



Compartment Review Presentation

Grayling Forest Management Unit

Compartment 72003

Entry Year 2024

Acreage: 1,865

County Oscoda

Management Area: AuSable Outwash

Stand Examiner: Garret Price

Legal Description:

T27N R02E Sections 19, 28, 29, 30, 31, 32

T26N R02E Sections 05, 06

Greenwood Township – south part

Big Creek Township – northwest part

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 and Millersburg-Klacking-Graycalm complexes on shallowly rolling to steep terrain. The lower ground surrounding wetlands and stream corridors have poorly-drained complexes such as Deford-AuGres-Croswell and Wakeley-Allendale. The lowest ground is characterized by saturated organic soils in the Tawas muck series.

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

There is a mix of state and private land interface along the compartment boundary, as well as one private inholding. Adjacent land use includes a mix of year-round and seasonal residences. Several parcels along the AuSable River were acquired from Consumers Power Company. The cabin on a former CPC lease parcel has been disposed of.

Unique Natural Features:

The mainstream of the AuSable is part of a designated Natural River system. There is the potential for rare wetland plants and reptiles to occur along the riparian corridors. There is also the potential for rare dry prairie plants and insects to occur in upland grassy openings.

Archeological, Historical, and Cultural Features:

There is a deep history of human use along the AuSable River corridor, as well as turn-of-the century homesteading on the uplands.

Special Management Designations or Considerations:

The AuSable River is a High Conservation Value Area (HCVA).

Watershed and Fisheries Considerations:

The mainstream of the AuSable is a quality trout stream. Several small drainages within the compartment empty into the AuSable. Section 19 has a small pond at its center, with inflow from the north.

Wildlife Habitat Considerations:

The compartment's wide range of cover types – ranging from mixed pine, aspen and oak, to conifer swamp, lowland brush and super-canopy stature pine -- provide habitat for a variety of game and non-game wildlife species. There are maintained wildlife openings throughout the compartment.

Mineral Resource and Development Concerns and/or Restrictions

Sections 5-6 & 12, T26N-R2E and sections 19 & 28-31, T27N-R2E, Oscoda County

No known potential exists for commercial metallic mineral production in this part of the state. The nearest known active sand/gravel pit is less than three miles to the east. There appears to be good potential for sand & gravel within the compartment in places, but some areas have significant amounts of clay. There has been some sparse Antrim Shale gas production in the area of the compartment but nothing within two miles. The compartment is outside the main Antrim play, and Antrim gas wells completed in this area often tend to be marginal. No recent well permits have been issued in the area. There is some current mineral leasing activity in the region but nothing within one mile. The State does not own all the mineral rights within the compartment. Because the mineral estate is the dominant estate, the surface owner must provide the owner of the mineral rights reasonable access to the surface for mineral exploration and development.

Vehicle Access:

The compartment is well covered by county roads, including Miller, Townline, Youngs, Kneeland, Kittle, Franks, and Cherry Creek Roads. Open two-track roads provide adequate access to the compartment's upland interior. Several short two-track segments south of Kittle Road in section 29 are currently being used to access adjacent private residences in section 32. A two-track north of cherry creek across from the Whirlpool Site is used to access private residences in section 31. A two track south of Miller Road is used to access the private residence in section 19.

Survey Needs:

No survey is needed at this time.

Recreational Facilities and Opportunities:

The AuSable River experiences heavy seasonal use, primarily canoeing and fishing. Hunting is the main form of dispersed use. The Mio to Meadows MCCCT trail crosses through two sections of the compartment. The Whirlpool Boating Access Site, managed by Parks and Recreation Division, is on the AuSable River and receives a high volume of canoe and kayak traffic.

Fire Protection:

County roads and open two-tracks provide good access to the compartment's dry upland types. The Whirlpool Access Site is a good water point.

Additional Compartment Information:

The following reports from the Inventory are attached:

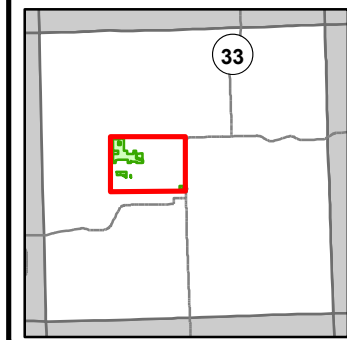
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

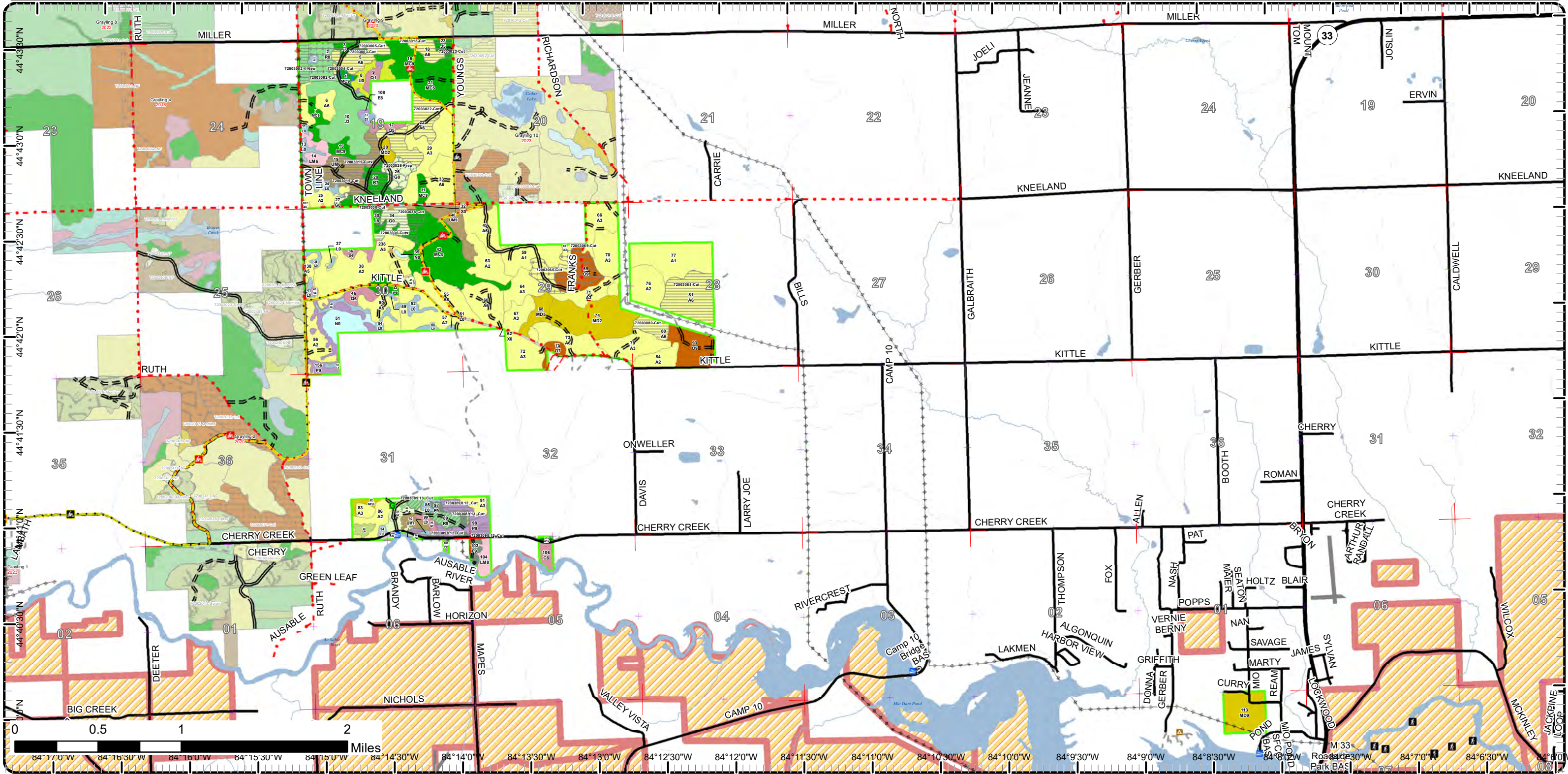
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

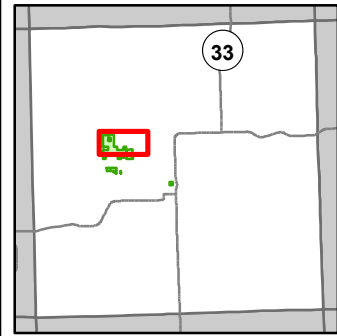
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 County: Oscoda
 Unit: Grayling
 Mgmt Area: AuSable Outwash
 YOE: 2024
 Acres: 1864.9 GIS Calculated
 Examiner: Garret Price
 Map Revised: 12/27/2022
 Map Phase: Post-Review



- Miris Corners
- + Remonumented Section Corners
- Counties
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- ORV License & Trail Permit
- Michigan Cross Country Cycle Trail (MCCCT)
- ▲ Berms
- G Gate
- 🚤 Boating Access Site
- ▲ Campground
- Dam
- Intermittent Stream
- Island in Lake or River
- Lake/Pond
- Perennial River
- Lakes and Rivers
- + Powerline
- Airports
- Compartment Boundary
- Other Treatment - See Comments
- Clearcut (w/Reserves)
- Harvest, Overstory Removal
- Seed Tree (w/Reserves)
- Thinning (Crown, Low, Systematic)
- Site Prep
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
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- 611 - Lowland Deciduous Forest
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- 330 - Low Density Trees
- 500 - Water
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- 623 - Emergent Wetland

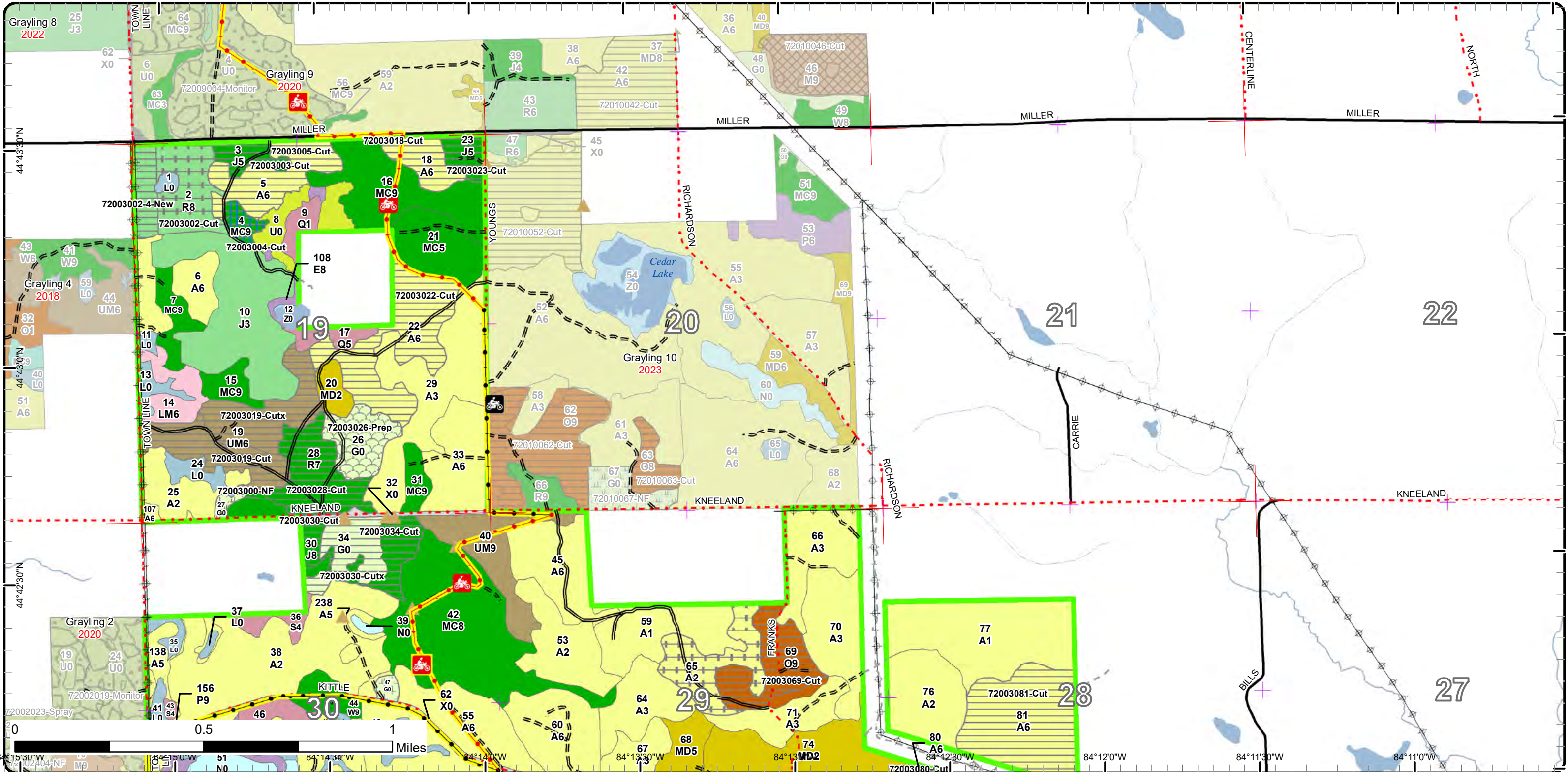


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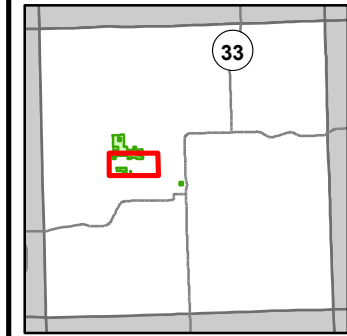
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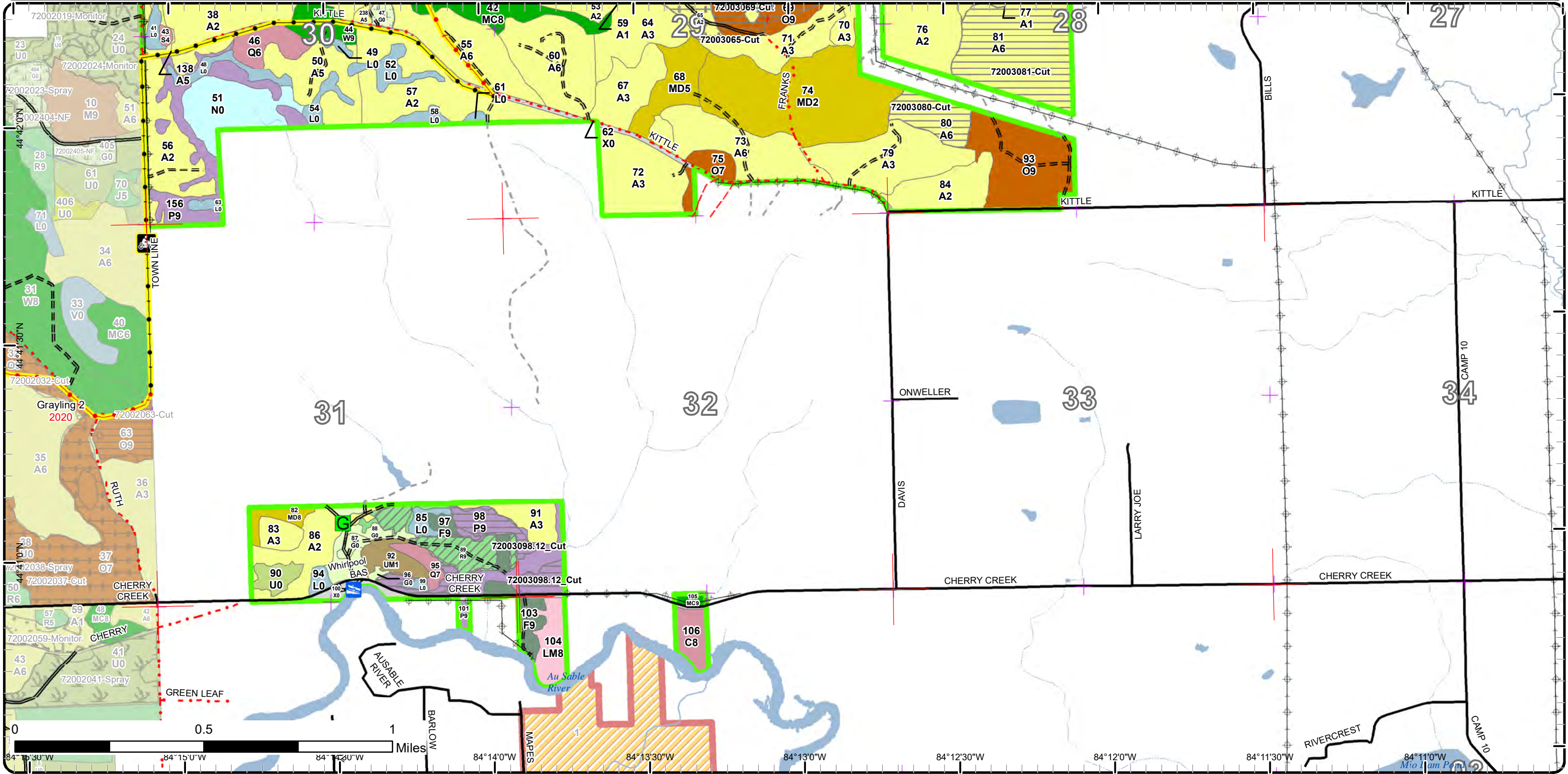


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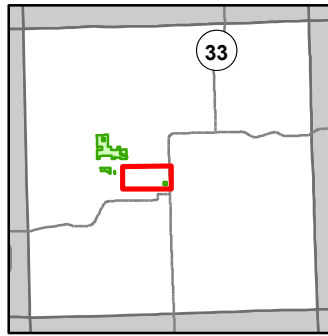


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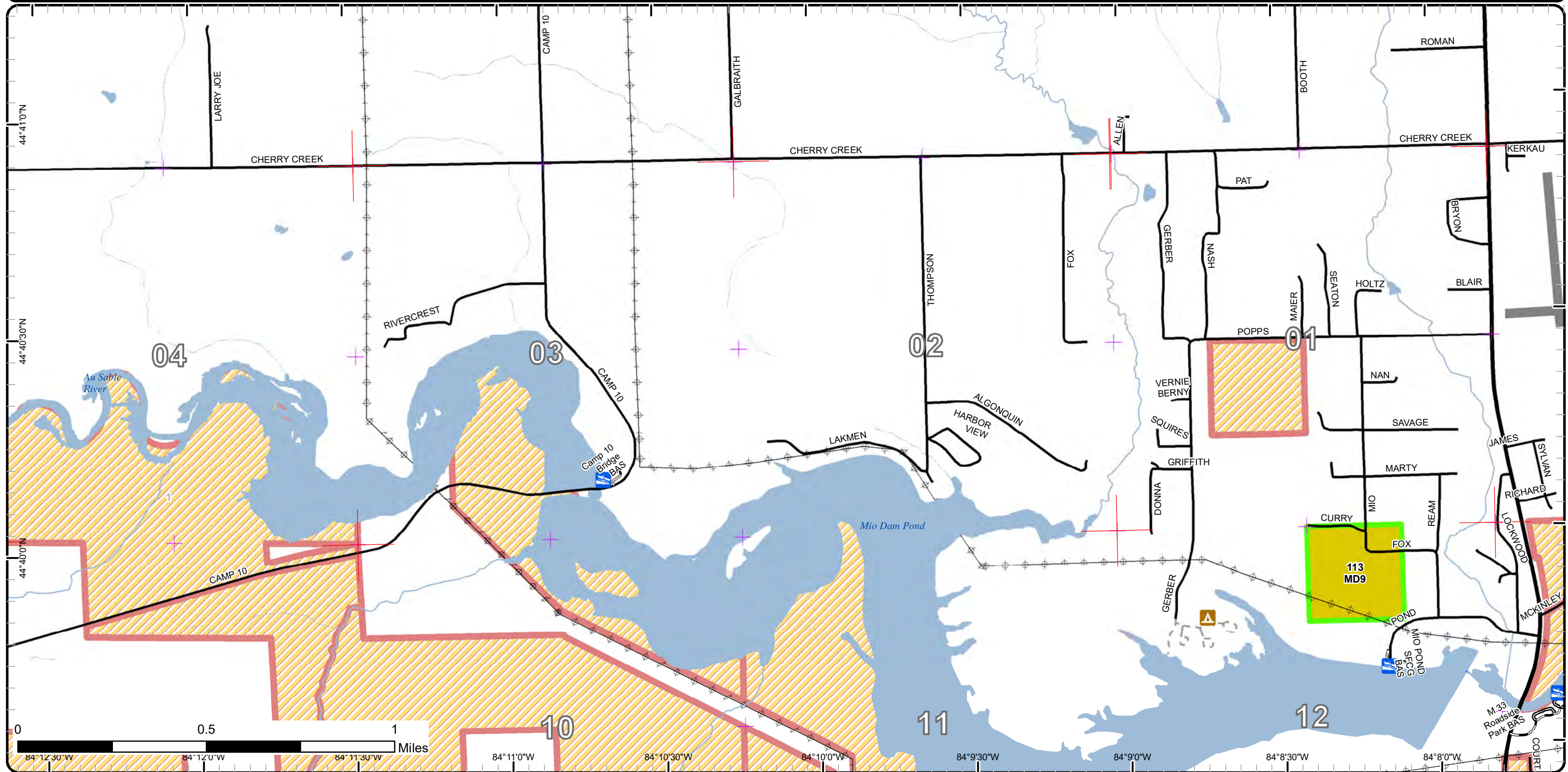


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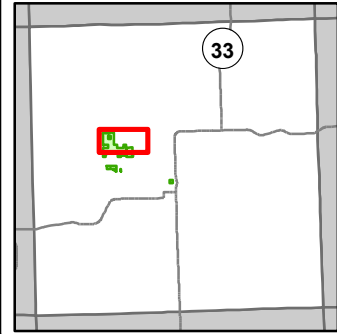


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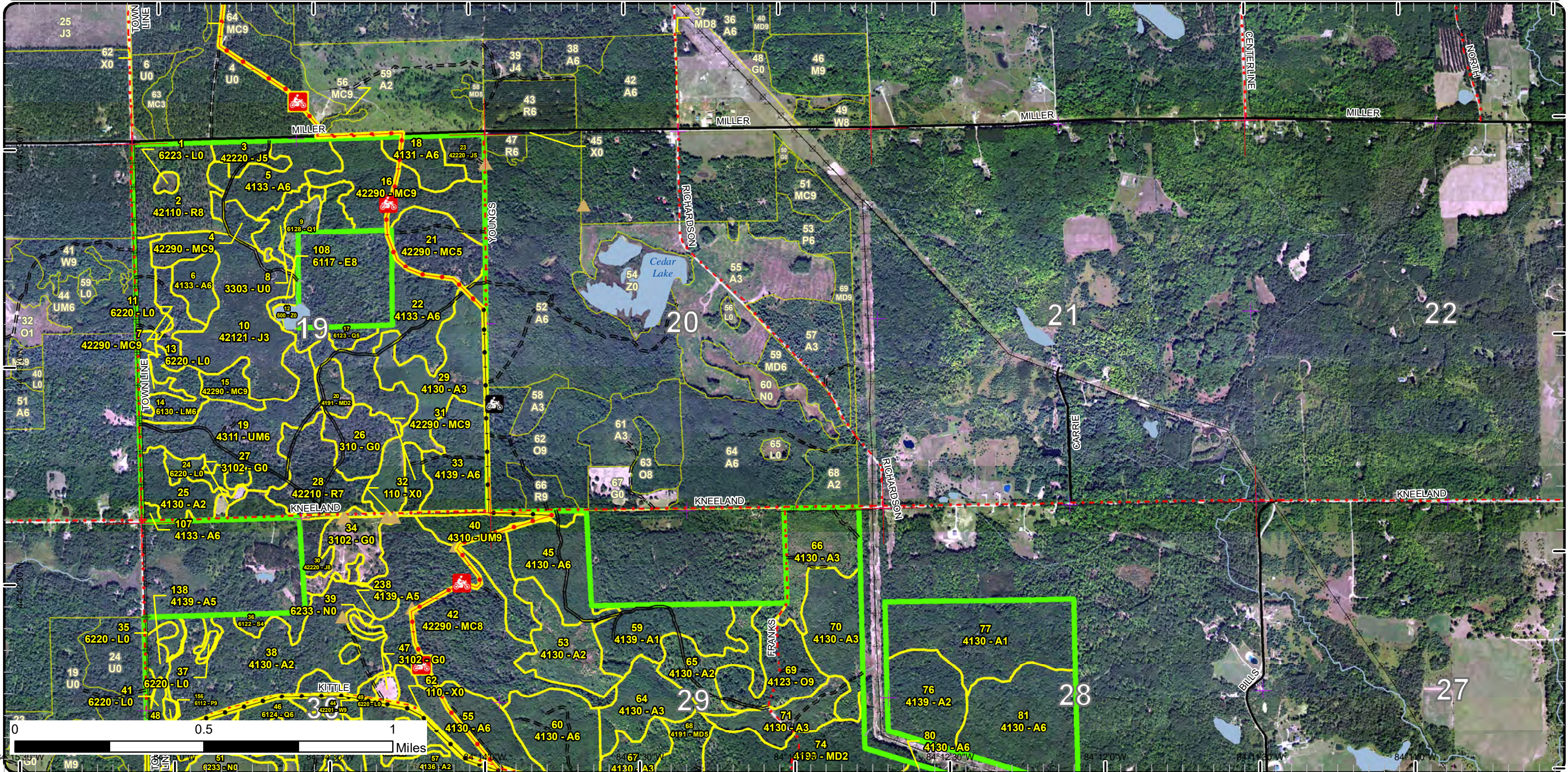
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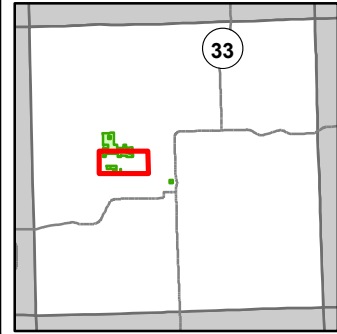
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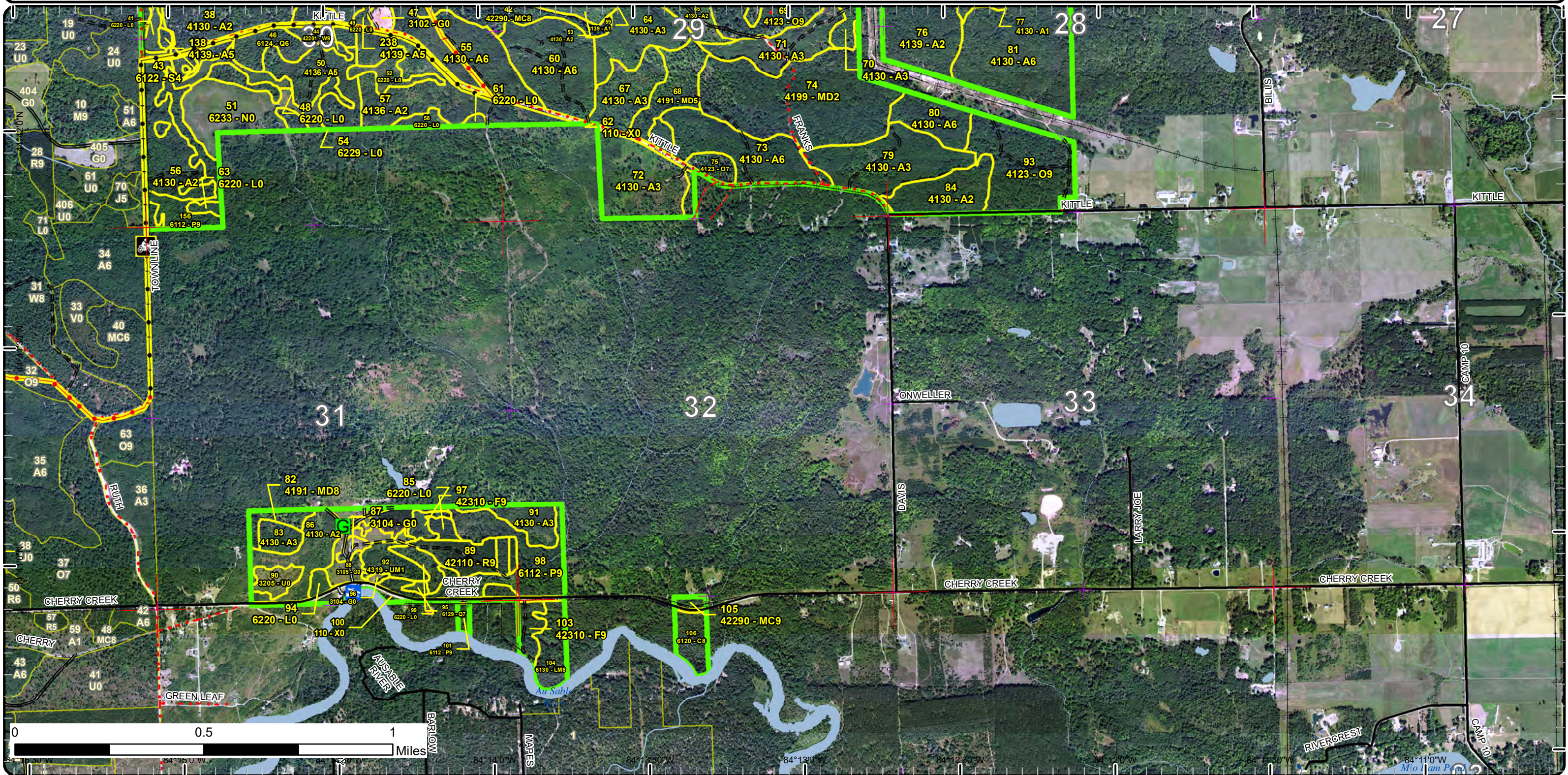


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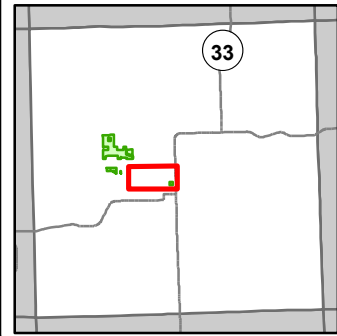
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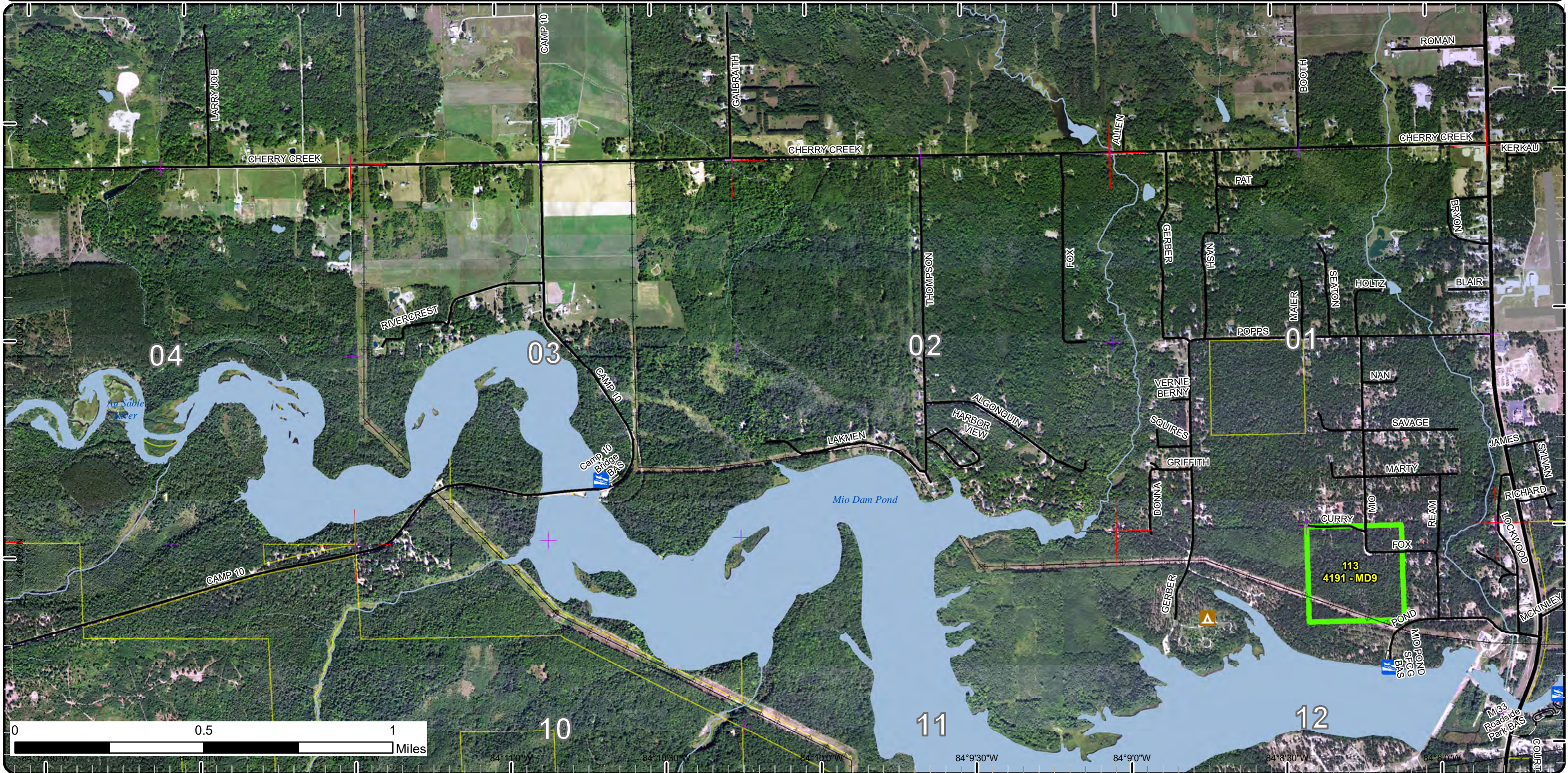


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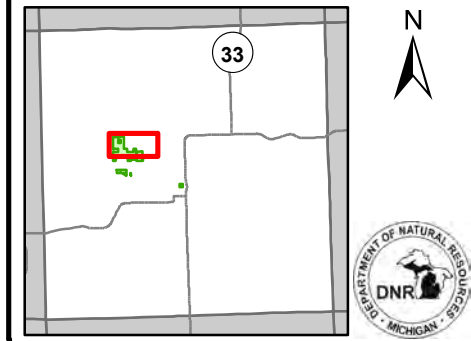
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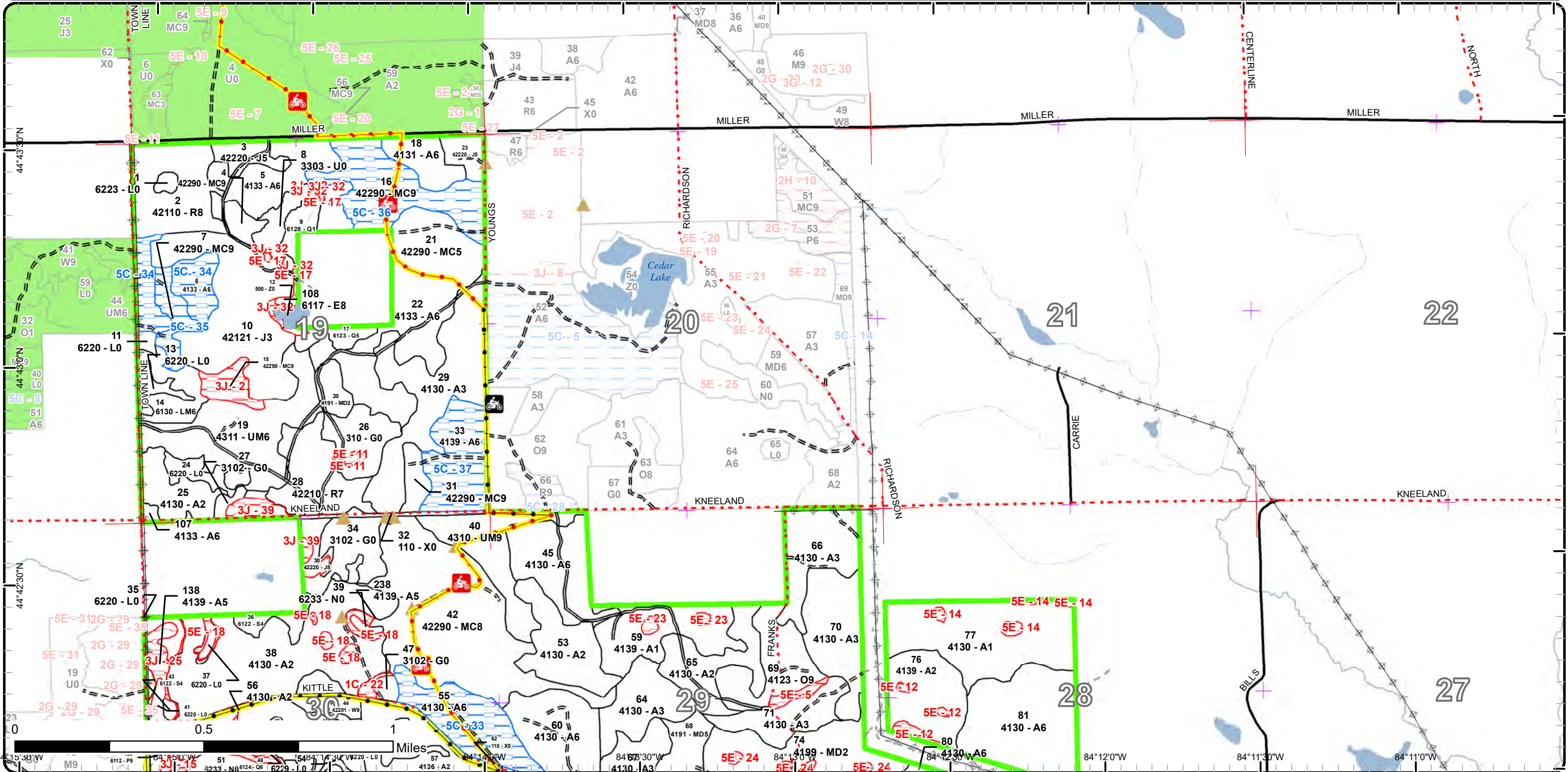


Special Conservation Areas

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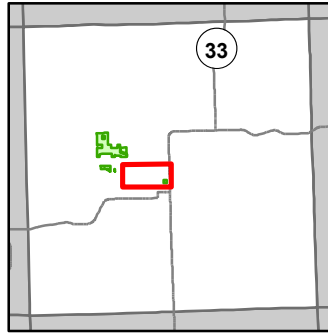
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- 🟩 Compartment Boundary
- 🟦 Available w/ Constraints
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 🔴 Unavailable
- 1C: Other dept or div proc/practices
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- 🟩 Stand Boundaries
- 🟩 Kirtland Warbler Habitat
- Cold Water Streams



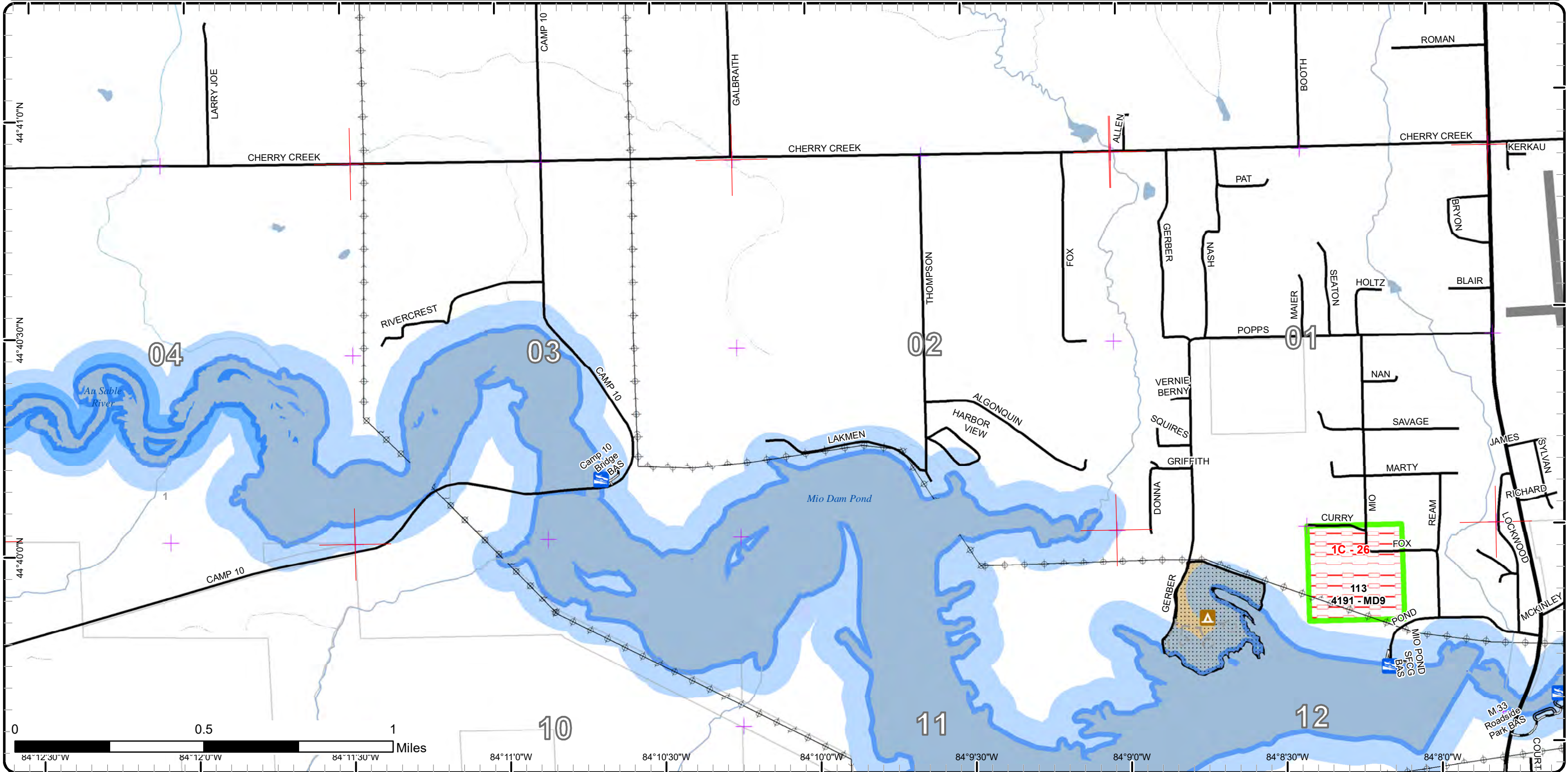
44°43'30"N 44°43'00"N 44°42'30"N
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 0.5 1 Miles
 33 32 31 30 29 28 27 26
 19 20 21 22 23

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- Unavailable
- 1C: Other dept or div proc/practices
- Stand Boundaries
- SCA
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer
- State Forest Campground



Report 1 – Total Acres by Cover Type and Age Class



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	251	208	133	110	0	233	0	0	0	0	0	0	0	0	0	0	0	935
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8
Herbaceous Openland	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50
Jack Pine	0	0	0	58	0	0	7	22	0	0	0	0	0	0	0	0	0	0	87
Low-Density Trees	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Lowland Aspen/Balsam Poplar	0	0	0	0	0	0	0	56	0	0	0	0	0	0	0	0	0	0	55
Lowland Conifers	0	0	6	0	0	7	9	0	0	0	0	0	0	4	0	0	0	0	25
Lowland Deciduous	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3
Lowland Mixed Forest	0	0	0	0	13	0	0	11	0	0	0	0	0	0	0	0	0	0	24
Lowland Shrub	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49
Lowland Spruce/Fir	0	0	0	0	0	0	6	0	0	0	1	0	0	0	0	0	0	0	7
Marsh	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
Mixed Upland Deciduous	0	64	0	7	0	0	0	40	0	0	5	0	0	0	0	0	0	15	131
Natural Mixed Pines	0	0	0	0	0	0	68	111	0	0	0	0	0	0	0	0	0	0	177
Oak	0	0	0	0	0	0	0	0	0	0	0	0	62	7	0	0	0	0	69
Red Pine	0	0	0	0	0	0	16	0	0	31	0	26	0	0	0	0	0	0	73
Upland Mixed Forest	0	0	0	8	0	0	26	46	0	0	0	0	0	0	0	0	0	0	80
Upland Shrub	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Upland Spruce/Fir	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	12
Urban	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
Water	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
White Pine	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	8
Total	169	315	214	206	123	7	385	286	0	31	6	26	62	22	0	0	0	15	1863



Report 2 – Treatment Summary

Grayling Mgt. Unit

Year of Entry: 2024

Acres of Harvest

Compartment 3

Total Compartment Acres: 1,865

Commercial Harvest - 378
 Harvests with Site Condition - 0
 Next Step Harvest - 0
 Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	141	0	0	0	0	24	0	0	0	165
Herbaceous Openland	28	0	0	0	0	0	0	0	0	28
Jack Pine	20	0	0	0	0	0	0	0	0	20
Lowland Aspen/Balsam Poplar	18	0	0	0	0	0	0	0	0	18
Natural Mixed Pines	0	0	0	5	0	0	0	0	0	5
Oak	25	0	0	0	0	0	0	0	0	25
Red Pine	36	0	0	0	14	21	0	0	0	71
Upland Mixed Forest	47	0	0	0	0	0	0	0	0	47
Total	314	0	0	5	14	45	0	0	0	378

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	378	17	0	0	0	0	0	5	0	399
Next Step	0	189	98	0	10	389	421	0	19	1127
Total	378	206	98	0	10	389	421	0	24	1526



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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:

30	72003030-8- New	0.0	42220 - Natural Jack Pine	Sawtimber Medium	68	51-80	Unspecified	ERROR	Unspecified	No
<p><u>Prescription</u></p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u></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>										

Approved Treatments:

27	72003000-NF	2.2	3102 - Grass	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	3102 - Grass	No
<p><u>Prescription</u> Periodic opening maintenance, as needed, that may include disking, fertilizing, liming, food plot seeding, mowing, brushing, burning, tree and</p> <p><u>Specs:</u> shrub planting, herbicide application, and removal of invasive species.</p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u></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>										
2	72003002-4- New	9.7	42110 - Planted Red Pine	Sawtimber Medium	84	1-50	Harvest	Clearcut	4191 - Mixed Upland Deciduous with Conifer	Even-Aged No
<p><u>Prescription</u> Clear Cut this portion of stand with, Follow up treatments to maintain fuel break objective.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> SitePrep, Roller Chopping; NonForestMgt, Mowing; Burn, Fuel Break; NonForestMgt, Brush Cutting</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Maintained Fuel break.</p> <p><u>Regen:</u></p> <p><u>Other</u> Do Not use 50% Damage to regen spec. This was a planned fuel break where the treatment was not put into MiFi. Fuel Break Treatment</p> <p><u>Comment:</u> approved at Compartment review. Low stump spec. CC units with unmerchantable trees. Next step treatments for fuel break maintenance.</p> <p><u>Site Condition:</u></p> <p><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
2	72003002-Cut	21.4	42110 - Planted Red Pine	Sawtimber Medium	84	1-50	Harvest	Overstory Removal	4191 - Mixed Upland Deciduous with Conifer	Even-Aged	No
<p><u>Prescription</u> Overstory removal. Harvest all red pine to release MUD and conifers in understory. Use standard retention around wetland in center of stand.</p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Mixed upland deciduous with 30% oak and at least 10% conifer</p> <p><u>Regen:</u></p> <p><u>Other</u> use 50% Damage to regen spec. Skid trails are to be cleanly cut. Buffer wetland in stand center</p> <p><u>Comment:</u></p> <p><u>Site Condition:</u></p> <p><u>Proposed Start Date:</u> 10/1 /2023</p>											
3	72003003-Cut	7.6	42220 - Natural Jack Pine	Poletimber Medium	60	81-110	Harvest	Clearcut with Retention	4133 - Aspen, Mixed Pine	Even-Aged	No
<p><u>Prescription</u> Final Harvest clear cut 4" and up. leave tops. Use standard retention around some of the young oak and pine.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Intermediate)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Accept adequate stocking of any combination of mixed pine, aspen, oak and rm.</p> <p><u>Regen:</u></p> <p><u>Other</u> Drumming log spec</p> <p><u>Comment:</u></p> <p><u>Site Condition:</u></p> <p><u>Proposed Start Date:</u> 10/1 /2023</p>											
4	72003004-Cut	4.9	42290 - Natural Mixed Pine	Sawtimber Well	63	81-110	Harvest	Seed Tree	4319 - Mixed Upland Forest	Two-Aged	No
<p><u>Prescription</u> final harvest due to stand age. harvest all trees 2" and up except do not cut any oak, red pine, or white pine 20" or greater in diameter. No other retention due to stand size.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Intermediate)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Objective is a mixed upland forest however any combination of aspen, oak, rm, bf, wp, jp, and rp that meets stocking criteria will be accepted.</p> <p><u>Regen:</u></p> <p><u>Other</u> Final harvest is due to the proportion of BA the legacy trees present occupy and stands small size. A DBH of 20" or greater is used to help with windfirmness concerns.</p> <p><u>Comment:</u></p> <p><u>Site Condition:</u></p> <p><u>Proposed Start Date:</u> 10/1 /2023</p>											
5	72003005-Cut	24.2	4133 - Aspen, Mixed Pine	Poletimber Well	52	111-140	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	No
<p><u>Prescription</u> Final harvest, clear-cut 2". Leave tops to deter browse.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Intermediate)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Objective is a aspen stand meeting stocking criteria with minor components of oak and pine.</p> <p><u>Regen:</u></p> <p><u>Other</u> drumming log spec, shrub spec.</p> <p><u>Comment:</u> no chipping tops and limbs</p> <p><u>Site Condition:</u></p> <p><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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18	72003018-Cut	12.0	4131 - Aspen, Oak	Poletimber Well	55	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	No
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Prescription Final Harvest, clear-cut 2 inches and up to regenerate aspen. Use standard retention focusing on higher quality mature oak and oak regeneration

Specs:

Next Step Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable Objective is an aspen stand that meets stocking criteria.

Regen:

Other drumming log spec. shrub spec. potential Arch site spec. Trail Spec

Comment:

Site Condition:

Proposed Start Date: 10/1 /2023

19	72003019-Cut	22.3	4311 - Pine, Aspen Mix	Poletimber Well	62	81-110	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	No
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Prescription Clear Cut 2 inch and up with follow cultivation treatments for planted red pine. Buffer wetlands during set up.

Specs:

Next Step SitePrep, Roller Chopping; SitePrep, Trenching; Pesticide, Aerial - Site Prep; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); Pesticide, Skidder - Release; Pesticide, Skidder - Site Prep; Pesticide, Aerial - Release;

Treatments:

Acceptable fully stockedplanted red pine plantation.

Regen:

Other legacy spec, 6 inch stumps, slash spec or chipping required.

Comment:

Site Condition:

Proposed Start Date: 10/1 /2022

19	72003019-Cutx	24.7	4311 - Pine, Aspen Mix	Poletimber Well	62	81-110	Harvest	Clearcut with Retention	4136 - Aspen, Mixed Conifer	Even-Aged	No
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Prescription Cut 4" and up to retain established jp, wp, oak, and rp saplings. Pile tops for wildlife habitat and browse deterence.

Specs:

Next Step Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable aspen with mixed conifers and 10% oak

Regen:

Other Drumming log spec, protect regen as much as possible, legacy tree spec, rutting concerns in northern portion of stand. Shrub Spec

Comment:

Site Condition:

Proposed Start Date: 10/1 /2023

22	72003022-Cut	41.9	4133 - Aspen, Mixed Pine	Poletimber Well	50	51-80	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	No
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Prescription Final Harvest clear cut 2" and up. Do not chip, pile tops for wildlife habitat and to deter browse. Use standard retention.

Specs:

Next Step Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable objective is aspen stand meeting stocking requirements

Regen:

Other Split into 2 vdus at thin section near private. Protect witness trees near private. drumming log spec. Legacy spec. Shrub Spec. Trail Spec

Comment:

Site Condition:

Proposed Start Date: 10/1 /2023



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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
23 72003023-Cut	6.9	42220 - Natural Jack Pine	Poletimber Medium	56	51-80	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	No
<p><u>Prescription Specs:</u> Final Harvest Clear-cut 4 inches and up except do not cut oak red pine and white pine. Add drumming log spec, shrub spec, and special protection spec for apple trees and lilac bush. Pile tops to deter browse. Place retention around potential foundation unless archeology can confirm or deny if the site has any significance.</p> <p><u>Next Step Treatments:</u> Monitoring, Natural Regen (Intermediate)</p> <p><u>Acceptable Regen:</u> Objective is mixed upland forest however Acceptable regeneration is any combination of jp, rp, wp, rm, as, oak, and cherry that meets stocking criteria and has a oak component of at least 20%.</p> <p><u>Other Comment:</u> merch and up to preserve advanced regeneration on a poor site to help with expected regeneration challenges. Add drumming log spec. The access trail running east to west in the stand may need to have hauling restricted or be rerouted to protect the apple trees, lilac, and potential archeological site.</p> <p><u>Site Condition:</u></p> <p><u>Proposed Start Date:</u> 10/1 /2023</p>										
26 72003026-Prep	16.7	310 - Herbaceous Openland	Nonstocked	0	Unspecified	SitePrep	Roller Chopping	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription Specs:</u> Objective for stand was changed at comp review to planted red pine.</p> <p><u>Next Step Treatments:</u> SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant; Pesticide, Aerial - Site Prep; Pesticide, Aerial - Release; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); Pesticide, Skidder - Release</p> <p><u>Acceptable Regen:</u> fully stocked RP plantation.</p> <p><u>Other Comment:</u> 2 Aspen clones will likely need to be roller chopped and sprayed, otherwise stand is fairly clean. treat with 28, 30 and 34 after harvest.</p> <p><u>Site Condition:</u></p> <p><u>Proposed Start Date:</u> 10/1 /2023</p>										
28 72003028-Cut	26.0	42210 - Natural Red Pine	Sawtimber Poor	109	1-50	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription Specs:</u> Final Harvest clear-cut 2 inches and up. Use standard retention around the legacy pine. Try to expand harvest west into stand 30 as much as possible while still protecting vernal pools.</p> <p><u>Next Step Treatments:</u> Planting, Initial Plant; SitePrep, Roller Chopping; SitePrep, Trenching; Pesticide, Skidder - Site Prep; Pesticide, Aerial - Site Prep; Pesticide, Skidder - Release; Pesticide, Aerial - Release; Monitoring, Artificial Regen(1yr); Monitorin</p> <p><u>Acceptable Regen:</u> a fully stocked redpine plantation</p> <p><u>Other Comment:</u> legacy spec, low stump spec, slash spec, potential arch spec.</p> <p><u>Site Condition:</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>										
30 72003030-Cut	4.1	42220 - Natural Jack Pine	Sawtimber Medium	68	51-80	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription Specs:</u> Final harvest 2 inches and up. plant to red pine. follow BMP's to buffer vernal pools. Site prep and plant with stands 34, 28, and 26</p> <p><u>Next Step Treatments:</u> SitePrep, Roller Chopping; SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant; Pesticide, Skidder - Release; Pesticide, Aerial - Site Prep; Pesticide, Aerial - Release; Monitoring, Artificial Regen(1yr); Monitorin</p> <p><u>Acceptable Regen:</u> fully stocked planted red pine stand</p> <p><u>Other Comment:</u> 6 inch stumps, and slash spec.</p> <p><u>Site Condition:</u></p> <p><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
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30	72003030-Cutx	1.4	42220 - Natural Jack Pine	Sawtimber Medium	68	51-80	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	No
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Prescription Clear cut 2"+
Specs:

Next Step SitePrep, Roller Chopping; SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant
Treatments:

Acceptable Fully stocked planted red pine.
Regen:

Other Low Stump spec
Comment: Slash Spec

Site Condition:

Proposed Start Date: 10/1 /2022

34	72003034-Cut	27.7	3102 - Grass	Nonstocked		Unspecified	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	No
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Prescription Final harvest 2 inches and up.
Specs: Place retention around apple trees and potential archeological site (waiting to here back on status from archeology). Square up east boundary as much as topography allows with stand 42.

Next Step Monitoring, Artificial Regen(3yr); SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant; Monitoring, Artificial Regen(1yr);
Treatments: SitePrep, Roller Chopping; Pesticide, Skidder - Release; Pesticide, Aerial - Release; Pesti

Acceptable Fully stocked planted red pine stand.
Regen:

Other old stump pile in stand may need to be evaluated for feasibility of site prep. They may have to be burned.
Comment: Add 6 inch stumps, slash spec if not chipped, special protection area spec. Potential Arch Site spec

Site Condition:

Proposed Start Date: 10/1 /2022

47	72003047-NF	2.4	3102 - Grass	Nonstocked		Unspecified	NonForestMgt	Other - Specify	3102 - Grass		No
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Prescription Periodic opening maintenance, as needed, that may include disking, fertilizing, liming, food plot seeding, mowing, brushing, burning, tree and shrub planting, herbicide application, and removal of invasive species.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Site Condition:

Proposed Start Date: 10/1 /2023

65	72003065-Cut	24.0	4130 - Aspen	Sapling Medium	14	1-50	Harvest	Overstory Removal	4199 - Other Mixed Upland Deciduous	Even-Aged	No
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Prescription Remove declining overstory Oak and red maple releasing A-RM-O understory. Spec out that sale must be cut during dormancy.
Specs:

Next Step
Treatments:

Acceptable Mixed Upland Deciduous with 20% oak
Regen:

Other Protect regeneration as much as possible through damage spec and good sale admin. Operational trails are to be cut clean.
Comment:

Site Condition:

Proposed Start Date: 10/1 /2023



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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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69	72003069-Cut	24.7	4123 - Red Oak	Sawtimber Well	116	81-110	Harvest	Clearcut with Retention	4191 - Mixed Upland Deciduous with Conifer	Even-Aged	No
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Prescription Clear-cut with retention, final harvest all trees 2" and up, except do not cut any conifer. Leave all tops on site, instruct loggers to pile around oak stumps. Retention has already been identified in stands southeast. Add oak wilt spec, Add protection spec for legacy pine. Shrub Spec.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Objective is to regenerate as much oak as possible. Accept any combination of A-RM-Oak with red and white pine.

Regen:

Other Retention in southeast due to wet soils at the bottom of the slope. Species diversity picks up with xlog red and white pine, cedar, hard maple, and birch inclusions.

Site Condition:

Proposed Start Date: 10/1 /2023

80	72003080-Cut	12.9	4130 - Aspen	Poletimber Well	54	111-140	Harvest	Clearcut	413 - Aspen	Even-Aged	No
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Prescription Final Harvest cc 2" and up. In addition to not harvest live or dead legacy trees. No retention due to stand size.

Specs:

Next Step Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable Aspen meeting forested objectives with at least 10% oak

Regen:

Other Sale Conditions: legacy trees, drumming logs, damage to residual, dry or frozen due to hills, place stumps or slash on rdr hill climb, no operations in opening at bottom of kettle depression. Shrub Spec.

Site Condition:

Proposed Start Date: 10/1 /2023

81	72003081-Cut	49.6	4130 - Aspen	Poletimber Well	53	111-140	Harvest	Clearcut with Retention	4130 - Aspen	Even-Aged	No
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Prescription Fina Harvest cc 2" and up except do not cut any legacy Oak, Red Pine, and White Pine.

Specs: follow standard retention.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable an Aspen stand meeting stocking requirements

Regen:

Other legacy spec. Drumming log, Shrub Spec

Comment:

Site Condition:

Proposed Start Date: 10/1 /2023



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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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89	72003089.13_ Cut	13.8	42110 - Planted Red Pine	Sawtimber Well	58	201+	Harvest	Low Thinning	42110 - Planted Red Pine	Even-Aged	No
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Prescription Thin to 120 BA. Will largely be a low thinning, removing suppressed to intermediate stems first, and getting into the upper crown classes only as needed to reach the target residual. Mark other species for removal only as needed for operability. Clean up heavy leaners along the tornado-impacted edge.

Next Step
Treatments:

Acceptable
Regen:

Other Stand was row-thinned in 1994. The SW edge was hit by a tornado in 2007. Watch low ground inclusions (see stand comments). Old next
Comment: step comments: Intermediate cut; no follow-up treatment needed.

Site Condition:

Proposed Start Date: 10/1 /2013

98	72003098.12_ Cut	18.2	6112 - Lowland Aspen	Sawtimber Well	66	81-110	Harvest	Clearcut with Retention	6112 - Lowland Aspen	Even-Aged	No
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Prescription Harvest 2" & up except leave: the supercanopy WP & RP, the few NWC and elm, and leave retention through buffering the stream corridor.
Specs: Treatment boundary approximates that buffer.

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

Acceptable Includes aspen with mixed deciduous and conifer, and non-forested pockets with shrub cover.
Regen:

Other Terrain may require low ground pressure harvesting equipment and/or harvesting during dry summer or frozen winter conditions. Old next step
Comment: comments: Natural regen check. Acceptable regen includes aspen with mixed deciduous and conifer, and non-forested pockets with shrub cover

Site Condition:

Proposed Start Date: 10/1 /2013

Total Treatment 399.3
Acreage Proposed:

Report 4 – Site Conditions

Grayling Mgt. Unit
Garret Price : Examiner

Compartment: 3
Year of Entry: 2024

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions								
		With Condition	Not Available		5C	1A	1C	2G	2H	3J	3L	5E	
933	834	76	22	Aspen	76		1				7		14
8	0	0	8	Cedar		2		6					
50	49	0	1	Herbaceous Openland		0							1
87	80	0	7	Jack Pine						7			
14	14	0	0	Low-Density Trees									0
56	23	0	33	Lowland Aspen/Balsam Poplar		1		1	6	23			2
26	21	0	5	Lowland Conifers				4		1			
3	0	0	3	Lowland Deciduous						1			3
23	21	0	2	Lowland Mixed Forest		2							
50	50	0	0	Lowland Shrub						0			0
7	7	0	0	Lowland Spruce/Fir									
24	24	0	0	Marsh									
131	82	5	45	Mixed Upland Deciduous	5		40						4
178	123	48	8	Natural Mixed Pines	48					8			0
69	25	42	3	Oak	42								3
73	73	0	0	Red Pine						0			
80	80	0	0	Upland Mixed Forest		0				0			
5	5	0	0	Upland Shrub									
12	0	0	12	Upland Spruce/Fir		1				0	11		
25	22	0	3	Urban		3				0			
2	2	0	0	Water									
8	8	0	0	White Pine									
1,865	1,542	171	152	Total Forested Acres	171	9	42	11	6	46	11		26
	83%	9%	8%	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	2G: Too wet (sensitive soils, does not include access issues)	6	5A: Not able to obtain desirable regeneration	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Grayling Mgt. Unit
Garret Price : Examiner

Compartment: 3
Year of Entry: 2024

2	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	8	5C: Delay treatment for age/size class diversity or exceptional site quality	Unspecified	Unspecified	Unspecified
<p>Comments: Site condition is being carried forward from 2014 YOE. Legacy RP and WP make up a considerable portion of the BA and due to small acreage it is recommended that the stand be retained as a natural pine stand.</p> <p>2014 YOE Comments An intermittent stream crosses through this small stand. A portion of the BA that helped the stand hit silvicultural criteria is of such an age and stature that that supercanopy component would not be cut even if the stand was prescribed.</p>							
3	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	7	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
<p>Comments: Site condition carried forward from 2014 YOE (see old comments) Old Comments 2014 YOE This stand was hit by the 2007 tornado and salvaged in 2008, taking the overstory down to shelterwood-seed BA range. That overstory meets age criteria, as does all of the compartment's oak stands. The priority for treatment is on the oak stands that have not seen recent management, so defer treating this stand for now.</p>							
5	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Retention for stand 69</p>							
6	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	35	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: The oak was thinned in 2007. The overstory meets age criteria, as does all of the compartment's oak stands. The priority for treatment is on the oak stands that have not seen recent management, so defer treating this stand for now.</p>							

Report 4 – Site Conditions

Grayling Mgt. Unit
Garret Price : Examiner

Compartment: 3
Year of Entry: 2024

7	Unavailable	1A: Federal/State/Local Law	1	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
<p>Comments: Comments carried forward from 2014 YOE: Natural Rivers restricted cutting zone, 150 feet from the ordinary high water mark.</p>							
8	Unavailable	1A: Federal/State/Local Law	3	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
<p>Comments: Comments carried forward from 2014 YOE: Natural Rivers restricted cutting zone, 150 feet from the ordinary high water mark.</p>							
9	Unavailable	1A: Federal/State/Local Law	2	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
<p>Comments: Comments carried forward from 2014 YOE: Natural Rivers restricted cutting zone, 150 feet from the ordinary high water mark.</p>							
10	Unavailable	1A: Federal/State/Local Law	4	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
<p>Comments: Comments carried forward from 2014 YOE: Natural Rivers restricted cutting zone, 150 feet from the ordinary high water mark.</p>							
11	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Comments carried forward from 2014 YOE: Small low/wet area featuring sphagnum moss, black spruce, cedar, WP, and some RP.</p>							

Report 4 – Site Conditions

Grayling Mgt. Unit
Garret Price : Examiner

Compartment: 3
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12	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Comments carried forward from 2014 YOE: Retention for 720481501. South poly was sited where ground too steep for operations without causing erosion.							
13	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	7	5E: Long-Term Retention	Unspecified	Unspecified	Unspecified
Comments: Comments carried forward from 2014 YOE: Buffer left along year-round stream that empties into the AuSable River.							
14	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Comments carried forward from 2014 YOE: Retention for 720481501. The two NE polys were sited to buffer ephemeral wetlands. Old Stand Comments 2014 YOE: Stand harvest completed in Jan of 2020. Aspen regen starting to come up by August. Should have no trouble passing regen check after minimum height requirement met. Merch aspen, paper birch and marked oak were cut by 1969 (006-68). Partial harvest specs partially applied left significant residual. Stand has three main age classes: 43-year old aspen-RM-birch-oak that regenerated from the cut, and mature-overmature residual from the cut (aspen 50+ years old and oak 100+ years old). There are also scattered large cull RM and super-canopy RP & WP. High-end site for the aspen & oak.							
15	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	16	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments: Comments carried forward from 2014 YOE: Excluded from stand 56's harvest as either too wet or to buffer the marsh, low swales and drainages.							
16	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Comments carried forward from 2014 YOE: These two islands of stand 56 are cut off by lowland swales and drainages.							

Report 4 – Site Conditions

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17	Unavailable	5E: Long-Term Retention	3	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
<p>Comments: Comments carried forward from 2014 YOE: Retention sited to buffer streams, pond & wetland.</p>							
18	Unavailable	5E: Long-Term Retention	6	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
<p>Comments: Comments carried forward from 2014 YOE: Designated retention for stand 38's harvest (#006-19).</p>							
19	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	2	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Comments carried forward from 2014 YOE: These two islands of stand 56 are cut off by lowland swales and drainages.</p>							
20	Unavailable	5E: Long-Term Retention	2	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
<p>Comments: Comments carried forward from 2014 YOE: Designated retention for stand 56's harvest (#006-19).</p>							
21	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Comments carried forward from 2014 YOE: Retention left when adjacent stand 84 was harvested. T-sale 72-019-15-01.</p>							

Report 4 – Site Conditions

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22	Unavailable	1C: Other dept or div proc/practices	1	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: see locked comments</p>							
23	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Comments carried forward from 2014 YOE: Long-term retention islands left from T-sale 72-019-15-01 when adjacent stand 59 was harvested. Designated retention for stand 59's harvest (#019-15).</p>							
24	Unavailable	5E: Long-Term Retention	4	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Comments carried forward from 2014 YOE: Long-term retention islands left when adjacent stand 74 was cut under T-sale 72-019-15-01.</p>							
25	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	7	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Comments carried forward from 2014 YOE: Lowland edge and uplands fragmented by lowland swales. Excluded from stand 38's harvest but not designated as long-term retention.</p>							
26	Unavailable	1C: Other dept or div proc/practices	40	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: recommend disposal.</p>							
28	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	1	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments:</p>							

Report 4 – Site Conditions

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Year of Entry: 2024

29	Unavailable	3L: Other wildlife concerns	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Wildlife values observed in stand in February. Highly used by deer and hare based on scat, tracks, and bedding observed throughout stand.							
30	Unavailable	3L: Other wildlife concerns	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Wildlife values observed in stand in February. Highly used by deer and hare based on scat, tracks, and bedding observed throughout stand.							
31	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
32	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand 108 extended along Stand 12 due to similarity in cover type and for BMP reasons.							
33	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	29	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Main reason to postpone harvest is due to surrounding cover types/aspen age class distribution. Recreational trail present. Green up concerns due to harvest to the north.							
34	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	20	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand should hold another 10 helping distribute aspen age classes better across the compartment.							

Report 4 – Site Conditions

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35	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Hold 10 for age class distribution and stand should be harvested with stand 6 due to access.							
36	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	39	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Delay treatment due to spatial and temporal proximity to adjacent harvests along Miller road to break up age class distributions. Recent harvests have occurred to the north and multiple harvests are scheduled south of Miller road near this stand hold another 10 to help mitigate green up concerns as well.							
37	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	27	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
38	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Harvest with Stands 83 or 86							
39	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments: site condition carried forward due to wetlands in stand.Old Comments 2014 YOEPortions of the JP stand's north and south polygons that did not have wetlands to buffer were prescribed for treatment with adjacent stands. The remaining portions are within this Site Condition polygon and have either wetland influence or low volume/quality due to upland opening influence.							

Mgt. Unit

Compartment: #Type!

Year of Entry:



Report 5 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

SCA Name	SCA Category	Detail Type	Recommendation	Acres
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Comments



Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

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

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

Conservation Area	Type	Description
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																																	
1	6223 - Inundated Shrub Swamp	Nonstocked	1.8			No	willow and sedge with pockets of open water. some tag alder and rushesold comments 2014 yoeThick sphagnum floor in stand.																																																																	
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2	42110 - Planted Red Pine	Sawtimber Medium	31.1	84	1-50	N/A	old comments confirmed. I would like to see 90% of pine removed to release regen at this point. 5 to 10ft jp wp and rp saps in pockets under hrdwood regen. 30 to 40 ba on avg. more maple regen near wetland edge otherwise stand is 70% oak with cherry and aspen pockets. focus retention around wetland in center.																																																																	
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3	42220 - Natural Jack Pine	Poletimber Medium	7.6	60	81-110	N/A	old comments confirmed. Older aspen and jp are in rough shape with many dead or dying, wp variable in size with large low limbs. older oak showing signs of decline. high cherry shrub regen.																																																																	
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4	42290 - Natural Mixed Pine	Sawtimber Well	4.9	63	81-110	N/A	old comments confirmed, pocket of dead super canopy rp in E finger. aspen and jp and pb showing individual mortality or senescence.																																																																	
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Canopy Species	% Cover	Size Class	DBH	Age																																																																				
Jack Pine	3	Log/Pole	11																																																																					
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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5	4133 - Aspen, Mixed Pine	Poletimber Well	24.2	52	111-140	N/A	older aspen and jp are in rough shape, wp variable in size with poor form or quality. older oak showing signs of decline. high cherry shrub regen.		
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
	White Pine	15	Log/Pole	10	60	White Pine	Low	Variable	Sapling
	Red Pine	4	Log/Pole	12		Black Cherry	Low	Variable	Tall Shrub
	Jack Pine	3	Pole/Log	9		Serviceberry (Juneberry)	Low	10 - 20 feet	Tall Shrub
	Red Maple	3	Log/Pole	12		Choke Cherry	Low	5 - 10 feet	Tall Shrub
	Bigtooth Aspen	25	Pole/Log	9	51	Balsam Fir	Low	Variable	Sapling
	Northern Pin Oak	8	Log	14					
	Balsam Fir	2	Pole	7					
	Quaking Aspen	40	Pole	8	52				

6	4133 - Aspen, Mixed Pine	Poletimber Well	20.0	51	111-140	N/A	old comments confirmed. southern portion of the western polygon is much wetter than the stand as a whole. legacy rp scattered. rp mostly log 14 inch avg with some poles. wp variable from sap to 17 inch log size. aspen 7 to 8 inch average, could hold 10.		
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
	Red Pine	15	Log/Pole	13	65	White Pine	Low	Variable	Sapling
	Jack Pine	3	Pole/Log	8		Black Cherry	Low	Variable	Tall Shrub
	Black Cherry	2	Pole	6					
	Quaking Aspen	20	Pole	8	50				
	Bigtooth Aspen	40	Pole	8	51				
	Balsam Fir	3	Pole	6					
	Northern Pin Oak	2	Log/Pole	12					
	White Pine	15	Pole/Log	10					

7	42290 - Natural Mixed Pine	Sawtimber Well	9.7	65	111-140	N/A	old comments confirmed. natural stand with some 2-aged or uneven aged components but not at a high enough percent to meet criteria for either. more rp to the north and wp to the south. aspen and bf are mostly overmature log with scattered pockets of poles. oak and rm no more than 10 percent. oak and rm primarily poles, but scattered log sized stems throughout. oak has poor form and low branching crowns in openings. legacy rp and wp. oak cherry jp wp and bf various size saps establishing in previous openings. Some low ground interface to the south and west of stand. Older jp is falling out of stand		
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
	Jack Pine	17	Pole/Log	8	50	Northern Pin Oak	Low	Variable	Sapling
	Red Pine	30	Log/Pole	15	65	Balsam Fir	Low	Variable	Sapling
	Balsam Fir	10	Pole	7		Jack Pine	Low	Variable	Sapling
	Bigtooth Aspen	5	Log/Pole	11		Red Pine	Low	Variable	Sapling
	Northern Pin Oak	5	Log/Pole	12		Black Cherry	Low	Variable	Tall Shrub
	Red Maple	3	Pole/Log	8		White Pine	Low	Variable	Sapling
	White Pine	30	Log/Pole	14					

old comments 2014 yoe
Dry mixed pine valley stand dividing an aspen stand. Canopy is two-layered, with RP & WP saw/poles over JP poles. Mixed in are poor-quality oak, occasional xlog RP and JP saw, and traces of RM, aspen and balsam fir. The cover is patchy, with open-grown form in the JP & WP where the stocking is lower. There is some overmature XJP, but most of it is immature.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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8	3303 - Mixed Low Density Trees	Nonstocked	13.6	0	Immature	6117 - Lowland Deciduous, Mixed Coniferous	4-20-22
							East polygon has almost no regeneration except for the rm and aspen at the NE tip. Heavy browsing on almost all stems. one oak and a couple rm stump sprouts interior are still alive but have not recruited. A handful of interior balsam fir seedlings are browsed but living as well.
							western poly is only slightly better but still does not meet stocking. low cherry and trace bf, ws, and aspen
							old comments 2014 YOE
							Stand cut under timber sale "Stalagmite Miner" (72-006-15) in October 2018.
							On transition ground sideslope between the uplands and lowlands; PARVCo overall. Generally large cull RM with WP and minor lowland deciduous/conifer components. Scattered above are supercanopy WP & RP. The subcanopy is balsam fir-dominated. The stand boundary includes pockets heavy to large pole/small saw WP and also incorporates a sub-acre pocket of NWC at the stream headwaters. The stand's south peninsula was a narrow strip excluded from the adjacent 1996 harvest as a buffer along the stream and pond. SW OFS point is a small intermittent wetland.

Sub-Canopy Species	Density	Avg. Height	Size
Cherry (spp.)	Low	Variable	Sapling
Balsam Fir	Trace	< 5 feet	Sapling
Bigtooth Aspen	Trace	5 - 10 feet	Sapling
White Spruce	Trace	< 5 feet	Sapling

9	6128 - Lowland Coniferous, Mixed Deciduous	Sapling Poor	6.0	16	Immature	N/A	4/20/22
							live cedar at NE otherwise most other cedar looks dead. old comments confirmed. some spruce as well.
							Old comments 2014 YOE:
							Beaver meadow, terraced with old dams. Narrow stream flows through, more or less unimpeded now. NWC snags at the north end. Cover heavy to rubus, with patches of tag alder and salix. WP, BF & PB colonizing from edges.

Canopy Species	% Cover	Size Class	DBH	Age
Balsam Fir	35	Sapling	2	16
Paper Birch	20	Sapling	2	
Northern White Cedar	5	Log/Pole	10	
White Spruce	10	Sapling	2	

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Medium	5 - 10 feet	Tall Shrub
Willow spp.	Medium	5 - 10 feet	Sapling

10	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	58.4	26	Immature	N/A	Old comments confirmed. JP density is variable. Open areas have primarily filled in with NPO and Cherry with a few scattered aspen clones. Old Comments 2014 YOES stand was seeded in 1996 (C72-385) after being cut 2" & up (010-94), Has achieved full stocking. JP is growing well. A fair amount of oak growing up alongside the JP. Some super canopy red pine left when cut. Some dense pockets of aspen, fairly small in size.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	5	Sapling	2	26
Northern Pin Oak	10	Sapling/Pole	4	26
Red Pine	5	Log	12	
Black Cherry	10	Sapling	3	26

11	6220 - Alder/willow	Nonstocked	1.7		Unspecified	No	Old comments confirmed. Low narrow intermittant drainage/seep between Stands 11 and 14. Old Comments 2014 YOE Tall tag alder with black spruce, balsam fir, paper birch, etc. scattered along the margins.
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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12	500 - Water	Nonstocked	2.0		Unspecified	No	Old Comments Confirmed Old Comments 2014 YOY Open water surrounded by bullrush, marsh grass, small patches of cattail. Prickly ash on perimeter.
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13	6220 - Alder/willow	Nonstocked	4.7		Unspecified	No	Old comments confirmed. Low narrow intermittent drainage/seep between Stands 11 and 14. Old Comments 2014 YOY Tall tag alder with salix, some leatherleaf, and occasional aspen, paper birch & balsam fir. An intermittent drain originates in the stand and flows ENE.
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14	6130 - Fir, Aspen, Maple	Poletimber Well	12.7	37	51-80	N/A	old comments confirmed. crater noles and hummocks with low ground interface and high water table throughout most of stand a couple legacy super canopy wp observed.
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Canopy Species	% Cover	Size Class	DBH	Age
Balsam Fir	12	Pole/Sapling	5	
Black Spruce	5	Pole/Sap/Log	5	
White Pine	22	Log/Pole/XLog	12	
Red Pine	2	Log	14	
Red Maple	24	Pole/Sapling	7	
Quaking Aspen	35	Pole	6	37

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	Variable	Sapling
White Pine	Low	Variable	Sapling
Balsam Fir	Low	Variable	Sapling
Black Cherry	Low	Variable	Sapling

old comments 2014 yoe
Was cut 4" & up in 1985 (097-84). That spec left a fair amount of residual across all species. Varying levels of residual competition made for variable aspen clone development, with a good portion of the aspen regen from the cut still sapling-sized, but some more fully transitioned into the pole class. OFS in the NW is a tree bog inclusion where most of the black spruce occurs. Other OFS is a tag alder inclusion. The stand has bands of dry ground, particularly to the south, but it was typed as lowland overall due to its significant lowland brush stand interface, wetland inclusions and predominantly PARVCo site. A seasonal drainage cuts through the stand's east center.

15	42290 - Natural Mixed Pine	Sawtimber Well	7.6	63	111-140	N/A	old comments spot on. drainage and west has more rm sap/poles now. throughout stand rm about 20ft is filling in canopy gaps with sapling wp underneath. scattered variable sap bf closer to drainage. RP and wp log/pole diameter dropped down artificially to 9 inches to represent second age rp, and wp component in stand due to MiFi size class rules AVG dbh in this class is 13"and 12" respectively. Aspen are declining with breaking tops and visible rot.
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Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	4	Pole/Sap/Log	6	
Quaking Aspen	5	Log/Pole	10	
Bigtooth Aspen	3	Log	12	
Northern Pin Oak	3	Pole/Log/XLog	14	
White Pine	45	Pole	9	63
White Pine	10	XLog	26	
Red Pine	10	XLog	22	125
Red Pine	20	Pole	9	

Sub-Canopy Species	Density	Avg. Height	Size
Hawthorn (spp.)	Low	5 - 10 feet	Tall Shrub
Red Maple	Low	Variable	Sapling
White Pine	Low	5 - 10 feet	Sapling

old comments 2024 yoe
Two-aged mixed pine stand with wide divergence in age classes. The main canopy is large pole/small saw WP (with RP) in its early 50's, and above that is a significant supercanopy layer of xlog WP & RP 110+ years old. Poor quality oak and aspen are mixed in at low densities, and RM and a trace of American elm occur in the floodplain of a seasonal drain that cuts through the stand. The stand is upland overall, but grades down onto PARVCo to the west along the drainage, where most of the supercanopy pine is located. There is little understory shrub development except for hawthorn along the drainage corridor.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments		
16	42290 - Natural Mixed Pine	Sawtimber Well	38.5	53	111-140	N/A	4-20-22 old comments confirmed. Difficult stand to make a management decision. Regeneration in subcanopy is low with most representation in mixed oak and cherry. scattered white pine balsam fir and red pine. 50% of stand has enough aspen to recruit to moderately stocked if cc however areas lacking pine ar likely to be bare. stand density and composition variable. oak 30 to 50 percent mortality in east 1/3rd. Old comments 2014 YOE Mixed pine stand, heavy to large pole/small saw WP & RP, both running 40-60 years old, with a trace of older xlog stems. Aspen occurs in two sub-acre pockets and at low densities elsewhere. Poor quality mixed oak is scattered throughout, along with small amounts of RM, balsam fir and JP. Second stand age is also on the WP. WP SI 58.		
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir		2	Pole	7		Black/Red (Hybrid) Oak	Trace	5 - 10 feet	Sapling
White Pine		45	Pole/Log/Sap	11	53	Black Cherry	Low	Variable	Tall Shrub
Red Pine		30	Log/Pole	13	73	Beech	Trace	5 - 10 feet	Sapling
Quaking Aspen		8	Pole/Log	8		Red Maple	Low	Variable	Sapling
Jack Pine		2	Pole	7		Balsam Fir	Low	Variable	Sapling
Bigtooth Aspen		5	Pole/Log	9		White Pine	Low	Variable	Sapling
Northern Pin Oak		8	Log/Pole	12					
17	6123 - Lowland Fir	Poletimber Medium	6.5	47	51-80	N/A	Tag alder inclusions with undulating ridges of primarily balsam fir to the west near lowland type. Small amount of old cedar present near private in the north. Balsam fir, bam, quaking, and spruce should be cut. Leave the few large diameter white pine and add legacy spec for white pine. Cut with stand 19 and 22. Frozen or dry ground required, ridges should be operable. Old Comments: Balsam fir and spruce growing on lowlands and drier transition ground to the uplands. There had been more aspen, but it was mostly taken out by beaver in the past (slash accumulation from that activity). There is a small pocket of NWC by the private line, rimmed with old beaver dams and with a seasonal drain. Aside from the cedar, the stand is relatively young.		
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Quaking Aspen		5	Pole	8		Balsam Fir	Medium	Variable	Sapling
Balsam Fir		65	Pole/Sapling	6	47	Tag Alder	Medium	5 - 10 feet	Tall Shrub
Northern White Cedar		6	Log/Pole	11					
Balsam Poplar		4	Log/Pole	10					
Black Spruce		20	Pole/Sapling	7					
18	4131 - Aspen, Oak	Poletimber Well	12.0	55	81-110	N/A	Somewhat variable stand of decent quality aspen. Cut with stand 23 to the East if no Archeological concerns. Old Comments 2014 YOE BTA with a significant poor-quality NPO component, and mixed pine & RM associates. Cover between the clones is primarily oak, RP, WP & RM. Clone development is variable; most are pole-sized, but there are some small saw and some sapling-sized.		
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple		5	Log/Pole	13		Red Maple	Medium	Variable	Sapling
Bigtooth Aspen		58	Pole	7	55	Balsam Fir	Low	Variable	Sapling
Northern Pin Oak		20	Log/Pole	14		White Pine	Low	Variable	Sapling
Balsam Fir		2	Pole	7		Red Pine	Low	Variable	Sapling
White Pine		5	Log/Pole	13		Black Cherry	Low	Variable	Tall Shrub
Red Pine		10	Log/Pole	14					



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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19	4311 - Pine, Aspen Mix	Poletimber Well	46.3	62	81-110	N/A	<p>Pre-review updates changed for southern treatment following field visit update (7/18/22) Greco, Fate, Price, Kubitskey, Pike - Southern treatment cut 2 inches and up only retain legacy trees. same treatment and follow up as stand 28</p> <p>pre-review - change northern treatment to 4 inches and up do not cut oak red pine and white pine</p> <p>Old comments confirmed. aspen to the northeast is declining, in pockets likely due to considerable lowland interface (alder and spruce). Throughout the stand pockets of jp and aspen are showing signs of decline. The southern portion of the stand is well stocked with a mix of wp or rp poles with white pine logs 18+ inches and legacy rp common. Overall species composition listed show extremely variable representation across the stand ranging from 0 to 100% patches. in addition sapling oak and cherry can be found scattered throughout stand openings</p> <p>old comments 2014 YOE Mixed pine stand with significant aspen components. Variable disturbance history: marked RP & WP saw were removed in three small patches in the mid 1980's (086-84), and old fire plow lines criss-cross through the stand. The cover changes every couple of chains; is an alternating mosaic of either dense pine or aspen pockets with more mixed species distribution in between. Roughly two-thirds of the cover is WP-RP-JP and one-third is QA-BTA. There are minor amounts of poor quality oak, RM, balsam fir & black cherry, and a trace of black spruce along the lowland brush stand edge. Most of the aspen, RP & WP cover is around 50 years old, with minor overmature components. Most of the JP is in its early 40's, but there is also an overmature component 80+ years old. The stand is near the low end of 75-100% cover after averaging in the poorer-stocked matrix in between dense pockets. Tag alder wetland inclusion in the NE (OFS point). QA SI 68.</p>
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Canopy Species	% Cover	Size Class	DBH	Age
Northern Pin Oak	3	Log/Pole	12	
Quaking Aspen	25	Pole/Log	8	62
White Pine	22	Log/Pole/XLog	10	95
Red Pine	20	Log/Pole/XLog	12	58
Red Maple	5	Pole/Log	8	
Jack Pine	15	Pole/Log	9	51
Bigtooth Aspen	10	Pole/Log	8	

Sub-Canopy Species	Density	Avg. Height	Size
Paper Birch	Low	Variable	Sapling
Jack Pine	Low	Variable	Sapling
Red Maple	Low	Variable	Sapling
White Pine	Low	Variable	Sapling
Northern Pin Oak	Low	Variable	Sapling
Black Cherry	Low	Variable	Tall Shrub
Balsam Fir	Low	Variable	Sapling
Black Spruce	Low	Variable	Sapling

20	4191 - Mixed Upland Deciduous with Conifer	Sapling Medium	6.8	26	Immature	N/A	<p>Aspen clones about twice the height of the surrounding NPO-JP-Cherry regen. Few RM, WP, RP. Most open areas filled in with mix of npo-jp-cherry-maple.</p> <p>Old Comments: Was cut 2" & up in 1996 (010-94). Stand is regenerating nicely. Has some areas that are somewhat open. Aspen is coming in around stand edges. Oak is growing very well. Lots of decent jack pine mixed throughout.</p>
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Canopy Species	% Cover	Size Class	DBH	Age
White Pine	5	Sapling	4	
Northern Pin Oak	30	Sapling	4	26
Red Pine	5	Sapling	4	
Jack Pine	15	Sapling	3	
Black Cherry	15	Sapling	3	26
Red Maple	5	Sapling	3	



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																																
21	42290 - Natural Mixed Pine	Poletimber Medium	22.5	51	51-80	N/A	4-20-22 BA widely variable. well established oak and cherry regen. jp poor form and limby with most areas displaying open grown characteristics in the east. some flagging and mortality present in jp. scattered super canopy rp and wp short for diameter (12-20"). locally high balsam fir regen blankets to the west. about 1 ac red pine stand east of NE private corner. larger declining hybrid oak along north boundary. Old comments 2014 YOE Drier pine site than the WP-RP stand to the north. Cover is predominantly JP with a RP component. The stand is patchier, including alot of small openings with black cherry and oak regen, and three sub-acre QA clones. Poor quality mixed oak and balsam fir are scattered throughout. There is a minor component of overmature JP (mostly near Youngs Road) but the JP is generally in its early 40's. JP SI 49.																																																																
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22	4133 - Aspen, Mixed Pine	Poletimber Well	41.9	50	51-80	N/A	Poor quality mixed stand to the south. Aspen is declining in areas in the south portion Small canopy gaps have suppressed aspen saplings. Balsam fir saplings and poles, low to moderate density scattered throughout. Jack pine poor form and largely declining. For the southern portion of the stand, To the north aspen quality far better in north 10 to 12" diameter on average. Many stems 12 to 14. Scattered large WP, RP and Oak. Both private corners are present to the West but GPS data was lost due to an uploading error. Old Comments 2014 YOE: Aspen is approximately 40 years old, fair quality. Oak is small and suppressed. Small balsam component. Not much in the understory. Aspen seems to be concentrated in clumps.																																																																
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23	42220 - Natural Jack Pine	Poletimber Medium	6.9	56	51-80	N/A	4/20/2022 Old comments confirmed understory developing well primarily npo and wp with some jp bf cherry and rp recruiting. check for arch hit. scattered individual and pocket jp mortality or flagging. lilac by youngs rd. 2 old apple trees on north side of 2 track/trail old comments 2014 YOE Patchy JP stand that's been filling in an upland opening. Dense pockets have decent form, but the rest is open grown and limby. Occasional RP, NPO, WP & malus. Good oak recruitment in the subcanopy. Three sub-acre grassy opening inclusions.																																																																
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24	6220 - Alder/willow	Nonstocked	5.8		Unspecified	No	Old comments Confirmed. Old Comments 2014 YOE Tall tag alder and salix.																																																																



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																			
25	4130 - Aspen	Sapling Medium	17.4	3	Immature	N/A	<p>Stand is regenerating well with some areas not yet free to grow. By next YOE stand should be close to 100% canopy closure as additional stems recruit.</p> <p>Old Comment Behrmen Stand was cut under sale "Stalagmite Miner" (72-006-15) in Nov. 2018. Aspen is coming back well, with red maple and mixed conifers.</p> <p>Old Comments 2014 YOE QA & BTA with a deep list of minor mixed conifer and deciduous associates. The aspen is generally pole-sized and in the mid-40's, with a minority of stems either large sapling or overmature saw in size. The JP is very overmature. Large cull RM and a trace of black spruce occur near the L-type stand. OFS points along the county road are small wetlands. The xlog RP is concentrated in the SW near the county road intersection. The stand is upland overall, but has some PArVCo inclusions adjacent to the lowland brush stand and wetland inclusions.</p>																																			
<table border="1"> <thead> <tr> <th>Canopy Species</th> <th>% Cover</th> <th>Size Class</th> <th>DBH</th> <th>Age</th> </tr> </thead> <tbody> <tr> <td>Black/Red (Hybrid) Oak</td> <td>5</td> <td>Sapling</td> <td>1</td> <td></td> </tr> <tr> <td>Choke Cherry</td> <td>5</td> <td>Sapling</td> <td>1</td> <td></td> </tr> <tr> <td>Red Pine</td> <td>10</td> <td>XLog/Log</td> <td>18</td> <td>115</td> </tr> <tr> <td>Bigtooth Aspen</td> <td>50</td> <td>Sapling</td> <td>1</td> <td>3</td> </tr> <tr> <td>Quaking Aspen</td> <td>15</td> <td>Sapling</td> <td>1</td> <td>3</td> </tr> <tr> <td>Red Maple</td> <td>15</td> <td>Sapling</td> <td>1</td> <td></td> </tr> </tbody> </table>								Canopy Species	% Cover	Size Class	DBH	Age	Black/Red (Hybrid) Oak	5	Sapling	1		Choke Cherry	5	Sapling	1		Red Pine	10	XLog/Log	18	115	Bigtooth Aspen	50	Sapling	1	3	Quaking Aspen	15	Sapling	1	3	Red Maple	15	Sapling	1	
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Red Maple	15	Sapling	1																																							
26	310 - Herbaceous Openland	Nonstocked	16.7	0	Unspecified	4222 - Natural Jack Pine	<p>Jan 31 2022</p> <p>Stand should be revisited in snow off to evaluate jp regen jp is patchy 6 to 12 inches. 2 aspen clones to the north and south of retention. Somewhat evenly scattered oak stump sprouts heavily browsed with most under 4' tall, approx 10% of Stocking.</p> <p>Update 3/22/22: JP regeneration is present but largely low to trace density, with the exception of a handful of higher density pockets near south end along trail. a handful of WP and RP seeding into the western boundary but otherwise absent. Majority of pine seedlings under 1' tall. Cherry and oak heavily browsed. use compartment review to determine follow up treatment.</p> <p>Old Comments: Stand cut under timber sale "Stalagmite Miner" (72-006-15) in October 2018.</p> <p>JP pole cover in its late 40's to mid 50's, with minor overmature saw. RP & WP mixed in at low densities along with scattered NPO and two sub-acre QA clones. Traces of BTA along the north edge. The mixed oak is poor quality, but it has established nice 5 to 20-foot tall saplings in the subcanopy. JP SI 57.</p>																																			
27	3102 - Grass	Nonstocked	2.2		Unspecified	No	Maintained Wildlife Opening																																			



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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28 42210 - Natural Red Pine Sawtimber Poor 26.0 109 1-50 N/A Jan 31 2022

Canopy Species	% Cover	Size Class	DBH	Age
White Pine	20	Log/Pole/XLog	12	
Red Pine	80	Log/Pole	14	109

Sub-Canopy Species	Density	Avg. Height	Size
Northern Pin Oak	Low	Variable	Sapling
White Pine	Low	Variable	Sapling
Red Pine	Low	Variable	Sapling

Return to stand in snow off condition to evaluate rp eecruitment. some tops poking out of 8 inches of snow. Oak stump sprouts throughout stand 10 to 15%.
Update 3/22/22: RP/WP/JP/Oak natural regen objective fails. most of stand has no understory development.

Old Comments
Stand cut under timber sale "Stalagmite Miner" (722-006-15) in September 2018. All jack pine removed, white pine left and red pine marked to leave.

RP-dominated stand with WP and a minor JP component. Variable disturbance history: marked sawtimber (mostly RP, some WP) were removed in the mid 1980's (086-84), and old fire plow lines cross through the stand. Overstory cover is variable, averaging 50-75%. The stand may be approaching multi-storied status. RP saw cored ranged from 60-88-110-122 years; the middle two being averaged and stated as the stand's first age. The younger RP (60 years) and WP (59 years) were listed as the second age. The later core (122 years) was on the xlog RP and was not averaged into either age. The 80+ year old RP, even though it does not have heavy competition, has entered its slow growth phase, with a portion of that cohort barely maintaining (crowns taking on a thin, tufted appearance). The up-and-coming components are the younger canopy WP & RP and the subcanopy WP, NPO and RP. Light lower branch flagging in the WP. RP SI 60.

29 4130 - Aspen Sapling Well 48.7 16 Immature N/A

Canopy Species	% Cover	Size Class	DBH	Age
Black Cherry	5	Sapling	1	
Jack Pine	1	Sapling	1	
Red Pine	1	Sapling	1	
Red Maple	15	Sapling	2	16
Northern Pin Oak	10	Sapling	2	16
Bigtooth Aspen	63	Sapling	1	16
White Pine	5	Sapling	3	

Aspen and 20% rm 10% oak primarily; with understory oak, jp, wp, and few rp scattered throughout especially along old skid trails. Some oak competitive with maple and aspen.

Old Comments:
Fully stocked stand of aspen regen. ORV trail passes through. Seems to be growing very well. Oak regen is keeping up with aspen very easily. Was cut 2" & up in 2006 (ost. 72-032-04-01).



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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30	42220 - Natural Jack Pine	Sawtimber Medium	13.9	68	51-80	N/A	old comments confirmed. Jack pine is 2 aged (see old comments) with some individual mortality and flagging in the older age class around the wetlands. See treatment notes.
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Canopy Species	% Cover	Size Class	DBH	Age
Jack Pine	85	Log/Pole	10	68
White Pine	3	Log/Pole	10	
Northern Pin Oak	2	Pole/Log	9	
Black Spruce	3	Pole/Sapling	7	
Red Pine	7	Log	15	

Sub-Canopy Species	Density	Avg. Height	Size
Black Cherry	Medium	Variable	Tall Shrub
Tag Alder	Low	10 - 20 feet	Tall Shrub
Willow spp.	Low	5 - 10 feet	Tall Shrub
White Oak	Low	Variable	Sapling
Northern Pin Oak	Medium	Variable	Sapling
Black Spruce	Low	Variable	Sapling

old comments 2014 yoe
Fragmented JP stand that wraps around half a dozen wetland inclusions (OFS points) and has been colonizing adjacent upland openings. Most of the older JP (first age) is in dense swaths bordering the wetlands. The younger JP (second age) is adjacent to the upland openings and tends to be open grown and limby. The JP is categorized as log overall due to meeting the 30% canopy benchmark in log-diameter stems, but it is pulpwood overall due to poor form. The stand's south polygon contains no wetland inclusions. Excluding the wetlands in the other two polygons, the JP is on upland -- albeit close to the water table -- ground. The lowland shrub cover recorded in the subcanopy is only found in the OFS wetlands. See also locked OFS

31	42290 - Natural Mixed Pine	Sawtimber Well	6.2	58	51-80	N/A	Jackpine is largely declining or dead in the north. Oak is poorer quality here than stand 33 to the east. Mostly black/hybrid or NPO ranging from overmature to sapling. Failing jack pine. More WP and RP present than in the east. Steep slope down to A3 in the West. Second generation RP and WP stems overtopped or sweeping growth pattern toward light.
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Canopy Species	% Cover	Size Class	DBH	Age
Bigtooth Aspen	10	Pole	8	
White Pine	15	Log	15	
Red Pine	40	Log/Pole	13	58
Jack Pine	20	Pole	8	64
Black/Red (Hybrid) Oak	15	Pole/Sap/Log	6	

Sub-Canopy Species	Density	Avg. Height	Size
Black/Red (Hybrid) Oak	Low	Variable	Sapling
White Pine	Low	Variable	Sapling
Red Pine	Low	Variable	Sapling

Old comments:
Sidehill stand of RP, JP & WP with mixed oak and scattered BTA. The mixed oak includes a nice large sapling/small pole component in addition to the older saw. The pine is running 50 to 60 years old, with the stand's first and second ages both on the RP.

32	110 - Low Intensity Urban	Nonstocked	3.3		Unspecified	No	Kneeland road and Cleared Easement Old comments 2014 YOE Cleared county road corridor.
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33	4139 - Aspen, Mixed Deciduous	Poletimber Well	27.2	51	81-110	N/A	Legacy red pine and white pine mostly concentrated in center third. More mature aspen in the north and south thirds than the middle where there are mostly medium pole rm stump sprouts mixed in with the larger higher quality oaks, young high quality oak regeneration, and the larger rp and wp. Jack pine and npo or black oak in the west. Little aspen in the oak and maple regen under the supercanopy rp and wp. Should cut rm and aspen out and the younger pine to maintain vigor on younger oak stems in this area. Add legacy spec. Mark to leave the scattered large NRO (20"+) and legacy RP and WP The young 50 yo NRO 20-40BA should be left in this stand along with legacy 20"+ scattered older conifer. Old comments: Stand is mostly aspen. Looks like large oak was left when cut. Aspen is fair quality, solid in middle. Not much coming up in understory at this point.
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Canopy Species	% Cover	Size Class	DBH	Age
Bigtooth Aspen	55	Pole/Log	8	51
Black/Red (Hybrid) Oak	15	Log	12	
White Pine	5	Pole/Log/XLog	8	
Red Pine	5	Log/XLog/Pole	16	
Red Maple	20	Pole/Sapling	5	



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments									
34	3102 - Grass	Nonstocked	16.9		Unspecified	No	<p>Old comments confirmed apple trees are present in the center of stand along with lilac shrubs. JP, oak, and cherry is continuing to fill in. ORV damage is still occurring despite efforts to block off access (see old comments)</p> <p>Old comments 2014 YOE Large upland opening that has been filling in from the edges with JP, oak and cherry. Stumps were stockpiled within the opening and were also used for berms along the county road to limit ORV access. Some of the illegal trails have re-vegetated but several hot-lap tracks are being maintained open through on-going quad activity. See locked OFS for concerns.</p>									
								Sub-Canopy Species	Density	Avg. Height	Size					
								Jack Pine	Low		Pole					
								Black Cherry	Low		Pole					
								Northern Pin Oak	Low		Log					
								Black Cherry	Low		Tall Shrub					
								Balsam Poplar	Low		Pole					
Apple (spp.)	Trace															
35	6220 - Alder/willow	Nonstocked	3.5			No	<p>February 25th 2022 Add trace oak. In addition white spruce black spruce Cherry Red Maple Tall tag alder, wild raisin at margins, scattered aspen, PB, etc.</p>									
36	6122 - Black Spruce	Poletimber Poor	5.5	55	1-50	N/A	<p>2-24-22 Super canopy wp are scattered along transition along with red oak and cherry and jack pine saplings and ples. tag alder pockets interior.</p> <p>Old comments 2014 YOE Tall spindly black spruce with some tamarack. Sphagnum covered root lattice over black muck soils. Slash from root-tipping. The densest and younger spruce cover (first age) is on the transition ground to the uplands. The mature spruce (second age) is on the stand's lowest ground, parts of which barely make the forested benchmark and are heavy to tag alder. There are two sub-acre upland inclusions along the private boundary: the east is non-forested and the west has aspen & RM.</p>									
								Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
								Red Maple	5	Pole/Sap/Log	6		Balsam Fir	Low	Variable	Sapling
								Paper Birch	2	Pole/Sap/Log	7		Black Spruce	Low	Variable	Sapling
								Black Spruce	73	Pole/Sapling	7	55	Tag Alder	High	Variable	Tall Shrub
								Quaking Aspen	5	Pole/Log	7		Wild Raisin	Low	5 - 10 feet	Tall Shrub
								Tamarack	15	Pole/Log/Sap	9	98				
37	6220 - Alder/willow	Nonstocked	1.1			No	<p>February 24 20 22 Take alder white Birch balsam Fur black spruce in the sub canopy Canopy is dominated by variable height Pole black spruce and some paper Birch and Aspen Tall tag alder with low-density black spruce and aspen cover in the N & E.</p>									



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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38 4130 - Aspen Sapling Medium 74.6 2 Immature N/A February 25th 2022

Canopy Species	% Cover	Size Class	DBH	Age
Balsam Fir	2	Sapling	1	
Black/Red (Hybrid) Oak	2	Pole/Sapling	7	
Jack Pine	1	Sapling	1	
Bigtooth Aspen	70	Sapling	1	2
White Pine	1	Log/XLog	16	
Choke Cherry	5	Sapling	1	
Red Maple	10	Sapling	1	2
White Pine	5	Sapling	1	
Red Pine	1	Sapling	1	
Northern Pin Oak	2	Pole/Sapling	5	
Red Pine	1	Log/XLog	15	

Sub-Canopy Species	Density	Avg. Height	Size
Northern Pin Oak	Trace	< 5 feet	Seeding
Bigtooth Aspen	Medium	< 5 feet	Sapling
Red Maple	Low	< 5 feet	Sapling

Scattered supercanopy white pine and red pine primarily to the South East. The canopy is Dominated by Aspen ranging across the 25 to 50% closure. Current canopy height ranges from 6 to 8' With many stems expected to recruit to free to grow in the next growing season. 5% of the canopy is red Maple and another 5% is cherry species. Approximately 3 to 5% of the stand has "super canopy" oak residual(>7"DBH) left from the previous cut where marked oak and oak 7" and under were retained. the residual mature oak > 7" are 80 to 90% dead. WP is regenerating at low density and RP, and JP regeneration is present at trace densities in the stand. Balsam Fir is present at low density.

Almost no oak regeneration. Browsing pressure is high on the cherry and red Maple stems. The sub canopy is expected to fill in the majority of the canopy gaps and the stand should be approaching a 100% stocking at the same rate as it is currently within 1 within 1 to 2 growing seasons.

Old Comments 2014 YOE
A-O-MC stand was final harvested by Dec 2020 (#006-19), cutting trees 2"+ DBH except green-marked (1 sq. ft. RP-WP), oak <7" DBH (3 sq. ft.), and retention islands. Two sub-acre interior islands were merged back into the stand but are reflected in the Site Condition layer.

39 6233 - Wet Meadow Nonstocked 1.3 Unspecified No old comments confirmed

Old comments 2014 YOE
Marsh grass with woolgrass and patches of leatherleaf.

40 4310 - Pine, Oak Mix Sawtimber Well 26.4 58 51-80 N/A 3/21/2022

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	20	XLog/Log	18	
Red Maple	15	Log/Pole	10	58
Bigtooth Aspen	10	Log/Pole	13	
Black/Red (Hybrid) Oak	25	Log/Pole	14	132
White Pine	30	Log/Pole/XLog	14	58

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	Variable	Sapling
White Pine	Medium	Variable	Sapling
Witch Hazel	Low	5 - 10 feet	Tall Shrub
Beech	Trace	Variable	Sapling
Black/Red (Hybrid) Oak	Low	Variable	Sapling

Old comments confirmed. Less white pine is present than stand 42 to the W, with most stems smaller averaging 14 to 16". Although some log and X log are present. Legacy RP and WP. Scattered American beech w/BBD observed. Aspen is in rough shape. Mixed oak varies in health and form ranging from quality form and condition to poor form and declining or dead. Xlog WP had to be removed from canopy list due to MiFi rules. Dominant age placed on RM from WP due to %cover changes. Illegal trail use North to South through stand.

Old Comments
2014 YOE
The stand occupies a sideslope between the hilltop deciduous stand to the east and the drier pine valley stand to the west, and is a transition between the two covertypes. The stand has roughly equal parts WP, mixed oak and RM, lesser amounts of aspen & RP, and traces of beech at the north end. The mixed oak ranges from overmature to immature, with some nice large sap/small pole stems making it into the canopy. WP subcanopy cover is locally high, and there are traces of white ash in the north end.

41 6220 - Alder/willow Nonstocked 2.7 No 2-25-22scattered white birch and black spruce along perimeter at low density and still present but less consistent interior,old commentsTall tag alder with perimeter willow, wild raisin and aspen.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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42 42290 - Natural Mixed Pine Sawtimber Medium 87.3 64 81-110 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	5	Log/Pole	11	
Bigtooth Aspen	3	Pole/Log	9	
Red Pine	33	Log/XLog	17	127
Northern Pin Oak	7	Log/Pole	14	
Jack Pine	2	Pole/Log	8	
White Pine	50	Log/XLog/Pole	16	64

Sub-Canopy Species	Density	Avg. Height	Size
White Oak	Low	5 - 10 feet	Sapling
Northern Pin Oak	Medium	Variable	Sapling
White Pine	Medium	Variable	Sapling
Red Pine	Low	Variable	Sapling
Red Maple	Low	Variable	Sapling

Field visit update (7/18/22) Greco, Fate, Price, Kubitskey, Pike - remove treatment (except in the northwest) and wait until next yoe. Reasons include significant submerchantable understory (heavy to rm), dominant age not at silvicultural criteria even though areas have significant overmature in the second age class, past management left a difficult stand to get desirables back in. Next YOE should consider cc and plant to rp. Treatment may need to be multipart and split to accommodate terrain in addition inventory site visits should identify areas where legacy tree density will impede planting feasibility.

Stand has fairly steep hills and valleys. It is dominated by white pine ranging from pole to x log. Redpine is mostly 15+" variable density log and x-log throughout with many younger pole size stems throughout. Oak is largely declining in larger stems smaller stems and sapling appear healthy Add legacy spec for legacy white pine and some red pine present in stand. In the thin finger to the east the stand lies on a steep sideslope Oak is more black here and appears to be in poorer health and quality. Second age RP and WP had to be removed from stand data due to MiFi rules (RP age changed to 127 to reflect second age. RP and WP present in both age classes with about 1/4 of trees DBH 18"+ 127 YO)

Old Comments
2024 YOE

Mixed pine stand on alternating ridge-valley-ridge terrain. Marked sawtimber (mostly RP, some WP) were cut by 1987 (052-85, 057-85, 058-85). The canopy has two layers: the main layer is large pole/small saw WP & RP, and above that is a lower-density layer of larger saw RP & WP. Mixed into the main canopy layer are poor-quality deciduous components and a small amount of JP. The subcanopy is well-developed but variable, with locally high cover in oak and WP saplings. Part of the stand's SW underburned in a wildfire during the previous YOE. OFS point is a wetland inclusion. Light branch flagging occurring in the WP.

43 6122 - Black Spruce Poletimber Poor 1.0 92 51-80 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Jack Pine	3	Pole/Log	8	
Paper Birch	2	Pole	6	
Black Spruce	85	Pole/Log	9	92
White Pine	8	Log/Pole/XLog	14	
Red Maple	2	Pole	7	

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	Variable	Tall Shrub
Wild Raisin	Low	< 5 feet	Tall Shrub
Cherry (spp.)	Low	Variable	Sapling
Black Spruce	Low	Variable	Sapling
Mountain Holly	Low	5 - 10 feet	Tall Shrub

February 25th 2022
Black spruce highly variable in height and dbh averaging in the Pole size class with a handful at the small end of the log diameter. Add scattered X log white pine And sapling paper Birch. One red pine interior. On the transition ground trace cherry and June Berry Trace Pole redmaple and low density pole/log jackpine. Wild raisin or nanny Berry in addition to species listed in old comments.

old comments 2014 YOE
Tall spindly black spruce growing on a bog (thick sphagnum groundcover with leatherleaf, labrador tea, etc.).



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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44	42201 - Natural White Pine, Mixed Deciduous	Sawtimber Well	8.1	54	81-110	N/A	February 25th 2022. Small stand relatively high species diversity retain for aesthetic reasons until south half of stand meets criteria.
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Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	3	Sapling/Pole	4	
Bigtooth Aspen	10	Pole	7	
White Pine	60	Log/Pole	12	54
Red Pine	6	Log/Pole	12	
Jack Pine	2	Pole	7	
Northern Pin Oak	5	Log/Pole	14	
Red Maple	14	Pole/Sap/Log	7	

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

North of kittle road 160 BA. Primarily white pine but inclusions of RP, oak, and RM saw. There are scattered poles/logs of JP and PB with individual mortality in these species. Super canopy legacy red pine and white pine. Hybrid oak variable in DBH ranging from 7 to 16 plus. Oak that has not recruited in the sub-canopy is heavily browsed.

South of kittle road retain past comments as it is a more variable stand. Multi aged with the smallest white pine approaching the upper end of the Pole size class however many of the residual stems from the '85 cut have grown to 14 + inches. perimeter of the stand and along the access road has recruited oak spalings and scattered white birch. the second age class is dominated by red maple and aspen with 5% hybrid oak.

Old comments 2014 YOE
Relatively young WP stand with a more or less two-aged canopy and a third age band in the subcanopy. Predominantly pole/small saw WP, with aspen, RM, RP et al mixed in. Some branch flagging in the WP. Polygon south of the county road was within the 1985 merch & up harvest area (058-84) but the cut left fairly heavy WP residual. North of the road has more saw-sized WP.

45	4130 - Aspen	Poletimber Well	29.4	37	81-110	N/A	February 9th 2022 Aspen diameter is better in the Southern Tap of the stand. White pine Is distributed throughout the stand in varying Height classes both canopy And sub canopy. Oak stump sprouts CO dominant with Aspen and red Maple. The 1 acre finger in the SE corner was left as a buffer from contract 72-019-25-01 when stand 59 was cut & merged with this current aspen stand.
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Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Sapling/Pole	4	37
Red Oak	14	Pole/Sapling	5	37
White Pine	10	Pole/Log/Sap	8	
Quaking Aspen	3	Pole/Sapling	5	37
Bigtooth Aspen	60	Pole/Sapling	5	37
Red Pine	3	Log/Pole	12	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	Variable	Sapling
White Pine	Low	Variable	Sapling
Witch Hazel	Low	5 - 10 feet	Tall Shrub
Serviceberry (Juneberry)	Low	< 5 feet	Tall Shrub

Deciduous was cut merch & up in 1985 (094-84), followed by marked RP saw in 1986 (068-86). The aspen cover is concentrated on the upper terrain and shifts to more RM & oak on the lower slopes. The WP & RP is primarily in the stand's north end, with the largest saw along the county road. The NRO stump sprouts are vigorous and competitive with the aspen.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																															
46	6124 - Lowland Spruce-Fir	Poletimber Well	9.4	57	1-50	N/A	2-25-22 stand has wet swales and small pockets with tag alder. On the transition ground to the southeast oak red maple paper birch and aspen saplings have filled in canopy gaps (mostly rm and as). balsam fir ranges from sapling to log at variable densities. pole and log wp scattered. Aspen is approaching log size. Canopy height is variable however closure is now 80 to 90 percent The bog in the stands East has low to moderate density of white Birch saplings that are locally recruiting into the canopy. NOTE: The older spruce (109 years) age data recorded in previous inventory is carried forward under white pine due to MiFI constraints not allowing 2 entries for the same species. See old comments for clarification. old comments Sparse mature black spruce (second age, previous inventory) seeded in the majority middle-aged spruce cover. Balsam fir and RM are significant components, with minor amounts of WP, aspen and birch. Canopy cover is at the high end of 25-50% and is continuing to increase as the subcanopy spruce recruits. The stand is on PARVCo and lower, with some drier transition ground to the uplands. The stand's SE has an acre of spruce bog where most of the older spruce is concentrated.																																																															
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47	3102 - Grass	Nonstocked	2.4		Unspecified	Managed Opening	see old comments. Check with Joan on FTP. old comments Maintained wildlife opening. Grass with sweetfern at the margins. A few black cherry, perimeter oak. Spotted knapweed along the two-track. JC update: 2004 YOE opening maintenance FTP C72-668 has expired. Need to submit new 2014 YOE FTP. Was planted to buckwheat and clover in 2016.																																																															
48	6220 - Alder/willow	Nonstocked	5.4			Managed Opening	2.15.2022edge call. no change since last inventory.Tag alder with spiraea, salix & sedge.																																																															
49	6220 - Alder/willow	Nonstocked	1.1			Managed Opening	2-25-22see old comment. no changeold commentTag alder with leatherleaf, wild raisin, sedge and scattered sap/pole black spruce and WP.																																																															



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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50	4136 - Aspen, Mixed Conifer	Poletimber Medium	20.8	37	51-80	N/A	2/15/2022																																																																																							
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51	6233 - Wet Meadow	Nonstocked	22.9			No	2.15.2022 edge call no change since last inventory. Sedge/marsh grass cover with small patches of open water in the middle and spiraea/tag alder at the perimeter.
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52	6220 - Alder/willow	Nonstocked	6.3		Unspecified	No	<p>Lowland that largely interfaces with adjacent aspen stand. Stand edges are filling in variably from 1995 harvest. See old comments.</p> <p>Old Comments 2014 YOE Tag alder with salix, wild raisin, spiraea, and scattered sap/pole QA, balsam poplar, black spruce and balsam fir from the 1995 harvest. Opener areas have sedge, cattail.</p>
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53	4130 - Aspen	Sapling Medium	25.8	16		N/A	<p>Most of the stand was cut by 2006 (72-032-04-01). The stand's far SE is regenerating to a similar species mix following windthrow from the 2007 tornado. The stand is on hilly terrain, with BTA on the upper slopes and QA in the valleys. Frost pocket depressions within the stand have lower stocking, but the cover averages 50-75% and is continuing to fill in. Aside from the regen, there are scattered overstory stems of pine, RM & oak.</p>																																														
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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54	6229 - Mixed lowland shrub	Nonstocked	3.8		Unspecified	Managed Opening	<p>2.15.2022 stand could be extended north in a thin sliver of drainage up toward 49. more tag alder in the north. in the finger to the east the stand picks up more balsam fir and white spruce 4 to 8 inches height 25 to 45. southeast corner is 2 here bog is seeing the most tamarack wh8te spruce black spruce and balsam fir coming in. variable 5 to 25 feet. white pine low density, hybrid oak and jackpine trace, cherry, serviceberry, and red maple trace along the transition too.</p> <p>Old Comments 2014 YOE Mix of deep leatherleaf, spiraea, salix, and perimeter tag alder.</p>
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55	4130 - Aspen	Poletimber Well	29.0	51	81-110	N/A	<p>Old comments confirmed. Between the 2 age classes of aspen dbh averages 8 and 12. Line between stand to the north runs along slope break. Legacy RP and WP scattered throughout.</p>
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Canopy Species	% Cover	Size Class	DBH	Age
Bigtooth Aspen	83	Pole	10	51
Black/Red (Hybrid) Oak	2	Pole/Log	7	90
White Pine	5	Pole/Log/Sap	9	
Red Pine	5	Pole/Log/Sap	9	
Red Maple	5	Pole/Sapling	6	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	Variable	Sapling
White Pine	Low	Variable	Sapling

Old Comments 2014 YOE
BTA on shallow rolling terrain with mixed pine, RM & oak associates. The majority pole aspen is in its early 40's with a minor overmature saw component around 80 years old. There is a fair amount of RP & WP poles by basal area but, because they are suppressed-intermediate, they have little canopy representation. There is little shrub development and only sparse RM-WP-RP in the subcanopy. Occasional RP & WP log/xlog.

56	4130 - Aspen	Sapling Medium	26.2	1	Immature	N/A	<p>January 31st 2022 Retention guidelines followed according to past harvest notes. 2 ft² red and white pine and 6 ft² of oak is left from parent stand in addition to island retention.</p> <p>Stand has recruited in most areas however pockets have not yet reached recruitment heights. Stand density where stems are free to grow is variable ranging from 20% cover to 100%. Scattered BF and WP saplings With most of the conifer saplings being towards the boundary near the lower areas.</p> <p>Old Comments 2014 YOE A-MC stand was final harvested by Dec 2020 (#006-19), cutting trees 2"+ DBH except green-marked (2 sq. ft. RP-WP), oak (6 sq. ft.), retention islands, and additional boundary-excluded buffers and low ground. Those exclusions were split off as stand 156.</p>
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Canopy Species	% Cover	Size Class	DBH	Age
Black/Red (Hybrid) Oak	2	Sapling	1	
Black Cherry	5	Sapling	1	
Black/Red (Hybrid) Oak	1	Log	14	
White Pine	3	Sapling	2	
White Pine	1	XLog/Log	18	
Balsam Fir	2	Sapling	1	
Red Pine	1	Log	16	
Quaking Aspen	35	Sapling	1	1
Bigtooth Aspen	40	Sapling	1	1
Red Maple	10	Sapling	1	



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57	4136 - Aspen, Mixed Conifer	Sapling Medium	35.7	27	51-80	N/A	Old comments confirmed (lowland interface throughout and standing water in old skid trail tracks). Sparse rp present in between aspen clones. Pockets of jp as well. Highly variable density and species composition between aspen clones. lots of lowland interface. BA highly variable ranging from 0 to 110. approx 60 BA avg.																																																														
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58	6220 - Alder/willow	Nonstocked	2.9		Immature	No	old comments confirmed. eastern approx 1/4 of stand is upland primarily 2 - 10 ft tall cherry, with some QA, WP, BF, and RP scattered. Old comments 2014 YOETag alder with small amounts of salix, wild raisin, spiraea, and scattered balsam poplar, QA and balsam fir saps from the 1995 harvest.																																																														
59	4139 - Aspen, Mixed Deciduous	Sapling Poor	30.3	3	Immature	N/A	February 29th2022																																																														
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60	4130 - Aspen	Poletimber Well	31.3	37	81-110	N/A	Past comments confirmed. AS and oak primarily pole class. maple lagging behind in avg height and diameter with only 50% of stems in pole class. more conifer to the south. a couple legacy wp and many rp approaching or at legacy size. S end has majority of conifer and more larger stems in all species than overall stand																																																														
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61	6220 - Alder/willow	Nonstocked	1.0			No	old comments confirmed. 15 ft wp and rp along transition. Old Comments 2024 YOETag alder with ilex, wild raisin, and colonizing balsam poplar, RM, black spruce and balsam fir.																																																														
62	110 - Low Intensity Urban	Nonstocked	13.7		Immature	No	kittle road and maintained easement old comments 2024 yoe Cleared county road corridor.																																																														
63	6220 - Alder/willow	Nonstocked	1.7			No	2.15.2022western perimeter has lots of windfall from adjacent red maple and aspen.70 % tag alder 2% wp 10% rm 5 % as 10% bf trace hm and hybrid oakTag alder swale. Black & green ash died out. RM, balsam poplar & balsam fir is re-colonizing the swale.																																																														
64	4130 - Aspen	Sapling Well	21.7	27	1-50	N/A	February 11th 2022 Stands Eastern boundary follows steep slope up to stand 65. Composition primarily Aspen and red Maple with some scattered oak and pockets of white birch. wp trace, ro 10, rm 10, wb 5, associated shrubs in subcanopy witch and beaked hazel, hawthorn and nannyberry. Valley bottom Running along stands 64 and 65 boundary is variable with the above mentioned species scattered white pine red pine and American beach throughout Variable densities and distribution Old Comments Cut 2" & up in 1995 (72-014-94-01). Vigorous aspen, RM and oak regen on hilly terrain. The oak stump sprouts are dominant-codominant in the canopy; some reaching pole size already. The RM stump sprouts are intermediate-codominant with smaller diameters and high stem densities.																																																														
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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65	4130 - Aspen	Sapling Medium	24.0	14	1-50	N/A	February 9th 2022 Return to stand after leaf out to determine if dieback is present. February observations seemed to indicate much of overstory In The stand could be losing vigor and appears to be towards the end of its life. Oak show signs of stress from tornado (i.e scarred bark, and broken limbs, in addition frost frostcracking) throughout stand. Update May 2022: Stand is showing some signs of dieback and mortality see draft treatment notes. Old Comments 2014 YOE Salvaged in 2008 (72-001-08-01) after the October 2007 tornado. Regen is the featured canopy, with mature oak and RM scattered above and in sub-acre pockets (along the stand's perimeter). Vigorous aspen-RM-oak regen. Intact oak stumps sprouted well. There's also a component of oak sprouts that are not large-stump in origin that are recruiting. The stand is at the high end of the 50-75% canopy category and is continuing to fill in. Well-developed post-salvage shrub layer.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Oak	10	Sapling	1	14	Serviceberry (Juneberry)	Low	< 5 feet	Tall Shrub
Red Oak	10	Log	14	116	Choke Cherry	Low	< 5 feet	Tall Shrub
Bigtooth Aspen	60	Sapling	1	14	Hazelnut (Beaked)	Medium	< 5 feet	Tall Shrub
Red Maple	2	Log	10		Witch Hazel	Medium	5 - 10 feet	Tall Shrub
Red Maple	18	Sapling	1	14	Maple Leaved Viburnum	Low	< 5 feet	Tall Shrub
					Blackberry/Raspberry	Low	< 5 feet	Tall Shrub

66	4130 - Aspen	Sapling Well	26.4	14	Immature	N/A	February 9th 2022 Stand varies considerably in height and density Best described as primarily aspen clones, with occasional supercanopy red Maple hybrid oak and white pine residual from previous stand prior to salvage and tornado. In areas with less Aspen regeneration browse intensity is highest on the oak stems, and lesser on the cherry and red Maple. In areas with lesser canopy closure oak and cherry are performing as well or better than red Maple on average. Although height growth is 5 to 10 feet lower than the surrounding 15 to 20' tall Aspen. In gaps many additional oak showing potential to recruit. Approximately 2% of the stand is red pine and 2% is white pine evenly distributed. Current ocular estimates Indicate Aspen to occupy approximately 80% of the canopy Although oak is heavily browsed I believe it continues to show potential to recruit in the open areas Old comments: Salvaged in 2008 (72-001-08-01) after being hit by the Oct 2007 tornado. Featured canopy is the aspen-RM-oak regen, with widely scattered residual oak & RM, and WP, RP & aspen pole/saplings. The regen cover is variable, averaging to 50-75% cover and continuing to fill in. The salvaged mature oak (that weren't uprooted) stump-sprouted well and there is a component of <3' oak saps (not large-stump in origin) that have potential to recruit. The salvage also kick-started the shrub layer, with locally high coverage in several species.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Pine	2	Sapling/Pole	3		Red Oak	Low	< 5 feet	Seeding
White Pine	3	Pole/Sapling	7		Black Cherry	Low	< 5 feet	Tall Shrub
Black Cherry	10	Sapling	1		Hazelnut (Beaked)	Medium	< 5 feet	Tall Shrub
Red Oak	10	Sapling/Pole	1	14	Maple Leaved Viburnum	Low	< 5 feet	Tall Shrub
Quaking Aspen	10	Sapling	2	14	Serviceberry (Juneberry)	Medium	< 5 feet	Tall Shrub
Bigtooth Aspen	50	Sapling	2	14	Red Maple	Medium	5 - 10 feet	Sapling
Red Maple	15	Sapling/Pole	2	14				



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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67	4130 - Aspen	Sapling Well	16.3	14	Immature	N/A	3/15/2022old comments confirmed, most leaners have dropped out. Scattered wp rp rm and ro supercanopy variable height over regeneration.Old Comments Most of the overstory was laid down by the October 2007 tornado. The stand was not salvaged, so there is heavy slash loading. The A-RM-O regen from the event is the featured canopy; scattered above that are residual overstory stems (mostly RM, a lot of leaners). The two OFS points are wetland inclusions.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Bigtooth Aspen	30	Sapling	1	14	Hazelnut (Beaked)	Medium	< 5 feet	Tall Shrub
White Pine	3	Sapling/Pole	3		Serviceberry (Juneberry)	Low	< 5 feet	Tall Shrub
Red Maple	5	Pole/Log	8					
Red Maple	12	Sapling	1	14				
Red Oak	10	Sapling	1	14				
Quaking Aspen	40	Sapling	1	14				

68	4191 - Mixed Upland Deciduous with Conifer	Poletimber Medium	15.0	52	51-80	N/A	The northern portion of the stand has large amounts of log- xlog down and dead oak and pine. Canopy gaps created during the 07 tornado are largely filled in with both beaked and witch Hazel. Service Berry and caprifoliaceae spp. Red maple, oak, aspen and white pine are recruiting at variable composition and densities in canopy gaps. Handful of super canopy red pine on a knob. Stand is uneven aged, super canopy red pine and white pine and some oak 120 years old low density. Dominant age is hybrid oak leaning more red 70 to 100 sqft, 50 years old. Newest age is following 2007 tornado disturbance. Mix of hybrid oak patches leans more black to the south tail slopes. Small tag alder inclusion in nw depression. Old Comments 2014 YOE Stand is variable due to the uneven impact of the 2007 tornado and the varying terrain/sites that the stand boundary encompasses. On the lower terrain, the site is drier with more hybridized oak, and WP. There is a younger age class in the hybridized black/red oak: large pole/small saw in their early 40's (first age). To the north, on the higher ground, the site quality improves and there is mature, better-quality oak (second age) and less pine. In addition to the oak and pine, there are RM and patchy aspen components. Cover ranges from 25 to 100%, averaging at the low end of 50-75%. Regen is the heaviest were the tornado impact was greatest; other areas of the stand were untouched by the wind event. This stand was not salvaged, so there is locally high slash loading.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Quaking Aspen	7	Pole/Sapling	7		White Pine	Medium	Variable	Sapling
Bigtooth Aspen	10	Pole/Log	8		Hazelnut (Beaked)	Low	< 5 feet	Tall Shrub
White Pine	15	Pole/Log/Sap	8		Witch Hazel	Medium	5 - 10 feet	Tall Shrub
Jack Pine	5	Pole	7		Serviceberry (Juneberry)	Low	Variable	Tall Shrub
Red Maple	14	Pole/Log/Sap	7		Red Maple	Medium	Variable	Sapling
Paper Birch	1	Pole	8		Red Pine	Trace	Variable	Sapling
Red Oak	20	Log	15	123	Quaking Aspen	Low	10 - 20 feet	Sapling
Red Pine	3	Pole/Log	7		Bigtooth Aspen	Low	10 - 20 feet	Sapling
Black/Red (Hybrid) Oak	25	Pole	8	52	Black/Red (Hybrid) Oak	Medium	Variable	Sapling



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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69	4123 - Red Oak	Sawtimber Well	27.2	116	81-110	N/A	February 9th 2022 The Southeast portion of the stand along the stands boundary and East of Frank's road is a thin strip where at the bottom of the hill is a drainage with some old dead and down. A handful of Cedar are present here along with the majority of X log white pine and red pine in the stand. If prescribed focus retention in this area. In addition retain all red pine over 20" And retrain all white pine. West and NW portions of the stand were hit by the 2007 tornado and salvaged in 2008 (72-001-08-01). Those parts of the stand have lower residual (50-75%) and 4-year old aspen-RM regen. The stand is characterized by canopy-dominant NRO saw, with intermediate RM poles and scattered RP & WP (most of the xlog stems in a swath SE of Franks Rd). There's a trace of overstory sugar maple, beech and ash in the stand's NW by a perched wetland (OFS point). WP sapling cover is locally high, but averages to low. The stand also has large RM stump sprout regen from the 1995 thinning (72-016-94-01).
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Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Pole/Sapling	6	
White Pine	5	Pole/Log	8	
Red Pine	5	Log/XLog/Pole	16	
Red Oak	80	Log/Pole	14	116

Sub-Canopy Species	Density	Avg. Height	Size
Serviceberry (Juneberry)	Low	< 5 feet	Tall Shrub
White Pine	Low	Variable	Sapling
Red Maple	High	Variable	Sapling
Witch Hazel	Medium	5 - 10 feet	Tall Shrub
Hazelnut (Beaked)	Low	< 5 feet	Tall Shrub
Maple Leaved Viburnum	Low	< 5 feet	Tall Shrub
Bigtooth Aspen	Low	5 - 10 feet	Sapling

70	4130 - Aspen	Sapling Well	29.5	28		N/A	February 9th 2022 Stand is dominated by big Tooth. Approximately 10% of the canopy is CO dominant hybrid oak. About 20% of the canopy is CO dominant red Maple stump sprouts. White oak is rarely present as a CO dominant portion of the canopy but scattered in pockets in the sub canopy, approximately to 5% of the sub canopy. Service Berry is about 10% of the sub canopy. Red Maple makes up approximately 80% of the canopy and AP with a small portion of hybrid oak as well. Trace red and white pines present in the canopy and they're also trace supercanopy white pine. 40 ft tall. See Ariel photo: The Eastern edge of the stand is the parent stand dominated by hybrid oak by hybrid oak in addition the northeast corner the northeast corner has a knoll that is primarily hybrid oak with Aspen red Maple white pine and red pine associates a sliver of mature oak was left running north/south (roughly 3.5 acres) along the eastern boundary line when stand 74 was cut under contract 72-019-15-01. Cut 2" & up in 1994 (72-015-94-01). Vigorous dominant-codominant BTA & NRO saplings with intermediate-codominant RM, white oak and a trace of WP.
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Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	8	Sapling	2	28
Red Oak	8	Sapling	3	28
White Oak	2	Sapling	2	28
Bigtooth Aspen	82	Sapling/Pole	3	28

Sub-Canopy Species	Density	Avg. Height	Size
Maple Leaved Viburnum	Low	< 5 feet	Tall Shrub
Black Cherry	Low	5 - 10 feet	Tall Shrub
Witch Hazel	Low	5 - 10 feet	Tall Shrub
Serviceberry (Juneberry)	Low	5 - 10 feet	Tall Shrub
Hazelnut (Beaked)	Low	< 5 feet	Tall Shrub

71	4130 - Aspen	Sapling Well	17.9	16		N/A	February 9th 2022 Along roads and in openings oak regeneration is about 10% recruited, but is outcompeted by as and rm. Pockets where regeneration was lighter are filling in with RP, WP, Cherry, and oak. Hybrid oak are primarily filling in gaps with white pine. handful of white birch pockets present in stand. Scattered American beech in the subcanopy. Super canopy red pine white pine and hybrid oak are present along the Southern border of the stand. The Western most finger necking down to a point at the head of The Valley differs from the rest of the stand in composition as follows; RM, oak, cherry spp, and aspen 50% 30% 10% 10% respectively. Cut merch & up in 2006 (72-034-04-01). Vigorous sapling aspen-RM-oak regen from the cut. BTA further along than the QA.
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Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Sapling	1	16
Red Oak	5	Sapling	1	16
Quaking Aspen	50	Sapling	1	16
Bigtooth Aspen	35	Sapling	1	16

Sub-Canopy Species	Density	Avg. Height	Size
Serviceberry (Juneberry)	Low	< 5 feet	Tall Shrub
Choke Cherry	Low	< 5 feet	Tall Shrub
Hazelnut (Beaked)	Low	< 5 feet	Tall Shrub
Black Cherry	Low	5 - 10 feet	Tall Shrub
Black/Red (Hybrid) Oak	Low	5 - 10 feet	Sapling



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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72 4130 - Aspen Sapling Well 30.2 14 Immature N/A

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Pine	2	Pole/Sap/Log	6		Red Pine	Trace	Variable	Sapling
Red Oak	2	Sapling	1	14	Black Cherry	Low	5 - 10 feet	Tall Shrub
Red Maple	5	Sapling	2	14	Serviceberry (Juneberry)	Low	5 - 10 feet	Tall Shrub
Red Oak	3	Log	12		White Pine	Low	Variable	Sapling
White Pine	3	Pole/Sap/Log	7		Black/Red (Hybrid) Oak	Low	5 - 10 feet	Sapling
Quaking Aspen	45	Sapling	2	14	White Spruce	Trace	< 5 feet	Sapling
Bigtooth Aspen	40	Sapling	2	14	Balsam Fir	Trace	Variable	Sapling

02/08/2022
Confirmed old comments. Oak, RM, cherry and WP seeding into open pockets. small cattail dominated wetland in th SW. Open areas show high browse pressure on oak cherry and rm stems under 5ft more wp and rp in widely scattered RO in west

Old comments 2014 YOE
Salvaged in 2008 (72-003-08-01) after the October 2007 torndado. It had originally been shelterwood marked for harvest under 72-034-04-01. Regen is the featured canopy, with widely scattered overstory stems of mature oak, pine and a trace of ash. The terrain is shallowly rolling, with BTA on the higher ground and QA on the lower terrain. The stand is upland overall with small wetland inclusions (OFS points).

73 4130 - Aspen Poletimber Well 28.0 37 81-110 N/A

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Oak	15	Pole/Log	8	37	Red Maple	Low	10 - 20 feet	Sapling
Quaking Aspen	2	Pole	6	37	Black/Red (Hybrid) Oak	Low	10 - 20 feet	Sapling
White Pine	3	Log/Pole	13		Beech	Trace	5 - 10 feet	Sapling
Red Pine	3	Log	15		Red Pine	Trace	Variable	Sapling
Bigtooth Aspen	62	Pole/Log	8	37	Black Cherry	Low	Variable	Tall Shrub
Red Maple	15	Pole/Sapling	5	37	Balsam Fir	Low	Variable	Sapling
					Witch Hazel	Low	5 - 10 feet	Tall Shrub
					Serviceberry (Juneberry)	Low	5 - 10 feet	Tall Shrub
					White Pine	Low	Variable	Sapling

February 17th 22
BA ranges between 70 to 120
Canopy height 40 to 50' primarily bigtooth Aspen. Locally high densities RP and WP in areas see CIR Aerial. Scattered supercanopy residual from 1985 harvest includes white pine northern red oak and a few RM and BTA.

Subcanopy pretty sparse; canopy gaps have northern red oak, red maple, balsam fir. Scattered white pine throughout.

Old Comments 2014 YOE:
Cut merch & up in 1985 (72-059-84-01). The aspen, RM & oak regen from the cut is mostly transitioned into the pole class. Mixed in is older residual from the cut: large pole/small saw RP, WP, NRO & BTA. The oak is vigorous and competetive with the aspen.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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74 4199 - Other Mixed Upland Deciduous Sapling Medium 64.2 2 Immature N/A January 31st 2022

Canopy Species	% Cover	Size Class	DBH	Age
Bigtooth Aspen	30	Sapling	1	2
Red Maple	30	Sapling	1	
Black/Red (Hybrid) Oak	1	Log	15	
White Pine	4	Sapling	2	
Black Cherry	10	Sapling	1	2
Beech	2	Sapling	1	
White Pine	2	Log/XLog	16	
Black/Red (Hybrid) Oak	20	Sapling	1	2
Red Pine	1	Log/XLog/Pole	16	

Sub-Canopy Species	Density	Avg. Height	Size
Black/Red (Hybrid) Oak	Medium	< 5 feet	Sapling
Witch Hazel	Medium	< 5 feet	Tall Shrub
Red Maple	Medium	< 5 feet	Sapling
Red Pine	Low	< 5 feet	Sapling
Blackberry/Raspberry	Medium	< 5 feet	Tall Shrub
Black Cherry	Medium	< 5 feet	Sapling
Hawthorn (spp.)	Low	< 5 feet	Tall Shrub
White Pine	Low	< 5 feet	Sapling

Much of the oak that is regenerating in this area has not reached recruitment height however it looks more promising than other nearby stands occupying 15 to 20% of the canopy currently

Cherry and oak is very heavily browsed and in areas aspen and RM are also browsed. Various other sub-canopy species browsed including BlackBerry hawthorn and beaked and witch Hazel.

Regeneration in this stand follows similar patterns as stands to the North, with the North facing aspects in the cut area exhibiting exhibiting 10 to 15% lower regeneration rates than the remainder of the stand. Currently the sub-canopy tree species are continuing to recruit. Determine at comp review if an additional 3 year monitoring treatment is needed to determine what areas of the stand will fully recruit if they can get beyond browse pressure, however oak will only recruit into a slightly higher percentage of the canopy.

Old Comments 2014 YOE

Cut under timber sale 72-019-15-01 Franks & Kittle oak by MLWF. Sale was closed 05/29/2019.

Stand was shelterwood marked for harvest under 72-034-04-01 but the contract was not completed. The canopy is dominated by good quality NRO, along with suppressed-intermediate RM, occasional RP & WP, and scattered BTA. The stand's SW had some wind-snap and -throw from the 2007 tornado. The terrain is shallow-rolling, ending with a steep north aspect at the north end (where most of the overmature BTA is). Included in the NE is a narrow peninsula of uncut mature oak left along the CPC ROW. Consumers Energy is currently clearing the rest of their ROW along that edge. OFS points are small wetland inclusions. The east wetland is also an RDR (see OFS).

75 4123 - Red Oak Sawtimber Poor 6.8 121 1-50 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Red Oak	95	Log	14	121
White Pine	3	Log/Pole	10	
Red Pine	2	Log/Pole	13	

Sub-Canopy Species	Density	Avg. Height	Size
Red Oak	Low	< 5 feet	Sapling
Quaking Aspen	Low	5 - 10 feet	Sapling
Bigtooth Aspen	High	5 - 10 feet	Sapling
White Pine	Low	Variable	Sapling
Red Maple	Low	5 - 10 feet	Sapling

Old comments confirmed. Check after leaf out for overstory health. Stand appears healthy overall with the exception of one individual oak mortality.

Old comments:

Salvaged in 2008 (72-003-08-01) after the October 2007 tornado. Had been shelterwood marked for harvest under 72-034-04-01. The residual overstory of oak (and some WP & RP) is the featured canopy, with a full subcanopy of regen from the salvage. The site and oak are decent quality, but the oak's age is hindering response to the release. Growth doubled, but it's on the order of 2 mm radial increment vs. 1 mm pre-harvest, accompanied by epicormic branching and upper crown defensive dieback. Original survey date of 7-18-12. 2015 update based on Land Transaction: ~7 acres south of Kittle Road were part of a direct sale to adjacent private landowners in June 2014.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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76 4139 - Aspen, Mixed Deciduous Sapling Medium 29.3 2 Immature N/A January 31st 2022

Canopy Species	% Cover	Size Class	DBH	Age
Black/Red (Hybrid) Oak	5	Sapling	1	2
Red Maple	35	Sapling	1	2
White Pine	2	Sapling	2	
White Pine	1	XLog/Log	18	
Bigtooth Aspen	44	Sapling	1	2
Quaking Aspen	10	Sapling	1	2
Red Pine	3	Log/XLog	16	115

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

See comments for stand 77 The stand has a similar regeneration species and the pattern of regeneration on the landscape.

The largest difference between the 2 stands is the North facing slope of stand 76 is 40 to 50% stocked split between Aspen and red Maple approximately 60 to 70% Aspen and 40 to 30% red Maple with few oak observed. In a few areas some oak regeneration is over 6' however the majority of the stand ranges from 1 to 10% ground cover for oak in the sub canopy and it is being outcompeted by red Maple and Aspen The majority of oak regeneration present is under 4' tall.

Old Comments 2014 YOE - Final harvest completed by Jan 2020(72-048-15). Aspen regen already coming up, expect a mix of oak and aspen at re-inventory.

Oak stand on a knob, surrounded by aspen stands on the lower terrain. The canopy is dominated by good-quality NRO saw, with codominant NRO large poles and intermediate RM poles. The stand's SW has a steep side-slope down to the CPC ROW; overmature BTA is mixed in with the oak there. The stand's SE boundary was extended out to a two-track and has some younger aspen (early 40's) mixed in with the mature oak. There are a few old fire-scarred RP scattered across the stand. NRO SI 69



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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77 4130 - Aspen Sapling Poor 55.8 2 Immature N/A January 31st 2022

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Black/Red (Hybrid) Oak	2	XLog/Log	20	115	Black/Red (Hybrid) Oak	Low	< 5 feet	Seeding
Black/Red (Hybrid) Oak	10	Sapling	1	2	Beech	Low	< 5 feet	Sapling
Red Pine	3	XLog/Log	18		Blackberry/Raspberry	High	< 5 feet	Tall Shrub
Red Maple	15	Sapling	1	2	Witch Hazel	Medium	< 5 feet	Tall Shrub
Quaking Aspen	10	Sapling	2	2	Paper Birch	Trace	< 5 feet	Sapling
Bigtooth Aspen	59	Sapling	2	2	Red Maple	High	< 5 feet	Sapling
White Pine	1	Pole/Sapling	5		Bigtooth Aspen	Medium	< 5 feet	Sapling

See Arial for individual retention parent stand X log/log oak and X log/log red pine 3 to 5 percent. Variable recruitment of regeneration across stand. Overall canopy closure towards the upper end of the 25 to 50 % range. High potential for 90 to 100% closure if saplings can grow another 2 to 3 feet in areas described below.

Dominant canopy white pine present at 1% of stand overtopping Aspen by 3 to 4' on average In addition there are scattered 25 to 30' feet tall dominant white pine, white Birch and red oak trace

Canopy primarily Aspen, Canopy height is 10 to 15' in open areas where aspen regen is dominant.

Sub canopy of 4 to 8' Subcanopy is primarily red Maple at approximately 30% of ground cover In addition 10% is cherry 10% is oak 1% is American beach 20% throughout stand is rubis species Is trace red pine trace beaked Hazel and trace white Birch

Red Maple is primarily stump sprouts. Browse pressure appears lower than regional average

Regeneration is lower density around heavier individual tree retention pockets. In addition regeneration density is lower on North facing slopes than the South facing slopes within the stand in addition to aspect regeneration density is lower in areas with with more individual tree retention from the parent stand however these areas exhibit more potential for oak recruitment in the future with the oak only slightly behind the red maple in most places and 4 foot average heights. To the south and east, portions of the stand exhibit lower stocking of regeneration especially on the Western and northern aspect slopes. Notably more red Maple followed by oak, with Aspen absent in many areas. Stocking for northern facing slopes ranges between 20 and 70% with a 40 percent average. Canopy height in these areas is also markedly lower averaging 6 to 9'

Old Comments (ehlert or Behrmen?)
Stand harvest completeed in Jan of 2020. Aspen regen starting to come up by August. Should have no trouble passing regen check after minimum height requirement met.

Old Comments 2014 YOE
Merch aspen, paper birch and marked oak were cut by 1969 (006-68). Partial harvest specs partially applied left significant residual. Stand has three main age classes: 43-year old aspen-RM-birch-oak that regenerated from the cut, and mature-overmature residual from the cut (aspen 50+ years old and oak 100+ years old). There are also scattered large cull RM and super-canopy RP & WP. High-end site for the aspen & oak.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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79 4130 - Aspen Sapling Well 30.8 27 N/A 02/07/2022

Canopy Species	% Cover	Size Class	DBH	Age
Red Oak	5	Sapling/Pole	3	27
Quaking Aspen	5	Pole/Sapling	5	27
White Pine	3	Pole/Sapling	5	
Paper Birch	2	Sapling	3	
Bigtooth Aspen	70	Pole/Sapling	5	27
Red Maple	15	Sapling/Pole	4	27

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

Stand is predominantly big tooth aspen, in lower areas aspen is smaller and has poorer form. More oak and red maple is picked up in these areas. Stump sprout red maple. Oak is primarily single stem. Aspen is at or approaching pole size on average with some areas averaging 6 to 7 inches. subcanopy has 5% oak around stands perimeter.

Around the old landing Aspen percentage in canopy drops off to 5% Is replaced primarily by red Maple and northern pin or hybrid oak Scattered red pine white pine And in this area White Birch makes up about 15 to 20% of the canopy. There are also scattered BlackBerry and other cherry species. At about the landing West white pine makes up a larger component of the canopy as high as 10%

Old Comments
Was cut 2" & up in 1995 (72-015-94-01). Aspen regen (mostly BTA) with RM & oak mixed into the clones. Between clones is predominantly RM & oak. Cover is high except for the former landing area; dumping is occurring there.

80 4130 - Aspen Poletimber Well 12.9 54 111-140 N/A 2-7-22

Canopy Species	% Cover	Size Class	DBH	Age
Red Oak	12	Log/XLog	15	
Quaking Aspen	60	Pole	7	54
Black/Red (Hybrid) Oak	2	Log/XLog	15	
Red Maple	10	Pole/Sapling	7	
Sugar Maple	1	Pole/Sapling	6	
Bigtooth Aspen	15	Log	12	65

Sub-Canopy Species	Density	Avg. Height	Size
Witch Hazel	Low	5 - 10 feet	Tall Shrub
Black Cherry	Trace	Variable	Sapling
Paper Birch	Low	10 - 20 feet	Sapling
White Pine	Trace	Variable	Sapling
Red Maple	Low	Variable	Sapling

Basal area of hybrid oak throughout stand averages about 20' but ranges from 0 to 90'. Should be noted the stand has oak regeneration ranging from 15 years to 55 years (majority of stems 2 to 6 inches). Some of the older regeneration has top die back. If stand is harvested focus retention around higher quality younger oak. Only harvest oak 8 inch and up to retain the younger generation on site (similar to prescription in stand 38 which has no signs of tipping, epicormic, or burn out). Multiple legacy oak in stand with the majority leaning more black. use legacy spec for live and dead (2 30 plus inch dead cavity trees observed). Use small 1/2 acre retention pockets in areas of the north and the center of the stand where higher quality mature oak with the high densities of healthy second generation oak saplings and poles are observed.

Old Comments 2014 YOE
Aspen-RM stand on the flats and including a ridge that grades up to the CPC ROW. The stand has two age classes in the aspen: immature poles in their mid-40's and a lesser component of mature aspen 55+ years old. The stand has a third age class consisting of mature NRO and hybridized black/red oak; with very large stems mixed into the aspen in the south half and smaller oak saw concentrated on the north edge. RDR hill climb runs near the ROW (OFS point).



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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81	4130 - Aspen	Poletimber Well	49.6	53	111-140	N/A	Aspen dominated stand over 50 years old primarily 12 to 14" with concentrations of smaller stems where more competition with the residual from the 1969 harvest is present.
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Canopy Species	% Cover	Size Class	DBH	Age
Black/Red (Hybrid) Oak	2	Pole/Sap/Log	8	53
Red Oak	15	Log/XLog	16	110
Bigtooth Aspen	70	Log/Pole	13	53
Red Pine	5	Log/Pole/XLog	17	75
Red Maple	8	Pole/Log	8	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	High	>20 feet	Sapling
Black/Red (Hybrid) Oak	Trace	5 - 10 feet	Sapling
Black Cherry	Low	< 5 feet	Tall Shrub
Paper Birch	Trace	< 5 feet	Sapling
Hazelnut (Beaked)	Low	< 5 feet	Tall Shrub
Beech	Trace	5 - 10 feet	Sapling
Serviceberry (Juneberry)	Low	Variable	Tall Shrub
White Pine	Trace	>20 feet	Pole
Red Pine	Trace	>20 feet	Pole
Maple Leaved Viburnum	Low	< 5 feet	Tall Shrub
Witch Hazel	Low	< 5 feet	Tall Shrub

A handful of log and X log red pine present, If RX is prescribed retain for diversity

BA
B/H OAK 20 to 90
bigtooth as 40 to 120
rm 10 to 40 mostly sub canopy poles but some logs
AVG BA ranging on lower end of 110 to 140 range

See ariel for red pine at East boundary of stand Size is variable ranging from Pole to X log average diameters are log size about 12 to 14" This area could be seed tree harvested or CC and converted to Aspen RM if harvested. Aspen appears to be doing poor (only 35 to 40 ft tall and 6 inch average DBH) from mid slope to Eastern boundary of stand across The Valley and around the red pine. Recorded diameters for red pine in this area 11 17 09 12 15 13".

If treated this area should be broken out as its own payment unit. it could be clear cut with just enough Aspen to convert it to an Aspen stand. Another option is to seedtree or shelterwood this portion of the stand retaining some red pine and marked oak (no more than 40sqft to retain the mature oak and rp component in the area. Aspen stems are much smaller in this area With the majority only 5 to 6" with scattered trees as large as 10 to 12". The topography in the Southeast corner is more gently rolling and could possibly be planted.

Stand is variable in composition see past comments for oak and Aspen distribution and size. Aspen has smaller diameter based on position on slopes and if adjacent oak were left at higher densities. Areas of smaller Aspen range in diameter from 8 to 10" with their canopies approaching canopy height of surrounding oaks And growth beginning to slow. Areas where less oak was retained have larger diameter Aspen averaging about 12 to 13" but 15" or more more in certain pockets of residual from past harvest

Overall residual oak from parent stand appears to be in good condition other than frost cracking on the larger diameter individuals throughout stand. Trace Pole size red and white pine present in sub canopy as well.

Old Comments 2014 YO E
Merch aspen, birch & marked oak were cut by 1969 under permit #6-68. Partial harvest specs variably applied left significant residual above the now pole-sized aspen, RM & traces of ash, WP & immature oak. The residual oak (second age) distribution is variable: from widely-scattered stems to small patches. The residual BTA is now log-sized, in small clumps, mostly on the east side. The RP is mostly in the stand's SE, where the site is a little drier. The terrain is hilly, dissected with valleys. Most of the state land in this block bounded by the CPC ROW was treated under permit #6-68, but this stand has less oak residual than the adjacent stand to the west and



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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82 4191 - Mixed Upland Deciduous with Conifer Sawtimber Medium 4.8 92 51-80 N/A

less aspen residual than the adjacent stand to the north. RP age was on the average saw, not the xlog stems.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	12	Pole/Log	8	
Balsam Fir	1	Pole	7	
Sugar Maple	12	Pole/Log	8	
White Spruce	1	Pole	7	
White Oak	2	Log/Pole	11	
Bigtooth Aspen	3	Pole/Log	10	
Red Pine	3	Log/Pole	12	
Red Oak	45	Log/Pole	15	92
Quaking Aspen	5	Pole/Sapling	6	
White Pine	15	Log/Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
White Ash	Low	Variable	Sapling
Ironwood	Low	Variable	Sapling
White Pine	Medium	Variable	Sapling
Red Oak	Low	>20 feet	Sapling
Black Cherry	Low	< 5 feet	Tall Shrub
Witch Hazel	Medium	5 - 10 feet	Tall Shrub
Hawthorn (spp.)	Low	5 - 10 feet	Tall Shrub
Balsam Fir	Low	Variable	Sapling
Musclewood/Hornbeam	Low	10 - 20 feet	Sapling

2-8-22
Scattered overmature aspen in the canopy starting to break up. From the top of the ridge to the south the stand converts to 65% WP, 20% AS, 2% RP. Canopy is 1% BF, WS, and PB primarily concentrated along the drainage in the valley to the North. Sugar maple is of poor quality and has signs of porcupine damage. Some live ash saplings are present in the subcanopy. Ironwood along drainage.

Old Comments:
Canopy dominant NRO with codominant/intermediate sugar maple, RM, WP, et al. Stand is bisected by a steep drainage valley. The north part is on a steep south aspect, skirted by the stream. The SW part drops steeply down onto the AuSable River valley. Some windthrow and breakage from the 2007 tornado.

83 4130 - Aspen Sapling Well 5.5 28 81-110 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Red Oak	2	Sapling/Pole	4	28
Bigtooth Aspen	10	Pole/Sapling	6	28
White Pine	15	Pole/Sapling	5	
Red Pine	3	Pole/Sapling	5	
Red Maple	5	Pole/Sapling	5	
Quaking Aspen	65	Pole/Sapling	6	28

Sub-Canopy Species	Density	Avg. Height	Size
Black Cherry	Low	5 - 10 feet	Tall Shrub
Black/Red (Hybrid) Oak	Low	5 - 10 feet	Sapling
Black Raspberry	Low	< 5 feet	Tall Shrub
Witch Hazel	Low	5 - 10 feet	Tall Shrub
Hawthorn (spp.)	Low	< 5 feet	Tall Shrub
White Oak	Low	5 - 10 feet	Sapling

2-8-22
Aspen diameter averaging 6" although many pockets of lower diameter present. Canopy gaps filled in primarily with white pine, with a lesser component of cherry, b/r oak, witch hazel, RM, and RP. Rubus spp and hawthorn present in stand at low densities.

Old Comments 2014 YOE
Cut 2" and up in 1994 under 72-019-94-01. Aspen clones (mostly quaking) transitioning into the pole class. Areas between the clones are largely filled in with WP. Stand is mostly on a hill, with a steep drop at the north end down to a stream, and another steep drop in the south half onto the AuSable River valley.

84 4130 - Aspen Sapling Medium 17.5 2 Immature N/A

Canopy Species	% Cover	Size Class	DBH	Age
Bigtooth Aspen	66	Sapling	1	2
Red Maple	30	Sapling	1	2
Red Oak	1	Sapling	1	
White Pine	3	Sapling	1	

Sub-Canopy Species	Density	Avg. Height	Size
Witch Hazel	Low	5 - 10 feet	Tall Shrub
Black Raspberry	Medium	< 5 feet	Tall Shrub
Black/Red (Hybrid) Oak	Medium	< 5 feet	Sapling
Red Oak	Trace	< 5 feet	Sapling

January 31 2022
stand does not meet red oak objective

stocking is variable MD2 aspen 60% rm 30%(primarily stump sprouts) trace red oak 10%cherry moderate blackberry

one oak seedling observed and 4 to 6 oak stump sprouts heavily browsed.

stand is mostly recruited. with open areas having more blackberry
Recommend accept as is

Old Comments 2014 YOE
Cut under timber sale 72-019-15-01 Franks & Kittle oak by MLWF. Sale was closed 05/29/2019. A buffer of mature oak was left along Kittle Road. Was marked for thinning under 72-034-04-01 but the contract was closed incomplete. The stand has good quality NRO, small patches of BTA, suppressed-intermediate RM pole clumps, and widely scattered RP & WP saw. Dominant representative NRO had sub-mm annual increment.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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85	6220 - Alder/willow	Nonstocked	3.1			No	Hawthorne and spruce around the edges the Hawthorne is very large some of it over 20' tall. Smaller Hawthorne 4 foot and smaller are browsed heavily Is clone of quaking Aspen in northeast White spruce seated in from stand to the East Ranging in height from 4 to 20' tagg alder is dense through almost all of the stand. 80 to 90% of the red pine present in the stand has died or is dying Contact Forrest health to investigate farther however it appears to be due to higher water table is pable North and East portion of the stand are almost entirely dead redpine with Hawthorne doing very well underneath. In addition Western boundary of the stand where it butts up to the adjacent red pine is seen some additional redpine mortality in places. A couple Is saw sizeWolfy white pine are present. Other than the Aspen clone very little merchandability present in the stand tag alder with some salix & hawthorn. Relatively dry ground for tag alder. Portions were trenched through but the planting didn't take. Wet meadow inclusion in the SE. Some perimeter balsam poplar, RP & WP.
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86	4130 - Aspen	Sapling Medium	18.2	14	Immature	N/A	2-3-22
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Canopy Species	% Cover	Size Class	DBH	Age
Balsam Poplar	5	Sapling	1	14
Red Pine	2	Pole	5	
White Pine	5	Pole/Sapling	6	
Black/Red (Hybrid) Oak	2	Sapling	1	
Red Maple	10	Log/Pole	10	
Quaking Aspen	73	Sapling	1	14
Bigtooth Aspen	3	Sapling	1	14

Sub-Canopy Species	Density	Avg. Height	Size
Blackberry/Raspberry	Medium	< 5 feet	Tall Shrub
Black/Red (Hybrid) Oak	Low	5 - 10 feet	Sapling
Northern Pin Oak	Low	5 - 10 feet	Sapling
Balsam Fir	Medium	Variable	Sapling
Black Cherry	Low	5 - 10 feet	Tall Shrub
Tag Alder	Low	10 - 20 feet	Tall Shrub

Confirm old comments; In addition:
Open areas are recruiting hybrid oak and NPO as well as cherry spp. a minor Component of white pine red pine balsam fir and white spruce. Aspen clones occupy about 70% of the stand stocking with saplings approximately 20 to 25' tall. The majority of the rm present is similar age and height to the aspen with the residual supercanopy trees being recorded in the canopy data above.

Old Comments
The west half was a RP plantation and the east half was mature aspen, laid down by the October 2007 tornado and partially salvaged in 2008 under 72-009-08-01, leaving widely-scattered residual red maple, sugar maple and red pine trees. Regen from the harvest is quaking aspen with small components of bigtooth aspen, and balsam poplar along the narrow (2 to 3 foot wide) drain that flows the length of the stand. Two OFS points are wetland inclusions within the stand. The north OFS point is where the recorded tag alder occurs; a minute drain flows south out of it and feeds into the narrow drain. Aside from the OFS wetlands and the narrow drainage corridor, the stand is upland. The unsalvaged portions (mostly to east) have significant slash loads.

87	3104 - Degraded	Nonstocked	1.9			No	2/3/2022
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Sub-Canopy Species	Density	Avg. Height	Size
Black/Red (Hybrid) Oak	Trace	5 - 10 feet	Sapling
Balsam Fir	Low	5 - 10 feet	Sapling
White Pine	Low	>20 feet	Pole
White Spruce	Low	5 - 10 feet	Sapling
Red Pine	Low	>20 feet	Pole
Cherry (spp.)	Low	< 5 feet	Tall Shrub

White pine is open grown showing weevil damage. BF seeding in. Otherwise, same coments as past inventory.

Old Comments
Former gravel pit. Bare ground growing over with grass, spotted knapweed, white sweet clover, etc. There are scattered sapling-pole spruce, RP & WP along with aspen colonizing from the edges. Illegal ORV traffic.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
88	3105 - Mixed Upland Herbaceous	Nonstocked	9.2			No	Additional seeding/suckering in of w spruce, aspen, and balsam fir. Cherry spp, white pine, red pine and some spruce and balsam picks up toward stands interior. Oak is occasionally recruiting above browse height. All Variable heights Old Comments: The center/NE portion was a RP plantation and the NW & S portions were white spruce plantations, laid down by the October 2007 tornado and salvaged in 2008 under 72-009-08-01, leaving scattered residual white spruce & RP trees. Small amounts of regen filled in along the perimeter, mostly aspen and balsam fir. The stand overall is non-forested, with heavy forb/fern cover. The north polygon has deep slash and stump piles, with chest-high rubus.
Sub-Canopy Species		Density	Avg. Height	Size			
White Spruce		Low		Pole			
Quaking Aspen		Low	5 - 10 feet	Sapling			
Balsam Poplar		Trace		Sapling			
Black/Red (Hybrid) Oak		Trace	5 - 10 feet	Sapling			
Red Pine		Trace		Log			
Balsam Fir		Low	Variable	Sapling			
Black Cherry		Low		Tall Shrub			
White Pine		Low	Variable	Pole			



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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89 42110 - Planted Red Pine Sawtimber Well 16.2 58 201+ N/A

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
White Pine	2	Pole	8		White Spruce	Low	5 - 10 feet	Sapling
Red Pine	94	Pole/Log	9	58	Hawthorn (spp.)	Low	10 - 20 feet	Tall Shrub
Balsam Poplar	2	Pole	7		Black Cherry	Low	Variable	Tall Shrub
Quaking Aspen	2	Pole/Log	8		Balsam Fir	Low	5 - 10 feet	Sapling

February 2nd 2022
3 part poly
Stand has not been harvested yet under contract. Currently ground conditions in the stand under contract appear to be conducive to operation at time of feild visit. SE portion of Sale (PU 5) under contract has no access put in off of Cherry Creek road. If PURCHASER intends to harvest sale; access off of Cherry Creek Road (to PU5 in the SE of stand) should be put in during the summer (to properly install a temporary culvert). The sale inspector is Kubitskey and he is aware that ground conditions are frozen, and current site visit appears to indicate enough frost present to be conducive to harvest operations. Contract 72-014-16 North of Whirlpool has had 2 paid extensions and is set to expire 3/31/2022. Update: 2-25-22 It does not appear this contract will be harvested before expiration, Kubitskey is aware.

White spruce and balsam fire are present in the understory 4 to 15' tall 10% of each subcanopy Closure. Isolated Northwest portion of stand has largely died out (see Aerial). In addition a considerable amount of dead or flagging red pine around the perimeter were observed (as high as 40%). This is likely to due to higher water table (J. St. Piere also shared similar thoughts).

Pockets in the interior displaying signs of weak crowns. Signs of Ips Pini and larger beetle holes present on individual standing dead. It is hard to determine cause of death due to multiple factors (i.e. high water table, potential HRD/armillaria, or if primary cause is beetle outbreak).

NOTE IF SITE IS VISITED BY FOREST HEALTH SPECIALIST:
Primary areas to look at for health eval are the Western portion of the main stand and the isolated stand in the Northwest.

RP planted when the property was in CPC ownership. Third-row thinned & aspen/JP removed in 1994 under 72-019-94-01. SW edge of the stand was impacted by the 2007 tornado and is lower density. There are still a few heavy leaners and windthrown stems along the edge of the 2008 salvage area. The RP is only partially transitioned into the saw class, but with enough canopy representation in 10" plus DBH stems to call saw overall. The stand has small grassy opening inclusions that are filling in with balsam fir, WP & hawthorn. The recorded aspen is from small inclusions picked up along the stand's margins. There is also a trace of oak & RM along the perimeter. The stand's NW polygon is close to the water table; it has small openings with sensitive & ostrich ferns and wraps around a lowland brush stand. RP SI 70



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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90	3205 - Mixed Upland Shrub	Nonstocked	5.1			No	Oak is continuing to recruit around the edges of the stand occasional jackpine red pine balsam fir and spruce also present. Majority of stands interior is primarily cherry species varying in height from 6 to 20' Salvaged in 2008 under 72-009-08-01. Was a RP plantation, laid down by the October 2007 tornado. Much of the plantation area regenerated to aspen. This portion does not have enough regen to call forested. Aspen is filling in from the edges and there are scattered oak stump sprouts, but the cover is largely upland shrub/herbaceous.				
								Sub-Canopy Species	Density	Avg. Height	Size
								Red Pine	Trace	5 - 10 feet	Sapling
								White Spruce	Trace	5 - 10 feet	Sapling
								Northern Pin Oak	Low	5 - 10 feet	Sapling
								Quaking Aspen	Low	5 - 10 feet	Sapling
								Choke Cherry	Low		Tall Shrub
								White Pine	Trace	Variable	Sapling
								Balsam Fir	Trace	5 - 10 feet	Sapling
Black Cherry	Medium	Variable	Sapling								

91	4130 - Aspen	Sapling Well	9.2	28		N/A	Super canopy oak and red Maple 10 od so or so on North end. Aspen has outcompeted in the majority of other species on site and mechanically or approximately 30' tall with many stems still under 4" Some of the smaller stems have suffered snow damage and are bent over dead However the stand is still fully stocked. 15' tall cherry present throughout the sub canopy20%. The sub canopy also contains 5 to 10% red oak between 10 and 15' tall and 1% white oak 2% balsam fir, 1% white spruce 5 to 15 feet. Ground cover is 5% rubis species and 5 to 10% Hawthorne, Which Hazel is also present that approximately 5 to 10% Service Berry also present 1% At roughly geometric center of the stand a patch of Siberian crab Apple? Species species was observedCut 2" and up in 1994 under 72-019-94-01 and regenerated to aspen with small amounts of oak and balsam poplar. On a hill. The east side borders a deep drainage valley. The stand's steep south aspect is a drier site; the cover isn't as dense or well-developed and is heavier to cherry and oak than aspen. The rest of the stand is on a better site (PARVVb) with heavier cover and better growth. There is a fair amount of white ash in the ground cover and subcanopy.									
								Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
								White Ash	2	Sapling	3		Serviceberry (Juneberry)	Low	5 - 10 feet	Tall Shrub
								Bigtooth Aspen	30	Sapling	3		Black Cherry	Medium	5 - 10 feet	Tall Shrub
								Northern Pin Oak	3	Sapling	2		White Ash	Medium	Variable	Sapling
								Quaking Aspen	65	Sapling	3	28	Maple Leaved Viburnum	Low	< 5 feet	Tall Shrub
													Witch Hazel	Low	5 - 10 feet	Tall Shrub

92	4319 - Mixed Upland Forest	Sapling Poor	7.5	28	1-50	N/A	02-03-22 Western portion of stand primarily 15 to 20' tall quaking Aspen. Some younger aspen from 2007 tornado smaller DBH and height. Minor component of hybrid oak in openings. Conifer component picks up to the east. Old Comments 2014 YOE Five acres were cut in 1994 under 72-019-94-01. Two acres on the west end were salvaged in 2008 under 72-009-08-01 after the 2007 tornado. The stand has a mosaic of aspen regen alternating with balsam fir, cherry brush and WP regen. There was a fair amount of balsam fir residual from the 1994 harvest, now pole-sized. The stand is at the high end of the 25-50% canopy closure and is continuing to fill in. The younger aspen regen from the salvage is filling in nicely.									
								Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
								Quaking Aspen	50	Sapling	3	28	Black Cherry	Medium	5 - 10 feet	Tall Shrub
								Balsam Poplar	2	Sapling	2		Choke Cherry	Low	< 5 feet	Tall Shrub
								Balsam Fir	20	Pole/Sapling	5		Black/Red (Hybrid) Oak	Low	5 - 10 feet	Sapling
								White Pine	15	Sapling/Pole	2					
								White Spruce	9	Sapling	2					
								Black/Red (Hybrid) Oak	1	Sapling	2					
								Bigtooth Aspen	3	Sapling/Pole	3					



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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93	4123 - Red Oak	Sawtimber Well	34.8	115	81-110	N/A	2-6-22
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Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	5	Log/Pole	12	
Red Oak	80	Log/Pole	15	115
Red Pine	3	XLog/Log	20	
Bigtooth Aspen	10	Log	12	
White Pine	2	XLog	24	

Sub-Canopy Species	Density	Avg. Height	Size
Witch Hazel	Medium	5 - 10 feet	Tall Shrub
Maple Leaved Viburnum	Low	< 5 feet	Tall Shrub
Serviceberry (Juneberry)	Low	Variable	Tall Shrub
Red Pine	Trace	Variable	Sapling
Red Maple	High	Variable	Sapling
Balsam Fir	Trace	5 - 10 feet	Sapling
Red Oak	Low	< 5 feet	Sapling
Bigtooth Aspen	Low	10 - 20 feet	Sapling
Hazelnut (Beaked)	Medium	< 5 feet	Tall Shrub
White Pine	Medium	Variable	Sapling

Stand largely variable due to incomplete past harvest (see old comments)
Oak BA 60 to 100 ft²
aspens 0 to 100
rm 0 to 60
Overall stand ranges between 80 and 120 sqft

A couple larger canopy gaps are filling in with white pine and red oak
Overall the majority of the Western portion of the stand has white pine
establishing from seedling to 20' tall
In the Eastern half of the stand and as you move North more red Maple is
making its way into the sub canopy between 10 and 20' tall.

Some canopy gaps have Aspen cones that have made it The majority of
gaps in the canopy are dominated by 10% white pine and 60% red Maple
with some Aspen still hanging on

Area of stand to the West with the X log white and red pine is wet

Old Comments 2014 YOE
Was marked for thinning under 72-034-04-01 and partially cut in 2007
before the contract was closed incomplete. Most of the oak, some of the
RM and none of the aspen were cut. The stand is still dominated by oak,
with RM & aspen associates, and averages at the low end of 75-100%
canopy closure. The aspen ranges from immature pole to overmature
saw. The site and oak quality decrease in the E-W two-track valley and on
the south-facing hill along the CPC ROW. There is an acre inclusion of xlog
RP & WP in the stand's NW (OFS point). A good quality oak saw that had
70 BA circa showed minimal response to the thinning (~1 mm radial
increment vs. sub-mm pre-harvest).

94	6220 - Alder/willow	Nonstocked	2.1			No	Some spruce and balsam fir poking out. Trace muscle wood on the edge. Low density big tooth and balsam poplar along the edges Confirmed old comments
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Sub-Canopy Species	Density	Avg. Height	Size
Balsam Poplar	Low	5 - 10 feet	Sapling
Bigtooth Aspen	Low	5 - 10 feet	Sapling
Black Spruce	Low	5 - 10 feet	Sapling
Balsam Fir	Low	5 - 10 feet	Sapling

Old Comments:
Tag alder with some salix, spiraea, common elder. Culvert for narrow
stream currently dry.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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95 6129 - Mixed Coniferous Lowland Forest Sawtimber Poor 4.2 125 51-80 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Black Spruce	17	Pole/Log	8	
Northern White Cedar	30	Log	14	125
Tamarack	10	Log/Pole	12	
White Pine	2	XLog/Log	24	
White Spruce	5	Sapling/Pole	4	
Black/Red (Hybrid) Oak	1	Sapling/Pole	4	
Balsam Fir	25	Pole	7	14
Red Maple	10	Log/Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	10 - 20 feet	Sapling
Tag Alder	Medium	10 - 20 feet	Tall Shrub
Black/Red (Hybrid) Oak	Trace	10 - 20 feet	Sapling
Cherry (spp.)	Low	Variable	Sapling
Bigtooth Aspen	Low	10 - 20 feet	Sapling
Hawthorn (spp.)	Low	5 - 10 feet	Tall Shrub

02-03-2022
Considerable dead and down, could be considered a 2 aged stand(check MiFi manual)? Previous inventory age could be accepted with second age dominated by 2007 tornado disturbance origin. Sapling to log sized trees in all species except cedar, Sapling size cherry SPP also present. Sapling to pole oaks are trace but present along the northern boundary. Species composition transitions to more upland dec/mix with increasing elevation to the N boundary.

Old Comments 2014 YOE
Marginal mixed conifer stand including the transition zone to the uplands on the north side. At the bottom of that steep bank is a backwater swale with duckweed. Root-tipping common; some from the 2007 tornado and some due to the high water level/shallow rooting.

96 3104 - Degraded Nonstocked 0.8 No

Accept past comments. In the future have Bam harvested with stand 92 to expand expand stand.Old comments:Shallow former gravel pit. Sparse cover, mostly spotted knapweed. Sweetfern & balsam poplar filling in from the edges.

97 42310 - Planted Spruce Sawtimber Well 6.2 58 141-170 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Bigtooth Aspen	1	Log	15	
Balsam Poplar	1	Pole	8	
White Spruce	95	Pole/Log	9	58
White Pine	2	Log	12	
Red Pine	1	Log	10	

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	10 - 20 feet	Tall Shrub
Cherry (spp.)	Low	< 5 feet	Tall Shrub
Hawthorn (spp.)	Low	10 - 20 feet	Tall Shrub

2-3-22
3 part poly.
Nearly all of the red pine and some of the white pine along the perimeter appears to have died. The spruce ranges in diameter from 4 to 10" With scattered individual stems as large as 14". Spruce range in height from 45 to 60' tall exc suppressed stems still alive markedly shorter. Self thinning is occurring in the shorter smaller diameter stems.

Stand could be thinned in drier frozen conditions although access would be difficult for the overall acreage. If stand is left as is it's currently providing good thermal cover.

Old Comments
White spruce planted when the property was owned by CPC. The spruce is stocky, with persistent dead branches down to the ground. Barely upland, with small tag alder swale inclusions and extensive lowland interface. The stand picks up scattered RP, WP and aspen stems, mostly on the perimeter.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																																																												
98	6112 - Lowland Aspen	Sawtimber Well	29.2	66	81-110	N/A	2-02-22																																																																																												
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Canopy Species	% Cover	Size Class	DBH	Age																																																																																															
Sugar Maple	4	Log/Pole	14	91																																																																																															
Black/Red (Hybrid) Oak	1	Log/Pole/Sap	12																																																																																																
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99	6220 - Alder/willow	Nonstocked	1.0		Unspecified	No	Old Comments Confirmed Old comments 2014 YOE Tag alder and some salix, being colonized by balsam fir and tamarack.																																																																																												
100	110 - Low Intensity Urban	Nonstocked	8.2			Managed Opening	Whirlpool AuSable River Canoe access site & parking lot, county road corridor, couple sub-acre patches of upland brush, aspen regen & scattered trees, and lowland brush along the AuSable River.																																																																																												



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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101 6112 - Lowland Aspen Sawtimber Well 1.5 65 111-140 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Paper Birch	1	Pole/Log	8	
Quaking Aspen	60	Log/Pole	12	65
Balsam Poplar	5	Log	14	
Balsam Fir	26	Pole/Log	9	
Basswood	3	Log	14	
Red Maple	5	Log/Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
Hawthorn (spp.)	Low	5 - 10 feet	Tall Shrub
Balsam Fir	Medium	10 - 20 feet	Sapling

02-2-22
Past comments are accurate although no NWC observed. One live elm observed adjacent to river. Basswood mostly adjacent to river. Aspen has better form in higher ground areas but in depressions and closer to the river more has died or observe broken tops. White Birch is declining or dead dead in most places. Some canopy gaps still exist but canopy is currently at approximately 75% closure. Most black ash and elm has fallen over. Subcanopy has 30-40% closure of BF, heights are variable. Stand is not recommended for harvest Because it is adjacent to river, small acreage, high water table, sensitive soil and difficult operating conditions. Current recommendation is to do nothing and keep for decadence and wildlife value adjacent to river.

Old Comments:
Mature quaking aspen with an overmature component, along with balsam fir and balsam poplar. Occasional paper birch and basswood and a trace of NWC. The black ash and American elm have largely died out. Balsam fir-dominated subcanopy. Slash accumulation from breakup in the overmature components and species mortality. Just enough of the canopy is made up of saw-sized stems that it hits the overall saw benchmark.

103 42310 - Planted Spruce Sawtimber Well 5.7 58 141-170 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	5	Log/Pole	13	
Balsam Fir	2	Pole	6	
White Pine	3	Log/Pole	14	
White Spruce	90	Pole/Log	9	58

Stand offers good thermal cover. No Tx recommended for wildlife value, in addition, see old comments in draft Tx notes. Confirmed past stand comments. Gate to where cpc cabin was appears to have had the wire removed. North of Cherry Creek road by double section corners 2 witnesses 1 white spruce and 1 white pine observed on site visit 02/02/2022. Revisit stand with paint to ring with red and hang flagging on nails.

Old Comments
White spruce planted when the property was owned by CPC. The spruce is stocky, with persistent dead branches down to the ground. Barely upland, with a vernal pond in the NW (OFS pt) and extensive lowland interface. The NW corner of the stand has a small inclusion of aspen, balsam fir and paper birch around the wetland. The inclusion at the south end is a small grassy opening with a powerline corridor and former CPC lease cabin (OFS pt.) WS SI 64.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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104 6130 - Fir, Aspen, Maple Sawtimber Medium 10.6 61 51-80 N/A February 2nd 2022

Canopy Species	% Cover	Size Class	DBH	Age
Black Cherry	1	Pole	6	
Paper Birch	2	Pole/Sapling	6	
Red Maple	5	Log/Pole	12	
White Pine	1	Log/Pole	12	
Quaking Aspen	40	Log/Pole	14	61
White Spruce	2	Pole/Sapling	6	
Balsam Poplar	5	Pole	8	
Black Spruce	3	Pole/Sapling	4	
Northern White Cedar	15	Log/Pole/XLog	14	140
Black/Red (Hybrid) Oak	1	Log/Pole	14	
Balsam Fir	25	Pole/Log/Sap	7	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Poplar	Low	5 - 10 feet	Sapling
Balsam Fir	Medium	Variable	Sapling
Tag Alder	Medium	10 - 20 feet	Tall Shrub
Witch Hazel	Low	10 - 20 feet	Tall Shrub
Hawthorn (spp.)	Low	5 - 10 feet	Tall Shrub
Black Spruce	Low	Variable	Sapling

Past comments confirmed with following additions. Tag alder swales with pockets of BAM inclusions. Higher sites are dominated by overmature aspen with listed associates. Dead black ash and elm is largely on the ground. Variably sized CWD (pole to x-log size) on the ground from 2007 tornado and the dead ash and elm throughout stand. Canopy gaps have filled in at variable densities and compositions. Primarily balsam fir on the higher sites and tag alder on the lower sites with scattered black spruce seeding in. Hawthorne is present throughout stand. A small pocket of pole sized black spruce in poor condition is present closer to the river. Basal area is variable ranging from 40 or less to over 100 sqft.

Old Comments:
Stand is lowland overall, with bands of slightly higher ground. It's driest near the county road, with a swath of slightly younger aspen, then grades down to the AuSable River floodplain where there are a couple acres of cedar and balsam fir. In between are old oxbows, former black ash swales, and PARVCo ridges. The predominant cover there is mature quaking aspen with balsam fir and red maple. There was black ash and American elm, but those species are largely gone now. Areas that were heavy to black ash have dropped to 25-50% canopy closure. Slash is accumulating through windthrow and breakage in the overmature components.

105 42290 - Natural Mixed Pine Sawtimber Well 1.6 68 111-140 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	10	Log	14	
Bigtooth Aspen	10	Log	14	
Balsam Fir	5	Pole	6	
White Pine	55	Log/XLog/Pole	12	68
Red Pine	15	Log/XLog/Pole	16	112
Red Maple	5	Log/Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	Variable	Sapling
Ironwood	Low	>20 feet	Sapling
Musclewood/Hornbeam	Low	5 - 10 feet	Tall Shrub

Old Comments confirmed. No Trespass signs along powerline are too far south onto state land.

Old Comments 2014 YOE
Small stand north of county road, bounded by private. A powerline corridor and a drain cut through the stand. Aside from the drainage swale, the stand occupies a steep upland ridge. Mainly WP & RP with mixed deciduous, including a trace of sugar maple & basswood. A few supercanopy RP & WP seeded in the majority cover. East end of the stand underburned in a wildfire the previous year.

106 6120 - Lowland Cedar Sawtimber Medium 8.1 125 51-80 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Northern White Cedar	65	Log/Pole	12	125
Red Maple	2	Log/Pole	10	
Paper Birch	2	Pole/Log	7	
Quaking Aspen	5	Pole/Log	7	
Black Spruce	3	Log/Pole	10	
Balsam Poplar	3	Log/Pole	12	
Balsam Fir	20	Pole	5	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	High	10 - 20 feet	Sapling
Tag Alder	Low	Variable	Tall Shrub

Old Comments confirmed Black ash has mostly fallen over,

Old Comments 2014 YOE
After the steep drop by the county road's guardrail edge, the stand is on a shallow gradient down to the AuSable River. PARVCo & lower, with a feeder stream cutting through. The cover is primarily NWC, with balsam fir and minor amounts of lowland deciduous. There was black ash, but it is all dead now. Decadence is weeding down the older components across all species, adding to the slash load. The only thing keeping this stand from dropping down to 25-50% canopy closure is the increasing balsam fir component.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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107 4133 - Aspen, Mixed Pine Poletimber Well 1.6 57 81-110 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Northern Pin Oak	2	Log/XLog	14	
Balsam Fir	10	Pole	7	
Red Pine	10	XLog	20	
Red Maple	15	Log/Pole	12	
Quaking Aspen	20	Pole	8	56
Paper Birch	3	Log/Pole	10	
Bigtooth Aspen	25	Pole	7	57
White Pine	15	Pole/Log	8	

Sub-Canopy Species	Density	Avg. Height	Size
White Pine	Low	Variable	Sapling
Red Maple	Low	Variable	Sapling
Black Cherry	Low	10 - 20 feet	Tall Shrub
Balsam Fir	Low	Variable	Sapling
Northern Pin Oak	Low	10 - 20 feet	Sapling

Stand was excluded when adjacent stand 25 was harvested. Wetland inclusions and legecay pine present. Witness trees present at SW county road intersection.

Old Comments Behrmen?
Areas excluded when adjacent stand 25 was harvested in Nov. 2018 (72-006-15),

Old Comments 2014 YOE
QA & BTA with a deep list of minor mixed conifer and deciduous associates. The aspen is generally pole-sized and in the mid-40's, with a minority of stems either large sapling or overmature saw in size. The JP is very overmature. Large cull RM and a trace of black spruce occur near the L-type stand. OFS points along the county road are small wetlands. The xlog RP is concentrated in the SW near the county road intersection. The stand is upland overall, but has some PARVCo inclusions adjacent to the lowland brush stand and wetland inclusions.

108 6117 - Lowland Deciduous, Mixed Coniferous Sawtimber Medium 3.4 120 51-80 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Paper Birch	3	Pole/Log	8	
Quaking Aspen	6	Pole/Log	8	
Balsam Fir	4	Pole	7	
Black Spruce	3	Pole/Sap/Log	8	
Northern White Cedar	2	Pole/Log	9	
White Pine	2	XLog	24	
White Pine	23	Log/Pole	10	66
Red Maple	55	Log/Pole	12	120

Sub-Canopy Species	Density	Avg. Height	Size
Black Cherry	Low	Variable	Tall Shrub
Tag Alder	Low	Variable	Tall Shrub
Balsam Fir	High	Variable	Sapling
White Pine	Low	5 - 10 feet	Sapling

old comments confirmed. small stream comes in off private flowing southold comments 2014 yoeAreas of Stand 8 that were boundary excluded during t-sale "Stalagmite Miner" (72-006-15).On transition ground sideslope between the uplands and lowlands; PARVCo overall. Generally large cull RM with WP and minor lowland deciduous/conifer components. Scattered above are supercanopy WP & RP. The subcanopy is balsam fir-dominated. The stand boundary includes pockets heavy to large pole/small saw WP and also incorporates a sub-acre pocket of NWC at the stream headwaters. The stand's south peninsula was a narrow strip excluded from the adjacent 1996 harvest as a buffer along the stream and pond. SW OFS point is a small intermittent wetland.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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113 4191 - Mixed Upland Deciduous with Conifer Sawtimber Well 40.4 60 111-140 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	35	Log	11	60
White Pine	15	Pole	7	
Red Oak	25	Log/XLog	12	
Jack Pine	15	Pole/Log	9	
Red Maple	7	Pole/Sapling	6	
Black Cherry	1	Pole/Sapling	5	
Red Pine	2	Log/XLog	14	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Trace	5 - 10 feet	Sapling
Hazelnut (Beaked)	Medium	5 - 10 feet	Tall Shrub
Hawthorn (spp.)	Low	5 - 10 feet	Tall Shrub
Nannyberry	Low	5 - 10 feet	Tall Shrub
Red Maple	Medium	>20 feet	Sapling
Serviceberry (Juneberry)	Low	10 - 20 feet	Sapling
Cherry (spp.)	Low	Variable	Sapling
White Pine	Medium	Variable	Sapling
Beech	Trace	5 - 10 feet	Sapling
White Oak	Trace	10 - 20 feet	Sapling

The stand is characterized as rolling topography decreasing in elevation from north to south. The quality of timber is better along the northern portion of the stand and declines as soils become poorer to the South. There are pockets of aspen and mixed pine including Jack pine white pine and red pine. The jack pine are declining or dying In many areas throughout the stand and there is widespread oak die back or oak wilt as well (current mortality appears to be greater than 20% in most areas). Diameters for all species are variable throughout the stand ranging from sapling to X log canopy trees.

The sub canopy is characterized as having ls moderate white pine and red Maple regeneration of variable height, and trace or low balsam fir regeneration. Areas with lower density crown closure do show variable age and height oak regeneration which should be protected If the stand is harvested. In addition; add wildlife shrubs spec to protect beaked/witch hazel, hawthorne, serviceberry and nannyberry.

Focus retention from the center of the 40 South To the consumer's energy easement. Around the area where the Aspen red oak and Jack pine has primarily died out in the overstory and allowed approximately 20 to 25' red oak, white oak, and red maple (maybe 10% in described area is rm) regeneration to establish.

138 4139 - Aspen, Mixed Deciduous Poletimber Medium 9.0 55 51-80 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	3	Log/XLog/Pole	16	
Jack Pine	5	Pole	7	
Red Maple	15	Pole/Log/Sap	8	
Quaking Aspen	32	Pole/Log	8	55
Bigtooth Aspen	20	Pole/Log	8	59
White Pine	5	Pole/Log	8	
Balsam Fir	5	Pole	8	
Northern Pin Oak	15	Log/Pole	14	106

Sub-Canopy Species	Density	Avg. Height	Size
Northern Pin Oak	Low	Variable	Sapling
White Pine	Low	Variable	Sapling
Balsam Fir	Low	Variable	Sapling
Black Cherry	Low	Variable	Tall Shrub
Red Maple	Low	Variable	Sapling
Serviceberry (Juneberry)	Low	Variable	Sapling

February 24th 2022
Retention from stand 38 harvest see old comments

Old comments 2014 YOE
Part of original stand 38 excluded from harvest due to low ground. Carried forward original stand 38 species records and comments: Variable aspen stand with significant mixed oak, RM and conifer components. WP, balsam fir, RP & JP occur throughout as scattered individual stems and in small concentrated pockets. The mature oak has been breaking up. There is a vigorous large-sapling/small pole oak component that extends into the canopy. The ground is upland overall, but includes transition ground bordering the lowland brush stands.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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156	6112 - Lowland Aspen	Sawtimber Well	25.0	63	81-110	N/A	February 15th 2022 RMZ buffer and retention from when stand 56 was harvested (#006-19 Dec 2020). Stand has a mix of balsam fir, white spruce, red pine, white pine, quaking and big tooth aspen, red maple and a few scattered oak on the upland perimeter. supercanopy 1% wp and rp. rp is wolfy and candidate for cavity trees with fire scars and many split tops. Aspen tops breaking up in places. ==>eastern polygons of stand are inaccessible due to Lowland types. Approx 50 percent of aspen has been cut by beavers here. currently transitioning to 2 aged with white pine then cherry then oak filling in the subcanopy with the interior overmature aspen and mature oak and RM with some conifers.) Old Comments: Part of original stand 56 excluded from harvest for retention or to exclude low ground and RMZs. Carried forward original stand 56 species records and comments: Aspen-RM stand on ground generally close to the water table. The stand's SE is the wettest; it has a higher proportion in RM and also picks up a trace of balsam poplar along the narrow drain. The stand has two upland polygons that are cut off by drainage/lowland brush swales.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Pine	2	XLog/Log	22		Hazelnut (Beaked)	Low	5 - 10 feet	Tall Shrub
White Spruce	2	Pole	8		Hawthorn (spp.)	Low	< 5 feet	Tall Shrub
Red Maple	10	Log/Pole	12	82	Michigan Holly	Low	5 - 10 feet	Tall Shrub
Paper Birch	2	Log/Pole	12		Wild Raisin	Low	5 - 10 feet	Tall Shrub
Balsam Fir	15	Pole	6		Serviceberry (Juneberry)	Low	Variable	Tall Shrub
Northern Pin Oak	2	Log/XLog	16		Balsam Fir	Medium	Variable	Sapling
White Pine	2	Log/Pole/XLog	12		Red Maple	Low	10 - 20 feet	Sapling
Quaking Aspen	65	Log/Pole	12	63	Black Cherry	Low	Variable	Tall Shrub
					White Pine	Low	Variable	Sapling
					Tag Alder	Low	5 - 10 feet	Tall Shrub
					White Spruce	Low	Variable	Sapling
					Witch Hazel	Low	5 - 10 feet	Tall Shrub

238	4139 - Aspen, Mixed Deciduous	Poletimber Medium	4.8	55	51-80	N/A	Retention excluded from harvest of original stand 38 (see old comments) Old comments 2014 YOE Part of original stand 38 excluded from the harvest for retention and other buffers. Carried forward original stand 38 species records and comments: Variable aspen stand with significant mixed oak, RM and conifer components. WP, balsam fir, RP & JP occur throughout as scattered individual stems and in small concentrated pockets. The mature oak has been breaking up. There is a vigorous large-sapling/small pole oak component that extends into the canopy. The ground is upland overall, but includes transition ground bordering the lowland brush stands. A wildfire underburned in the stand's SE corner the previous YOE.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	15	Pole/Log/Sap	8		Black Cherry	Low	Variable	Tall Shrub
Quaking Aspen	32	Pole/Log	8	55	Serviceberry (Juneberry)	Low	Variable	Sapling
Bigtooth Aspen	20	Pole/Log	8	59	Red Maple	Low	Variable	Sapling
Balsam Fir	5	Pole	8		Northern Pin Oak	Low	Variable	Sapling
White Pine	5	Pole/Log	8		Balsam Fir	Low	Variable	Sapling
Red Pine	3	Log/XLog/Pole	16		White Pine	Low	Variable	Sapling
Jack Pine	5	Pole	7					
Northern Pin Oak	15	Log/Pole	14	106				