine	7			
1,888	1,255	513	120	Total Forested Acres	148	15	4	22
	66%	27%	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 Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	5E: Long-Term Retention	6	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Retention for stand 7's harvest #046-08. Proposal-specified 15%. Additional interior islands were not designated retention, but were excluded to protect pockets of advanced regen.							
2	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	18	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Green-up concern with recent harvest in comp 194.							

## Report 4 – Site Conditions

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3	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	2	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Proposed retention for stand 14 and 21's draft harvest. Stand 14 was part of stand 21 before it was split off and harvested in 2018.							
4	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	14	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Recently harvested. Delay treatment to focus on higher-risk stands this YOE.							
5	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	32	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Delay treatment to focus on higher-risk stands this YOE.							
6	<b>Unavailable</b>	<b>1C: Other dept or div proc/practices</b>	13	5C: Delay treatment for age/size class diversity or exceptional site quality	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Hartman-Buckley-Sharik oak/pine regen study. Recent clearcut to south and recent planting to north.							
7	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	4	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Retention islands from stand 34's final harvest (#035-14).							
8	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	1	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Retention islands from stand 47's final harvest (#035-14).							

## Report 4 – Site Conditions

Grayling Mgt. Unit  
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9	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	1	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Designated retention when stand 13 was cut in 2018.							
10	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	4	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Designated retention left when stand 5 was harvested in 2018.							
11	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	1	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Designated retention left when stand 42 was cut in 2017. Inclusion of cleared powerline corridor on south edge.							
12	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	7	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Delay treatment to focus on higher-risk stands this YOE.							
13	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	1	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Retention island left for stand 1's harvest.							
14	<b>Unavailable</b>	<b>1C: Other dept or div proc/practices</b>	1	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> see locked comments							
15	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	1	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Unmappable retention island left when stand 3 was harvested.							

## Report 4 – Site Conditions

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16	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	0	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Island retention left when stand was harvested in 2019.							
18	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	1	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Retention islands left within stand 36's 2010 harvest. Additional retention was left outside of the islands in scattered marked-to-leave trees.							
19	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	8	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Delay treatment to focus on higher-risk stands this YOE.							
20	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	16	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Delay treatment to focus on higher-risk stands this YOE.							
21	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	1	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Proposed retention also excludes the RMZ.							
22	<b>Unavailable</b>	<b>3J: Water quality / BMPs (stream, river, or lake)</b>	4	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> 100 ft RMZ along seasonal drainage							



## Report 4 – Site Conditions

Grayling Mgt. Unit  
Joan Charlebois : Examiner

Compartment: 195  
Year of Entry: 2023

24	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	3	Unspecified	Unspecified	Unspecified	Unspecified
<p><b>Comments:</b> There is a mortality pocket along King Road, but hold this small stand in order to manage it concurrent with stand 30.</p>							
25	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	49	Unspecified	Unspecified	Unspecified	Unspecified
<p><b>Comments:</b></p>							

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
<b>Comments</b>				



**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
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments				
1	4130 - Aspen	Sapling Well	37.0	3	Immature	N/A	WP-SP (planted 1915 & 1916) and naturally established A-RM-O stand was final harvested in 2018 (#047-13), cutting trees 2"+ DBH except oak <10" DBH, all RP, and a retention island by the I-75 ROW fence (split off as stand 60). Regenerated to dense aspen clones separated by moderately-stocked areas of RM-BC. The scattered exposed RP saw and oak poles have been dying out. Oak regen heavily frosted in late spring. Passed regen survey at re-inventory with a mix of A-RM.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		15	Sapling	1	3	Black Cherry		Trace	< 5 feet	Tall Shrub	
Quaking Aspen		74	Sapling	1	3	Serviceberry (Juneberry)		Trace	< 5 feet	Tall Shrub	
Bigtooth Aspen		5	Sapling	1	3	Hawthorn (spp.)		Trace	< 5 feet	Tall Shrub	
Northern Pin Oak		1	Pole/Sapling	7							
Black Cherry		5	Sapling	1	3						
2	42260 - Natural Pine, Mixed Deciduous	Sawtimber Medium	14.9	58	51-80	N/A	Merch aspen was cut in 1963 (#082-62A) and merch JP in 1973 (#049-72). No planting record for this forty. Pine-oak stand is broadly two-aged across all species, with variable stocking and species distribution. The older JP component is dropping out of the canopy. Aspen is mostly on the perimeter. S edge of stand picks up a low swale.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Quaking Aspen		10	Pole/Log	8	58	Black Cherry		Medium	Variable	Tall Shrub	
White Oak		2	XLog/Log/Pole	18		Serviceberry (Juneberry)		Low	10 - 20 feet	Tall Shrub	
Northern Pin Oak		16	Pole/Log	9		Hawthorn (spp.)		Trace	10 - 20 feet	Tall Shrub	
White Pine		15	Log/XLog/Pole	16		White Pine		Low	5 - 10 feet	Sapling	
Red Pine		10	Log/XLog	16	78						
Jack Pine		45	Pole/Log	8	58						
Black Cherry		2	Pole	7							
3	4130 - Aspen	Sapling Well	23.9	3	1-50	N/A	Mixed A-O stand (from 1964 harvest #014-64) with WP & European larch (planted in 1915) was final harvested in 2018 (#047-13), cutting trees 2"+ DBH except oak <10" DBH, all RP, and a retention island in the SE. Regenerated well to aspen. Residual oak poles occur scattered and in patches throughout the stand. Snowload bending, breakage, epicormic branching & mortality occurring in the isolated oak. Exposed residual RP also dying. Passed regen survey at re-inventory. Beaver Creek MCCCT trail crosses through the stand.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		3	Sapling/Pole	1		Black Cherry		Low	< 5 feet	Tall Shrub	
Quaking Aspen		80	Sapling	1	3	Serviceberry (Juneberry)		Low	< 5 feet	Tall Shrub	
Northern Pin Oak		10	Pole/Sap/Log	7	57	Hawthorn (spp.)		Low	Variable	Tall Shrub	
White Pine		1	Sapling/Pole/Log	2							
Red Pine		2	Log/XLog/Pole	14							
Bigtooth Aspen		2	Sapling	1	3						
Black Cherry		2	Sapling	1							
4	42111 - Planted Red Pine, Mixed Deciduous	Sawtimber Well	8.3	105	141-170	N/A	RP-SP were planted in 1916. Merch aspen and unmarked JP were cut in 1964 (#073-64). Variable RP stocking with patches of A-RM-O in the canopy gaps. Most of the surviving SP is in the south end. Most of the residual JP has died out. Beaver Creek MCCCT trail crosses through the stand. Traces of legacy RP (noted 3).				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		5	Pole	6		Red Maple		Medium	Variable	Sapling	
Quaking Aspen		13	Pole/Log	8	57	Northern Pin Oak		Low	Variable	Sapling	
Northern Pin Oak		5	Pole/Log/Sap	7		Witch Hazel		Low	5 - 10 feet	Tall Shrub	
Red Pine		70	Log/XLog/Pole	17	105	Serviceberry (Juneberry)		Trace	5 - 10 feet	Tall Shrub	
Jack Pine		2	Log	12		Hawthorn (spp.)		Low	5 - 10 feet	Tall Shrub	
Scotch Pine		3	Log/XLog	14	105	Black Cherry		Low	Variable	Tall Shrub	



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																																
5	4130 - Aspen	Sapling Well	40.8	3	1-50	N/A	A-MC stand was final harvested in 2018 (#054-15), cutting stems 2"+ DBH except oak, green-marked RP-WP (ave cruised residual 4 sq. ft. oak, 6 sq. ft. RP-WP), and retention islands. Contained 1914 plantation remnants along with naturally established pine. A narrow swale of low ground arcs through the stand; dry now, but earlier high water appears to have killed some of the regen within it. There are patches of sparser regen (mostly BC), but the stand overall has successfully regenerated to aspen and passed the regen survey.																																																																
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6	42141 - Planted Mixed Pine, Mixed Deciduous	Sawtimber Medium	14.6	106	51-80	N/A	WP & European larch were planted in 1915. Merch JP-A were cut in 1964 (#014-64), and marked WP was cut in 1969 (#018-69). JP inter-planted at an unusually wide spacing in 1971, mostly in W. The stand was harvested in 2019 (#047-13), cutting trees 2"+ DBH except WP > 18" DBH, oak < 10" DBH, all RP, and a retention island along Fletcher Rd. Patchy residual canopy of planted WP, pole oak, and RP in the east end. A-RM is filling in the canopy gaps but at 2 yrs old isn't tall enough to pass the regen survey at this time. Beaver Creek MCCCT trail crosses through the stand.																																																																
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7	42110 - Planted Red Pine	Sawtimber Poor	36.8	105	51-80	N/A	RP-WP were planted in 1916. The stand was thinned several times over the decades, with the last conducted in 1992 (#033-90), cutting marked RP and merch species except oak. Twenty five acres were then shelterwood harvested in 2009 (#046-08), cutting merch stems except green-marked, with retention along the US-127 fence and private property. Interior islands were excluded from harvest to protect regen. The canopy RP are scattered above a full multi-layer understory of RM-O-A that resulted from the past harvest entries. Individual tree and pocket mortality continues to spread in the mature RP, with the worst in the east side retention island. Thinning, tufted crowns are common. HRD conks not seen. Widespread shoot blight (likely Diplodia) in the understory RP. Occasional oak in the canopy.																																																																
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments			
8	4130 - Aspen	Sawtimber Well	30.2	58	51-80	N/A	Merch aspen and marked JP were cut by 1963 (#027-62, #082-62A), and merch JP-A were cut again in 1973 (#048-72, #049-72), resulting in a blurred aspen age class. The older A-JP is breaking up. Swale of low ground with traces of tag alder crosses the south end; locally high cover in serviceberry there, also dense hawthorn thickets. Beaver Creek MCCCT trail crosses through the stand.			
<b>Canopy Species</b>		<b>% Cover</b>	<b>Size Class</b>	<b>DBH</b>	<b>Age</b>	<b>Sub-Canopy Species</b>		<b>Density</b>	<b>Avg. Height</b>	<b>Size</b>
Red Maple		3	Pole	7		White Pine		Low	Variable	Sapling
Quaking Aspen		75	Log/Pole	10	58	Black Cherry		Low	Variable	Tall Shrub
Northern Pin Oak		10	Pole/Log/XLog	8		Serviceberry (Juneberry)		Medium	10 - 20 feet	Tall Shrub
White Pine		3	XLog/Log	22		Hawthorn (spp.)		Medium	10 - 20 feet	Tall Shrub
Red Pine		3	Pole/Log/XLog	8		Northern Pin Oak		Trace	Variable	Sapling
Jack Pine		5	Pole/Log	8		Meadowsweet		Trace	< 5 feet	Tall Shrub
Black Cherry		1	Log/Pole	10						
9	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	12.7	29	1-50	N/A		Harvested in 1992 (#035-89), cutting trees 2"+ DBH except oak. Naturally regenerated to a fully-stocked stand of oak, JP, RM & aspen, with scattered pole to small saw oak residual.		
<b>Canopy Species</b>		<b>% Cover</b>	<b>Size Class</b>	<b>DBH</b>	<b>Age</b>	<b>Sub-Canopy Species</b>	<b>Density</b>		<b>Avg. Height</b>	<b>Size</b>
Red Maple		10	Sapling/Pole	2	29	Black Cherry	Low		5 - 10 feet	Tall Shrub
Quaking Aspen		10	Sapling/Pole	4	29					
Northern Pin Oak		45	Sapling/Pole	3	29					
Jack Pine		30	Sapling/Pole	4	29					
Black Cherry		1	Sapling/Pole	4						
White Oak		1	Pole/Sapling	5	29					
White Pine		2	Pole/Sap/Log	5						
Red Pine		1	Sapling	2						
10	42200 - Natural White Pine	Sawtimber Well	9.3	85	111-140	N/A	Merch aspen was cut in 1963 (#082-62A) and merch JP in 1973 (#049-72). South end then had merch stems except RP-WP-O cut in 2006 (#043-03). Mixed pine stand with a wide range of WP size classes, and xlog RP. Crook, forked tops and heavy limbs common in the WP. Canopy gaps with mostly BC brush. Lowest ground is dry but close to the water table (traces of sheep laurel).			
<b>Canopy Species</b>		<b>% Cover</b>	<b>Size Class</b>	<b>DBH</b>	<b>Age</b>	<b>Sub-Canopy Species</b>		<b>Density</b>	<b>Avg. Height</b>	<b>Size</b>
White Pine		68	Log/XLog/Pole	15	85	Red Maple		Trace	< 5 feet	Seeding
Red Pine		30	XLog	24	106	Northern Pin Oak		Trace	Variable	Sapling
Northern Pin Oak		1	Log/Pole/XLog	11		White Pine		Trace	Variable	Sapling
Red Maple		1	Log/Pole	10		Black Cherry		Medium	Variable	Tall Shrub
						Sheep Laurel		Trace	< 5 feet	Tall Shrub
						Serviceberry (Juneberry)		Trace	Variable	Tall Shrub
						Hawthorn (spp.)		Trace	5 - 10 feet	Tall Shrub
11	42120 - Planted Jack Pine	Poletimber Well	11.4	38	51-80	N/A		Area was cut over in 1965 (set oak age to that cut). JP was planted in 1983 (C71-207) around residual JP-O-RP. That older JP had to be merged into the planted JP canopy record. Small patches of retention from adjacent harvests were pulled into the stand boundary (see Site Condition layer).		
<b>Canopy Species</b>		<b>% Cover</b>	<b>Size Class</b>	<b>DBH</b>	<b>Age</b>	<b>Sub-Canopy Species</b>	<b>Density</b>		<b>Avg. Height</b>	<b>Size</b>
Red Pine		3	Log/XLog	15		Black Cherry	Medium		Variable	Tall Shrub
Northern Pin Oak		7	Pole/Sap/Log	7	56	Serviceberry (Juneberry)	Trace		10 - 20 feet	Tall Shrub
Jack Pine		84	Pole/Sap/Log	6	38	White Pine	Low		Variable	Sapling
Black Cherry		2	Pole	5						
White Pine		3	Pole/Log/XLog	8						
White Oak		1	Log/Pole	12						



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments		
<b>12</b>	42110 - Planted Red Pine	Sawtimber Well	36.0	106	111-140	N/A	RP-JP were planted in 1915. Merch JP-A were cut in the mid-1960's (#076-65). The pine was thinned several times over the decades, with the last conducted in 2011 (#001-09), cutting merch A-O-JP-RM & marked RP, except the 2.2 acre NE triangle was not thinned. The canopy is gappy from species removals, resulting in variable RP residual BAs. Because the RP is not tall for its age, some of the pole RM-O is recordable in the canopy. The RP is relatively healthy and deep-crowned. The subcanopy aspen is concentrated in the west-center of the stand. Traces of legacy RP (noted 1) and xlog NPO (also 1).		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
Red Pine	90	Log/XLog/Pole	16	106	Red Maple	Low		Variable	Sapling
Red Maple	4	Pole	6		Northern Pin Oak	Medium		Variable	Sapling
Quaking Aspen	1	Pole	6		Serviceberry (Juneberry)	Trace		Variable	Tall Shrub
White Pine	1	Pole/Log	8		Hawthorn (spp.)	Trace		5 - 10 feet	Tall Shrub
Northern Pin Oak	4	Pole	6		Black Cherry	Medium		Variable	Tall Shrub
					White Pine	Trace		Variable	Sapling
					Bigtooth Aspen	Trace		>20 feet	Sapling
					Quaking Aspen	Low		10 - 20 feet	Sapling
<b>13</b>	4122 - Oak, Pine	Poletimber Poor	8.3	55	1-50	N/A	Was harvested in 2018 (#054-15), cutting stems 2"+ DBH except oak, RP & WP (ave cruised residual 16 sq. ft. oak and 18 sq. ft. RP-WP), and boundary-excluded retention along the 127 fence and the SE panhandle (merged with stand 11). Regen does not pass at this time, but the immature oak poles released by the harvest will more fully occupy the site over time.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
White Oak	13	Pole/Sap/Log	7		Black Cherry	Medium		5 - 10 feet	Tall Shrub
Northern Pin Oak	55	Pole/Log/Sap	7	55	Serviceberry (Juneberry)	Trace		< 5 feet	Tall Shrub
Red Pine	10	Pole/Log/XLog	9		Prairie Willow	Trace		< 5 feet	Tall Shrub
Red Maple	2	Sapling/Pole	3		Red Pine	Trace		10 - 20 feet	Sapling
White Pine	20	Pole/Log/XLog	8		Quaking Aspen	Low		5 - 10 feet	Sapling
					Red Maple	Trace		< 5 feet	Seeding
					Northern Pin Oak	Low		< 5 feet	Sapling
<b>14</b>	4126 - White, Black, N. Pin Oak	Poletimber Poor	4.8	59	1-50	N/A	Part of the original Bosom Field Pine Study area. Half-acre strips of "Black Jack Pine" and "Yellow Jack Pine" were planted in 1916, and an acre of Scotch pine was planted in 1919. The stand was harvested in 2018 (#054-15), cutting stems 2"+ DBH except oak, RP & WP (ave cruised residual 12 sq. ft. oak and 16 sq. ft. RP-WP). Residual O-Pine-RM cover is unevenly distributed. Regen does not pass the survey at this time.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
White Oak	25	Pole/Sap/Log	7		Northern Pin Oak	Low		< 5 feet	Sapling
Northern Pin Oak	50	Pole/Log/Sap	8	59	Red Maple	Trace		< 5 feet	Sapling
White Pine	10	Pole/Log/Sap	7		Black Cherry	Medium		Variable	Tall Shrub
Red Pine	5	Log/XLog/Pole	15		Red Maple	Low		< 5 feet	Seeding
Red Maple	10	Sapling/Pole	3						
<b>15</b>	4310 - Pine, Oak Mix	Sapling Medium	21.2	15	1-50	N/A	Was harvested in 2006 (#043-03), cutting merch stems except RP-WP-O. Uneven distribution in residual RP-WP-O saw scattered above the main canopy of JP-WP regen and pole-sapling oak.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
Red Maple	2	Sapling/Pole	3		Serviceberry (Juneberry)	Low		10 - 20 feet	Sapling
White Oak	3	Pole/Log	8		Black Cherry	Medium		5 - 10 feet	Tall Shrub
Northern Pin Oak	27	Pole/Sap/Log	7		Hawthorn (spp.)	Trace		5 - 10 feet	Tall Shrub
White Pine	10	Log/Pole/Sap	14		Choke Cherry	Trace		5 - 10 feet	Tall Shrub
Red Pine	10	Log/Pole/XLog	15	65					
Jack Pine	35	Sapling	2	15					
Black Cherry	13	Sapling	3	15					



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments	
<b>16</b>	42110 - Planted Red Pine	Sawtimber Well	7.8	105	111-140	N/A	RP-SP were planted in 1916. Was thinned several times over the decades, with the last conducted in 2017 (#034-14), cutting marked stems and all SP. RP with good LCRs and health except for the SW corner where trees have tufted, thinning crowns and a couple are dead. XL RP are common on the perimeter, but not enough overall to split the size category. Misc canopy species occur mostly along the road corridors.	
<b>Canopy Species</b>		<b>% Cover</b>	<b>Size Class</b>	<b>DBH</b>	<b>Age</b>	<b>Sub-Canopy Species</b>		
Red Maple		3	Pole	6		Red Maple		
Northern Pin Oak		3	Pole/Log	8		White Oak		
White Pine		2	Pole/Log	8		Northern Pin Oak		
Red Pine		90	Log	15	105	Black Cherry		
Jack Pine		2	Pole/Log	9		White Pine		
<b>17</b>	42110 - Planted Red Pine	Sawtimber Well	6.9	109	141-170	N/A	Part of the original Bosom Field Pine Study area, RP planted in 1912 at ~2000 TPA. This stand encompasses the three research plots that were thinned to lower target residual BA's. The west polygon contains two plots: the west plot's target residual BA was 80 sq. ft., the east plot's was 100 sq. ft. Both plots had a series of thinnings, the first in 1951 and the most recent in 1985 (#001-85). The east polygon also had a series of thinnings, the first in 1934 and the most recent in 1985 (#001-85). The three plots were combined due to minimum stand mapping rules. The RP overstory has good diameter relative to height growth & less individual stem mortality compared to the adjacent higher-residual research plots. Understory development is low overall, with shoot blight (Diplodia) in the RP regen. Stressed pockets in the adjacent stand 19 are spreading into this stand, with 25% of the RP cover now appearing discolored on the 2020 NAIP. The USFS - North Central Experiment Station formally dissolved their cooperative research agreement in 1996.	
<b>Canopy Species</b>		<b>% Cover</b>	<b>Size Class</b>	<b>DBH</b>	<b>Age</b>	<b>Sub-Canopy Species</b>		
Red Pine		100	Log	16	109	White Oak		
						Northern Pin Oak		
						White Pine		
						Red Pine		
						White Oak		
						Black Cherry		
<b>18</b>	42260 - Natural Pine, Mixed Deciduous	Poletimber Well	15.4	49	51-80	N/A	RP-JP were planted on portions of the stand in 1915-1916. The stand was partially cut-over in 1973 (#013-73). Majority cover is JP regen from the harvest, with a lesser component of overmature residual JP. Associates include NPO, aspen, and the old plantation remnants. Traces of legacy RP (1 noted). Mortality has been occurring in the overmature JP and is starting in the younger JP. Beaver Creek MCCCT trail crosses through the stand.	
<b>Canopy Species</b>		<b>% Cover</b>	<b>Size Class</b>	<b>DBH</b>	<b>Age</b>	<b>Sub-Canopy Species</b>		
Red Maple		2	Pole/Sap/Log	6		Northern Pin Oak		
Quaking Aspen		12	Pole/Log	8	49	Black Cherry		
Northern Pin Oak		18	Pole/Log/Sap	7		Serviceberry (Juneberry)		
Red Pine		10	XLog/Log	20	105	Chokeberry		
Jack Pine		55	Pole/Log	9	49			
White Pine		1	Pole/Log	9				
Black Cherry		2	Pole/Log/Sap	7				





Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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<b>19</b>	42110 - Planted Red Pine	Sawtimber Well	10.2	109	201+	N/A	Part of the original Bosom Field Pine Study area. RP was planted in 1912 at ~2000 TPA. This stand encompasses the four research plots with higher target residual BA's. The west polygon is one plot (160 sq. ft. target). The east polygon contains three plots, with target BA's (from W to E) of 120, 140 & UN CUT. Aside from the uncut control, there was a series of thinnings, the first in 1951 and the most recent in 1985 (#001-85). The four plots were combined due to minimum stand mapping rules. Small diameter relative to height growth, 20% LCR. The uncut block has most of the stand's pole-sized stems and it is self-thinning. Very little understory development, except in the west block (medium there, but averages to very low across the entire stand). Four pockets of stressed trees now covers 30% of the stand (discolored crowns on the 2020 NAIP) with thinning crowns, tufted branches, some secondary bark beetle, no HRD conks seen. Diplodia had been identified in the compartment.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
Red Pine	100	Log/Pole	12	109	Northern Pin Oak	Low		10 - 20 feet	Sapling
					Northern Pin Oak	Trace		>20 feet	Pole
					Black Cherry	Trace		< 5 feet	Tall Shrub
					Red Maple	Trace		Variable	Sapling
					White Oak	Trace		>20 feet	Pole
					White Oak	Low		10 - 20 feet	Sapling
					White Pine	Trace		>20 feet	Pole
					White Pine	Low		Variable	Sapling

<b>20</b>	42220 - Natural Jack Pine	Sapling Well	7.9	29	1-50	N/A	Harvested in 1992 (#035-89), cutting trees 2"+ DBH except red pine. Regenerated well to JP with stump-origin NPO, and aspen at the north end. Widely-scattered residual RP.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
Red Maple	1	Sapling/Pole	2	29	Black Cherry	Low		Variable	Tall Shrub
Quaking Aspen	10	Sapling/Pole	4	29					
Northern Pin Oak	13	Pole/Sapling	6	29					
Red Pine	1	XLog/Log	20	105					
Jack Pine	70	Sapling/Pole	4	29					
Black Cherry	3	Sapling/Pole	3						
White Oak	1	Pole/Sapling	5						
White Pine	1	Log/Pole/Sap	11						

<b>21</b>	4113 - R.Maple, Conifer	Poletimber Medium	5.6	30	1-50	N/A	Part of the original Bosom Field Pine Study area. A white spruce "Christmas tree plantation" was established in 1918. Most of the WS has died. The RM-O-BC understory is now the canopy.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
Red Maple	60	Pole/Sapling	5	30	Red Maple	Low		5 - 10 feet	Sapling
White Oak	5	Pole/Sapling	5		Northern Pin Oak	Trace		5 - 10 feet	Sapling
Jack Pine	2	Log/Pole	11		Black Cherry	Medium		Variable	Tall Shrub
Northern Pin Oak	5	Pole/Sap/Log	6	59	White Pine	Trace		Variable	Sapling
White Spruce	1	Log/Pole	12	103					
White Pine	13	Pole/Log	8						
Red Pine	5	Pole/Log/Sap	7						
Black Cherry	4	Pole/Sapling	5						
Balsam Fir	5	Pole	6						



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																																																
<b>22</b>	4199 - Other Mixed Upland Deciduous	Sapling Poor	40.1	5	Immature	N/A	RP was planted in 1914, along with some European larch in the W1/2. Scattered super-canopy RP along the south edge pre-date the planting. Merch JP-A were cut in the W1/2 in 1965 (#107-64). The RP was thinned in 1994 (#049-93). The stand was final harvested in 2017 (#034-14), cutting all trees except oak <10" DBH, WP, and green-marked RP. Regen forms the main canopy, with multiple age-classes from past management. Stocking and species distribution varies from dense aspen clones, to patches of O-RM, to BC brush, with residual xlog RP in small clumps. Traces of E. larch regen. Most of the RP regen is along the pipeline. Hard frosts late this spring browned-up oak to 25 ft. Former MDOT rest area along Old 27 in the NW. IBT & PRD non-motorized pathway loops through the stand. The entire stand does not pass the regen survey at this time.																																																																																
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<b>23</b>	42111 - Planted Red Pine, Mixed Deciduous	Sawtimber Well	17.4	106	111-140	N/A	RP-JP were planted in 1915. The stand (except for an acre triangle west of forty road) was thinned in 1992 (#035-89), cutting trees 2"+ DBH except red pine. This thinning by species-removal left uneven distribution in RP. Because the RP isn't very tall for its age, the RM-O regen from the cut is now recordable in the canopy. The RP is deep-crowned and relatively healthy. Beaver Creek MCCCT trail crosses through the stand.																																																																																
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<b>24</b>	310 - Herbaceous Openland	Nonstocked	51.3		Unspecified	42110 - Planted Red Pine	Was final harvested in 2017 (#058-15), cutting stems 2"+ DBH in preparation for re-planting. Trenched in 2018 (C72-846), site-prep sprayed by skidder in 2019, planted 1086 TPA PRT RP in 2021. Was originally 3 plantation stands: a failed 5-year old RP planting with considerable O-WP residual, a marginal 20-year old RP plantation, and a mature WP-RP plantation. There are traces of surviving RP saplings from the earlier planting in the NW. The RM is mostly in the south end, and the aspen is along Old 27.																																																																																
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<b>25</b>	4191 - Mixed Upland Deciduous with Conifer	Poletimber Medium	44.1	50	51-80	N/A	Austrian Pine was planted on 13 acres in 1914. JP was cut across 18 acres of the stand in 1969 (#100-68). Was final harvested in 1995 (#038-93), cutting merch stems except all RP were left west of the forty road and within 50 feet of the PRD non-motorized pathway. Oak makes up a majority of the cover, along with JP, aspen, RM, RP and a trace of Scotch pine and fading Austrian pine. Sapling regen from the cut (second age) is intermediate in the residual pole-dominated canopy. A swale of low ground cuts through the stand's north end. Hard frosts late this spring browned-up oak to 25 ft.																																																																																
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26	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	6.0	47	51-80	N/A	Part of the original Bosom Field Pine Study area. Had an unsuccessful trial planting of JP & SP cones in 1917, then was planted to RP & JP in 1930. Mature pine and some RM-O was harvested in 1994 (#051-93). Two-aged canopy of residual and regen RM-O-WP, with traces of SP & RP. Arbitrarily picked the WP canopy record to represent the 27 year-old age class present across most species.																																																																					
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27	42100 - Planted White Pine	Sawtimber Well	1.6	109	201+	N/A	Part of the original Bosom Field Pine Study area. WP was planted in 1912. Most recent treatment was a marked thinning in 1986 (#038-85). Slash accumulation from WP wind-throwing along the west edge. Combined full subcanopy in WP-O-RM. The east block was cut in 2018 and merged with stand 30. The proposed treatment on this west block was dropped at the 2013 YOE compartment review.																																																																					
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28	4199 - Other Mixed Upland Deciduous	Poletimber Well	7.5	72	51-80	N/A	Marked RP & merch JP-A were cut in 1994 (#049-93); all oak was left. Uneven distribution between the residual O-pine and the aspen regen from the cut. There are two age classes in the oak. Scattered dead oak; does not appear to be spreading.																																																																					
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29	4310 - Pine, Oak Mix	Sapling Well	19.2	29	1-50	N/A	Harvested in 1992 (#035-89), cutting trees 2"+ DBH except red pine. 13 acres in the NE were trenched, then 5th & 6th graders from Roscommon & Grayling planted RP in 1995 as part of a cooperative Weyerhaeuser-DNR project (C72-347). More natural regen (JP-NPO-A-RM) than planted. RP canopy record includes the 26 year-old planted RP and the scattered 106 year-old residual RP. Beaver Creek MCCCT trail crosses through the stand.																																																																					
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<b>30</b>	4126 - White, Black, N. Pin Oak	Poletimber Poor	15.9	54	1-50	N/A	Part of the original Bosom Field Pine Study area, planted to RP in the fall of 1912, with SP planted in the west end. Was thinned several times over the decades, with the last conducted in 1994 (#051-93). Was final harvested with reserves in 2018 (#058-15), cutting stems 2"+ DBH except oak & green-marked (ave cruised residual 8 sq. ft. O-RP). Main canopy is pole-sapling oak released by the harvest, with clumps of mature RP. Former RP mortality pocket in the NE corner has advanced RP regen. Regen from the cut does not pass at this time. Hard frosts late this spring browned-up oak to 25 ft. Canopy closure drifts off either side of 25%. Oak cover increases in the west. East half has non-forested inclusions.																																																																										
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<b>31</b>	6112 - Lowland Aspen	Poletimber Well	22.0	56	51-80	N/A	Merch A-JP were cut across parts the stand in 1959 (#14-59, #83-59) and 1965 (#079-63). Deteriorating trembling aspen on a former floodplain and the sideslopes down to it. Ephemeral drainage channel starts in the E1/2 of the stand. JP mixes in on the low ground and on dry interior ridges, along with NPO and scattered RP-WP. Patch of surviving planted European larch in the SE. IBT & PRD non-motorized pathway crosses through the stand's W1/2.																																																																										
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<b>32</b>	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	13.6	49	81-110	N/A	Merch JP-A and marked RP were cut in 1972 (#044-72), leaving shelterwood-seed level residuals. Variable species distribution and stocking in pine-oak, with some perimeter aspen. Open-grown form common. Broadly two-aged across most species. Some legacy RP and traces of SP. Mortality in the older JP-A. IBT & PRD non-motorized pathway hits east edge of stand. WP-WO ages from previous inventory.																																																																										
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<b>33</b>	310 - Herbaceous Openland	Nonstocked	39.2	0	Unspecified	4211 - Planted Red Pine	Mature RP plantation (1915 origin) was clearcut without retention by 2018 (#047-13). Site was herbicided and trenched in 2019 (C72-860). Planted 1008 TPA PRT RP in 2021. Containerized seedlings are weathering the ongoing spring drought. Still >80% FTG; mainly cherry brush competition with less than trace amounts of RM.																																																																										
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments		
<b>34</b>	4199 - Other Mixed Upland Deciduous	Sapling Poor	16.7	4	Immature	N/A	RP was planted in 1914, along with one acre of Austrian pine in the NE corner. Was thinned a few times over the decades, with the last conducted in 1972 (#044-72), cutting JP-A and marked RP. Was final harvested in 2017 (#035-14), cutting stems 2"+ DBH except O-WP-JP, green-marked trees (mostly RP, in small clumps), and retention islands (focused along pathway). Some residual RP windthrow in 2017. Regen mostly RM, with oak. There is some advanced oak regen but most of it is from the harvest (cutting operable paths through the sub-merch oak). BC brush common. Hard frosts late this spring browned-up oak to 25 ft. Regen does not pass at this time. IBT & PRD non-motorized pathway crosses through the stand.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
Red Pine	10	XLog/Log	20	107	Black Cherry	Medium		5 - 10 feet	Tall Shrub
Jack Pine	2	Pole/Log	8	49	Choke Cherry	Trace		< 5 feet	Tall Shrub
Northern Pin Oak	30	Sapling	1	4	Serviceberry (Juneberry)	Trace		< 5 feet	Tall Shrub
White Oak	10	Sapling/Pole	1		Red Maple	Trace		< 5 feet	Seeding
Red Maple	45	Sapling	1	4					
White Pine	3	Pole/Sap/Log	7						
<b>35</b>	42110 - Planted Red Pine	Sawtimber Well	3.9	107	141-170	N/A	Most of the stand is made up of retention islands left when stand 34 was final harvested in 2017. RP was planted in 1914. JP-A and marked RP were cut in 1972 (#044-72). PRD non-motorized pathway crosses through the stand.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
Red Maple	3	Pole	6		Red Maple	Low		Variable	Sapling
Northern Pin Oak	2	Pole	8		White Oak	Low		Variable	Sapling
White Pine	3	Log/Pole	14		Northern Pin Oak	Low		Variable	Sapling
Red Pine	90	Log/XLog/Pole	17	107	Black Cherry	Low		5 - 10 feet	Tall Shrub
Jack Pine	2	Pole	8		White Pine	Trace		5 - 10 feet	Sapling
<b>36</b>	4130 - Aspen	Sapling Poor	20.0	11	Immature	N/A	WP & European larch were planted in 1914. Stand was final harvested in 2010 (#034-08), cutting merch trees except scattered marked-to-leave RP, WP, oak, & a larch, and retention islands along US 127. Regenerated to aspen with RM (increases to S) and traces of oak and pine.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
Red Maple	13	Sapling	2	11	White Pine	Trace		Variable	Sapling
Quaking Aspen	75	Sapling	2	11	Red Pine	Trace		< 5 feet	Sapling
Black/Red (Hybrid) Oak	1	Log/XLog/Pole	15		Jack Pine	Trace		< 5 feet	Sapling
Northern Pin Oak	2	Sapling	1	11	Black Cherry	Low		5 - 10 feet	Tall Shrub
White Pine	3	XLog/Log	18	107					
Red Pine	2	XLog/Log	22						
Black Cherry	2	Sapling	2	11					
White Oak	1	Pole/Sapling	5						
Quaking Aspen	1	Log	11						
<b>37</b>	42101 - Planted White Pine, Mixed Deciduous	Sawtimber Well	7.0	107	141-170	N/A	WP, RP & JP were planted between 1914-1921. Merch JP- misc deciduous were cut in 1968 (#072-68). WP in the north end where stocking was lower is majority xlog, with crook & forked tops common. Form improves moving south where stocking held up. IBT & PRD non-motorized pathway crosses through the stand's east end.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
White Pine	70	Log/XLog/Pole	14	107	Hazelnut (Beaked)	Medium		< 5 feet	Tall Shrub
Red Maple	15	Pole/Sap/Log	7	53	Red Maple	Trace		Variable	Sapling
Red Pine	8	Log/XLog	16	100	Black Cherry	Trace		< 5 feet	Tall Shrub
Quaking Aspen	3	Log/Pole	10	53	White Oak	Trace		< 5 feet	Sapling
Black/Red (Hybrid) Oak	3	Pole/Log	8						



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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<b>38</b>	3303 - Mixed Low Density Trees	Nonstocked	36.4	0	Unspecified	4122 - Oak, Pine	<b>Sub-Canopy Species</b>			
								<b>Density</b>	<b>Avg. Height</b>	<b>Size</b>
							Red Pine	Low	>20 feet	Log
							Jack Pine	Low	>20 feet	Pole
							White Oak	Low	>20 feet	Pole
							White Oak	Low	< 5 feet	Sapling
							Red Maple	Low	< 5 feet	Sapling
							Northern Pin Oak	Low	< 5 feet	Sapling
							Black Cherry	Medium	5 - 10 feet	Tall Shrub
							Red Pine	Trace	Variable	Sapling
							Choke Cherry	Trace	< 5 feet	Tall Shrub
							Quaking Aspen	Trace	5 - 10 feet	Sapling

RP was planted in 1913 & 1914. Was thinned several times over the decades, with the last conducted in 2000 (#032-98). Diseased pockets were salvaged in 2002 but there continued to be individual tree mortality, spreading pocket mortality, widespread incidence of shoot blight in the RP regen, and root issues. Stand was final harvested with reserves in 2016 & 2017 (#035-14), cutting stems 2"+ DBH except O-WP-JP, green-marked trees (mostly RP, in small clumps), with an O-pine-RM regen objective that included the released advanced oak regen. The stand's perimeter is forested but the interior generally falls below the forested threshold. Hard frosts late this spring browned-up oak to 25 ft.

<b>39</b>	4191 - Mixed Upland Deciduous with Conifer	Sapling Medium	23.1	34	1-50	N/A	
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Canopy Species	% Cover	Size Class	DBH	Age
White Oak	10	Pole/Sapling	5	
Black/Red (Hybrid) Oak	45	Pole/Sapling	6	34
White Pine	1	Log/Pole	12	
Red Pine	30	Sapling/Pole	4	18
Black Cherry	10	Sapling/Pole	4	
Red Maple	3	Sapling/Pole	2	
Jack Pine	1	Sapling/Pole	3	

Sub-Canopy Species	Density	Avg. Height	Size
Black Cherry	Medium	Variable	Tall Shrub

RP was planted in 1914. Merch JP-O & marked RP were cut in 1984 (#300-82A). Merch RP was cut in 2003 (#002-03) in order to prevent the spread of Diplodia. Approximately 3.5 acres were trenced and planted to RP along the SW edge, but most of the stand's RP is naturally-recruited in dense swaths through the middle of the stand. Poor survivorship in the planted RP. The naturally-established RP appears healthy. Most of the oak cover is from the 1984 harvest but there is some from the 2003 salvage and a portion pre-dates both. Arbitrarily applied the 2003 cut age to the RP to represent for the other species. Not enough age-spread between the regen events to call the stand two-aged. Hard frosts late this spring browned-up the oak. Species distribution and stocking varies from O2-O5 to R3 to U0 (BC brush). Low end of 50-75% cover with an LDT-C inclusion where the RP was planted. PRD non-motorized pathway crosses through the stand's north end.

<b>40</b>	4139 - Aspen, Mixed Deciduous	Sawtimber Well	12.2	53	111-140	N/A	
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Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	35	Pole/Sap/Log	7	
Quaking Aspen	45	Log/Pole	10	53
Northern Pin Oak	5	Log/Pole/XLog	11	
White Pine	8	XLog/Log	20	101
Red Pine	5	Log/XLog	16	100
Black Cherry	1	Pole	6	
White Oak	1	XLog/Log	20	

Sub-Canopy Species	Density	Avg. Height	Size
Black Cherry	Low	Variable	Tall Shrub
Hazelnut (Beaked)	Medium	< 5 feet	Tall Shrub
Maple Leaved Viburnum	Trace	< 5 feet	Tall Shrub
Serviceberry (Juneberry)	Trace	Variable	Tall Shrub
White Pine	Low	5 - 10 feet	Sapling

WP, RP & JP were planted between 1914 & 1921. Merch JP-A were cut in 1968 (#072-68) W of King Rd and in 1972 (#038-72A, #044-72) E of King Rd. Cover is A-RM with oak and remnant planted RP-WP. IBT & PRD non-motorized pathway loops through.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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<b>41</b>	4123 - Red Oak	Sawtimber Well	13.8	118	111-140	N/A	Mature oak with WP & RP (mostly planted in the early 1920's), canopy RM (increases to the east), & BTA along Old 27. Medium to full RM understory. Upper crown dieback and individual tree mortality noted last YOY is continuing. Pocket of mortality noted in SE doesn't appear to be spreading. Wildfire in SW edge killed some oak. Eight plots were established within the stand as part of the Hartman-Buckley-Sharik oak/pine regen study. Oak age based on that research data. The over- and understory vegetation on 6 of those plots was manipulated through varying harvest levels in 1990 and 2 prescribed burns (FTP C72-464 & C72-552) in 2002 & 2008. The plots with mature oak residual are inclusions within this stand; the two clearcut plots were split out as a separate stand.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		8	Log/Pole/XLog	12		Red Maple		High	Variable	Sapling	
White Oak		5	Log/XLog	14		White Pine		Trace	Variable	Sapling	
Bigtooth Aspen		1	Log/Pole/XLog	12		Witch Hazel		Trace	5 - 10 feet	Tall Shrub	
Red Oak		75	Log/XLog	16	118	Hazelnut (Beaked)		Low	< 5 feet	Tall Shrub	
White Pine		10	Log/Pole/XLog	12	101	Black Cherry		Trace	< 5 feet	Tall Shrub	
Red Pine		1	Log/XLog/Pole	15	100	Red Maple		Low	< 5 feet	Seeding	
						Red Oak		Low	< 5 feet	Seeding	
						White Oak		Trace	< 5 feet	Seeding	

<b>42</b>	4139 - Aspen, Mixed Deciduous	Sapling Well	13.2	4	Immature	N/A	Stand of declining mature oak and 1920's-planted WP-RP was final harvested in 2017 (#058-15), cutting stems 2"+ DBH except green-marked (widely-scattered O-RP-WP), and boundary-excluded retention along US-127. Suspected oak wilt along powerline corridor, within and away from the sale area and within a wildfire to the east. The stand had RM (intermediate in the canopy and dominating the subcanopy), along with minor WO & aspen components. Regenerated to RM with aspen. Aspen continues to fill in. Very few of the large oak stumps sprouted, and they were hit by frost twice this May. Passes regen survey to mixed upland deciduous M.O., but there is very little oak in the mix.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		50	Sapling	1	4	Black Cherry		Low	< 5 feet	Tall Shrub	
Quaking Aspen		25	Sapling	1	4	Quaking Aspen		Low	< 5 feet	Seeding	
Bigtooth Aspen		15	Sapling	1	4	Black/Red (Hybrid) Oak		Trace	< 5 feet	Sapling	
Black Cherry		1	Sapling	1	4						
White Pine		2	Sapling	1							
White Pine		2	XLog	26	101						
White Oak		1	XLog	22							
Red Pine		2	XLog/Log/Pole	22							
Black/Red (Hybrid) Oak		2	XLog	22							

<b>43</b>	4191 - Mixed Upland Deciduous with Conifer	Poletimber Medium	7.0	34	1-50	N/A	Two of three patches clearcut in 2002 (#011-02) to remove pockets of mature planted RP being impacted by shoot blight & bark beetle. Cover is a mix of O-pine that regenerated from previous thinnings and the salvage harvest. Arbitrarily set the RP age to the salvage to represent that age class for all species. Not enough age spread to call the stand two-aged. The canopy RP appears healthy. There is minor shoot blight in the seedling RP.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		5	Pole/Sapling	5		Black Cherry		Low	< 5 feet	Tall Shrub	
White Oak		20	Pole/Sapling	6		Red Pine		Trace	< 5 feet	Seeding	
Northern Pin Oak		35	Pole/Sapling	6	34						
Red Pine		30	Sapling/Pole	3	19						
Jack Pine		5	Pole/Sap/Log	7							



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments				
<b>44</b>	4310 - Pine, Oak Mix	Sawtimber Medium	10.8	72	51-80	N/A	Merch JP-O was spec'd to be cut in 1985 (#300-82A ). The stand had significant residual JP-O. The JP is two-aged, in its early 70's and around 50. The oak is at least two-aged, in its early 70's and mid-30's (regen from the 1985 cut). Arbitrarily assigned the WO age to the cut to represent for both oak species. Species distribution and stocking is variable.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
White Oak		5	Pole/Sap/Log	7	36	White Oak		Low	5 - 10 feet	Sapling	
Quaking Aspen		3	Log/Pole	11		Northern Pin Oak		Low	5 - 10 feet	Sapling	
Northern Pin Oak		35	Log/Pole/Sap	11	73	Prairie Willow		Trace	5 - 10 feet	Tall Shrub	
White Pine		3	Log/Pole/XLog	11		Black Cherry		Medium	5 - 10 feet	Tall Shrub	
Red Pine		5	Log/Pole/XLog	12		Serviceberry (Juneberry)		Trace	10 - 20 feet	Tall Shrub	
Jack Pine		40	Log/Pole	10	72	Red Pine		Trace	5 - 10 feet	Sapling	
Black Cherry		5	Pole/Sap/Log	6		Chokeberry		Low	< 5 feet	Tall Shrub	
Red Maple		3	Pole/Sapling	6							
Bigtooth Aspen		1	Log/Pole	10							
<b>45</b>	4112 - Maple, Beech, Cherry Association	Sapling Medium	4.3	6	Immature	N/A		RP was planted in 1913. Was thinned periodically over the decades, with the last conducted in 1994 (#051-93). This portion of the original stand 45 was clearcut in 2015 (#002-14), cutting all RP, RM & scotch pine. The four-acre patch encompassed a slowly-expanding RP mortality pocket. RM-O regen from the salvage and 1994 thinning makes up the main canopy.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species			Density	Avg. Height	Size
Red Maple		80	Sapling	1	6	Blackberry/Raspberry			Medium	< 5 feet	Tall Shrub
Black/Red (Hybrid) Oak		10	Pole/Sapling	6	27	Black Cherry			Low	Variable	Tall Shrub
White Oak		10	Pole/Sapling	5		Hazelnut (Beaked)			Trace	< 5 feet	Tall Shrub
<b>46</b>	4123 - Red Oak	Sawtimber Well	17.8	125	141-170	N/A	WP was planted across part of the stand in 1920. Canopy is dominated by large NRO, with co-dominant RM, WO and planted WP. RM increases on the stand's north edge. Continuing upper crown dieback in even the dominant oak. Dead oak in clumps of 1-3 trees are scattered across the stand but don't appear to be spreading pockets of mortality. IBT & PRD non-motorized pathway crosses through.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		13	Log/Pole/XLog	11		Red Maple		Medium	Variable	Sapling	
White Oak		8	Log/XLog	14		White Pine		Low	Variable	Sapling	
Red Oak		70	Log/XLog	17	125	Hazelnut (Beaked)		Medium	< 5 feet	Tall Shrub	
White Pine		5	Log/Pole/XLog	12	101	Maple Leaved Viburnum		Trace	< 5 feet	Tall Shrub	
Bigtooth Aspen		2	Log	14		White Oak		Trace	< 5 feet	Sapling	
Quaking Aspen		1	Log	12							
Red Pine		1	Log/Pole	14							
<b>47</b>	3303 - Mixed Low Density Trees	Nonstocked	26.3	0	Unspecified	4122 - Oak, Pine		RP was planted in 1913 & 1914. Was thinned several times over the decades, with the last conducted in 2000 (#032-98). Diseased pockets were salvaged in 2002 but there continued to be individual tree mortality, spreading pocket mortality, widespread incidence of shoot blight in the RP regen, and root issues. Stand was final harvested with reserves in 2017 (#035-14), cutting stems 2"+ DBH except O-WP-JP, green-marked trees (mostly RP, in small clumps), and a retention island (focused along pathway & merged with stand 57). There is oak regen in two classes (released and regen from the harvest) but not enough to meet the forested benchmark overall. Impressive RP seedling establishment. Will be a moderate-fully stocked stand if the RP regen survives. Small amounts of mortality and shoot blight present. Hard frosts late this spring browned-up oak to 25 ft. PRD non-motorized pathway crosses through.			
Sub-Canopy Species		Density	Avg. Height	Size							
Red Pine		Low	>20 feet	Log							
Jack Pine		Trace	>20 feet	Pole							
White Oak		Low	>20 feet	Pole							
White Oak		Low	Variable	Sapling							
Red Maple		Trace	< 5 feet	Seeding							
Northern Pin Oak		Low	< 5 feet	Sapling							
Black Cherry		Low	5 - 10 feet	Tall Shrub							
Red Pine		Low	< 5 feet	Seeding							
Northern Pin Oak		Trace	>20 feet	Pole							
Northern Pin Oak		Low	< 5 feet	Seeding							





Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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**48** 4310 - Pine, Oak Mix Poletimber Poor 21.0 46 51-80 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Northern Pin Oak	40	Pole/Sap/Log	8	46
White Pine	15	Pole/Log/Sap	8	
Red Pine	30	Log/Pole/XLog	12	85
White Oak	8	Pole/Sap/Log	6	
Red Maple	5	Pole/Sapling	7	
Black Cherry	1	Pole/Log	8	
Jack Pine	1	Pole	6	

Sub-Canopy Species	Density	Avg. Height	Size
Bigtooth Aspen	Low	10 - 20 feet	Sapling
Quaking Aspen	Medium	5 - 10 feet	Sapling
Black Cherry	Medium	5 - 10 feet	Tall Shrub
Jack Pine	Trace	< 5 feet	Seeding
Jack Pine	Trace	Variable	Sapling
Choke Cherry	Trace	Variable	Tall Shrub

JP-A were harvested in 2015 (#002-14), leaving variable distribution in O-WP-RP. The RP is concentrated in a 3-acre pocket with 50-75% cover in the east half. The rest of the canopy is less dense and made up of mostly oak with WP. Aspen is filling in some but not all of the openings. JP seedlings with potential to recruit. The regen overall does not pass the survey at this time. PRD non-motorized pathway loops through the stand. Small patch of lowland ground in the SW poly by the pipeline.

**49** 42110 - Planted Red Pine Sawtimber Well 37.8 107 111-140 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Northern Pin Oak	1	Log/Pole	11	
Red Pine	96	Log	15	107
Jack Pine	2	Log/Pole	10	
White Pine	1	Log/Pole	11	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Trace	>20 feet	Pole
White Oak	Low	Variable	Sapling
Northern Pin Oak	Low	Variable	Sapling
Red Pine	Trace	< 5 feet	Seeding
Black Cherry	Low	Variable	Tall Shrub
White Oak	Trace	>20 feet	Pole
Northern Pin Oak	Trace	>20 feet	Pole
Red Pine	Trace	5 - 10 feet	Sapling
White Pine	Trace	Variable	Sapling
White Pine	Trace	>20 feet	Pole

RP was planted in 1913 & 1914. Was thinned several times over the decades, including in 1985 (#300-82A), cutting marked RP & merch JP-O. Patch of pocket mortality along W edge was salvaged in 2002 (split off as its own stand). Stand was thinned again in 2015 (#002-14), cutting marked trees & all RM-SP. The thinning reduced the BA lower in mortality pockets, targeting stressed RP. Still some mortality occurring in the pocket north of stand 50 and around stands 43 & 44; elsewhere the stand is relatively healthy and there is only minor shoot blight in the understory RP. Not enough xlog RP to split the size category. Drier site; more open below than the other stands within the thinning harvest. PRD non-motorized pathway runs the length of the stand.

**50** 4191 - Mixed Upland Deciduous with Conifer Poletimber Well 14.2 53 51-80 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	15	Pole/Log/Sap	6	51
White Oak	5	Pole/Log	8	66
Quaking Aspen	25	Pole/Log	8	53
Black/Red (Hybrid) Oak	25	Pole/Log	8	
White Pine	2	Pole/Log/XLog	8	
Red Pine	10	Log/XLog/Pole	16	108
Black Cherry	3	Pole/Log/Sap	6	

Sub-Canopy Species	Density	Avg. Height	Size
White Pine	Trace	Variable	Sapling
Black Cherry	Low	5 - 10 feet	Tall Shrub
Hazelnut (Beaked)	Trace	5 - 10 feet	Tall Shrub
Serviceberry (Juneberry)	Low	Variable	Tall Shrub

One large and three outlier patches that had some RP planted in 1913 and JP planted in 1921, but sketchy survivorship. Merch aspen and marked pine were cut in 1968 (#034-64A). Variable stocking and species distribution in O-A-RM-pine. The RP is a mix of planted and xxlog legacy class stems. PRD non-motorized pathway crosses through the stand.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																																													
<b>51</b>	42110 - Planted Red Pine	Sawtimber Medium	49.4	108	81-110	N/A	RP was planted in 1913, along with European larch & SP in the E1/2. JP was fill-in planted across parts of the stand in 1921 & 1925. Was thinned several times over the decades, with the last conducted in 2015 (#002-14), cutting marked pine & all RM -SP; cruised residual of 95 sq. ft. Pockets of slowly spreading mortality were thinned heavier, and the largest pocket was clearcut (split out as stand 45). Shoot blight symptoms in over- & understory RP. Full, multi-layered canopy from past harvest entries has mostly RM, with oak increasing to the N & E. PRD non-motorized pathway crosses through.																																																																													
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<b>52</b>	6233 - Wet Meadow	Nonstocked	1.0	0	Unspecified	No	Intermittent marsh wetland. Dry already this spring. Marsh grass with perimeter leatherleaf. Colonizing WP-JP.																																																																													
<b>53</b>	42220 - Natural Jack Pine	Poletimber Medium	14.8	55	51-80	N/A	RP was planted across part of the stand in 1914. Merch JP-A were cut east of the forty road in 1965 (#031-64A) and merch JP in 1970 (#042-69). Merch JP-O were spec'd to cut W of the road in 1985 (#300-82A). Patchy distribution in two-aged JP, with the older JP (78 yrs) declining. Stand encompasses an intermittent wetland (stand 52) and has swales of low to intermediate ground around it. The RP canopy record combines planted and naturally-established stems. PRD non-motorized pathway crosses through the stand.																																																																													
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<b>54</b>	42110 - Planted Red Pine	Poletimber Well	31.5	38	81-110	N/A	Merch JP-A were cut between 1965 and 1970 (#031-64A, #109-65, #042-69). RP was planted in 1983 (C71-201) around residual JP-RP-O and JP-A regen from the harvest. The JP is unevenly distributed across the stand and increases on the ground close to the water table. Not quite enough age difference between the JP and planted RP to call the stand two-aged. Overmature JP is a minor component; most of the JP regenerated after the harvests.																																																																													
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<b>55</b>	42110 - Planted Red Pine	Sawtimber Well	2.8	109	141-170	N/A	Part of the original Bosom Field Pine Study area, with RP planted in 1912. Was thinned several times over the decades, with the last conducted in 1994 (#051-93). Was split off from stand 30 after the portion west of Old 27 was final harvested in 2018. This new stand is not designated retention. Mortality pocket in the canopy RP along King Rd. Crowns thinning, tufted appearance. Shoot blight present in the understory RP. Advance oak regen below. Strip of O-A along King Rd.																																																																													
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**56** 4191 - Mixed Upland Deciduous with Conifer Poletimber Medium 11.8 59 51-80 N/A

RP was planted across the W1/2 of the stand in 1914. Marked JP and misc deciduous were cut in 1962 (#159-60A). Variable stocking and species distribution in O-pine-A. Broadly two-aged across most species. The older JP is dropping out of the canopy. RP is a mix of planted and naturally-established. PRD non-motorized pathway crosses through the stand.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	2	Pole/Log/Sap	6	
White Oak	5	Pole/Log	8	
Quaking Aspen	20	Pole	7	
Northern Pin Oak	40	Pole/Sap/Log	7	59
White Pine	5	Pole/Log/XLog	8	
Red Pine	10	Log/XLog/Pole	17	107
Jack Pine	15	Pole/Log	8	

Sub-Canopy Species	Density	Avg. Height	Size
Black Cherry	Medium	Variable	Tall Shrub
Hawthorn (spp.)	Trace	5 - 10 feet	Tall Shrub
Serviceberry (Juneberry)	Trace	10 - 20 feet	Tall Shrub

**57** 4191 - Mixed Upland Deciduous with Conifer Sapling Well 2.8 19 1-50 N/A

One of three patches clearcut in 2002 (#011-02) to remove pockets of RP being impacted by shoot blight & bark beetle. Majority cover is oak regen from the salvage and earlier thinnings, with minor amounts in the small saw class. A perimeter of 1913 planted RP (merged-in retention from stand 47's harvest) continues to thin out. PRD non-motorized pathway crosses through.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Pole/Sap/Log	6	
White Oak	33	Sapling/Pole	3	19
Black/Red (Hybrid) Oak	25	Sapling/Pole	3	
White Pine	3	Sapling	3	
Red Pine	3	Sapling	2	
Black Cherry	1	Sapling	3	

Sub-Canopy Species	Density	Avg. Height	Size
Black Cherry	Low	Variable	Tall Shrub
Black/Red (Hybrid) Oak	Trace	< 5 feet	Sapling
White Oak	Trace	< 5 feet	Sapling

**58** 42110 - Planted Red Pine Sawtimber Medium 24.7 107 81-110 N/A

RP was planted in 1913 & 1914. Stand was thinned several times over the decades, with the last conducted in 2006 (#068-04) except for in the fingers N of the forty road. The RP is well-released (80-100 sq. ft.) but most have thinning crowns and tufted branches. Pocket of mortality is spreading on the south edge. Shoot blight (likely Diplodia) is widespread in the subcanopy RP. The understory has advanced oak saplings and poles. The RP pole component doesn't reach into the canopy so it is recorded in the subcanopy also.

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	100	Log/XLog	17	107

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	Variable	Sapling
White Oak	Medium	Variable	Sapling
Northern Pin Oak	Medium	Variable	Sapling
Red Pine	Low	5 - 10 feet	Sapling
Black Cherry	Low	Variable	Tall Shrub
White Oak	Low	>20 feet	Pole
Northern Pin Oak	Low	>20 feet	Pole
Red Pine	Low	>20 feet	Pole
Red Maple	Trace	>20 feet	Pole



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<b>59</b>	4133 - Aspen, Mixed Pine	Sawtimber Well	9.2	57	81-110	N/A	RP was planted across a third of the stand in 1914. Was partially cut-over in the mid-1960's. Variable species distribution in A-O-pine. Broadly two-aged. The aspen is declining. The older JP is dropping out of the canopy. The RP canopy record combines planted and naturally-established stems, including some xxlog legacy class.																																																														
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<b>60</b>	4311 - Pine, Aspen Mix	Sawtimber Well	1.2	106	111-140	N/A	Retention island left when stand 1 was harvested in 2018. Edge call: WP-SP were planted in 1915. Aspen & unmarked JP-SP were cut in 1965 (#118-64).																																																														
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<b>61</b>	122 - Road/Parking Lot	Nonstocked	30.1		Unspecified	No	Cleared county road and pipeline corridors.																																																														
<b>62</b>	3102 - Grass	Nonstocked	3.8		Unspecified	No	Cleared pipeline corridor, closures at both ends, but the berms are being driven around. Need to close end-runs around berms.																																																														
<b>63</b>	6220 - Alder/willow	Nonstocked	1.3		Unspecified	No	Tag alder and salix with perimeter aspen. Marsh on pipeline portion.																																																														
<b>64</b>	4112 - Maple, Beech, Cherry Association	Poletimber Well	2.1	31	51-80	N/A	Two of eight plots established as part of the Hartman-Buckley-Sharik oak/pine regen study. The over- and understory vegetation on these plots was manipulated through final harvesting (1990) and prescribed burning (FTP C72-464 in 2002 & C72-552 in 2008). The stand's primary age is set to the harvest, but there is also a younger component from the burns.																																																														
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<b>65</b>	42290 - Natural Mixed Pine	Sawtimber Well	7.1	64	81-110	N/A	Was part of a larger area harvested in 2006 (#043-03), cutting merch stems except RP-WP-O. This south half of the harvest had little cutting and heavy residual RP-WP-O. Most of the cover is 60-65 years old, but there are minor mature log-Xlog components. Canopy closure drops to 50-75% in the north end.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		1	Pole/Sap/Log	7		White Pine		Trace	5 - 10 feet	Sapling	
White Oak		2	Pole/Sap/Log	7		Jack Pine		Trace	10 - 20 feet	Sapling	
Northern Pin Oak		13	Pole/Sap/Log	7	59	Black Cherry		Low	5 - 10 feet	Tall Shrub	
White Pine		25	Pole/Log/XLog	8	65						
Red Pine		55	Log/Pole/XLog	15	64						
Quaking Aspen		2	Pole	8							
Black Cherry		2	Pole/Sap/Log	6							

<b>66</b>	4199 - Other Mixed Upland Deciduous	Poletimber Well	7.3	64	51-80	N/A	Area was mostly avoided during the 1913 RP planting. Was partially cut-over in 1962 (#159-60A). Variable species distribution and stocking in O-RM-A-Pine. The RP canopy record combines the planted and naturally established stems, including a few in the legacy class.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		15	Pole/Log/Sap	6		Northern Pin Oak		Trace	Variable	Sapling	
White Oak		6	Log/XLog/Pole	16		White Pine		Low	Variable	Sapling	
Quaking Aspen		15	Pole/Log	9	56	Red Pine		Trace	Variable	Sapling	
Northern Pin Oak		45	Pole/Log/XLog	8	64	Black Cherry		Low	Variable	Tall Shrub	
White Pine		6	Log/XLog/Pole	16		Serviceberry (Juneberry)		Trace	10 - 20 feet	Tall Shrub	
Red Pine		10	Log/Pole/XLog	16	108	Red Maple		Trace	Variable	Sapling	
Jack Pine		1	Pole	8		White Oak		Trace	Variable	Sapling	
Black Cherry		2	Pole/Log/Sap	7		Hazelnut (Beaked)		Trace	5 - 10 feet	Tall Shrub	