



Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 61046

Entry Year 2025

Acreage: 3,131

County Grand Traverse

Management Area: Kalkaska Sandy Moraines

Stand Examiner: Pat Ruppen

Legal Description:

Sections 1, 2, 11 & 12 T26N-R9W, and Sections 25, 35 & 36, T27N-R9W, Grand Traverse County

Identified Planning Goals:

This compartment is located within the Kalkaska Sandy Moraines Management Area. A plan for the management of this area currently under development and review. This compartment also falls within Land Type Association 5111 in Sub-section VII 2.2. This is described as broad, flat, excessively drained outwash plain with few kettle lakes. This sub-section has relatively high elevation and extreme temperature variations. Pre-settlement vegetation was primarily conifer forests and pine barrens on the most fire prone sites. Mixes of white pine, oak, and other conifers occupied the less fire prone sites while beach/sugar maple association forests were found on the least fire prone sites. Wildfires were common and large and areas of wind throw were also reported. Due to wildfire suppression and conversion to xeric pine plantations, the extent of pine barrens has been greatly diminished. Some poorly drained outwash supporting conifer swamps with uplands inclusion were found and are present in this compartment. Current vegetation shows a shift from lowland conifers to lowland hardwoods and a large increase in aspen/birch forests which have replaced coniferous forests as compared to pre-settlement levels. There are many rare and threatened species associated with the Land Type association and the majority of them are commonly found in pine or oak/pine barrens. Several management focuses are recommended as a result of field inventory and analysis. Stands of mixed pine with an aspen and oak component were in the 80-90 year age class. Some of these stands are recommended for final harvest and replanting to restart a stand of managed red pine. Several stands were noted with low stocked jack and white pine and red maple/cherry regeneration formed after prior harvests. These stands are prescribed to be harvested and planted to establish a well-stocked red pine stand. An area in the north half of Section 12 is under current management as a Barrens Restoration project. It is recommended that this area be maintained with prescribed fire. Several natural white pine stands are prescribed for crown thinning to maintain the health and growth in these stands. An area of mature aspen is also recommended for harvest to restart this aspen stand and build age class diversification in the area.

Soil and topography:

Rubicon. Rwa most common. C in low areas. Some Cra in south part of Section 1. Terrain is level to rolling with steep banks in some areas along river floodplain.

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

Complete State of Michigan ownership in east ½ of compartment. Mixed ownership in west ½.

Unique Natural Features:

North and South Branch of Boardman River along with associated tributaries. Element Occurrence of Hill's Thistle in Section 35 along Broomhead Road.

Archeological, Historical, and Cultural Features:

none known but high potential for historical sites along bluffs of Boardman River.

Special Management Designations or Considerations:

The North and South Branches of the Boardman River are Designated Natural Rivers. An Area in the north ½ of Section 12 will be managed as A Special Conservation Area- Oak/Pine Barrens.

Watershed and Fisheries Considerations:

Both the North and South Branches of the Boardman River can be found within this compartment. Both of these streams are top quality, naturally reproducing trout streams. Though none of the proposed treatments appear as though they will have any impact on the riparian zones of these streams, the appropriate BMP's and Natural Rivers buffers should be adhered to.

Wildlife Habitat Considerations:

This compartment falls entirely within a broad, flat outwash plain with few wetlands and excessively drained sandy soil. Consequently, this is a fire-driven landscape, so a range of habitat conditions from open barrens to some late-successional forests, in various fire protected locations, is appropriate. Thus management should continue to promote various age

classes and species mixes of oak-aspen-pine forest through burning and timber harvest. Final harvests should retain as many snags and downed logs as possible as well as a variety of residual live trees, especially oak and mast bearing shrubs like Juneberry and hawthorn. Sale operations should leave as many tops as possible unchipped which can be left in brush piles for small animal cover.

Oak Pine Barrens restoration work has taken place in section 12. Approximately 200 acres now have been burned multiple times and will continue as needed. Both rare and common wildlife species utilize the unique blend of habitat components provided by barrens. Several abandoned oil well sites within the restoration area will need work to eliminate invasive species. Species benefiting from this habitat would include white-tailed deer, fox squirrel, badger, red fox, Eastern box turtle, ruffed grouse, prairie warbler, Eastern bluebird, as well as a host of common and rare invertebrates and plants.

The compartment is split in several locations by the North and South Branches of the Boardman River. These riparian areas should be primarily managed for lowland mixed forest, including cedar and hemlock. These riparian corridors provide valuable travel corridors for wildlife and deer use them for winter cover. Natural disturbances included beaver activity and small blowdown patches, which can be mimicked with occasional patch cuts if necessary. Species utilizing this habitat include bear, bobcat, raccoon, silver-haired bat, snowshoe hare, and white-breasted nuthatch.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift is the Mississippian Coldwater Shale. There is no current economic use for the Coldwater. The nearest gravel pit is one mile to the southeast and there could be potential. This area is located along the south edge of the prolific Guelph (Niagaran) reef trend. Most of the Compartment is leased and held by old leases. Additional reefs may be found in this compartment. The Antrim Shale has not been developed in this area and may be too deep. Most of the Compartment has been leased for underground gas storage of the older producing fields.

Vehicle Access:

Access is relatively good with routes on County Roads and forest roads.

Survey Needs:

None known at this time.

Recreational Facilities and Opportunities:

Snowmobile Trail #55 (Boardman Valley Snowmobile Trail) runs East/West along the southern portion of the compartment. The Grand Traverse motorcycle trail is located in the SW corner of this compartment. The Shore to Shore & North Country Trail riding and hiking trail goes through the NW corner of this compartment. The Grand Traverse motorcycle trail is designated by the Directors Order to remain a "2 wheeled vehicle only use trail"-therefore this trail should be kept tight, narrow, and curvy. Un-merchantable vegetation & understory trees adjacent to this special cycle trail should be protected, and remain next to the tread to promote narrow use. Merchantable trees removed directly adjacent to the cycle trail should be flush cut to insure stumps aren't hidden by ferns, resulting in an unsafe condition. The appropriate trail protection specifications used for each of these 3 types of trails would reduce impacts on users, increase safety, and educate the recreational user on the benefits of using sound silvics to manage our multi-use forest resource. Non-winter harvests near the snowmobile trail, flush cut stumps adjacent to the motorcycle trail, and leaving a debris free tread on the horse/hiking trail are all suggested considerations. Hunting and fishing are popular in this compartment. (TMN 3/13)

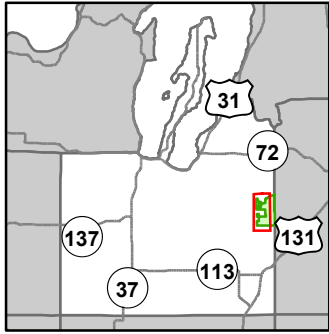
Fire Protection:

Fire protection for this area is covered from the Traverse City Field Office with back up support from Kalkaska DNR and local township fire departments. Manton DNR can also respond if require to assist. Road access into the compartment is relatively good with a combination blacktop and dirt roads running through the compartment. Travel time for fire suppression is reasonable.

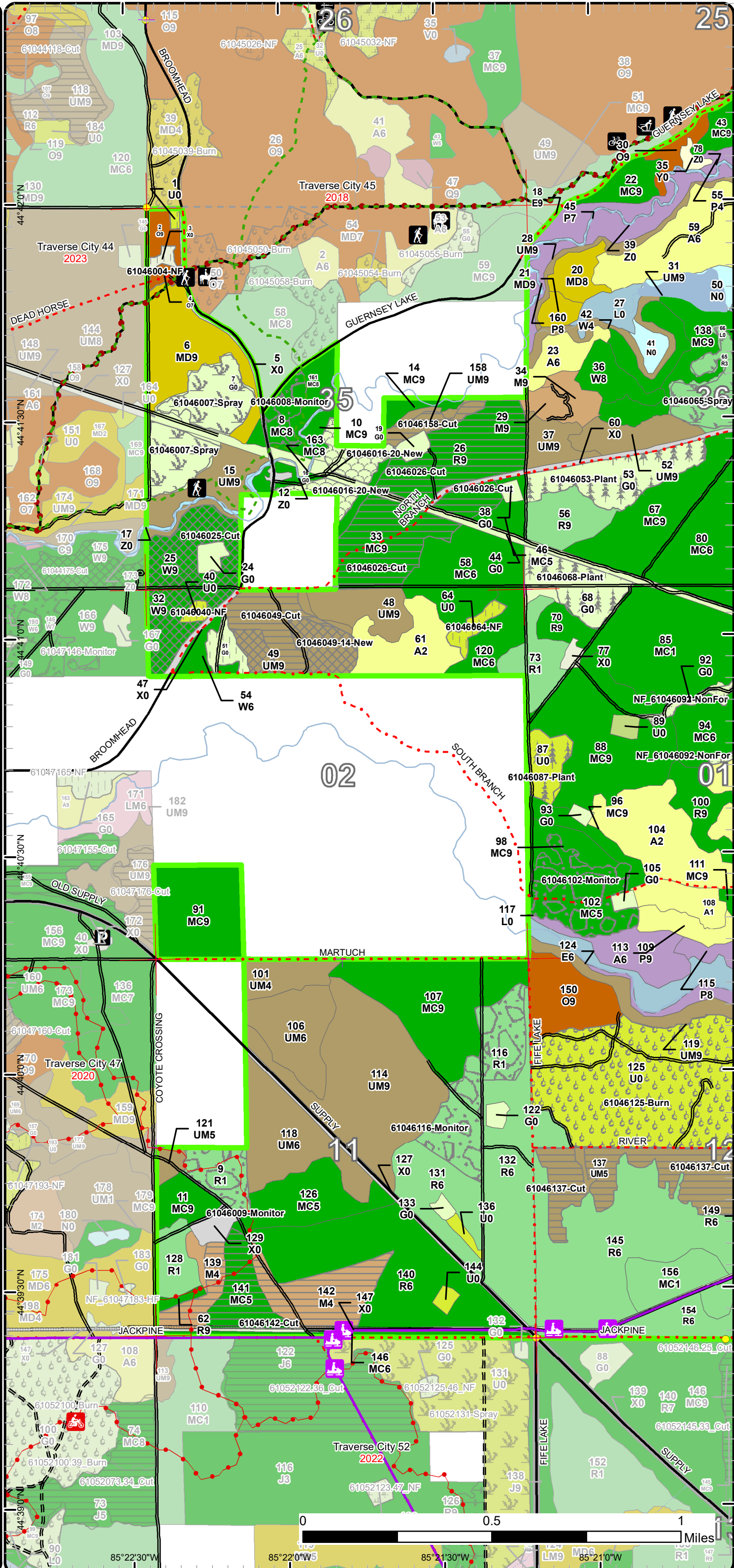
Additional Compartment Information:

Cover Type & Treatments Map

Compartment: 46
 T27N-R9W Sec.25,35,36
 County: Grand Traverse
 Unit: Traverse City
 Mgmt Area: Kalkaska Sandy Moraines
 YOE: 2025
 Acres: 3130.7 GIS Calculated
 Examiner: Pat Ruppen
 Map Revised: 5/10/2023
 Map Phase: Web-Post

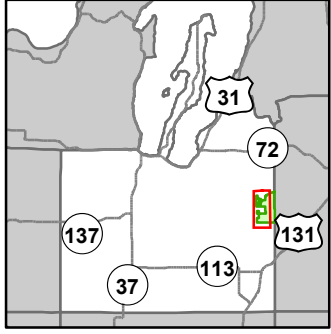


- Miris Corners
- + Remonumented Section Corners
- Survey Grade Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- County - Gravel Road
- Private - Dirt / Gravel Road
- Hiking Trails
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- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Berms
- Parking Lot
- Pipeline
- Compartment Boundary
- Pesticide
- Other Treatment - See Comments
- Selection (Group, Single Tree)
- Planting (Tree Species)
- Clearcut (w/Reserves)
- Prescribed Burn
- Regeneration Survey
- Opening Maintenance
- Site Prep
- 411 - Northern Hardwood
- 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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- 310 - Herbaceous Openland
- 320 - Upland Shrub
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- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 710 - Sand/Soil
- 790 - Other Bare/Sparsely Vegetated

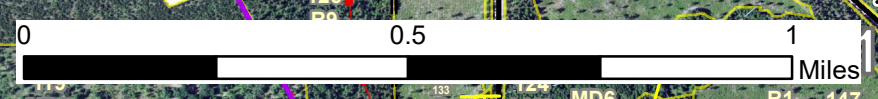
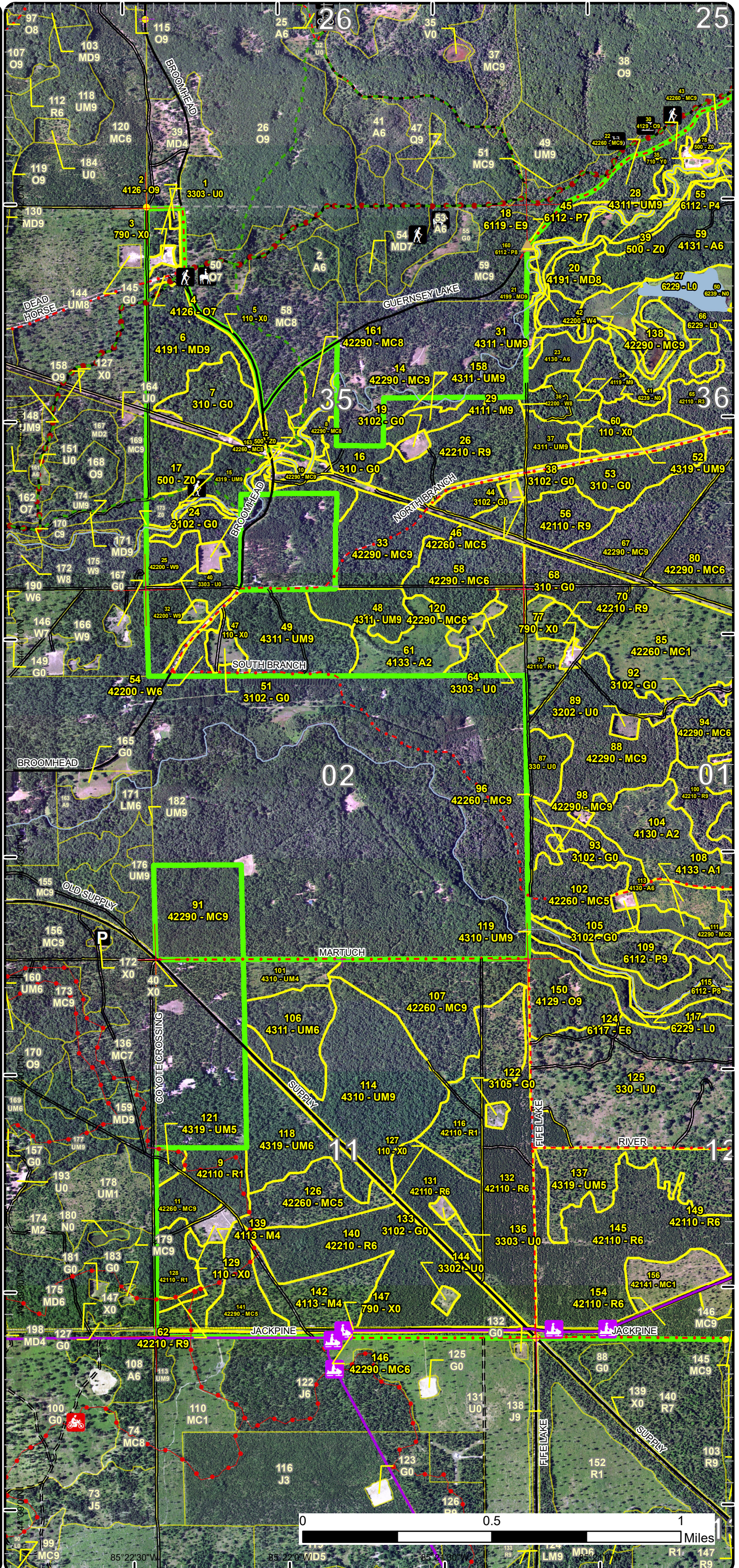


Stand Boundary Map

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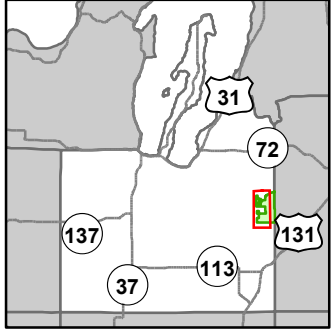


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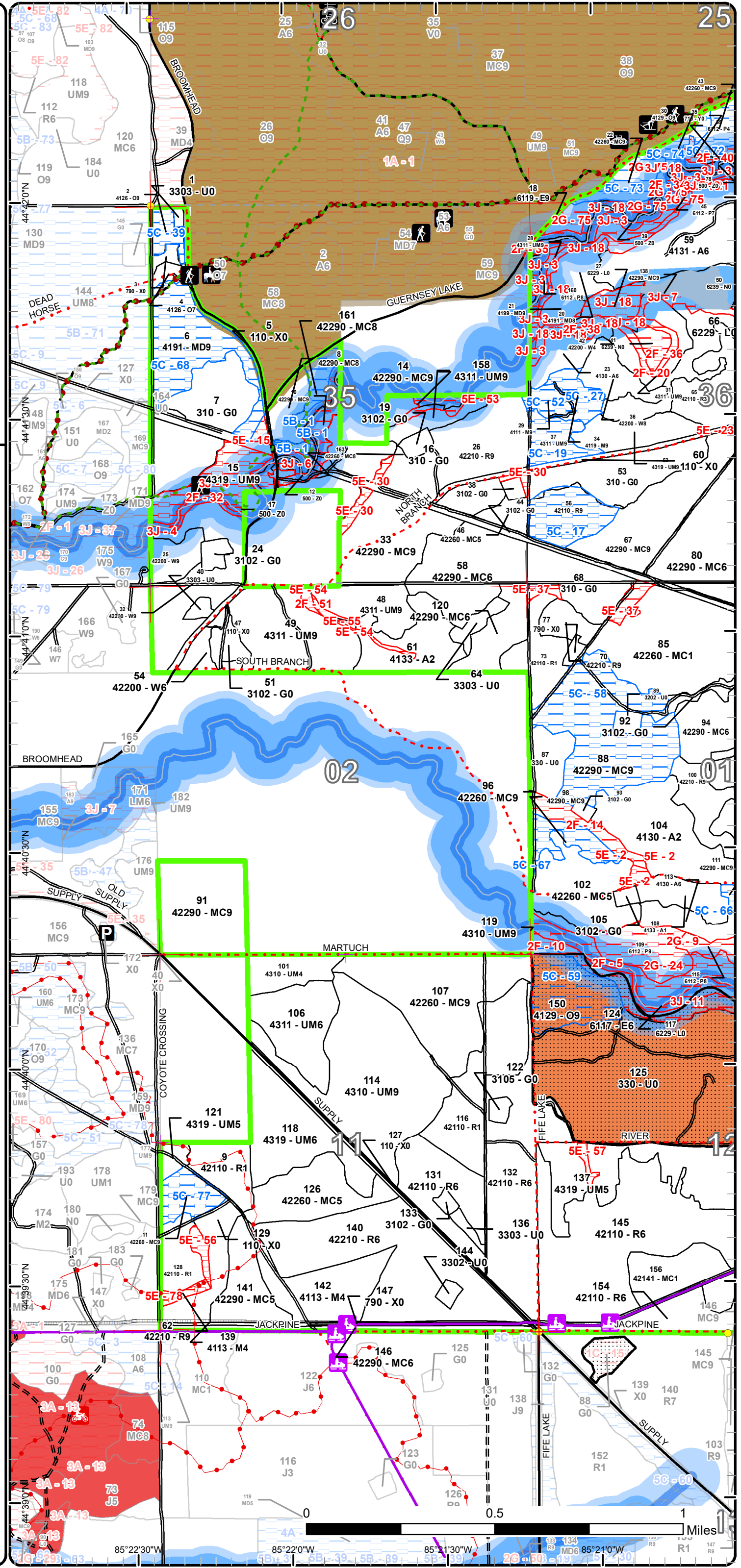


Special Conservation Areas

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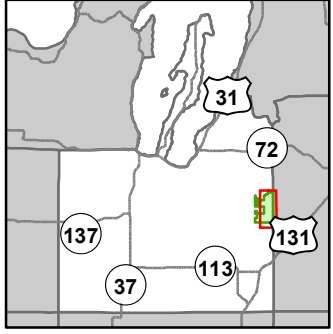


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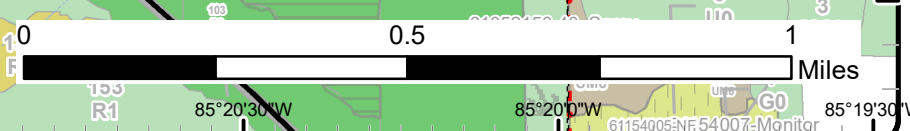
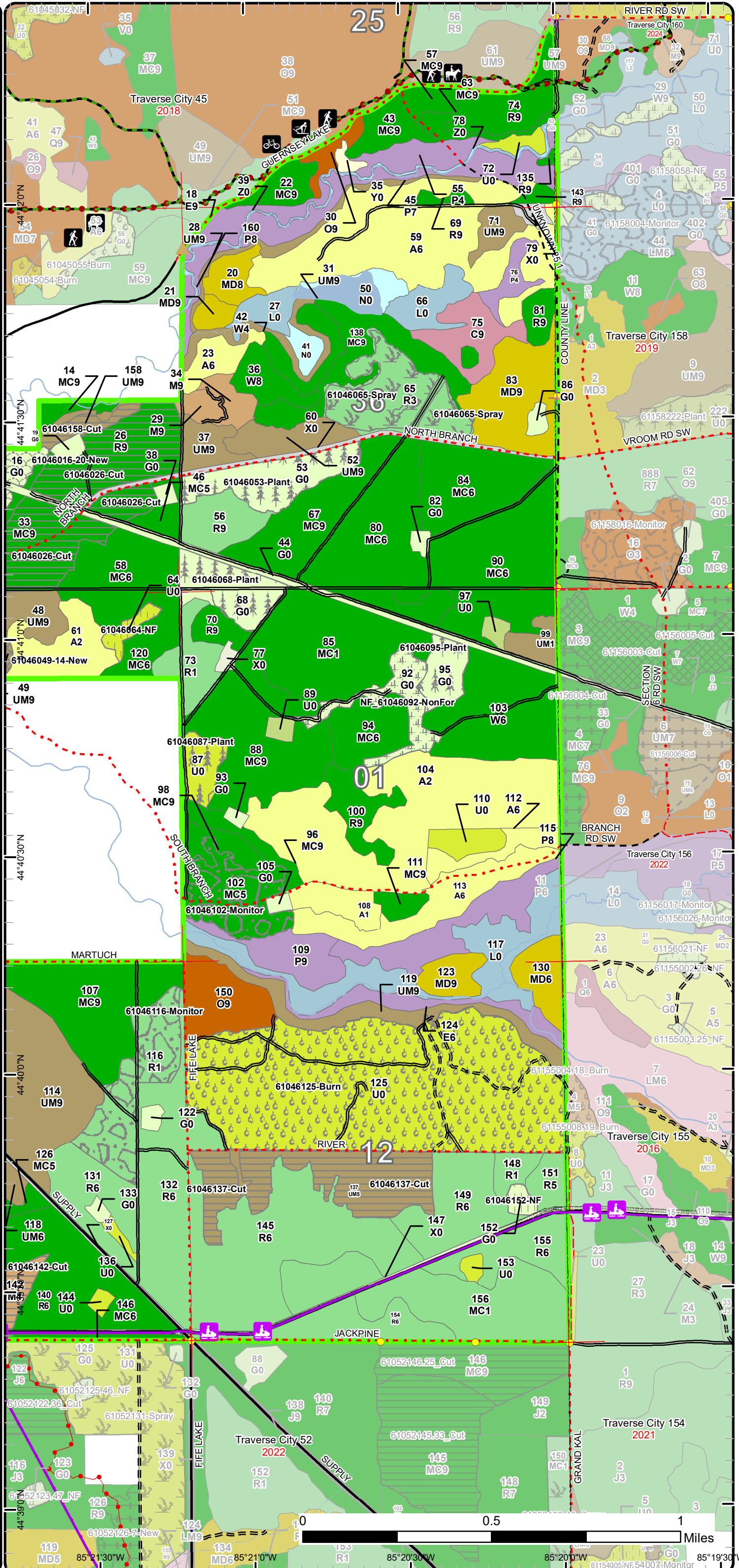


Cover Type & Treatments Map

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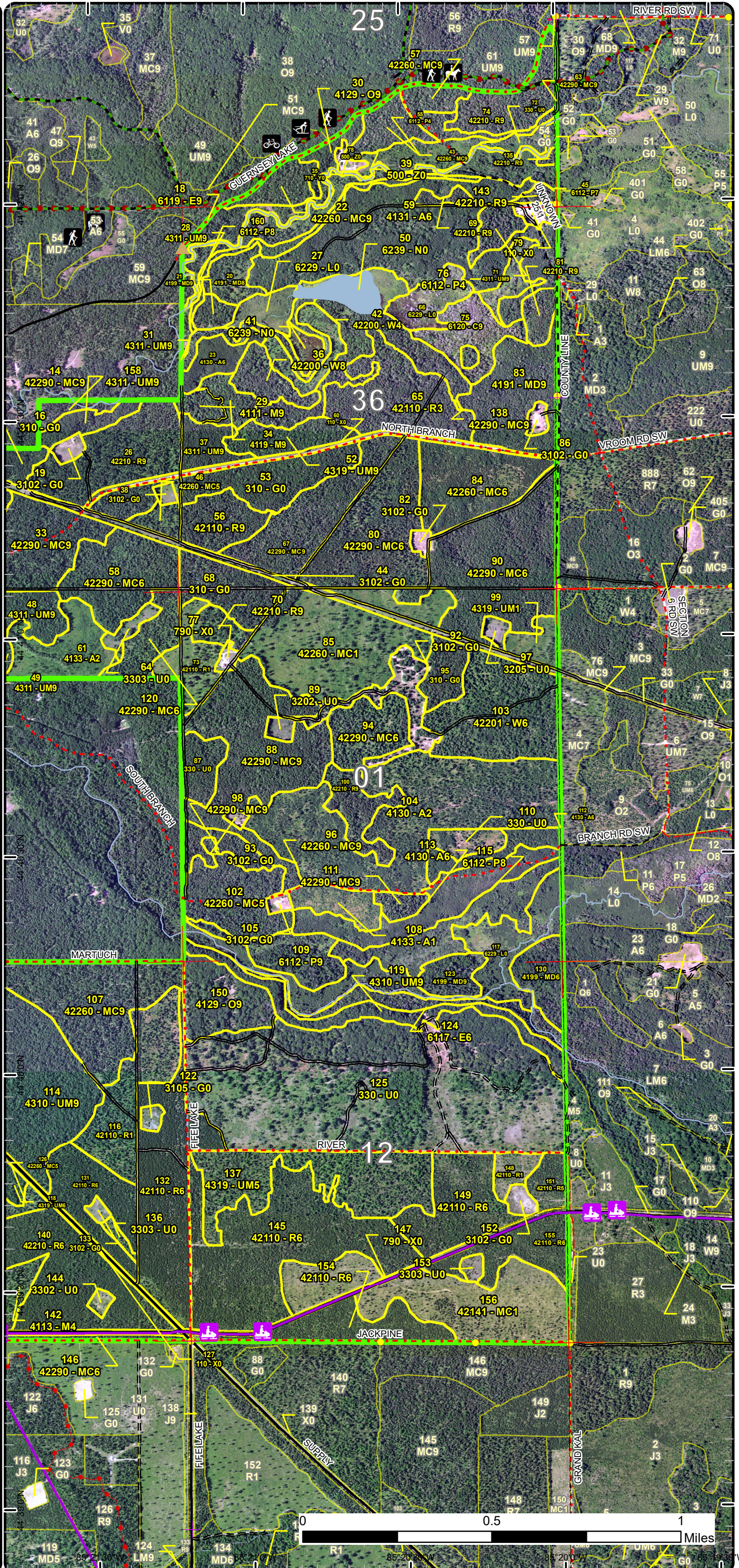
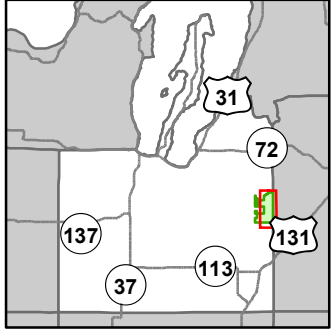


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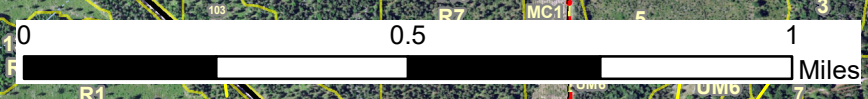


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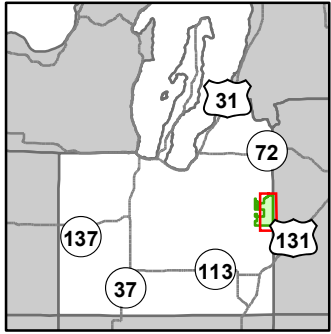


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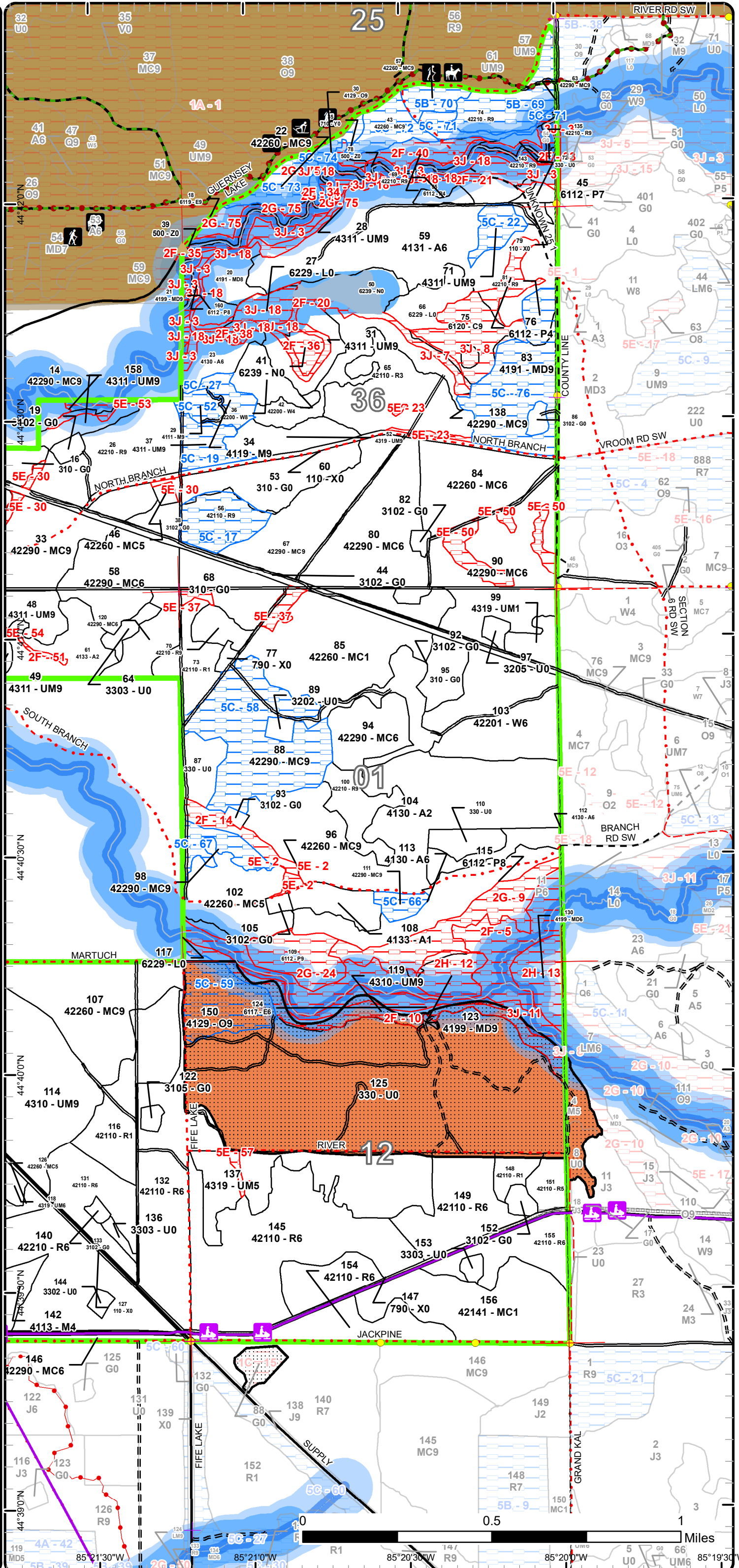


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- Dedicated Management Areas
- Cold Water Streams
- High Priority Trout Stream Buffer
- Other Habitat Area



Miles
 0.5 1

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**

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	0	132	54	105	0	0	0	0	0	0	0	0	0	0	0	0	0	291
Bare/Sparsely Vegetated	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Cedar	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	19
Herbaceous Openland	185	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	185
Low-Density Trees	242	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	242
Lowland Aspen/Balsam Poplar	0	0	0	0	0	0	0	0	72	29	0	0	0	0	0	0	0	0	100
Lowland Deciduous	0	0	0	0	0	0	0	0	0	15	11	0	0	0	0	0	0	0	26
Lowland Shrub	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70
Marsh	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Mixed Upland Deciduous	0	0	0	0	5	0	0	0	10	62	34	0	0	0	0	0	0	0	111
Natural Mixed Pines	0	0	70	36	90	50	0	14	35	348	66	11	24	0	0	0	0	0	744
Northern Hardwood	0	0	0	0	0	0	0	0	40	8	0	0	5	0	0	0	0	0	53
Oak	0	0	0	0	0	0	0	0	3	0	6	32	0	0	0	0	0	0	41
Planted Mixed Pines	0	69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	69
Red Pine	0	127	0	0	335	0	0	0	24	81	0	0	22	0	0	0	0	0	589
Sand, Soil	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Upland Mixed Forest	0	0	8	0	120	17	0	0	52	63	18	24	0	0	0	0	0	76	378
Upland Shrub	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Urban	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35
Water	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
White Pine	0	0	0	0	62	0	0	0	49	12	0	0	0	0	0	0	0	0	123
Total	587	196	210	90	717	67	0	14	285	637	135	67	51	0	0	0	0	76	3131



Report 2 – Treatment Summary

Traverse City Mgt. Unit
Year of Entry: 2025

Acres of Harvest

Compartment 46
Total Compartment Acres: 3,131

Commercial Harvest - 271
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
Northern Hardwood	55	0	0	0	0	0	0	0	0	55
Red Pine	79	0	0	0	0	0	0	0	0	79
Upland Mixed Forest	77	17	0	0	0	0	0	0	0	95
White Pine	0	43	0	0	0	0	0	0	0	43
Total	211	60	0	0	0	0	0	0	0	271

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	271	15	68	0	203	68	90	0	38	752
Next Step	0	371	200	0	0	200	690	0	203	1665
Total	271	386	269	0	203	268	780	0	241	2417



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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:

1	61046001-NF	0.9	3303 - Mixed Low Density Trees	Nonstocked		Unspec ified	NonForestMgt	Herbaceous/Crop /Grass Planting	31022 - Warm Season Grass	No
<p><u>Prescription</u> Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover. Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> <u>Treatments:</u></p> <p><u>Acceptable</u> <u>Regen:</u></p> <p><u>Other</u> Working reclaiming acreage that was connect this stand with stand 3. <u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2024</p>										
3	61046003-NF	2.0	790 - Other Bare/Sparsely Vegetated	Nonstocked		Unspec ified	NonForestMgt	Herbaceous/Crop /Grass Planting	31022 - Warm Season Grass	No
<p><u>Prescription</u> Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover. Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> <u>Treatments:</u></p> <p><u>Acceptable</u> <u>Regen:</u></p> <p><u>Other</u> <u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2024</p>										
4	61046004-NF	2.9	4126 - White, Black, N. Pin Oak	Sawtimber Poor	71	1-50	NonForestMgt	Herbaceous/Crop /Grass Planting	330 - Low-Density Trees	No
<p><u>Prescription</u> Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover. Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> <u>Treatments:</u></p> <p><u>Acceptable</u> <u>Regen:</u></p> <p><u>Other</u> <u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2024</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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9	61046009-Monitor	14.1	42110 - Planted Red Pine	Sapling Poor	3	Immature	Monitoring	Artificial Regen(3yr)	4211 - Planted Red Pine	Even-Aged	No
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Prescription Monitor red pine survival after dry summer. Some loss noted in inventory. Do not need to herbicide. Light oak and cherry sprouting.
Specs:

Next Step
Treatments:

Acceptable red pine, oak, white pine.
Regen:

Other
Comment:

Site Condition

Proposed Start Date: 10/1 /2022

32	61046025-Cut	42.5	42200 - Natural White Pine	Sawtimber Well	70	111-140	Harvest	Single Tree Selection	4319 - Mixed Upland Forest	Uneven-Aged	No
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Prescription Remove most aspen by contract specification. Retain aspen den trees as found. Retain most well formed oak. Reduce basal area to @120
Specs: in areas dominated by pine. Target larger white pine for removal but retain legacy trees. Thin pole/log sized pine for crown release.

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

Acceptable pine, aspen, maple, oak.
Regen:

Other
Comment:

Site Condition

Proposed Start Date: 10/1 /2024

26	61046026-Cut	78.8	42210 - Natural Red Pine	Sawtimber Well	82	81-110	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	No
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Prescription Harvest stems to 1". Chip tops to prep site for planting. Plant red pine after harvest and site prep.
Specs:

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

Acceptable Planted red pine,
Regen:

Other Keeping this stand in red pine production will be difficult due to the amount of advanced aspen, red maple, white pine and cherry
Comment: regeneration after last harvest. Still, this action should be pursued.

Site Condition

Proposed Start Date: 10/1 /2024

40	61046040-NF	2.0	3303 - Mixed Low Density Trees	Nonstocked		Unspecified	NonForestMgt	Herbaceous/Crop /Grass Planting	31022 - Warm Season Grass		No
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Prescription Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover. Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Site Condition

Proposed Start Date: 10/1 /2024



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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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49 61046049-14-New	17.4	4311 - Pine, Aspen Mix	Sawtimber Well	70	81-110	Harvest	Single Tree Selection	4319 - Mixed Upland Forest	Two-Aged	No
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Prescription Remove aspen, red maple and jack pine by specification. Thin remaining stand for crop tree release. Residual stocking will be 120 ba or less. Stocking will be variable. Target poorly formed weeviled white pine and suppressed trees. Release well formed oak as found.

Next Step Monitoring, Natural Regen (Re-Inventary)

Treatments:

Acceptable aspen, oak, pine, maple

Regen:

Other Expect white pine and aspen to fill gaps.

Comment:

Site Condition

Proposed Start Date: 10/1 /2024

49 61046049-Cut	18.7	4311 - Pine, Aspen Mix	Sawtimber Well	70	81-110	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Two-Aged	No
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Prescription Harvest to regenerate. Cut to 1"dbh unless green marked. Keep some widely scattered well formed oak and pine. Retention area on NE edge.

Next Step Monitoring, Natural Regen (Re-Inventary)

Treatments:

Acceptable aspen, oak, pine, maple

Regen:

Other

Comment:

Site Condition

Proposed Start Date: 10/1 /2024

51 61046051-NF	6.3	3102 - Grass	Nonstocked			Unspec NonForestMgt	Herbaceous/Crop /Grass Planting	31022 - Warm Season Grass		No
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Prescription Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover. Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Site Condition

Proposed Start Date: 10/1 /2024



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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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64	61046064-NF	4.5	3303 - Mixed Low Density Trees	Nonstocked		Unspec ified	NonForestMgt	Herbaceous/Crop /Grass Planting	31022 - Warm Season Grass	No
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Prescription Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover. Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Site Condition

Proposed Start Date: 10/1 /2024

137	61046137-Cut	52.0	4319 - Mixed Upland Forest	Poletimber Medium	37	1-50	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	No
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Prescription Cut stand to 1" dbh and chip tops to prepare site for trenching and planting. Retain some widely scattered well formed oak as found.
Specs: Retention strip in west side of stand on red pine strip. Keep for connectivity. Harvest the other thin red pine strips to prevent diplodia problems.

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

Acceptable planted red pine, oak
Regen:

Other
Comment:

Site Condition

Proposed Start Date: 10/1 /2024

142	61046142-Cut	54.7	4113 - R.Maple, Conifer	Poletimber Poor	73	1-50	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	No
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Prescription Retain some widely scattered well formed oak as found and harvest remaining stems to 1' dbh. Chip tops to prep site for planting red pine post harvest. Retain some well formed oak, white pine or red maple along the motorcycle trail. Consider oil and gas facilities. Some pipelines along road?

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

Acceptable planted red pine
Regen:

Other
Comment:

Site Condition

Proposed Start Date: 10/1 /2024



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Treatment ID	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
152	61046152-NF	3.3	3102 - Grass	Nonstocked		Unspec ified	NonForestMgt	Herbaceous/Crop /Grass Planting	31022 - Warm Season Grass		No
<p><u>Prescription</u> Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover. Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.</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 /2024</p>											
158	61046158-Cut	6.6	4311 - Pine, Aspen Mix	Sawtimber Well	82	141-170	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Two-Aged	No
<p><u>Prescription</u> Retain some well formed oak and pine (10-40 ba) Harvest remaining stems to regenerate stand.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Aspen, maple, pine, oak.</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 /2024</p>											
92	NF_61046092-NonFor	16.4	3102 - Grass	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	31021 - Cool Season Grass		No
<p><u>Prescription</u> Conitue previous prescription of planting herbaceous forage crop for wildlife food and cover. Previous crops have been annual rye.</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> Maintain as needed with mowing, seeding, fertilizing, burning, or removal of woody encroachment.</p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2024</p>											

Approved Treatments:

7	61046007-Spray	33.3	310 - Herbaceous Openland	Nonstocked	0	Unspec ified	Pesticide	ERROR	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Release Spray Red Pine to Achieve 80% free to grow at this time. Stand is currently only 55% Free to grow after first regen survey.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Artificial Regen(3yr)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Planted red pine.</p> <p><u>Regen:</u></p> <p><u>Other</u> Percent to Treat = 100%</p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p>											



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
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Proposed Start Date: 10/1 /2022

8	61046008-Monitor	8.8	42290 - Natural Mixed Pine	Sawtimber Medium	82	51-80	Monitoring	Natural Regen (Re-Inventory)	42260 - Natural Pine, Mixed Deciduous	Uneven-Aged	No
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Prescription .

Specs:

Next Step

Treatments:

Acceptable Aspen, red maple, white pine, red pine, jack pine, oak, birch.

Regen:

Other Percent to Treat = 100%

Comment:

Site Condition

Proposed Start Date: 10/1 /2032

16	61046016-20-New	14.8	310 - Herbaceous Openland	Nonstocked	0	Unspecified	SitePrep	Trenching	4211 - Planted Red Pine	Even-Aged	No
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Prescription Trench site to prepare for planting red pine.

Specs:

Next Step

Pesticide, Skidder - Site Prep; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable planted red pine.

Regen:

Other

Comment:

Site Condition

Proposed Start Date: 10/1 /2022

53	61046053-Plant	26.7	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Planting	Initial Plant	42111 - Planted Red Pine, Mixed Deciduous	Even-Aged	No
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Prescription plant red pine

Specs:

Next Step

; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable Retain some well formed pine and oak and final harvest stand down to 2" dbh. Retention along road if suitable trees are found. Chip tops

Regen: to prep for Trenching.

Other Percent to Treat = 100%

Comment:

Site Condition

Proposed Start Date: 10/1 /2022



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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
65 61046065-Spray	34.2	42110 - Planted Red Pine	Sapling Well	3	Immature	Pesticide	ERROR	42111 - Planted Red Pine, Mixed Deciduous	Even-Aged	No
<p><u>Prescription</u> Spray stand to release red pine <u>Specs:</u> <u>Next Step</u> Monitoring, Herbicide Use <u>Treatments:</u> <u>Acceptable</u> expect regeneration of red maple, aspen, oak, white pine, jack pine and planted red pine. <u>Regen:</u> <u>Other</u> Percent to Treat = 100% <u>Comment:</u> <u>Site Condition</u> <u>Proposed Start Date:</u> 10/1 /2022</p>										
68 61046068-Plant	20.1	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Planting	Initial Plant	42111 - Planted Red Pine, Mixed Deciduous	Even-Aged	No
<p><u>Prescription</u> Plant red pine after site prep <u>Specs:</u> <u>Next Step</u> ; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr) <u>Treatments:</u> <u>Acceptable</u> Expect regeneration of aspen, oak, rm, jp, wp, and planted red pine. <u>Regen:</u> <u>Other</u> Percent to Treat = 100% <u>Comment:</u> <u>Site Condition</u> <u>Proposed Start Date:</u> 10/1 /2022</p>										
87 61046087-Plant	10.3	330 - Low-Density Trees	Nonstocked	0	Unspecified	Planting	Initial Plant	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> plant after site prep. <u>Specs:</u> <u>Next Step</u> Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr) <u>Treatments:</u> <u>Acceptable</u> Planted red pine. Natural White pine. <u>Regen:</u> <u>Other</u> Percent to Treat = 100% <u>Comment:</u> <u>Site Condition</u> <u>Proposed Start Date:</u> 10/1 /2022</p>										



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
95 61046095-Plant	11.2	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Planting	Initial Plant	42111 - Planted Red Pine, Mixed Deciduous	Even-Aged	No
<p><u>Prescription</u> plant red pine <u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr) <u>Treatments:</u></p> <p><u>Acceptable Regen:</u> Jack pine is aging and damaged from heavy snows in 3/12. Expect regeneration of mixed pine, red maple, oak, aspen and planted red pine. <u>Other Comment:</u> Percent to Treat = 100%</p> <p><u>Site Condition</u> <u>Proposed Start Date:</u> 10/1 /2022</p>										
102 61046102-Monitor	30.1	42260 - Natural Pine, Mixed Deciduous	Poletimber Medium	88	51-80	Monitoring	Natural Regen (Re-Inventory)	42260 - Natural Pine, Mixed Deciduous	Uneven-Aged	No
<p><u>Prescription</u> <u>Specs:</u></p> <p><u>Next Step</u> <u>Treatments:</u></p> <p><u>Acceptable Regen:</u> Expect new age to form of aspen, pine, red maple and oak. This should grow through remaining canopy of pine and oak. Deciduous regeneration may get browsed badly along river corridor but white pine will then likely form in new age group. <u>Other Comment:</u> Percent to Treat = 100%</p> <p><u>Site Condition</u> <u>Proposed Start Date:</u> 10/1 /2025</p>										
116 61046116-Monitor	36.6	42110 - Planted Red Pine	Sapling Poor	3	Immature	Monitoring	Artificial Regen(3yr)	42110 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> <u>Specs:</u></p> <p><u>Next Step</u> <u>Treatments:</u></p> <p><u>Acceptable Regen:</u> Red pine <u>Other Comment:</u> Percent to Treat = 100%</p> <p><u>Site Condition</u> <u>Proposed Start Date:</u> 10/1 /2023</p>										



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
125 61046125-Burn	203.1	330 - Low-Density Trees	Nonstocked	0	Unspecified	Burn	Opening	3303 - Mixed Low Density Trees		No
<p><u>Prescription</u> Burn on a rotational basis. The goal of prescribed burning is to restore and/or maintain a grassland/barrens ecosystem. The timing and frequency of the burns will be based on current needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods. Maintain as needed with mowing, seeding of native grasses and forbs, planting native mast bearing shrubs or trees, burning, or removal of woody encroachment.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> NonForestMgt, Herbaceous/Crop/Grass Planting</p> <p><u>Treatments:</u></p> <p><u>Acceptable Regen:</u> Barrens flora and grasses. This area will be burned periodically to enhance.</p> <p><u>Other Comment:</u> Percent to Treat = 100%</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 1/25/2019</p>										

Total Treatment Acreage Proposed: 752.3

Report 4 – Site Conditions

Traverse City Mgt. Unit
Pat Ruppen : Examiner

Compartment: 46
Year of Entry: 2025

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions							
		With Condition	Not Available		5B	5C	2F	2G	2H	3J	5E	
291	289	0	2	Aspen		0	1	0			1	
18	18	0	0	Bare/Sparsely Vegetated		0						
19	0	0	19	Cedar							19	
185	180	1	4	Herbaceous Openland	0	1					2	2
242	240	0	2	Low-Density Trees		0	0				2	
100	2	0	98	Lowland Aspen/Balsam Poplar			9	45	1		43	
26	0	0	26	Lowland Deciduous			0	5			21	
70	13	0	57	Lowland Shrub			49		0		8	
18	13	0	5	Marsh			5				0	
76	14	35	26	Mixed Upland Deciduous		35	0		25		1	
744	564	129	51	Natural Mixed Pines	15	114	8	0			20	23
53	38	13	3	Northern Hardwood		13						3
40	3	37	0	Oak		37					0	
69	69	0	0	Planted Mixed Pines								
588	536	46	7	Red Pine	22	24	0				1	6
2	0	0	2	Sand, Soil			2				1	
378	292	19	67	Upland Mixed Forest		19	42				20	5
5	5	0	0	Upland Shrub								
35	35	0	0	Urban	0	0					0	
12	0	0	12	Water			2				10	
123	123	0	0	White Pine			0				0	
3,095	2,435	279	382	Total Forested Acres	37	242	118	50	26		150	38
	79%	9%	12%	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	Available	5B: Maintain for regeneration purposes	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Traverse City Mgt. Unit
Pat Ruppen : Examiner

Compartment: 46
Year of Entry: 2025

2	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
3	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	16	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	20	2F: Too steep	Unspecified	Unspecified	Unspecified
Comments: Steep slope and floodplain along N. branch Boardman River							
5	Unavailable	2F: Too steep	48	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Natural rivers Setback							
6	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	16	1A: Federal/State/Local Law	Unspecified	Unspecified	Unspecified
Comments: Natural rivers Setback							
7	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
8	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	28	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Headwaters area for tributary of Boardman River							

Report 4 – Site Conditions

Traverse City Mgt. Unit

Pat Ruppen : Examiner

Compartment: 46

Year of Entry: 2025

9	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	27	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							
10	Unavailable	2F: Too steep	22	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments: Steep slope along river floodplain. Not operable							
11	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	15	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Riparian zone along river floodplain.							
12	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments: upland stand blocked by lowland and river							
13	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	15	2B: Unknown if access through adjacent landowner(s) is possible	Unspecified	Unspecified	Unspecified
Comments: Stand access is blocked by river and tributary on State ownership. Unknown if access can be attained from private land							
14	Unavailable	2F: Too steep	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Traverse City Mgt. Unit
Pat Ruppen : Examiner

Compartment: 46
Year of Entry: 2025

15	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Retention area for treatment on stand 8							
17	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	17	Unspecified	Unspecified	Unspecified	Unspecified
Comments: PRESCRIBING STANDS ON BOTH NORTH AND SOUTH FOR FINAL HARVEST							
18	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	47	1A: Federal/State/Local Law	Unspecified	Unspecified	Unspecified
Comments: Riparian setbacks on Boardman River Natural River							
19	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand is about half aspen and red maple that is still pole sized. Let grow in before harvesting.							
20	Unavailable	2F: Too steep	10	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments: Steep slope along flood plain of river tributary							
21	Unavailable	2F: Too steep	9	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments: steep slope along river floodplain							

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22	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
23	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
24	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	17	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
<p>Ground may also be too wet to work. Ground is hummocky and has some dead black ash and other lowland species. Need to evaluate when snow goes off. Looked at with snow off and parts of this could be harvested but the stand to the northwest is prescribed and most of this stand is pretty wet. There would be habitat value to keep some mature aspen in this area as there is a lot of young aspen regen.</p>							
27	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
30	Unavailable	5E: Long-Term Retention	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
32	Unavailable	2F: Too steep	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
Natural rivers Setback and steep slope above floodplain.							

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33	Unavailable	2F: Too steep	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Natural rivers Setback and steep slope above floodplain.							
34	Unavailable	2F: Too steep	0	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Natural rivers Setback and steep slope above floodplain.							
35	Unavailable	2F: Too steep	0	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Natural rivers Setback and steep slope above floodplain.							
36	Unavailable	2F: Too steep	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Natural rivers Setback							
37	Unavailable	5E: Long-Term Retention	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
38	Unavailable	2F: Too steep	0	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Natural rivers Setback							
39	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Small oak stand surrounded by large regeeration areas and open conifers. Keep for diversity and mast production.							

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40	Unavailable	2F: Too steep	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Natural rivers Setback and steep slope above floodplain.							
50	Unavailable	5E: Long-Term Retention	12	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
51	Unavailable	2F: Too steep	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
52	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
53	Unavailable	5E: Long-Term Retention	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Natural rivers Setback							
54	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
55	Unavailable	5E: Long-Term Retention	0	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

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Compartment: 46

Year of Entry: 2025

56	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
57	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
58	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	59	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand was thinned in 2015 entry period. Not enough volume available justify harvest at this time.							
59	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	25	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Area with large diameter oak adjacent to managed barrens area. Retain for diversity at this time.							
66	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Small pocket of pine surrounded by younger aspen. Keep for diversity at this time.							
67	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Adjacent stand to south recently harvested.							

Report 4 – Site Conditions

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Compartment: 46

Year of Entry: 2025

68	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	34	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Souther portion of stand harvested in last entry.							
69	Available	5B: Maintain for regeneration purposes	22	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand was recently thinned. Not enough volume for commercial treatment							
70	Available	5B: Maintain for regeneration purposes	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Allow understory to develop before harvesting from canopy							
71	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Manage area along river corridor for large trees.							
72	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	12	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Manage area along river corridor for large trees.							
73	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments: manage for old trees along river							

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74	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments: manage for old trees along river							
75	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
76	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	43	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Keep stand until adjacent recently harvested and planted stand (on west) grows in a little.							
77	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Hold due to adjacent recent harvest.							
78	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Long term retention							



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
South Branch Barrens	Habitat Area	Other Habitat Area	SCA	253
Comments				
proposed old growth				



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 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	Dedicated Management Areas	Such areas are dedicated by the DNR Director for specific management uses through the promulgation of rules, as governed by Part 5, Department of Natural Resources, of the NREPA (MCL 324.502(2) and 324.504). Section 38 of the Administrative Procedures Act (MCL 24.238) provides for public requests for the promulgation of rules. This is an active program, with one proposed site currently under review by the DNR.
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.
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																
1	3303 - Mixed Low Density Trees	Nonstocked	0.9		Unspecified	No	2022: Low density trees. May be frost pocket.																																																
2	4126 - White, Black, N. Pin Oak	Sawtimber Well	5.8	94	81-110	N/A	2022: Poor quality older oak stand. WO saplings in areas but not constant and poorly developed. Stocking is variable. Could cut and plant . Leave strip along west side for retention. Maybe could cut and plant stand 1 but could be a frost pocket. Maybe plant well pad to west in adjacent compartment. 2003FMD O8 M2 2013FMD:Looks like good oak ground but not much good oak. Good little oak stand in a good place -let grow in for now for mast production																																																
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3	790 - Other Bare/Sparsely Vegetated	Nonstocked	2.0		Unspecified	No	2022: well site. Low density trees and grasses																																																
4	4126 - White, Black, N. Pin Oak	Sawtimber Poor	2.9	71	1-50	N/A	2022: Moved stand from non-forested to forested.																																																
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5	110 - Low Intensity Urban	Nonstocked	5.9		Unspecified	No																																																	
6	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	34.1	92	51-80	N/A	2022: Oak saplings in most areas 3-5'. This stand should go to oak when the canopy is taken off. Could cut back to 40-50 ba to further develop the understory oak but the red maple would be a sprouting problem. May want to keep this stand until adjacent planted area grows in. 2003FMD:M5/M1 2013FMD;South part of stand harvested in 2019. looks like red pine was planted through oak. Most grew alright but in some areas with heavy canopy it is stunted and small. Large crowned oak and red maple stump sprouts. Could cut back to marked retention and plant red pine. Red maple sprouts would likely be a problem. Red pine grew well for 60 years. Good diameter and form. Not much growth in last 26 years.																																																
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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7	310 - Herbaceous Openland	Nonstocked	37.1	0	Unspecified	4211 - Planted Red Pine	<p>2022 Fall - - 10/25/2022 Stand's First Year Regen Survey was completed; Stand has an estimated 924 trees per acre and is 55% free to grow at this time. Release Spray is recommended at this time to achieve 80% Free To grow Red Pine according to policy.</p> <p>2022 Spring - Stand was Planted to Red Pine 5/6/2022</p> <p>2021: site prep herbicide skidder. 2020: Stand trenched by contractor.</p> <p>2019: Final harvested. Trench 2020. Herbicide 2020 or 2021. Plant after site prep is complete. Had to leave brush piles 2003FMD: PI stands 10 and 6 were same O/I stand. O6/M2 2013FMD: Not enough good oak to manage. Could mark some good retention of oak and cut and replant to red pine. Some large older oak scattered throughout stand. A good bit of oak seedlings in places.</p>
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8	42290 - Natural Mixed Pine	Sawtimber Medium	8.9	82	51-80	N/A	<p>2022: TS# 61-032-18 Cut all jack pine, red maple, aspen and cherry unless green marked.</p> <p>Harvested 6/22. Gaps should fill in with pine, maple and oak. Mixed sizes and density of residual pine and oak. 2003FMD: PI stands 7 and 14 were one O/I stand. J5/A1 Stand borders wild and scenic river.</p> <p>2013FMD; North Country Trail through stand. Some old legacy red and white pine. Gaps filled in with white pine jack pine red pine aspen. Jack pine is going out. Not too bad yet but starting to die and some areas damaged by heavy snows in 2012. Fish Div may not want aspen cut in this stand but the jack pine should be harvested. Stay north of the second levee along river. Jack pine is pretty heavy in ne part of stand. Some areas are more mixed pine. Could try to manage this stand along river for old large white and red pine but jp would likely regenerate in the areas with heavy jp stocking.</p>
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Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	40	Log/Pole	12	82
White Pine	40	Pole/Log	9	82
Northern Pin Oak	10	Pole	8	
White Oak	10	Pole	8	

Sub-Canopy Species	Density	Avg. Height	Size
White Pine	Low	10 - 20 feet	Sapling

9	42110 - Planted Red Pine	Sapling Poor	14.1	3	Immature	N/A	<p>2022: Removed herbicide treatment. Light oak and cherry sprouting. Some loss of planted red pine after dry summer. Some natural red pine supplementing planted pine. 11/9/2021 - Year 1 regeneration survey completed. Stand has approximately 889 trees per acre. Stand is not free to grow at this time herbicide treatment is currently recommended. Check stand for year 3 regeneration survey is also recommended.</p> <p>2021: stand planted with containerized red pine , 2003FMD: R6 2019: Trenched 2018. Herbicide site prep skidder 2019. 2013FMD: Stand is variable but basically mix of rp wp wo and a little ro and rm. Some areas are heavier to rp and others have more wo mixed in. WO is older large crowned trees and there is some older pine scattered around in stand (age 98 estimate) Could harvest a part of this stand and replant rp or would be alright to hold for now. Getting older and growth has slowed. 2017: Stand harvested 2017. Trenched roller chopped 2018. Herbicide 2019 if ready. Plant year following herbicide treatment. Retention along ORV trail.</p>
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Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	95	Sapling	1	3
White Oak	2	Sapling	1	
Jack Pine	3	Sapling	1	3



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																					
10	42290 - Natural Mixed Pine	Sawtimber Well	3.9	110	111-140	N/A	2022: Floodplain along river. Factor Limit. 2003FMD: R9/R1 Limiting factor water quality BMP stand borders wild and scenic river. Pine with oak and apen on slope along river. Riparian area of river. Let grow in to old pine.																																																					
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11	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	10.6	90	111-140	N/A	2022: Stand is variable but basically mix of rp wp wo and a little ro and rm. Some areas are heavier to rp and others have more wo mixed in. WO is older large crowned trees and there is some older pine scattered around in stand (age 98 estimate) Stand would go to white oak, white pine if harvested. Seed tree/shelterwood. Hold now due to adjacent young stands. Good bit of white oak seedlings in most of the stand and white pine saps in areas.																																																					
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14	42290 - Natural Mixed Pine	Sawtimber Well	5.3	82	111-140	N/A	2022: Flood plain along river. Limiting Factor: too steep stand borders wild and scenic river. 2013FMD: Slope and floodplain along river. Could let this grow into large pine along river.																																																					
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15	4319 - Mixed Upland Forest	Sawtimber Well	20.1	82	111-140	N/A	2022: Slope along river. Factor limit. 2003FMD: PI stands 7 and 14 were one O/I stand. J5/A1 Stand borders wild and scenic river. 2013FMD: Slopes along N Branch Boardman River along with floodplain. Mixed upland species along with some cedar.																																																					
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments					
16	310 - Herbaceous Openland	Nonstocked	15.2	0	Unspecified	4211 - Planted Red Pine	2022: Stand harvested to 1" and tops chipped to prep site for planting red pine. Harvested 2022. Aspen sprouting in areas of stand.					
								Sub-Canopy Species	Density	Avg. Height	Size	
								Bigtooth Aspen	Low	< 5 feet	Seeding	
17	500 - Water	Nonstocked	1.7		Unspecified	No	part of north branch Boardman River					
18	6119 - Mixed Lowland Deciduous Forest	Sawtimber Well	11.0	92	51-80	N/A	2003FMD: A5 limiting factor :water quality BMP stand border wild and scenic river. 2012FMD: PI stands 17 and 27 were in same O/I stand. Split due to mapping rules. 2013FMD:edge along river -barely lowland aspen mix with some higher ground on the edges. Riparian strip along river.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Red Maple	10	Pole/Sapling	8	
								White Oak	10	Log/Pole	12	
								Bigtooth Aspen	5	Log	14	92
								White Pine	10	Log/Pole	14	92
								Northern Pin Oak	10	Log/Pole	10	
								Red Pine	5	Log/Pole	14	92
								Quaking Aspen	26	Log	13	92
								Black Cherry	24	Pole	8	
Sub-Canopy Species	Density	Avg. Height	Size									
Hawthorn (spp.)	Low	5 - 10 feet	Tall Shrub									
Black Cherry	Medium	5 - 10 feet	Sapling									
19	3102 - Grass	Nonstocked	2.9		Unspecified		Well plugged 9/2000. Unknown if reclamation is needed or attempted.					
20	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Medium	9.9	75	1-50	N/A	2022: East side is low density bushy wp and bc. Better stocking in west with wp saps filling gaps. 2011FMD TS# 047-83. TCR 01/87. Cut all merchantable except no cedar hemlock or oak 2013FMD Low stocked BC WP Oak. There has been a recent fire through here that burned pretty hot. If this stand was cut with PI stand 54 to east it did not regenerate much. There is a little aspen in the 28 yr age along the edge.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Black Cherry	20	Pole/Sapling	8	
								Quaking Aspen	20	Pole	8	75
								White Pine	32	Log/Pole	12	75
								Northern Pin Oak	15	Log/Pole	14	92
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Quaking Aspen	Low	5 - 10 feet	Sapling									
Black Cherry	Low	5 - 10 feet	Sapling									
White Pine	Low	5 - 10 feet	Sapling									
21	4199 - Other Mixed Upland Deciduous	Sawtimber Well	4.9	36	51-80	N/A	2022: Let stand grow in. Mixed pine sizes. Aspen regen from last harvest with a good mix of other species and sizes left during that treatment. Let stand grow in. Mixed pine sizes. New stand added. 2013FMD TS# 047-83. TCR 01/87. Cut all merchantable except no cedar hemlock or oak. This stand was likely cut with stands to the east. This stand had more residual pine and oak and has a fair amount of aspen regen age 26. Some older oak aged 82 but most pine. aspen and cherry seems to be age 65.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Black Cherry	15	Pole	7	75
								Sugar Maple	5	Log/Pole	12	
								Bigtooth Aspen	10	Pole	8	36
								Northern Pin Oak	10	Log/Pole	14	92
								Quaking Aspen	20	Pole/Sapling	8	36
								White Oak	10	Log/Pole	14	92
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22	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	11.0	103	81-110	N/A	2022: Pine is mixed size but red pine is getting large. Pine stocking is variable and clumpy. Some rm,wo,wp,rp poles growing through. WP would likely fill canopy gaps if treated. Stocking is not too high. Could thin lightly and reduce the size a bit but not real interesting. 2003FMD:R8 2012FMD: PI Stands 20 and 26 were in the same O/I stand. Age 93 R8 2013FMD:Not much jp in this stand but it is dying out. Stand looks like natural pine stand. Could be thinned and managed for large old pine along river. Cut aspen, jp, rm and marked.																																																
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23	4130 - Aspen	Poletimber Well	10.2	31	51-80	N/A	2022: Good growth and stocking for aspen. 2003FMD: A3 2013FMD: PI stands 21 and 39 were hooked in O/I. Look different now. TS# 01/92. TCR 8/92. Cut all to 2" DBH. Keep stands separate after field review. This stand has good aspen regeneration mixed with some wp saplings.																																																
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24	3102 - Grass	Nonstocked	3.5		Unspecified		2023: Grass cover Well plugged 2015. Unknown if reclamation is needed or attempted.																																																
25	42200 - Natural White Pine	Sawtimber Well	9.5	79	111-140	N/A	2022: Could mark this stand to get the larger white pine out. It is getting oversized. Thin smaller pine as needed. Stocking is variable. A little ironwood. Mixed sized of pine. 2003FMD:A6 Limiting Factor Retention of stand for regen purposes/ Borders wild and Scenic river. PI stand 32 (North part) was also in this O/I stand. 2013FMD: Stand is heavier to WP than stand 32 and larger average diameter. Could get aspen out and jack pine and mark pine. Manage this stand for pine. May not sell alone but could sell with PI stand 32. Some large old legacy white pine.																																																
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26	42210 - Natural Red Pine	Sawtimber Well	48.0	82	81-110	N/A	2022: Pine is getting large. Pockets of aspen regen age 15 would cause trouble for harvest and re-plant. RM seedlings <5' throughout stand. Some areas are heavier to wp in canopy. Consider harvest. 2003FMD: Cut under contract # 61-078-05-01. TCR 09/07 Cut orange marked and all merch, rm aspen an jp. WLD: R9 with mix of aspen/wp/O/bc/rm/sm/ash/juneberry. Leave snags, oak, black cherry, sm, juneberry, ash 2011FMD PI stands 29 and 24 were same in O/I Split because of mapping standard. 2013FMD: Residual stocking in this stand is lower than PI stand 29. This stand must have had a higher component of aspen and red maple. A good bit of aspen and red maple regeneration has formed in sub canopy throughout much of this stand. Areas with heavier residual pine basal area do not have such a robust second age forming. A little bit of oak and cherry scattered around in the overstory. Some wp seedlings on ground. No rp seedling found.																																																
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27	6229 - Mixed lowland shrub	Nonstocked	9.1		Unspecified	No																																																	



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28	4311 - Pine, Aspen Mix	Sawtimber Well	8.5	92	111-140	N/A	2003FMD: A5 limiting factor :water quality BMP stand border wild and scenic river. 2013FMD: PI stands 17 and 27 were in same O/I stand. Split due to mapping rules. Slope along river and some.. Red pine (likely planted) with aspen, birch, red oak, red maple. Riparian zone of river.																																																								
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29	4111 - S.Maple, Hard Mast Association	Sawtimber Well	5.2	113	81-110	N/A	2022: Low quality hardwood stand. No desirable regeneration. Few crop trees. Do not see any potential upside to treating this stand. Stocking is variable. 2008 FMD W8 Cut under contract 078-05-01 TCR 09/07. Selectively removed a few white pine saw log trees. Also TS# 006-92. cut orange marked pine and hardwood and all aspen. 2013FMD. Lower quality northern hardwoods mixed with large white pine. Little to no regeneration. A good bit of ironwood and basswood. Stocking is not bad at this time. This stand is unusual in this area. Let it grow in for now.																																																								
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30	4129 - Mixed Oak	Sawtimber Well	6.7	103	111-140	N/A	2022: Mixed oak and pine sizes. Low quality oak. Not interesting. Keep for water quality and mast production. 2003FMD:R8 2012FMD: PI Stands 20 and 26 were in the same O/I stand. Age 93 R8 2013FMD; Oak logs with WP logs/poles. Some white pine regen in understory. Possible oak wilt patch on road by entrance to sand trap. Could reduce oak canopy to allow pine to advance. Oak is generally lower quality.																																																								
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31	4311 - Pine, Aspen Mix	Sawtimber Well	9.6	92	111-140	N/A	2022: Steep slope alone drain. Mix of upland conifer and deciduous. Factor Limited																																																								
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32	42200 - Natural White Pine	Sawtimber Well	33.0	70	111-140	N/A	<p>2022: Mixed white pine with some larger old pine and oak scattered around. Aspen is falling out. Could get most of the larger white pine out excluding the legacy sized trees.</p> <p>Get larger pine out before it becomes too large. Gaps should fill in with wp. Release well formed oak as found. More aspen and oak in north along river. 2003FMD:(North part) A6 Limiting Factor Retention of stand for regen purposes/ Borders wild and Scenic river. PI stand 23 was also in this O/I stand. The part south of well pad was in O/I stand 23 which was an A5 age 73 retained for age/size class diversity. There was a small JP stand in the SW corner in O/I J5 age 75. 2013FMD: Good pine ground. Red pine over 14" diameter age 58-60. White pine age is variable 60-70 with some large legacy trees in stand. Could get aspen and jack pine out along with poor formed white pine. Manage stand for pine. A few scattered oak in cherry in stand. More oak in north along river.</p>																																																						
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33	42290 - Natural Mixed Pine	Sawtimber Well	34.9	86	111-140	N/A	<p>2022: Pine is getting large and should be re-started. Steep area on nw edge for retention.</p> <p>Keep good red oak and plant around. Red oak is good here. A little ironwood. Would be nice to get oak and pine mix here. Almost no oak seedlings currently. RM and BC seedlings would have to be sprayed to control. 2003FMD: Cut under contract # 61-078-05-01. TCR 09/07 Cut orange marked and all merch, rm aspen an jp. WLD: R9 with mix of aspen/wp/O/bc/rm/sm/ash/juneberry. Leave snags, oak, black cherry, sm, juneberry, ash 2011FMD PI stands 29 and 24 were same in O/I Split because of mapping standard. 2013FMD: This stand has heavier residual basal area than PI stand 24. There are areas with good regeneration of aspen and rm but it is not evident for the most part throughout the stand. There is an evident red oak component in canopy in this stand. The stocking in this stand is fine after the last harvest. Let this stand grow in for now and see how second age develops.</p>																																																						
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34	4119 - Mixed Northern Hardwoods	Sawtimber Well	7.5	82	111-140	N/A	<p>2022: Low quality hardwoods with large WP. Mixed sizes of poles and logs. No desirable regen in understory. See no value in treating this stand. Unique in area. 2013fmd: Lower quality hardwoods. Stocking is high. Only 5.9 acres so would be hard to get enough volume in a thinning. Would not be bad to let this grow in unless it can be hooked with another sale. Large white pine scattered around.</p>																																																						
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36	42200 - Natural White Pine	Sawtimber Medium	12.0	81	51-80	N/A	2022: Mix of wp saps, poles, logs with aspen growing in under after last harvest. Let stand grow in. 2019: TS# 042-15. Cut all aspen, jp, rm and orange marked. 2003FMD W6 2011FMD PI stands 64,31,48,55 were all in one O/I stand. W6 2013FMD; wp/aspen mix. Aspen is declining. Ground is rolling and access is unsure. Could harvest stand to regenerate if nearby- not enough to stand alone.																																												
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37	4311 - Pine, Aspen Mix	Sawtimber Well	10.8	84	141-170	N/A	2022: Aspen would probable occupy site when harvested but this is a good pine site. Red pine looks good. Consider keeping stand in red pine by herbicide on aspen or could let it go to aspen. A few well formed red oak in canopy. Mixed aspen sizes. Stand would probably hold. RP is getting large. Would not take out aspen/rm and create two age classes. 2003 FMD: R6 Let aspen and maple mature then final harvest all species. Pi stands 33 and 47 were same stand in O/I. Split because of mapping rules. This stand is different than PI stand 47. More aspen in this stand and most is pole sized. Let aspen grow in and look at harvest when aspen matures economically.																																												
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38	3102 - Grass	Nonstocked	1.8		Unspecified	No																																													
39	500 - Water	Nonstocked	4.1		Unspecified	No																																													
40	3303 - Mixed Low Density Trees	Nonstocked	2.0		Unspecified	No	2022: Grass cover and low density trees																																												
41	6239 - Mixed Emergent Wetland	Nonstocked	4.7		Unspecified	No																																													
42	42200 - Natural White Pine	Poletimber Poor	11.5	31	1-50	N/A	2022: Low stocked stand with wp, bc, qa. Beavers likely took stand out in past. A little wp growing in. 2003FMD: A3 2013FMD: PI stands 21 and 39 were hooked in O/I. Look different now. TS# 01/92. TCR 8/92. Cut all to 2" DBH. 2013FMD: Low stocked aspen -patchy- looks like beaver harvested this stand																																												
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43	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	12.1	113	141-170	N/A	2022: Mixed sizes of pine. Low quality oak. Some wo and rm poles growing through. White pine would likely fill gaps if opened up. Could thin lightly and reduce size but not very interesting. 2003FMD: R9 Limiting Factor Scenic/visual values. 2013FMD:Nice natural look pine, Heavier aspen on lower edge along river. Could thin and manage for big old pine. Some large old pine and oak scattered around.																																												
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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44 3102 - Grass Nonstocked 26.5 Unspecified No

45 6112 - Lowland Aspen Sawtimber Poor 25.3 75 1-50 N/A

2022: Very wet aspen and tag alder. 2013: Stand swapped from Non-Forested to Forested.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Black Cherry	20	Pole	7		Tag Alder	Medium	5 - 10 feet	Tall Shrub
Bigtooth Aspen	40	Log	12	75	Black Cherry	Low	5 - 10 feet	Sapling
White Oak	2	Log/Pole	10					
Quaking Aspen	35	Pole	8	75				
Northern Pin Oak	1	Log	13					
Red Maple	2	Pole	8					

46 42260 - Natural Pine, Mixed Deciduous Poletimber Medium 5.4 60 51-80 N/A

2012: Low stocked aspen and pine canopy with a low stocking of wp and jp saplings in understory. Good red pine growth on older trees. Should cut and replant at some point but not enough volume or acreage in this stand to go alone.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
White Pine	50	Pole	7	60	Red Pine	Low	10 - 20 feet	Sapling
Black Cherry	10	Pole/Sapling	8		Black Cherry	Low	10 - 20 feet	Sapling
Red Pine	5	Pole	7	60	Jack Pine	Low	10 - 20 feet	Sapling
Jack Pine	10	Pole	7		White Pine	Low	5 - 10 feet	Sapling
Bigtooth Aspen	20	Log/Pole	11	60	Red Maple	Low	5 - 10 feet	Sapling
Red Maple	5	Log/Pole	10					

47 110 - Low Intensity Urban Nonstocked 2.8 Unspecified No

48 4311 - Pine, Aspen Mix Sawtimber Well 16.8 45 81-110 N/A

2022: Stand could be harvested or could likely hold. Aspen has had good growth through pine and oak. Most of the pine is getting large and should be harvested soon. When this is harvested should cut back to seed tree to establish pine back in where the aspen does not sprout. Surrounding stand to east is recent harvest so this could wait. WP seedlings and saps advancing in gaps. SW slope is steep and should be retention zone and factor limited. 2003FMD: A2A4M4W4 2013FMD; Moderate stocking or oak and pine left from last harvest with robust aspen growing through. Better site -some sm bw ash and iw scattered around as here was in other stands in area. Let this aspen continue to grow in .

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Bigtooth Aspen	30	Pole	9	45	Red Maple	Low	10 - 20 feet	Sapling
Red Pine	20	Log	15	90	White Pine	Low	5 - 10 feet	Sapling
White Pine	20	Log	16	90				
Jack Pine	3	Log/Pole	10	90				
Red Maple	8	Log/Pole	13					
Red Oak	15	Log	14	90				
White Oak	2	Log/Pole	14					
Sugar Maple	2	Log/Pole	12					



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																												
49	4311 - Pine, Aspen Mix	Sawtimber Well	39.2	70	81-110	N/A	2022: Stand should be harvested . BA is ready and the QA is declining. Could cut to seed tree and keep most oak. Most areas should come back to aspen well. Could leave retention on steep slope to NE. May also want to leave retention or just thinned area on east where it is heavier to pine and adjacent to recent harvest. Keep most oak. 2003FMD: A2A4M4W4 TS# 044-83 TCR 8/86. Cut all merchantable but no oak. 2013FMD: Looks like a good bit of sapling sized suppressed white pine and some red pine and jack pine were left at last harvest. This is now around age 60 with logs and poles in wp rp and jp. Most of the canopy gaps are filled with younger aspen jack pine and white pine. A good bit of the quaking aspen is pretty spindly looking butthere are some beter looking clones. Pocket of older aspen on west side looks older. May have been a retention pocket left in last harvest of maybe was young unmerchantable clone at that time. Let this stand develop.																																																												
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51	3102 - Grass	Nonstocked	6.3		Unspecified	No	Low density trees. Grasses.																																																												
52	4319 - Mixed Upland Forest	Sawtimber Well	14.8	82	111-140	N/A	2022: Lower end hardwood site with mix of hardwood, pine, aspen. Small amount of cherry, Mixed density. Large wp mixed through. Most red maple is lower quality ..some of the red oak is good. May be best to keep this stand for diversity at this time until adjacent stands grow in that were recently harvested. 2003FMD W6 2011FMD PI stands 64,31,48,55 were all in one O/I stand. W6 2013FMD; Big old white pine and a few older oak. RM SM RO WP poles and small logs grown in and the some scattered RP logs. Stocking is a bit high but this stand would thin better after it develops a bit more. The feature of this stand is the large white pine.																																																												
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53	310 - Herbaceous Openland	Nonstocked	26.8	0	Unspecified	4211 - Planted Red Pine	2022: Herbicide treatment 2021: Stand trenched to prep for planting. 2020: stand chip harvested to prep for planting. Aspen sprouting should be controlled before planting. Trench 2021 and possibly herbicide fall of 2021. 2003 FMD: R6 Let aspen and maple mature then final harvest all species. Pi stands 33 and 47 were same stand in O/I. Split because of mapping rules. 2013FMD; Could harvest and re-plant. Some scattered oak logs. Scattered aspen. May be a little trouble for regenerating one in this stand but it is not a very heavy component. Different than PI stand 33. Red pine in stand is good quality and is ready to harvest. Seriously consider regenerating this stand.																																																												



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments				
54	42200 - Natural White Pine	Poletimber Well	6.9	70	111-140	N/A	2022: Mixed sized of white pine. Some old wp and rp scattered around. Stocking is variable. Could be thinned but not critical. Aspen is falling out. 2013FMD: Mixed ages and sizes. Some big old white pine. Aspen is small and poor form. Not too much aspen. Could let this stand self thin and let pine grow in for now or could get aspen out and mark for crop tree release. Red pine growing well on site Age 52 and over 13". Measured 14" wp age 60 and 8" jp age 41.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Jack Pine		8	Pole	8	54	White Oak		Low	< 5 feet	Sapling	
Quaking Aspen		10	Log	12	70	White Pine		Low	< 5 feet	Sapling	
Red Pine		2	Log	14	62						
White Pine		80	Pole/Log	9	70						
55	6112 - Lowland Aspen	Poletimber Poor	13.0	73	1-50	N/A	2003FMD: A6 Limiting Factor Borders wild and scenic river. 2011 FMD: Part of stand on west and south side was LO in O/I. 2013FMD: low aspen with hawthorn and dogwood and other lowland shrub.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Black Cherry		30	Pole/Sapling	7	73	Deciduous Shrubs		Low	5 - 10 feet	Tall Shrub	
White Pine		20	Pole/Sapling	8		Black Cherry		Low	< 5 feet	Sapling	
Quaking Aspen		50	Pole/Sapling	6	73	White Pine		Low	< 5 feet	Sapling	
						Hawthorn (spp.)		Medium	< 5 feet	Tall Shrub	
						Dogwood (spp.)		Low	5 - 10 feet	Tall Shrub	
56	42110 - Planted Red Pine	Sawtimber Well	17.1	88	111-140	N/A	2022: : Red pine is getting large but probably need to hold due to the adjacent stands that have been treated recently. JP is falling out. Very nice pine site. Wouldn't cut any of the aspen or red maple until final harvest to reduce sprouting and forming a new age class. Should try to keep this site in pine. Should harvest and re-plant when possible after adjacent stands start to grow in. Unfortunately this is ready now. 2003 FMD: R6 Let aspen and maple mature then final harvest all species. Pi stands 33 and 47 were same stand in O/I. Split because of mapping rules. 2013FMD; Could harvest and re-plant. Some scattered oak logs. Scattered aspen. May be a little trouble for regenerating one in this stand but it is not a very heavy component. Different than PI stand 33. Red pine in stand is good quality and is ready to harvest. Seriously consider regenerating this stand.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Pine		60	Log	14	88	White Pine		Low	5 - 10 feet	Sapling	
Bigtooth Aspen		5	Log	12		Black Cherry		Low	5 - 10 feet	Sapling	
White Pine		25	Log	12	88						
Jack Pine		10	Log/Pole	10	88						
57	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	7.5	119	81-110	N/A	2022: Mixed sized of pine and oak. Poles-XL. Large trees dominate canopy but thick with poles and saplings. White pine saps and poles growing through. Let stand develop. 2013FMD; rp wp and oak logs with rp, wp oak and rm poles. Aspen in east part. Heavy wp saps in places. Good bit of snow damage on understory pine. Second age on pole size. Seems like distinct age class.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		10	Pole/Sapling	6		Red Maple		Medium	10 - 20 feet	Sapling	
White Oak		10	Log	14	119	Red Pine		Low	5 - 10 feet	Sapling	
Bigtooth Aspen		5	Log/Pole	10	92	White Pine		High	10 - 20 feet	Sapling	
White Pine		55	Log/Pole	12	119						
Red Pine		10	Log	15	119						
Red Oak		10	Log	15	119						



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																									
58	42290 - Natural Mixed Pine	Poletimber Well	35.1	42	51-80	N/A	2022; LET STAND DEVELOP. JP/WP mix. 2003FMD:J1A1W1M1 Very Patchy TS# 044-83 TCR 8/86. Cut all merchantable but no oak. 2013FMD: Looks like a fair amount of saplings were left at last harvest. Now a two aged stand with 60 yr grown up saplings and new ingrowth @ 32 yrs. This is a mix of jp wp and aspen. A lot of the Q Aspen is stunted and spindly but some has done well. Let stand develop. Call both ages in canopy.																																																									
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59	4131 - Aspen, Oak	Poletimber Well	94.9	36	51-80	N/A	2022: Nice mixed species stand. Aspen is patchy. Some recent beaver harvesting. 2003FMD: A3 nearing A6 TS# 047-83. TCR 01/87. Cut all merchantable except no cedar hemlock or oak. 2013FMD. Well stocked aspen mixed with wp rm oak. A little sm and beech . Older oak retention scattered around. New beaver cutting on south slope along flooding.																																																									
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60	110 - Low Intensity Urban	Nonstocked	9.6		Unspecified	No																																																										
61	4133 - Aspen, Mixed Pine	Sapling Medium	24.1	13	1-50	N/A	2022: Good aspen regeneration in patches. The open areas have white pine and cherry seedlings. Scattered pine and oak retention from last harvest. 2003WLD :A6 with mix of wp/bc/jp/rp/rm Oak? Leave scattered mast producing trees (oak,bc) scattered conifer, snags Was age 70. TS# 065-05 TCR 11/10 Cut all trees 2"dbh except no red ine < 9.5" dbh and no oak. Cut rp wp aspen jp rm oak 2013FMD; Good aspen regeneration. Scattered laok and pockets of red pine left as residual. Trees left along steep band due to terrain.																																																									
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62	42210 - Natural Red Pine	Sawtimber Well	2.3	80	81-110	N/A	2022: Retention area from planted area to north. Motorcycle trail through stand. Keep as long term retention area.																																																									
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																	
63	42290 - Natural Mixed Pine	Sawtimber Well	6.2	85	111-140	N/A	2022: . Stand looks fine. 2003FMD:J6 Stand should convert naturally to pine. Let stand grow in. This area north of the river could be managed for large pine. 2013FMD; Most jp has died out. Aspen mixed through stand. WP and RP understory. a good bit of rp saplings in places. Let this stand grow in for now. Stocking is not too high at this time.																																																	
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64	3303 - Mixed Low Density Trees	Nonstocked	4.5		Unspecified	No	2022: JP is filling in nice grassy opening.																																																	
65	42110 - Planted Red Pine	Sapling Well	40.7	3	Immature	N/A	2022: Good growth and survival on planted rp seedlings. 11/9/2021 - Year 1 regeneration survey completed. Stand has approximately 964 trees per acre. Stand is not free to grow at this time herbicide treatment is currently recommended. Check stand for year 3 regeneration survey is also recommended. 2021; STAND PLANTED WITH CONTAINERIZED SEED2020: Herbicide applied with skidder. Heavy aspen sprouting. 2019: Trenched in fall. TS# 042-15. Harvested Fall 2018. Cut to 1' except a few scattered green marked and a small retention area. Tops were chipped but a large amount of residue that didn't get into the chipper was windrowed along the north/south road through stand. May be able to burn at some point. Stand 138 to north was part of this treatment but this stand was thinned for crop tree release and all aspen was removed. 2003FMD W6 2011FMD PI stands 64,31,48,55 were all in one O/I stand. W6 2013FMD:																																																	
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66	6229 - Mixed lowland shrub	Nonstocked	12.8		Unspecified	No																																																		
67	42290 - Natural Mixed Pine	Sawtimber Well	35.6	88	81-110	N/A	2022: Red pine is getting large but probably need to hold due to the adjacent stands that have been treated recently. JP is falling out. Very nice pine site. Wouldn't cut any of the aspen or red maple until final harvest to reduce sprouting and forming a new age class. Should try to keep this site in pine. Should harvest and re-plant when possible after adjacent stands start to grow in. Unfortunately this is ready now. Stocking is not too high. White oak could put on more volume. Some well formed oak scattered around stand. 2003FMD J6 Delayed treatment for age/size class diversity 2013fmd:PI STANDS 61,57,60 were all together in O/I. 61 and 57 split due to mapping standards St 60 split out as it looks different in imagery. (aspen?) 2013FMD; Very nice pine. Red pine is superior on this site. A little red and white oak logs and cherry poles.																																																	
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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68	310 - Herbaceous Openland	Nonstocked	21.9	0	Unspecified	4211 - Planted Red Pine	2022: Retention area in SW. Herbicide treatment site prep 2021: stand trenched to prep for planting 2020:stand chip harvested to prep for planting. Trench 2021 and possibly herbicide same year. Aspen sprouting should be controlled before planting. 2003FMD J6 Delayed treatment for age/size class diversity 2013fmd:PI STANDS 61,57,60 were all together in O/I. 61 and 57 split due to mapping standards 2013FMD: Jack pine mixed with RP WP and oak/aspens/rm/cherry. Jack pine is damaged bu heavy snow 2012 and will likely get worse. Should get it out before this gets bad. Red oine growth is superior in this stand. Should get jack pine out and re-plant this stand to red pine. Could keep residual of oak and some legacy red and white pine.
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69	42210 - Natural Red Pine	Sawtimber Well	3.1	84	141-170	N/A	2022: Red pine is getting large. Keep for diversity? 2013:Three small pine block- planted but natural look. Keep for species/age diversity. Wintering cover near river corridor.
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Canopy Species					% Cover	Size Class	DBH	Age	Sub-Canopy Species			Density	Avg. Height	Size
Red Oak		5	Log/Pole	14					White Pine	Low	10 - 20 feet	Sapling		
Red Pine		75	Log	15	84			Red Maple	Low	5 - 10 feet	Sapling			
Sugar Maple		1	Pole	6				Black Cherry	Low	5 - 10 feet	Sapling			
Bigtooth Aspen		1	Pole	6				Ironwood	Low	< 5 feet	Sapling			
White Pine		7	Log	14	84									
White Oak		5	Log	12										
Jack Pine		1	Log	10	84									
Red Maple		5	Log/Pole	12										

70	42210 - Natural Red Pine	Sawtimber Well	7.5	75	111-140	N/A	2022: Mixed stocking levels. Let stand grow in. 2003FMD: A5 Hold harvest until 2001. Good chance of red pine natural seeding. WLD: A5w/mix of wp rp rm bc O witch hazel. Leave scattered mast producing trees (oak, bc), scattered conifer poles/saps 2011 FMD: Check sale records for new first age. PI stands 67 and 63 were hooked in O/I. Split because more residual pine in stand 63.
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Canopy Species					% Cover	Size Class	DBH	Age	Sub-Canopy Species			Density	Avg. Height	Size
White Oak		2	Log/Pole	14					Black Cherry	Low	5 - 10 feet	Sapling		
Red Pine		96	Log/Pole	10	75			White Pine	Low	5 - 10 feet	Seeding			
Red Oak		2	Log	16				Bigtooth Aspen	Low	10 - 20 feet	Sapling			

71	4311 - Pine, Aspen Mix	Sawtimber Well	7.9	84	51-80	N/A	2022: Red pine is large but aspen is too small to harvest. RP density is mixed. Could hold this until Aspen and red maple put on more volume and then harvest and plant. Could treat with other small pine blocks nearby or could just keep it all for diversity. 2003FMD R8 TS#047-83. TCR 1/87. Cut all merchantable but no cedar, hemlock oak or red pine
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Canopy Species					% Cover	Size Class	DBH	Age	Sub-Canopy Species			Density	Avg. Height	Size
Sugar Maple		2	Pole/Sapling	5					Ironwood	Medium	< 5 feet	Sapling		
Red Maple		15	Pole	6	36			Black Cherry	Medium	5 - 10 feet	Sapling			
Black Cherry		3	Pole/Sapling	5	36			White Pine	Low	< 5 feet	Sapling			
Red Pine		43	Log	16	84									
Red Oak		5	Log/Pole	16										
White Oak		2	Log/Pole	12										
White Pine		5	Log/Pole	14	84									
Bigtooth Aspen		25	Pole	6	36									

72	330 - Low-Density Trees	Nonstocked	4.1		Unspecified	No	2022: Low density aspen, pine, cherry with grasses and shrubby areas.
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments		
73	42110 - Planted Red Pine	Sapling Poor	16.6	9	Immature	N/A	2022: Good growth on most remaining red pine. Some leader die back and mortality and some lower stocked areas. Residual oak and pine scattered in stand. 2019: Regeneration survey 84% survival and 75% FTG ratio. Most competition is from jp and bc. Considering that this site was planted due to failed regeneration of jp, aspen, wp, this result is acceptable. No next step required. 2018: Regen check. Good survival and FTG ratio. Little competition. TMS request monitoring 2019. 2017: Stand was chopped and trenched in 2014. Initial plant of rp in 2015 and re-planted 2017. 2003FMD: A5 Hold harvest until 2001. Good chance of red pine natural seeding. WLD: A5w/mix of wp rp rm bc O which hazel. Leave scattered mast producing trees (oak, bc), scattered conifer poles/saps 2011 FMD: Check sale records for new first age. PI stands 67 and 63 were hooked in O/I and in this TS.. Split because more residual pine in stand 63. TS# 065-05 TCR 11/10 Cut all trees 2" dbh except no red pine < 9.5" dbh and no oak. Cut rp wp aspen jp rm oak 2013FMD: Scattered residual oak and pine retention from last sale. Poor regeneration of aspen and red maple and little pine seeded in. Considerer trenching and planting red pine.		
Canopy Species	% Cover	Size Class	DBH	Age					
Beech	2	Sapling	1	9					
Red Maple	2	Sapling	1	9					
Bigtooth Aspen	2	Sapling	1	9					
White Pine	2	Sapling	1	13					
Red Pine	75	Sapling	1	9					
Jack Pine	7	Sapling	1	13					
Black Cherry	10	Sapling	1						
74	42210 - Natural Red Pine	Sawtimber Well	21.9	113	81-110	N/A	2019: Good bit of aspen and rm sprouting after harvest but most is heavily browsed. Some has advanced. Stand looks good. 2010: TS# 007-16. TCR 9/30/19. Cut aspen and jack pine and marked pine. Intent was to manage this corridor along road and river for older pine. 2003fmd: Limiting Factor Scenic/visual values. 2013FMD; mix of pine and oak and a good bit of aspen in this stand. May not be enough aspen for harvest. Could treat with PI stand 70. Could harvest aspen, rm jp and mark low quality oak and pine. RP saplings in areas. Stand is trying to stay in pine.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
White Pine	10	Log	14	113	Red Pine	Low		10 - 20 feet	Sapling
Red Pine	70	Log	12	113	Bigtooth Aspen	Medium		< 5 feet	Sapling
Red Oak	5	Log/Pole	14		Red Maple	Medium		< 5 feet	Sapling
White Oak	10	Log/Pole	12		White Pine	Low		10 - 20 feet	Sapling
Red Maple	5	Pole/Sapling	8						
75	6120 - Lowland Cedar	Sawtimber Well	19.2	85	111-140	N/A	Cedar/deciduous mix. Headwaters of trib of S Boardman.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
Paper Birch	10	Pole	9		Tag Alder	Low		5 - 10 feet	Tall Shrub
Balsam Fir	10	Pole/Sapling	8						
Red Maple	18	Log/Pole	11	85					
Yellow Birch	5	Log/Pole	12						
Tamarack	5	Log/Pole	11						
Northern White Cedar	52	Log	13	85					
76	6112 - Lowland Aspen	Poletimber Poor	7.3	71	1-50	N/A	Wet low area with aspen and tag. Low stocking. May have been partially harvested last treatment. Mixed sizes Part of harvested stand in lower drain. Mixed of aspen maple, balsam and tag alder		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
Red Maple	25	Pole/Sapling	6		Black Cherry	Low		5 - 10 feet	Sapling
Balsam Fir	10	Pole	6		Tag Alder	Medium		5 - 10 feet	Tall Shrub
Quaking Aspen	45	Pole	8	71					
Bigtooth Aspen	20	Log/Pole	10	71					
77	790 - Other Bare/Sparsely Vegetated	Nonstocked	2.0		Unspecified	No			



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																													
78	500 - Water	Nonstocked	3.1		Unspecified	No	2022: North Branch Boardman River.																																													
79	110 - Low Intensity Urban	Nonstocked	2.8		Unspecified	No	2022: Active oil/gas production site.																																													
80	42290 - Natural Mixed Pine	Poletimber Well	49.9	30	81-110	N/A	2022: Larger rp scattered around (age 86) and some areas fully stocked with larger pine. QA is scraggly but BA looks good and has good growth. Stand will be interesting to manage in future with mix of aspen, and pine. Would try to get all back to one age. 2003FMD: TS# 012 92. TCR 2/94. Whole tree harvest to 2" but leave all RP. R7A1J1W1 scattered R1 Age 20? Machine Planted (district?)1994 with PI stands 72 and 76 treated together. Did not plant areas of heavy pine and oak residual. Site was very stumpy. 2013FMD; Last harvest left a red pine seed tree look and then red pine was woven in around trees by district. Planted red pine has survived and is now starting to get good growth. Looks like it had a bad start. Patchy planting with areas heavy to jp, wp, aspen or just open areas. Has a natural pine look after all. Canopy call is on 20 yr class.																																													
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81	42210 - Natural Red Pine	Sawtimber Well	6.8	81	111-140	N/A	2022: Red pine is getting large. Some larger old pine scattered in stand. Vernal pond in north end with steeper slopes around. Could harvest and plant with retention around vernal pond. Not much volume in this small stand but may be able to treat if nearby. Could also just allow to grow in to large pine for diversity in area. 2013: Stand is heavy to red pine. Stocking is a bit high but it could wait. Stand on bowl and drain.																																													
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82	3102 - Grass	Nonstocked	1.9		Unspecified		Well plugged 5/2003. Unknown if reclamation is needed or attempted.																																													
83	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	37.2	81	111-140	N/A	2022: GOOD PINE GROUND. WHITE PINE IS MIXED SIZED POLE-XL. STOCKING IS NOT TOO HIGH. LITTLE BIT OF SM AND BW. WEST FINGER IS MOSTLY WP IN DRAIN. COULD HARVEST AND RE-PLANT OR HOLD UNTIL ADJACENT RECENT HARVEST DEVELOPS. This stand could probably hold. Most WP is not too large. DO NOT HARVEST ASPEN/RM UNTIL READY FOR FINAL HARVEST. 2013FMD; MIXED PINE WITH ASPEN OAK RM. SOME LARGE OLD OAK AND PINNE SCATTERED AROUND. RED PINE HAS GOOD GROWTH AND FORM. THINNING WOULD LIKELY CAUSE SECOND AGE TO FORM OF ASPEN AND RED MAPLE DUE TO THE AMOUNT IN STAND. DOES NOW SEEM LIKELY THAT A SEED TREE OR SHELTERWOOD HARVEST WOULD RESULT IN PINE REGENERATION. MAY GET WHITE PINE MIXED WITH ASPEN AND RED MAPLE BUT RED PINE SUCCESS IS UNLIKELY. COULD TRY TO REPLANT SOME OF THE BETTER LYING GROUND. THERE IS A GOOD BIT OF ASPEN IN THIS STAND AND IT IS MATURE.																																													
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84	42260 - Natural Pine, Mixed Deciduous	Poletimber Well	36.1	29	81-110	N/A	2022: Stocking is variable. BA looks good but QA is still spindly. Red pine growth is good. RP and WP retention. Stand will be a challenge to manage in future with mix of pine and aspen. 2003FMD: R3M1W1A1 Machine Planted (district?)1994 with PI stands 72 and 76 treated together. Did not plant areas of heavy pine and oak residual. Site was very stumpy and steep. Did not plant deep frost pocket in east . TS# 012 92. TCR 2/94. Whole tree harvest to 2" 2013FMD; PLANTED RP MIXED WITH ASPEN , RM WP JP. HEAVY ASPEN COMPONENT. QA IS PRETTY SPINDLY BUT BA LOOKS PRETTY GOOD. ASPEN HAS OVERGROWN RP IN AREAS BUT RP IS STILL GROWING. RP HAD BAD START BUT GROWING NOW.																																																	
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85	42260 - Natural Pine, Mixed Deciduous	Sapling Poor	69.8	13	Immature	N/A	2022: Mixed stand with planted red pine. Residual oak scattered around. Good growth on remaining planted pine. Planting this stand to supplement failed natural regen was a good call. Should develop into nice mixed stand with decent stocking. Retention area in NW. 2021: Dropped herbicide release treatment for this stand. Consider pre-commercial thinning in future. 2018 poor regeneration over much of site after last harvest. Trenched site in 2017. Will plant red pine 2018. 10/18. Regen check. Survival good> 80%. Trees need release treatment to set back woody competition. es and saps. 2011FMD Check sale record for new age. TS# 065-05 TCR 11/10 Cut all trees 2"dbh except no oak. Cut rp wp aspen jp rm oak 2013FMD: Residual oak through stand- small logs and poles. mederate jp regen throughout stand but pretty steady. May fill in more in the future. A few scattered wp saps. Let stand develop.																																																	
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86	3102 - Grass	Nonstocked	2.5		Unspecified	No																																																		
87	330 - Low-Density Trees	Nonstocked	11.2	0	Unspecified	4211 - Planted Red Pine	2022 - Stand was Sprayed 6/13/2022 with Contract Skidder 2021: site trenched to prep for planting. 2020. Stand harvested and tops chipped to prep site for planting. Aspen component will likely sprout vigorously in areas so herbicide will be required before planting. 2003 FMD: W6 2011FMD: PI stands 78,81,88,90 were all one O/I stand W6 age 67. Split due to differences in imagery 2013FMD: Considerable aspen component in this stand that is mature and should be harvested. Good pine ground. Cutting and planting nay cause competition issues fro the pine from aspen clones. Taking aspen out first will likely cause a second age to form and delay removal of pine. There is a good bit of aspen and pine/aspen in this immedialte area.																																																	
88	42290 - Natural Mixed Pine	Sawtimber Well	58.8	82	111-140	N/A	2022: Stand looks good after thinning. Basal area on target. Let stand grow in. Aspen, rm,bc sprouts and seedlings in understory. Getting browsed heavily. 2019. TS# 079-15. Marked Crown release thinning on rr/wp+ most aspen and jp Harvested Summer 2019. 2003 FMD: W6 2011FMD: PI stands 78,81,88,90 were all one O/I stand W6 age 67. Split due to differences in imagery 2013FMD: mixed pine stand -red pine has best growth and form. White pine is a bit limby and weeveled. Some legacy red and white pine in stand. Could manage this pine along or could harvest and re-plant.																																																	
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89	3202 - Autumn Olive/Honeysuckle	Nonstocked	2.6		Unspecified	No	2022: Most of the autumn olive was taken out during timber sale as this was used as landing.																																													
90	42290 - Natural Mixed Pine	Poletimber Well	68.1	81	81-110	N/A	2022: Retention areas that were not treated in valleys and steeper areas. Areas with exploding aspen sprouts which will be a concern in future management. Mixed pine sizes. Let stand grow in. 2018: TS# 976-15. Harvested Winter 2017-2018. Marked thinning and all jp/aspen/rm unless green marked. . 2003FMD: J6 PI stand 82 and 87 were hooked in O/I Split due to mapping rules 2013FMD: Most stocking is white pine poles that could use a thinning. Could take jack pine, aspen and red maple out and thin pine. May be hard to sell due to white pine volume. Split new stand off west side PI 167. Check and see if this is different.																																													
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91	42290 - Natural Mixed Pine	Sawtimber Well	37.0	84	81-110	N/A	2022: Stocking is fine. Oak, wp and rm seedlings and some aspen clones in understory. Stand will likely keep moving towards this mix as stand develops. 2019: TS# 058-15. Harvested 2018-2019. Marked crown release = cut all rm/aspen.jp2003FMD: W6 2013FMD: Looks like maybe the sw/south part may bless pine but there are runs of pine through that as well. 2013FMD: Mix of pine oak aspen and rm. Has natural look..no planting record. pruned in 1989. Some large old pine and oak scattered around. Some areas are heavier to rp and aspen seems heavier in south of stand. Corner and witness trees in SE corner.																																													
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92	3102 - Grass	Nonstocked	16.9		Unspecified	Managed Opening																																														
93	3102 - Grass	Nonstocked	1.4		Unspecified	No																																														
94	42290 - Natural Mixed Pine	Poletimber Well	20.8	38	51-80	N/A	2022: Lower quality stand with jp and wp mix. Some scattered oak and red pine. Consider harvest next entry and planting to red pine. Let stand put on more volume at this time. 2003 FMD: A2W7W4O4 Same age for PI stands 95,86 TS# 043-83 TCR 5/86 cut all merchantable but no oak 2013fmd: poorly stocked stand with poor formed trees. Bushy open grown white and jack pine with a little red pine. Looks like the last treatment left a good bit of wp saps and poles as well as scattered oak logs and poles. Consider trying to get this ground cleared and planting red pine. This ground is under-utilized.																																													
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95	310 - Herbaceous Openland	Nonstocked	11.2	0	Unspecified	4211 - Planted Red Pine	2022: site prep herbicide treatment 2021: stand trenched. 2020: Stand chip harvested to prep site for planting. Some large scattered pine and oak residual. Should be trenched in 2021 and possibly herbicide in same year. May have considerable aspen sprouting that should be controlled before planting. 2003FMD: J6 PI stand 82 and 87 were hooked in O/I Split due to mapping rules 3013FMD; Stand is mixed pine heavy to jack pine which has taken a good bit of damage from snows in 2012. Some large crowned oak scattered around and oak poles as well. Jack pine should come out. Could mark some oak and pine retention and replant redpine. Red pine seems to have best growth out in this stand.																																													



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																			
96	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	9.4	77	111-140	N/A	steep slope . Factor limit. 2003 FMD: W6 2011FMD: PI stands 78,81,88,90 were all one O/I stand W6 age 67. Split due to differences in imagery 2013fmd: Steep slope. Not manageable. JP is dying out of stand																																																			
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97	3205 - Mixed Upland Shrub	Nonstocked	2.8		Unspecified	No	2022: Old well pad with a little autumn olive and jp.																																																			
98	42290 - Natural Mixed Pine	Sawtimber Well	10.6	88	111-140	N/A	2022: Mixed pine sized. A good bit of large older pine mixed in. Let stand grow in. 2011FMD: Stand not inventoried before. Mix of wp aspen rm with a little rp and oak. Mixed ages. Some older rp, wp scattered around. Aspen is declining. Ground is hummocky. Could open this stand up for pine to seed in. Not sure of access. S Branch road is narrow and passes by private cottages.																																																			
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99	4319 - Mixed Upland Forest	Sapling Poor	8.1	13	1-50	N/A	2022: Site planted with red pine 2018 after failed natural regeneration. Mix of natural regen with planted red pine. Some scattered residual oak from last harvest. 2021: Dropped herbicide release treatment for this stand. 2003FMD A5 WLD A5 with wp oak rm rp. Leave scattered mast producing trees (oak, bc) and scattered conifer poles and saps. 2011FMD TS# 065-05 TCR 11/10 Cut all trees 2"dbh except no oak < 9.5" dbh. Cut rp wp aspen jp rm oak 2013FMD: Part of this had decent aspen regen but the most part is pretty sparse. Red maple and oak stump sprouts have been browsed heavily. Pretty heavy slash and a good bit of residual oak so it may not be possible to trench and plant this if it fails. Evaluate in spring of 2013 and if necessary trench as possible to plant red pine.																																																			
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100	42210 - Natural Red Pine	Sawtimber Well	16.0	77	111-140	N/A	2022: Could be cut and planted but good for diversity in area. 2003FMD: W6. PI stands 160 and 81 were hooked in O/I. stand 160 was treated with TS# 003-05, TCR 10/05. cut only red maple and aspen. 2013FMD: Red nad white pine witha little scattered oak. nice diversity and good stocking to grow at this time.																																																			
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments				
101	4310 - Pine, Oak Mix	Poletimber Poor	12.9	70	1-50	N/A	2022: Nice mixed stand coming in understory. Unusual amount of natural red pine. Oak is advancing in patches but other areas still getting browsed. Let stand develop. 2012: Sale resold as TS# 053-07. Cut all trees to 2" DBH but no oak or red pine < 9.5DBH. TCR 6/08 WLD: J6 with mix of wp/o/aspens/rp. Leave snags and oak. Stand Yof O 2009 2013FMD: Smaller red pine and oak left for retention from the last sale. Regen of oak, aspen jp. regen getting browsed badly at this time. let stand develop.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Oak		25	Log/Pole	12		Jack Pine		Low	5 - 10 feet	Seeding	
White Pine		10	Pole	8		Bigtooth Aspen		Low	10 - 20 feet	Sapling	
White Oak		25	Log/Pole	10		White Oak		Medium	5 - 10 feet	Sapling	
Red Pine		40	Pole	8	70	Red Pine		Low	5 - 10 feet	Sapling	
						Red Oak		Low	5 - 10 feet	Sapling	
102	42260 - Natural Pine, Mixed Deciduous	Poletimber Medium	30.2	88	51-80	N/A	2022: TS# 057-18. Harvested Fall 2022. Cut all aspen, jp and marked trees. Aspen should regenerate through residual pine. May be able to hold until l aspen is ready to harvest again. 2011FMD: Stand not inventoried before. Mix of wp aspen rm with a little rp and oak. Mixed ages. Some older rp, wp scattered around. Aspen is declining. Ground is hummocky. Could open this stand up for pine to seed in. Not sure of access. S Branch road is narrow and passes by private cottages.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
White Oak		10	Pole/Log	9		Red Maple		Low	10 - 20 feet	Sapling	
Red Pine		20	Log	12		White Pine		Low	10 - 20 feet	Sapling	
White Pine		50	Pole	8	88						
Red Oak		10	Pole/Log	9							
Red Maple		10	Pole	8							
103	42201 - Natural White Pine, Mixed Deciduous	Poletimber Well	50.1	38	51-80	N/A	2022: Mixed sizes of wp (sapling-log) Most is pole sized. Aspen clones mixed through stand. Let stand develop. 2003FMD; A2 Same age PI stands 95,86 TS# 043-83 TCR 5/86 cut all merchantable but no oak 2013FMD: Some older wp and a fair amount of oak poles and logs left as retention from last treatment. New stand has decent stocking- a little patchy. Most is white pine.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		10	Pole	6		White Pine		Low	< 5 feet	Seeding	
Red Oak		5	Log	14	83						
White Oak		5	Log/Pole	12							
Bigtooth Aspen		14	Pole/Sapling	5	38						
White Pine		60	Pole	6	38						
Jack Pine		5	Sapling	5							
104	4130 - Aspen	Sapling Medium	107.9	17	1-50	N/A	2022: Good regeneration through oak and pine retention. An unusual amount of red pine saplings. Let stand develop. 2004 FMD: A0 Cut under contract 003-05 TCR 10/05 Cut all trees to 2" dbh except leave all white oak, cherry, hawthorn and rp < 9.5dbh. WLD: A6 with mix of O/rm/wp/rp/and occasional witch hazel and hawthorn. Leave scattered mast producing trees and hawthorn, scattered conifer poles and saps and some rm as CWD. 2012FMD: Scattered oak and red pine in canopy left as retention from last sale. New stand formed of aspen, white pine. Oak and red maple sprouts are heavily browsed at this time.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Oak		5	Log	13	77	Red Pine		Low	5 - 10 feet	Sapling	
Red Pine		5	Log	12	77	Hazelnut (Beaked)		Low	< 5 feet	Tall Shrub	
White Oak		5	Log	13	77	White Pine		Low	5 - 10 feet	Sapling	
White Pine		5	Sapling	3	17						
Bigtooth Aspen		80	Sapling	3	17						
105	3102 - Grass	Nonstocked	1.8		Unspecified	No	2022: Old well pad. Could plant if adjacent stand planted in future.				



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																		
106	4311 - Pine, Aspen Mix	Poletimber Well	27.3	36	51-80	N/A	2022: Areas thick in wp saps and poles and other areas with good aspen pole/sapling stocking. Mixed ages of oak and pine in overstory. Some oak advancing in understory. Most is white oak. Quad trail from house on west side. May have left most pine in last harvest. 2003FMD: A2M4W4W2 TS# 017-87. TCR 05-89. Cut all merchantable but green marked retention. 2013FMD: Aspen regen with white pine. Some older rp/wp/oak left for retention in last harvest. Some oak pockets harvested but regen is still in browse size.																																																		
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107	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	55.0	93	51-80	N/A	2022: Pockets of oak and white pine advancing in under-story. Stocking is fine. Let stand put on volume and allow second age to develop. 2012:Stand was orange marked and thinned leaving oak and pine mix. Removed larger pine and oak. Was in same sale as PI stand 106 which was not cut. Oak seedling growing in in openings. HEAVY IN PLACES. WP SUB CANOPY KNOCKED DOWN BY SNOW. ALL PINE IS SAME AGE (83) EXCEPT WP SAPLINGS. LOOKS LIKE THER MAY BE A YOUNGER AGE BUT NOT SO. Let understory develop. Can not locate sale record.																																																		
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108	4133 - Aspen, Mixed Pine	Sapling Poor	12.1	26	1-50	N/A	2022: Poor quality and stocking. Patchy regeneration. Bushy open grown wp with poor quality QA. Would be good to harvest this stand and plant a block of pine when possible. 2003FMD: A3 TS# 013-92 TCR 1/97 cut to 2". 2013fmd; pi STANDS 100, 101, 107, 105, 103 WERE ALL IN THIS STAND THAT WAS CUT AROUND 1997. DIFFERENT LOOK ON IMAGERY NOW FOR THESE STANDS. 2013FMD: This stand is poorly stocked struggling QA, BC with some wp saplings.																																																		
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109	6112 - Lowland Aspen	Sawtimber Well	19.2	79	51-80	N/A	2022: Low wet area on north edge of stand limits access to this stand. Older aspen, oak, rm, wp. Would be good to cut aspen and rm to regenerate but limited by access. Beaver activity and beaver ponds in south central part of stand. 2003FMD: A5 Delayed treatment for age/size class diversity. West part of this stand was not inventoried in past-private land but looks similar to A5 to east 2013FMD; between upland and lowland. Could attempt to regenerate this stand if access can be made. Stand may be pretty wet in places and regeneration may get browsed badly along river.																																																		
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110	330 - Low-Density Trees	Nonstocked	8.2		Unspecified	No	2022: Low density trees. Could cut and plant pine some time when nearby. 2013:poorly regenerated pocket from aspen harvest @1997.																																																		
111	42290 - Natural Mixed Pine	Sawtimber Well	5.1	80	111-140	N/A	2022: Keep for diversity Stand looks fine. 2003FMD: W6 TS# 013-92 TCR 1/97 cut to 2" but cut no pine. 2013FMD: Nice pocket of pine left in area with young aspen. Mix of pine logs and poles with some scattered legacy white nad red pine. Aspen growing in under pine where it was harvested .																																																		
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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112 4130 - Aspen Poletimber Well 10.6 26 51-80 N/A 2022: A little patchy but well stocked in general. Good growth. 2003FMD: A3 TS# 013-92 TCR 1/97 cut to 2". 2013fmd; pi STANDS 100, 101, 107, 105, 103 WERE ALL IN THIS STAND THAT WAS CUT AROUND 1997. DIFFERENT LOOK ON IMAGERY NOW FOR THESE STANDS. 2013FMD: Aspen regen with oak, red maple and black cherry.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Black Cherry	2	Pole	5		Hazelnut (Beaked)	Low	5 - 10 feet	Tall Shrub
Bigtooth Aspen	85	Pole/Sapling	5	26				
White Pine	4	Pole	6					
Red Oak	2	Pole	6					
Red Maple	5	Sapling	4	26				
White Oak	2	Pole	6	26				

113 4130 - Aspen Poletimber Well 31.8 26 51-80 N/A 2022: Well stocked QA. Let stand grow in. 2003FMD: A3 TS# 013-92 TCR 1/97 cut to 2". 2013fmd; pi STANDS 100, 101, 107, 105, 103 WERE ALL IN THIS STAND THAT WAS CUT AROUND 1992. DIFFERENT LOOK ON IMAGERY NOW FOR THESE STANDS. 2013FMD: Good aspen regen a-stocking- but kinda spindly quaking aspen.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	96	Pole	5	26
Red Maple	2	Sapling	4	
Black Cherry	2	Sapling	4	

114 4310 - Pine, Oak Mix Sawtimber Well 76.3 93 111-140 N/A 2022: Patchy wp saplings in understory with oak seedlings. Oak is mostly low quality and wolfy. Good stocking of mixed sixes and species in north part of stand. May be best to let this grow in and consider final harvest and plant or thinning next entry. Would be hard to get the large wolfy oak out without damaging stand excessively. South part of stand has larger diameters and lower stocking and is ready to harvest. Should hold until the rest of the stand grows in. May want to seed tree. Strip on east side would be easy to cut and plant but most of the stand may have too much advanced oak regen to plant. May want to leave pine 6" or less. Some older legacy pine. Some decent formed oak could be retained. Stocking is variable. 2003FMD: W6O7R7W7. WLD: W6 w/ mix of pr/O/aspens/rm. Heavy to wp saps/poles and occasional saw logs. Leave snags and scattered oak and pine sawlogs as leave trees. 2013FMD PI stands 106 and 97 were hooked in O/I. This stand was not harvested during last sale. Uncut unit? Mixed ages and sizes of pine and oak. Some large old pine and oak scattered around. It may be well to let this stand develop further before thinning. It is pretty complicated at this time with the mixed up ages and all the white pine saps and poles. Large sized pine and oak was marked in last treatment but not harvested. A lot of the white pine understory has been bent down by the snow, South part has lower stocking 90-120 and some jack pine and aspen. A good bit of the jack pine has died. All that was marked in last sale was the large legacy pine and oak. The oak is large wolfy poor formed trees and there seems to be a lot of porkie damage. Let this stand grow in for now.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
White Oak	20	Log	16	93	White Pine	Medium	5 - 10 feet	Sapling
Red Pine	28	Log	12	93	White Oak	Medium	< 5 feet	Seeding
Red Oak	25	Log	16	93	Red Oak	Low	< 5 feet	Seeding
Bigtooth Aspen	2	Log	12	93				
Jack Pine	2	Log	12	93				
White Pine	20	Log/Pole	10	93				
Red Maple	3	Pole	6					

115 6112 - Lowland Aspen Sawtimber Medium 28.7 85 51-80 N/A 2022: Wet aspen/rm/tag alder mix. Too wet to manage. Beaver activity. 2013 FMD Black ash. A good bit of mortality from EAB. May convert to lowland brush by next inventory.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	20	Pole	9		Tag Alder	High	5 - 10 feet	Tall Shrub
Bigtooth Aspen	80	Log/Pole	10	85				



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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116	42110 - Planted Red Pine	Sapling Poor	36.8	3	Immature	N/A	2022: Some loss of planted red pine. Very Droughty summer. May want to do regen survey 2022 instead of waiting. 11/9/2021 - Year 1 regeneration survey completed. Stand has approximately 980 trees per acre. Stand is free to grow at this time no herbicide treatment is currently recommended. Check stand for year 3 regeneration survey is also recommended. 2021: stand planted with containerized red pine after herbicide treatment. 2018: Roller chopped and trenched after harvest. Herbicide in 2019. Site Prep spray with skidder. plant the following year or when trees available. 2003FMD: M4W4M1 Scattered pockets of planted R2 1989. 2013FMD: PI stands 108 and 124 were hooked in O/I. Maybe stand 124 was planted and st 108 not? 2013FMD: This stand was not planted except for a strip along the north-south road. Scattered red maple poles/logs and widely spaced red pine logs with a low stocking of grown in jp, wp, bc saplings. Called both ages in canopy. Would be desirable to chip harvest and replant this stand. May not be enough volume to sell but may be able to make it attractive with pricing. May need to follow up with herbicide to suppress cherry and red maple. Keep sca61059-16. ttered rp and oak for retention. This area is not attractive to manage as barrens. Does not have species make-up. Oak regen in pockets that is getting browsed badly. 2018 TS# 059-15. Harvested winter 17-18. Trenched 2018. Should be planted spring 2019.
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Canopy Species	% Cover	Size Class	DBH	Age
Jack Pine	2	Sapling	1	3
Red Pine	98	Sapling	1	3

117	6229 - Mixed lowland shrub	Nonstocked	47.9		Unspecified	No	2022: Very wet. Beaver activity.
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118	4319 - Mixed Upland Forest	Poletimber Well	36.0	36	51-80	N/A	2022: Low quality rm and wp stand with scattered oak. Variable stocking. Areas in stand have heavy WO saplings but other areas are open in the understory. Higher residual stocking along road. Quad trails through stand from private. Aspen looks scraggly. Little white pine in understory. 2003FMD: north part A2M4W4W2 age 26. south part M4 age 29 Hard to see stand break on inventory. There does seem to be an aspen clone in the middle. North part TS# 017-87. TCR 05-89. Cut all merchantable but green marked retention. 2013FMD; MIXED UP SPECIES AND AGES. RETAINED SOME RP WP OAK AND RM IN LAST SALE. GAPS FILLING WITH WP AND ASPEN. ALSO SOME PLANTED RP AND SOME OPEN AREAS.
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Canopy Species	% Cover	Size Class	DBH	Age
Red Pine	5	Log/Pole	12	71
White Pine	40	Pole	8	36
Jack Pine	5	Pole/Sapling	5	36
Red Oak	5	Log	14	
Red Maple	25	Pole/Log	8	73
White Oak	10	Log	12	
Bigtooth Aspen	10	Sapling/Pole	4	36

Sub-Canopy Species	Density	Avg. Height	Size
Red Oak	Low	5 - 10 feet	Sapling
Black Cherry	Low	< 5 feet	Sapling
White Oak	Medium	5 - 10 feet	Sapling
White Pine	Low	< 5 feet	Sapling

119	4310 - Pine, Oak Mix	Sawtimber Well	23.5	103	111-140	N/A	2003FMD: O8 POG WLD O8 w/ understory of O/A/RM/WP poles and saps and juneberry. . 2013 FMD: This stand split off -slopes along drain. Large pine and oak along slope with some birch, aspen and hemlock. Riparian zone and restricted by slopes.
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Canopy Species	% Cover	Size Class	DBH	Age
White Pine	15	Log	16	103
Red Pine	30	Log	15	103
Hemlock	2	Pole	8	
Red Maple	14	Pole/Log	9	
Red Oak	35	Log	18	103
Paper Birch	2	Log	11	
Bigtooth Aspen	2	Log	14	

Sub-Canopy Species	Density	Avg. Height	Size
White Pine	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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120	42290 - Natural Mixed Pine	Poletimber Well	15.2	42	51-80	N/A	2022: Low quality jack pine and white pine with a little oak and cherry. Southwest corner has some well formed pine. 2003FMD:J1A1W1M1 Very Patchy TS# 044-83 TCR 8/86. Cut all merchantable but no oak. 2013FMD: Looks like a fair amount of saplings were left at last harvest. Now a two aged stand with 60 yr grown up saplings and new ingrowth @ 32 yrs. This is a mix of jp wp and aspen. A lot of the Q Aspen is stunted and spindly but some has done well. Let stand develop. Call both ages in canopy.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Oak		2	Log/Pole	12	70	Black Cherry		Low	< 5 feet	Sapling	
Red Maple		10	Log	12		Red Maple		Low	< 5 feet	Sapling	
White Pine		25	Log	12	42						
Jack Pine		58	Pole	8	42						
Black Cherry		3	Sapling	4	42						
Red Pine		2	Log/Pole	12	70						

121	4319 - Mixed Upland Forest	Poletimber Medium	3.9	34	51-80	N/A	2022: WP and RM with a little oak. 2003FMD: M4W4J4J1 ORV Trail runs through stand. May have some rp planted 1989. Was in original FTP to plant. 2013FMD: Stand was harvested with retention of wp oak rm rp. WP JP BC growing in gaps. Used saplings as first age and both ages in canopy call.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		30	Pole	8		Red Oak		Low	5 - 10 feet	Sapling	
Red Oak		5	Log	16		White Oak		Low	5 - 10 feet	Sapling	
White Oak		5	Pole	8		White Pine		Low	5 - 10 feet	Sapling	
White Pine		50	Pole	6	34						
Jack Pine		5	Pole	6	34						
Black Cherry		5	Sapling	4							

122	3105 - Mixed Upland Herbaceous	Nonstocked	2.2		Unspecified	No	
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123	4199 - Other Mixed Upland Deciduous	Sawtimber Well	10.4	85	81-110	N/A	2003FMD: A6 POG This stand is inaccessible 2013FMD; surrounded by lowland and river. Some bif old wp scattered around. Part of this stand is lower aspen and maple but most is an upland hump.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Bigtooth Aspen		38	Log/Pole	14	85	Tag Alder		Low	5 - 10 feet	Tall Shrub	
White Pine		15	XLog/Log	22		White Pine		Low	5 - 10 feet	Sapling	
Red Oak		5	Log/Pole	10	85						
Paper Birch		5	Pole/Sapling	8							
Red Maple		37	Log/Pole	10	85						

124	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	15.4	85	81-110	N/A	2013FMD: lowland strip along rivers riparian zone. mix of maple, aspen, birch, wp and lowland conifers.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
White Pine		5	Log/Pole	12		Balsam Fir		Low	5 - 10 feet	Sapling	
Balsam Fir		15	Pole/Log	8	85	White Pine		Low	5 - 10 feet	Sapling	
Red Maple		25	Pole/Log	8	85						
Northern White Cedar		15	Log/Pole	12	85						
Paper Birch		15	Pole/Log	9	85						
Bigtooth Aspen		20	Log/Pole	12	85						
Black Spruce		5	Pole	8	85						



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments					
125	330 - Low-Density Trees	Nonstocked	205.2	0	Unspecified	Managed Opening	2022: Burned in spring 2022: Burn was successful. Will need re-burned soon to continue to develop barres flora. Grasses are expanding but oak and maple sprouts will be persistent . 2018: Outside perimeter of stand part of timber sale # 078-15. Partial harvest to prepare site for barrens management. TCR 1/18. 2003FMD: A4 WLD A4 w/ scattered wolfy oak, scattered rm/bc/wp/jp. Burn stand to promote oak barrens but do not burn aspen clones. G type had been de-lineated in SW of stand and still has good grass type. 2013FMD: Barrens management area. Large crowned old oak with younger age of rp jp rm aspen.					
								Sub-Canopy Species	Density	Avg. Height	Size	
								Red Oak	Low	>20 feet	Log	
								White Oak	Low	>20 feet	Log	
								Red Pine	Low	>20 feet	Log	
								Red Maple	Low	>20 feet	Log	
White Pine	Low	>20 feet	Log									
126	42260 - Natural Pine, Mixed Deciduous	Poletimber Medium	25.9	73	51-80	N/A	2022: Mix of well stocked and poorly stocked areas. Still has barrens look. Pockets of WO saplings. Mlxed wp sizes. Some planted red pine in small strips. Let stand grow in. 2003FMD: M4W4J4J1 with small scattered pockets of planted R2 1989. 2013FMD: PI stands 120,136,158,159,137 were all hooked in O/I. M4 age 63. last treatment kept a good bit of log sized red pine and red pine and white pine saps and poles. A few scattered oaks in stand also. Some pockets of oak seedlings but it is getting browsed badly. This is a stand that could grow in to a neat semi open pine barrens look.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Red Maple	26	Pole/Sapling	8	73
								Red Oak	2	Log/Pole	13	
								White Oak	2	Log/Pole	14	
								White Pine	20	Pole	8	34
								Red Pine	25	Log/Pole	11	73
								Black Cherry	5	Pole/Sapling	7	73
								Jack Pine	20	Pole	8	34
								Sub-Canopy Species	Density	Avg. Height	Size	
Black Cherry	Low	< 5 feet	Sapling									
Oak (spp.)	Medium	< 5 feet	Sapling									
127	110 - Low Intensity Urban	Nonstocked	9.0		Unspecified	No						
128	42110 - Planted Red Pine	Sapling Poor	11.6	3	Immature	N/A	2022: Removed herbicide treatment. Light oak sprouting and a good bit of natural red pine. Some loss of planted red pine after dry summer. 11/9/2021 - Year 1 regeneration survey completed. Stand has approximately 889 trees per acre. Stand is not free to grow at this time herbicide treatment is currently recommended. Check stand for year 3 regeneration survey is also recommended. 2021: stand planted with containerized red pine , 2003FMD: R6 2019: Trenched 2018. Herbicide site prep skidder 2019. 2013FMD: Stand is variable but basically mix of rp wp wo and a little ro and rm. Some areas are heavier to rp and others have more wo mixed in. WO is older large crowned trees and there is some older pine scattered around in stand (age 98 estimate) Could harvest a part of this stand and replant rp or would be alright to hold for now. Getting older and growth has slowed. 2017: Stand harvested 2017. Trenched roller chopped 2018. Herbicide 2019 if ready. Plant year following herbicide treatment. Retention along ORV trail.					
								Canopy Species	% Cover	Size Class	DBH	Age
								White Pine	2	Sapling	1	3
								Red Pine	95	Sapling	1	3
								Jack Pine	2	Sapling	1	3
								Red Oak	1	Sapling	1	
129	110 - Low Intensity Urban	Nonstocked	5.3		Unspecified	No						



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																											
130	4199 - Other Mixed Upland Deciduous	Poletimber Well	14.5	85	81-110	N/A	2003FMD: this PI stand was two O/I stands A6 age 75 on west and A5 age 42 on east. Both stands limiting factor POG in accessible. 2013FMD; hump surrounded by lowland and river. no access. Lower ground on south edge towards river.																																											
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131	42110 - Planted Red Pine	Poletimber Well	27.6	34	81-110	N/A	2022: Stand looks good. Let grow in. 2003FMD: M4W4M1 Scattered pockets of planted R2 1989. 2013FMD: PI stands 108 and 124 were hooked in O/I. Maybe stand 124 was planted and st 108 not? This stand was planted throughout. Looks like red pine had a bad start but has been putting on height growth the last 7-8 years. Mixed in with rm and oak poles that were left from last harvest and wp/jp saps that have grown in. All counted in canopy.																																											
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White Pine	5	Pole	5	34																																														
132	42110 - Planted Red Pine	Poletimber Well	57.4	34	111-140	N/A	2022: Good height growth in this period. 1-2 stick. 50: crown ratio. 2003FMD: R3 area was clear-cut J5 then roller chopped machine planted 1989. Aerial sprayed with round up 1994 for red pine release. 2013FMD: Red pin had a very bad start. Starting to grow in last 7-8 years. About 12" tall now.																																											
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133	3102 - Grass	Nonstocked	1.6		Unspecified	No	Good grass cover																																											
135	42210 - Natural Red Pine	Sawtimber Well	1.0	84	141-170	N/A	small pine block- planted but natural look. Keep for species/age diversity. Wintering cover near river corridor.																																											
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136	3303 - Mixed Low Density Trees	Nonstocked	2.0		Unspecified	No	Black cherry, jack pine and red maple filling in.																																											



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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137 4319 - Mixed Upland Forest Poletimber Medium 53.4 37 1-50 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Black Cherry	15	Pole	6	
Red Maple	20	Pole	9	
Red Oak	2	Log	16	
White Oak	2	Log/Pole	14	
Quaking Aspen	3	Pole/Sapling	5	37
Red Pine	10	Pole	7	37
Jack Pine	38	Pole	8	37
White Pine	10	Pole	8	

Sub-Canopy Species	Density	Avg. Height	Size
White Oak	Low	< 5 feet	Sapling
Jack Pine	Medium	< 5 feet	Sapling
Black Cherry	Medium	< 5 feet	Sapling
Red Oak	Low	< 5 feet	Sapling

2022: Stand could be harvested and planted. Low density jp, rm, bc. Strips of planted red pine in stand. Some scattered large oak. If stand is planted may want to retain some or all of the strips of red pine but consider dipodia. Keep large scattered oak in stand.
2003FMD:M4M2J1W1 Stand was roller chopped and planted in 1989
2013FMD: Some patch planted red pine but most is low stocked open grown jp. A good bit of rm poles grown from stump sprouts. Must have been unmerchantable at last harvest or were left as retention. A few scattered oak and oak seedlings in areas...most is =badly browsed.

138 42290 - Natural Mixed Pine Sawtimber Well 31.4 81 81-110 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Jack Pine	1	Pole	9	81
Sugar Maple	2	Pole/Log	8	
Red Maple	5	Log/Pole	11	
Black Cherry	1	Log/Pole	11	
White Oak	2	Log	12	
Bigtooth Aspen	1	Log	12	81
Red Pine	45	Log	13	81
White Pine	33	Log	15	81
Red Oak	10	Log	14	

Sub-Canopy Species	Density	Avg. Height	Size
Black Cherry	Low	5 - 10 feet	Sapling
Red Maple	Low	5 - 10 feet	Sapling
Ironwood	Medium	< 5 feet	Sapling
Bigtooth Aspen	Medium	5 - 10 feet	Sapling
White Pine	Low	5 - 10 feet	Sapling

2022: Mixed pine and oak on slope with some hardwoods. Some large wp scattered in stand. Pine is getting large but keep at this time for diversity. Surrounding parent stand recently planted. Some areas heavier to wp and others red pine. 2019: TS# 042-15. Harvest Fall season 2018. Cut most aspen and jack pine and orange marked for crop tree release. Treatment did not extend all the way down to water as a riparian strip was left untreated as indicated by retention area. 2003FMD W6 2011FMD PI stands 64,31,48,55 were all in one O/I stand. W6 2013FMD:

139 4113 - R.Maple, Conifer Poletimber Poor 13.1 73 1-50 N/A

Canopy Species	% Cover	Size Class	DBH	Age
White Oak	2	Log	13	73
White Pine	10	Pole	6	34
Red Pine	8	Log	12	73
Jack Pine	20	Pole	8	34
Red Maple	60	Pole/Log	9	73

Sub-Canopy Species	Density	Avg. Height	Size
Jack Pine	Low	5 - 10 feet	Sapling
Red Pine	Low	5 - 10 feet	Sapling
White Oak	Medium	5 - 10 feet	Sapling
Red Oak	Low	5 - 10 feet	Sapling

2022: Low quality low stocked stand. Could chip and plant red pine. Motorcycle trail.
Green-up issues. Could probably hold till next entry. 2003FMD: M4W4J4J1 with small scattered pockets of planted R2 1989. 2013FMD: PI stands 120,136,158,159,137 were all hooked in O/I. M4 age 63. Red maple poles with some scattered red pine logs. Low stocked jp and wp filling in gaps. The stand is poor quality and stocking. Mab be able to get chipped and re-planted with red pine.

140 42210 - Natural Red Pine Poletimber Well 72.1 34 81-110 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	2	Log/Pole	10	71
Black Cherry	4	Log/Pole	10	71
Jack Pine	30	Pole	6	34
Red Pine	62	Pole	6	34
White Oak	2	Log/Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
White Oak	Low	5 - 10 feet	Sapling
Black Cherry	Low	< 5 feet	Sapling

2022: Let stand grow in. 1-2 sticks. 50% crown. Good height growth this entry period. 2003FMD: M4W4J4J1 with small scattered pockets of planted R2 1989. 2013FMD: PI stands 120,136,158,159,137 were all hooked in O/I. M4 age 63. Some areas of older jp and rp age 43-54 than areas with age 24 jp and planted red pine. Some scattered rm and oak poles. Red pine had a bad start but is growing in the las 5-8 years. Looks like it may grow through and keep in stand. A fair amount of damage to the pines from the heavy snow storms 2012.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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141 42290 - Natural Mixed Pine Poletimber Medium 18.8 38 1-50 N/A

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Jack Pine	58	Pole	7	38	Black Cherry	Low	5 - 10 feet	Sapling
Red Pine	15	Pole/Log	9	61	White Oak	Low	5 - 10 feet	Sapling
White Pine	2	Pole	6					
Red Maple	25	Pole/Log	8	61				

2022: Variable stocking in stand but most is low. Could be harvested and planted to red pine but might hold another rotation. Some wo saps in north end. Motorcycle trail.
2003FMD: M4W4J4J1 with small scattered pockets of planted R2 1989. 2013FMD: PI stands 120,136,158,159,137 were all hooked in O/I. M4 age 63. Retained some RP and RM in last sale. Possible a few scattered oak. Low stocked JP growing in. A little planted RP. Stocking and quality in this stand in not good although this has better stocking than some of the surrounding stands. Consider chip harvesting this stand and planting red pine.

142 4113 - R.Maple, Conifer Poletimber Poor 27.0 73 1-50 N/A

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	60	Pole/Log	9	73	Black Cherry	Low	5 - 10 feet	Sapling
White Pine	10	Pole	6	34	White Oak	Low	< 5 feet	Sapling
Black Cherry	5	Pole/Sapling	6	73	Jack Pine	Low	< 5 feet	Sapling
Red Pine	5	Log/Pole	12	73				
Jack Pine	20	Pole	8	34				

2022: Low quality stand. Low stocked red maple and jack pine. Chip and plant red pine.
2003FMD: M4W4J4J1 with small scattered pockets of planted R2 1989. 2013FMD: PI stands 120,136,158,159,137 were all hooked in O/I. M4 age 63. RM poles and scattered RP log trees left for retention last time. Low stocking of bushy wp and jp growing in and bc sapling 5-10 feet. Looks like wasted ground. Poor formed trees with low stocking. Try to get chipped and replanted with red pine. PI stand 120 and 108 are similar. Maybe a sale can be put together.

143 42210 - Natural Red Pine Sawtimber Well 2.7 84 111-140 N/A

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	5	Log/Pole	12		Red Maple	Low	5 - 10 feet	Sapling
Red Oak	5	Log/Pole	14					
White Oak	3	Pole	6					
Jack Pine	1	Log	10	84				
White Pine	2	Pole	8	84				
Red Pine	84	Log	16	84				

2022: Red pine is getting large. small pine block- planted but natural look. Keep for species/age diversity. Wintering cover near river corridor.

144 3302 - Low Density Conifer Trees Nonstocked 1.9 Unspecified No

145 42110 - Planted Red Pine Poletimber Well 89.0 34 81-110 N/A

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Black Cherry	5	Sapling	4		Black Cherry	High	5 - 10 feet	Sapling
Red Maple	2	Sapling	4					
Red Pine	73	Pole	6	34				
Jack Pine	20	Pole	7	34				

2022: Stocking is variable. 1-2 stick trees. Good height growth in last decade. Strip through center is mainly jp and cherry. Un-planted. May have been left for WLD. 2003FMD: M2M4J1 with small pockets of planted R2 Stand has an FTP for red pine planting. Some rp has already been planted in a small areas. Stand was roller chopped and planted in 1989. 2013FMD: Planted rp with jp bc and rm. Red pine was stunted for a while but has been growing in the last 7-8 years. Jack pine is bushy.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																		
146	42290 - Natural Mixed Pine	Poletimber Well	8.9	64	1-50	N/A	Strip between jack pine road and gasoline																																																		
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147	790 - Other Bare/Sparsely Vegetated	Nonstocked	14.2		Unspecified	No																																																			
148	42110 - Planted Red Pine	Sapling Poor	6.6	8	Immature	N/A	2022: considerable die-back and mortality in red pine over the summer. Was fine in the spring. Seems to be drought stress. 2018. Regen survey found planted red pine healthy and FTG. Return to general inventory. Planted 2015 red pine 2013: Consider planting red pine or jack pine in this stand.																																																		
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149	42110 - Planted Red Pine	Poletimber Well	33.5	34	51-80	N/A	2022: Variable stocking and patchy. Decent growth on red pine in last decade. 2013: Red pine planted in this stand is starting to grow but had a rough start. Shallow valley through stand has acted as a frost drain an affected red pine in this area.																																																		
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150	4129 - Mixed Oak	Sawtimber Well	24.9	103	81-110	N/A	2022: Oak wilt ? issue in east side of stand. Large oak scattered through with poles of aspen, oak, white pine, red maple growing through. Grown in barrens look. This area could be cut back to barrens look at some point and burned to maintain but may be more valuable as a patch of early succession when harvested. Keep the large oak component. Let stand develop at this time. 2018: This stand was excluded from the area to the south that was harvested to restore oak barrens. This stand had the rm and aspen harvested in an earlier entry and the new understory growth was no merchantable at the time of that 2018 harvest. At some point this stand could be cut back to barrens spacing and added to burn area. 2003FMD: O8 POG WLD O8 w/ understory of O/A/RM/WP poles and saps and juneberry.																																																		
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151	42110 - Planted Red Pine	Poletimber Medium	8.4	34	51-80	N/A	2022: Decent height growth through last decade. Stocking is variable. 2003FMD: R2 Roller chopped and Planted spring 1989 2013FMD: PI stands 144 145 147and 153 were same stand in O/I. Split due to mapping rules and image difference for stand 145. 2013FMD: merged stand on the sout edge of this stand that was previously non-forested. It has grown in jp bc and oak. South part is not the planted rp. The rest of stand is planted red pine with jp and bc.																																																		
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152	3102 - Grass	Nonstocked	3.3		Unspecified	No	Grass covering on old well pad																													
153	3303 - Mixed Low Density Trees	Nonstocked	2.3		Unspecified	No	Low density jack pine and cherry.																													
154	42110 - Planted Red Pine	Poletimber Well	25.1	34	81-110	N/A	2022: Mix of planted red pine and natural jack pine. Stocking is variable. Decent height growth the last decade. 2003FMD: R3 stand was roller chopped and planted in 1989. 2013FMD: planted red pine had a slow start but has been growing the las 6-7 years. Mixed with bc and jp.																													
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155	42110 - Planted Red Pine	Poletimber Well	22.4	34	81-110	N/A	2022: Decent growth on red pine in last decade. Stocking is variable. 1-2 stick trees. Let stand develop. 2003FMD: R2 Roller chopped and planted spring 1989 2013FMD: PI stands 144 145 147and 153 were same stand in O/I. Split due to mapping rules and image difference for stand 145 2013FMD: planted rp with jp bc. Some scattered rm and bc poles scattered around.																													
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156	42141 - Planted Mixed Pine, Mixed Deciduous	Sapling Poor	68.7	8	Immature	N/A	2022: Considerable dieback in red pine with mortality and dieback. Many with dead leaders. Seems to be drought related. Light diplodia detected but not the cause of such a loss. 30-75% of the trees affected throughout the stand. Scattered oak and red pine retention from previous treatment. Stand had pockets of jack pine saplings when it was planted. Stand now has more jack pine than red pine after die back but not fully stocked. Will develop into a low stocked pine mix with cherry. Some pockets with fully stocked red pine retention. 2021: Dropped herbicide release treatment. Consider pre-commercial thinning in future. 2018: regen survey- good pine survival but woody competition from cherry mainly. Recommend release spray. 2011FMD: J1 Retain some red pine for visual. TS 053-07. TCR 6/08. Cut to 2" dbh except leave all rp 9.5" or less dbh. Note 2011 data year. Was J5 with scattered rp/bc 2013FMD: PI stands 146/154 were hooked in O/I Split due to mapping rules. 2013FMD; Residual rp and oak counted as canopy. Residual red pine is thicker in areas. A decent amount of jack pine seedling and a good bit of cherry brush. No red pine seeding in. Consider looking at this stand with TMS to determine if site could be trenched and planted to jp or rp. May be adequately stocked. Could request a stocking survey. 2016: Stand chopped 2013, trenched 2014 and planted 2015 to red pine.																													
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158	4311 - Pine, Aspen Mix	Sawtimber Well	8.9	82	141-170	N/A	2022: Stand would go to aspen /rm if harvested. Could leave some pine and oak seed trees and harvest to regenerate. Split off stand 16. 2022: Stand is mostly on slopes and may be part of floodplain of river. Some of this stand could be harvested that is away from river.																																																
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160	6112 - Lowland Aspen	Sawtimber Medium	6.5	75	1-50	N/A	2022: Access to stand is blocked by private ownership and river. Mixed density. Better stocking on higher ground in south.																																																
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161	42290 - Natural Mixed Pine	Sawtimber Medium	12.1	82	81-110	N/A	2022: This stand created after it was excluded from TS# 61-032-18. This stand borders the river and has NCT passing through. Part of stand on west side of Broomhead road was retention area. 2012: Stand borders wild and scenic river. 2013FMD; North Country Trail through stand. Some old legacy red and white pine. Gaps filled in with white pine jack pine red pine aspen. Jack pine is going out. Not too bad yet but starting to die and some areas damaged by heavy snows in 2012. Fish Div may not want aspen cut in this stand but the jack pine should be harvested. Stay north of the second levee along river. Jack pine is pretty heavy in ne part of stand. Some areas are more mixed pine. Could try to manage this stand along river for old large white and red pine but jp would likely regenerate in the areas with heavy jp stocking.																																																
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163	42260 - Natural Pine, Mixed Deciduous	Sawtimber Medium	3.9	82	111-140	N/A	2022: Piece cut off of harvested stand 16. Fragments of mixed upland along river. Factor Limit.																																																
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Jack Pine	20	Pole	9																																																				
Red Maple	20	Pole	8																																																				
Sub-Canopy Species	Density	Avg. Height	Size																																																				
White Pine	Low	5 - 10 feet	Sapling																																																				