



Compartment Review Presentation

Gaylord Forest Management Unit

Compartment 52014

Entry Year 2019

Acreage: 2,626

County Otsego

Management Area: AuSable Outwash

Revision Date: 2017-05-11

Stand Examiner: Luke Gilner

Legal Description:

Sections 15, 16, 17, 18, 19, 20, 21, & 22, T29N-R02W, Otsego County, MI

Identified Planning Goals:

Responsible multiple-use management for a healthy and productive forest resource base for the social, recreational, environmental, ecological, and economical benefit of the State of Michigan.

Soil and topography:

The major soils are Lindquist Sand, Rubicon Sand, Tawas-Leafriver Muck, Tawas-Lupton Mucks, & AuSable-Bowstring Mucks. There are lesser amounts of Grayling Sand, Hartwick Sand, Croswell Sand, & Blue Lake Loamy Sand.

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

This compartment and surrounding area has undergone extensive antrim gas development. There are 30 well sites (some abandoned), 1 facility, and approximately 12 miles of pipelines and associated roads in the compartment. There is a significant amount of hunting and fishing that occur in this compartment. The land south of the North Branch of the AuSable River and Chub Creek are within military leased lands, and some stands are used quite extensively by the National Guard for training exercises. Private ownership is adjacent to the west side of the compartment, as well as portions of the north, south, and southeast.

Unique Natural Features:

The North Branch of the AuSable River is a designated natural river. Its associated tributaries, Chub Creek and Turtle Creek, in this compartment are part of this river system. The lands adjacent to the river system have been designated as a High Conservation Value Area (HCVA), which includes a strip that is 400 feet on both sides of these waterways. Near the center of the compartment where these creeks converge with the river is designated as an Ecological Reference Area (ERA) which is composed of a Northern Shrub Thicket.

Archeological, Historical, and Cultural Features:

There is an archeological/historical feature within this compartment that has been deemed insignificant or not eligible for listing on the National Register of Historic Places.

Special Management Designations or Considerations:

The northeast portion of the compartment is composed of a large, upland grass, sedge, and sweet fern complex that has been actively managed for grouse habitat through periodic prescribed burning.

Watershed and Fisheries Considerations:

The North Branch of the AuSable River, Chub Creek, and Turtle Creek are all part of the AuSable River watershed, which holds natural river status.

Wildlife Habitat Considerations:

This compartment contains a good mixture of both upland and lowland areas, as well as coniferous, deciduous, and mixed forest cover types. There is an oak component throughout much of the compartment which provides and excellent hard mast food source for many species. The lowland area has good habitat for bear, deer, rabbits, owls, and other species. The uplands provide habitat for deer, turkeys, squirrels, songbirds, and other species. There is a considerable amount of hunting pressure from both upland game hunters and deer hunters, and even some trappers in this compartment. Both aspen types and lowland types have been actively managed in the past to promote and improve wildlife habitat. The northern and eastern stands within this compartment are actively managed and are heavily travelled by deer, grouse, woodcock, and open land song birds. Harvesting will continue in this compartment to diversify the age-class distribution and create new early successional habitat.

Mineral Resource and Development Concerns and/or Restrictions

The compartment is within the Antrim Shale gas play and the northern Niagaran reef trend. All state land within the

compartment is currently leased and held by production. There is some potential for additional Niagaran wells, but additional Antrim wells seems unlikely. Sand and gravel pits are not located in the area, but sand potential appears to be good on the uplands.

Vehicle Access:

Access is fairly good throughout the compartment. The river systems prevent travel through the entire compartment, but the north and east can be accessed off of Old State Road and Turtle Lake Road, the south can be accessed off of The Ford Road, and the west can be accessed off of Lower Chub Lake Road and Viking Club Road.

Survey Needs:

The southwest portion of Section 19 may need some survey work.

Recreational Facilities and Opportunities:

The North Branch Snowmobile Trail and ORV Route runs concurrent in the northeast corner of Section 16. A trail head and parking lot is located just east of the compartment.

Fire Protection:

The northeast portion of the compartment is composed of a large, upland grass, sedge, and sweet fern complex that has been actively managed for grouse habitat through periodic prescribed burning. The military training areas in the southern portion of the compartment have occasional occurrences of wildfires caused by training exercises.

Additional Compartment Information:

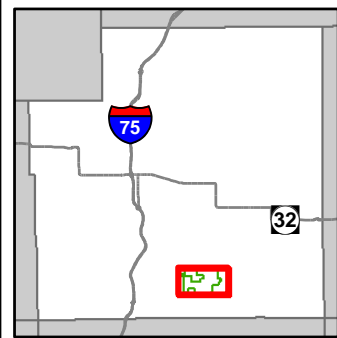
The following reports from the Inventory are attached:

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

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

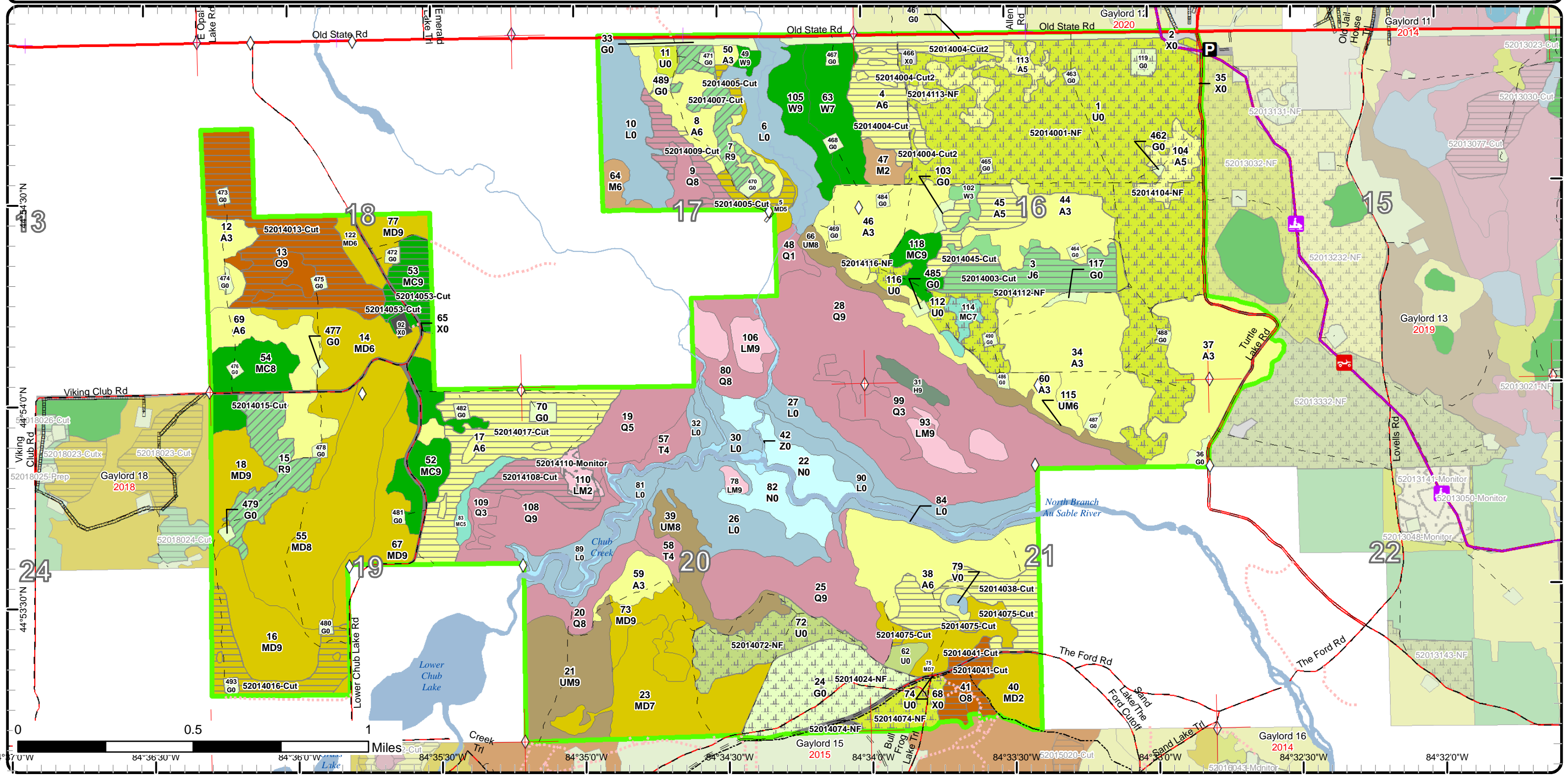
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map



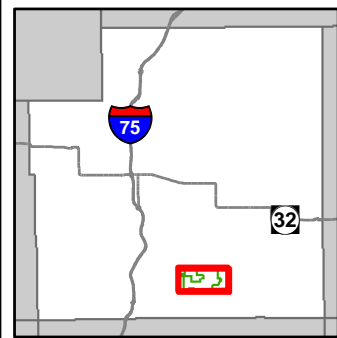
Compartment: 14
 T29N, R02W, Sec. 15-22
 County: Otsego
 Unit: Gaylord
 Mgmt Area: AuSable Outwash
 YOE: 2019
 Acres: 2626.5 GIS Calculated
 Examiner: Luke Gilner
 Map Revised: 9/12/2017
 Map Phase: Post-Review

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|---|---|--|---|
| <ul style="list-style-type: none"> — Miris Corners — Remonumented Section Corners ◇ Field Grade GPS Corners — Counties P Parking Lot ORV Routes Snowmobile Trails — Designated ORV Route — Designated Snowmobile Trails — County Paved Roads — County Gravel Roads — Gravel Roads — County Poor Dirt Roads | <ul style="list-style-type: none"> — Poor Dirt Roads — Closed — Streams — Lakes and Rivers All — Pipeline — Fence — Compartment Boundary — Other Treatment - See Comments — Clearcut (w/Reserves) — Thinning (Crown, Low, Systematic) — Regeneration Survey — 411 - Northern Hardwood — 412 - Oak Types — 413 - Aspen — 419 - Mixed Upland Deciduous | <ul style="list-style-type: none"> 421 - Planted Pines 422 - Natural Pines 423 - Other Upland Conifers 429 - Mixed Upland Conifers 430 - Upland Mixed Forest 612 - Lowland Coniferous Forest 613 - Lowland Mixed Forest 110 - Low Intensity Urban 122 - Roads/Parking Lot 123 - Other High Intensity Urban 310 - Herbaceous Openland 320 - Upland Shrub 330 - Low Density Trees 500 - Water 622 - Lowland Shrub | <ul style="list-style-type: none"> 623 - Emergent Wetland Lakes |
|---|---|--|---|

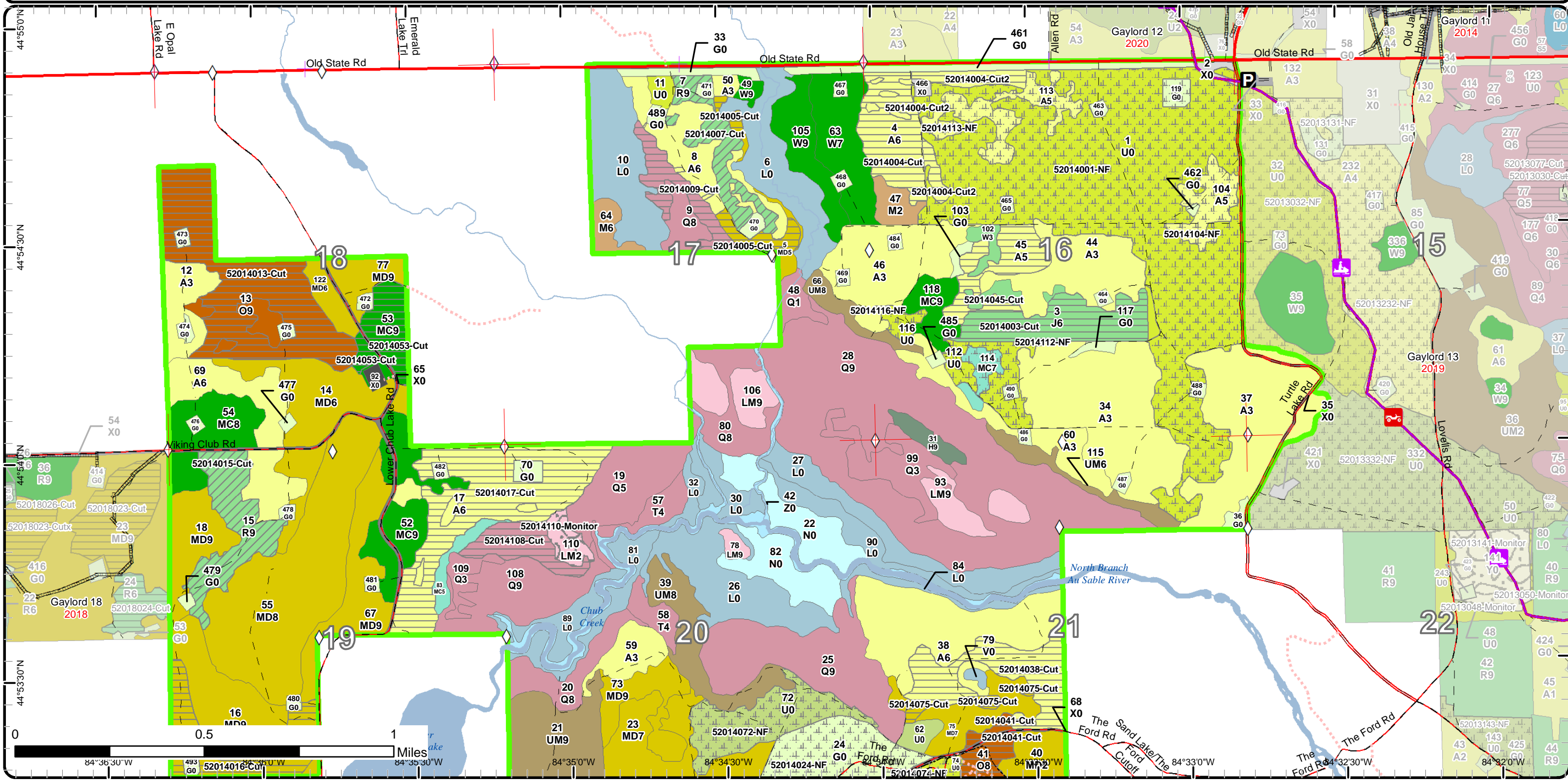


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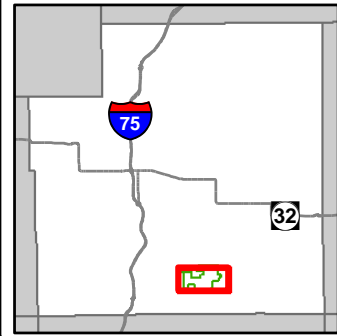


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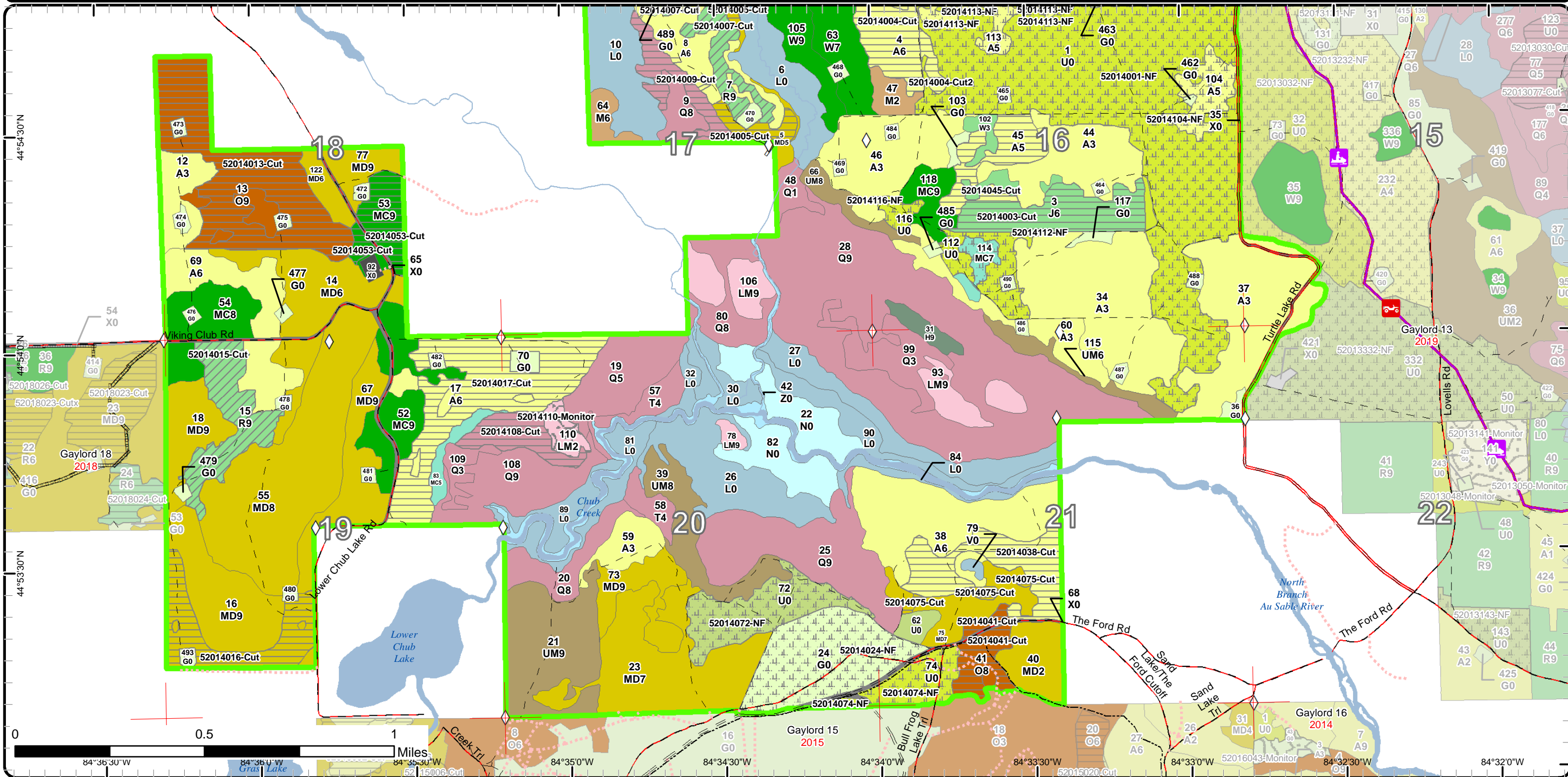


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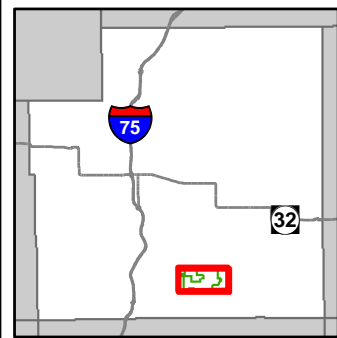


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- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
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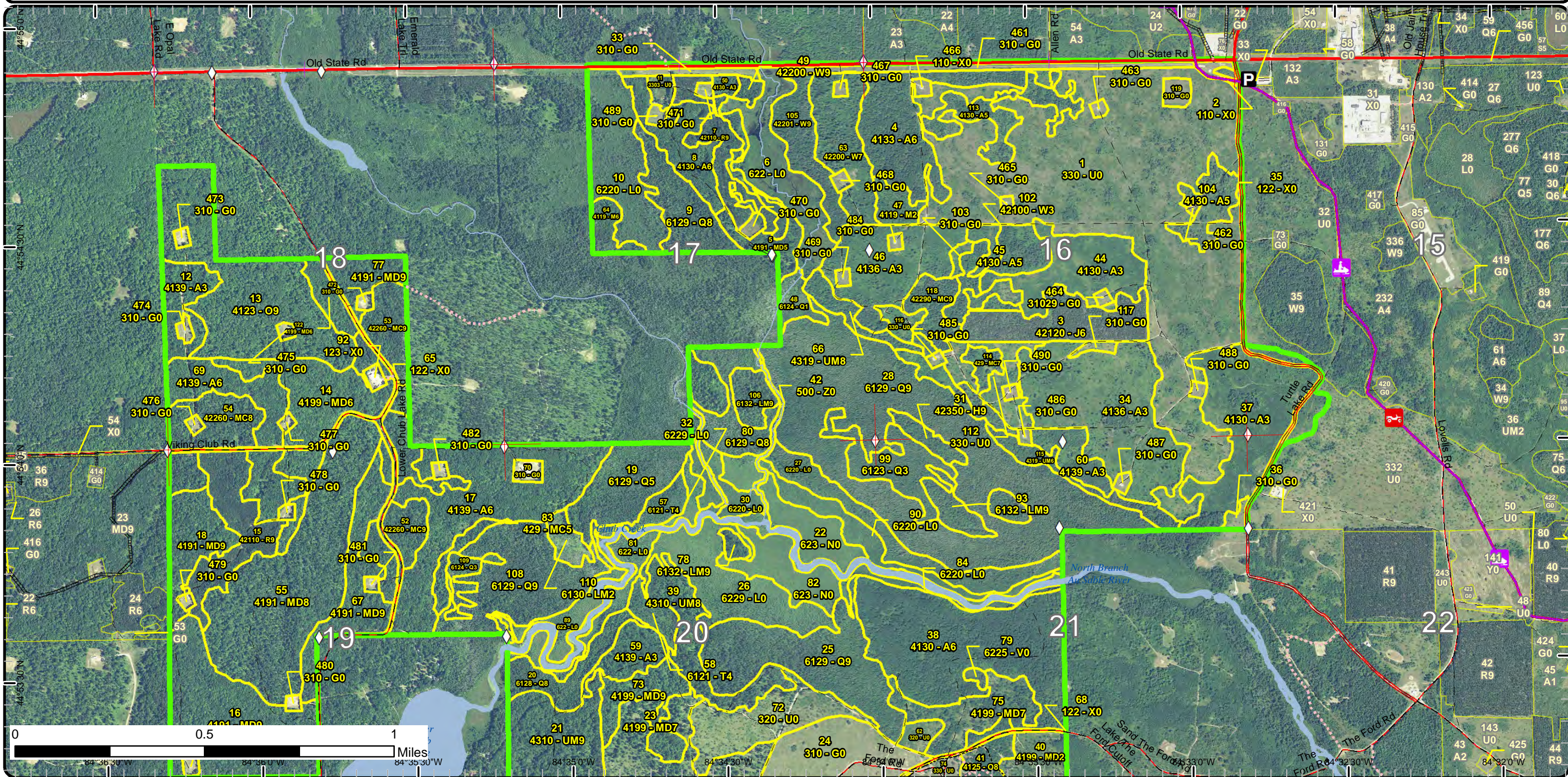


Stand Boundary Map

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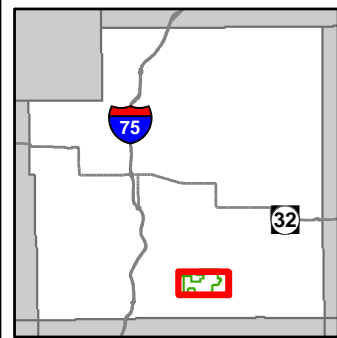


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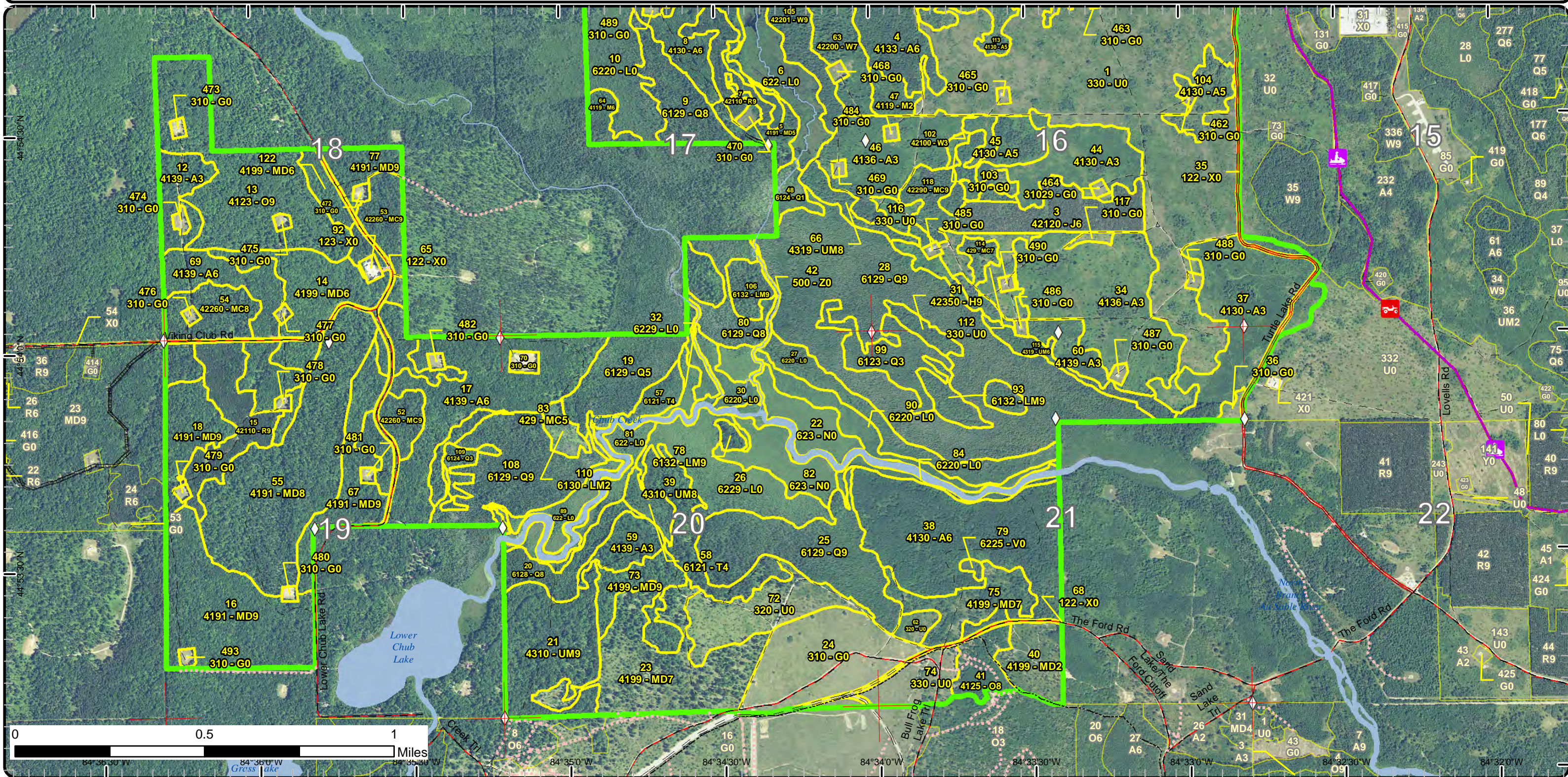


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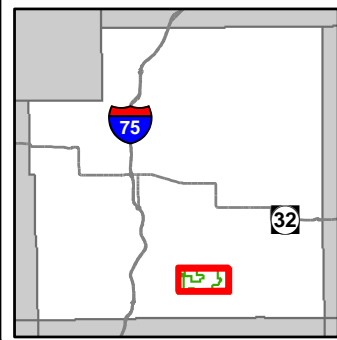


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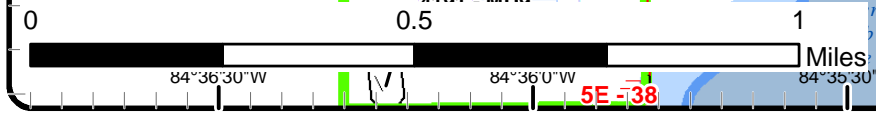
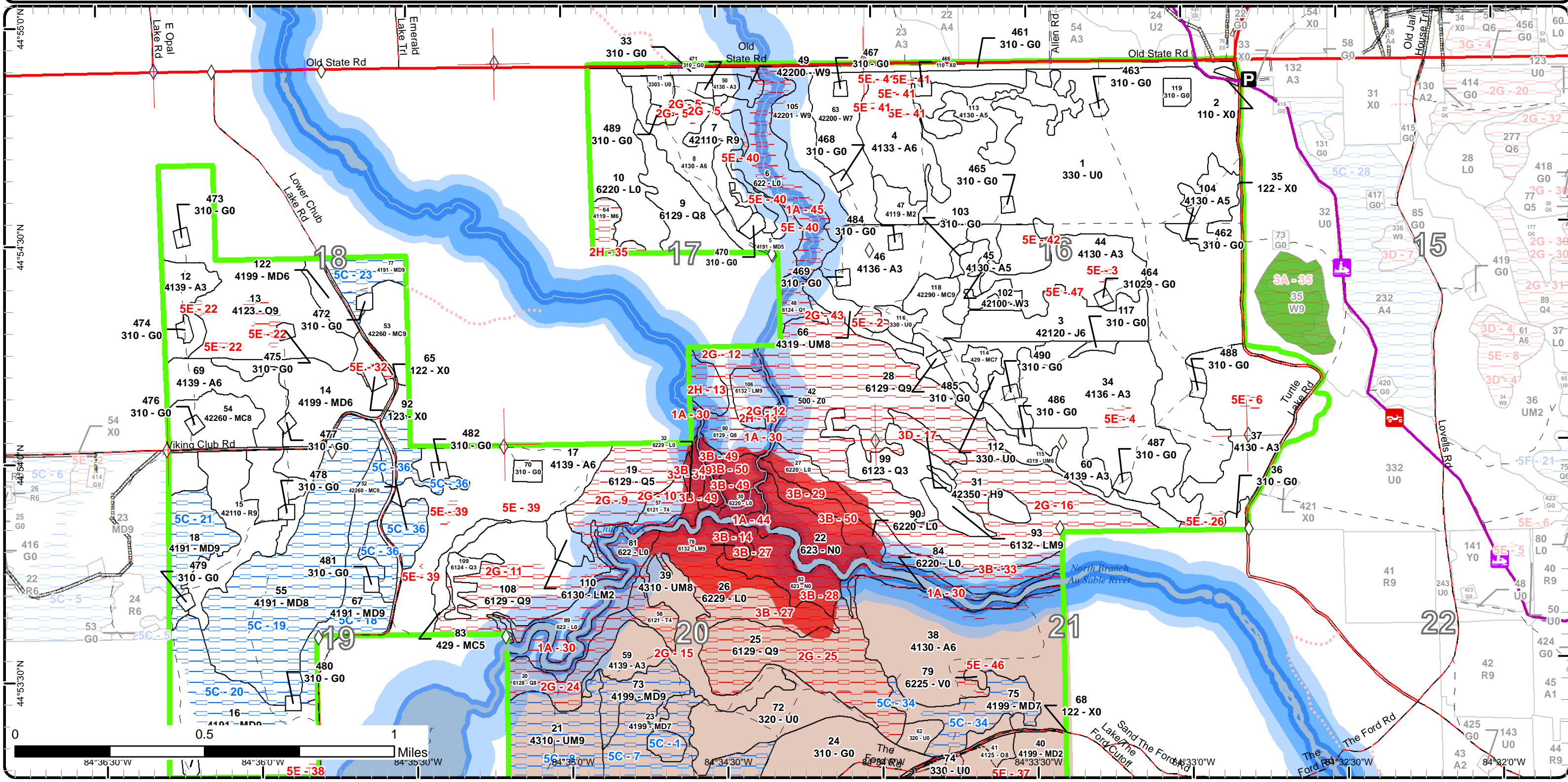


Special Conservation Areas & Site Conditions Map

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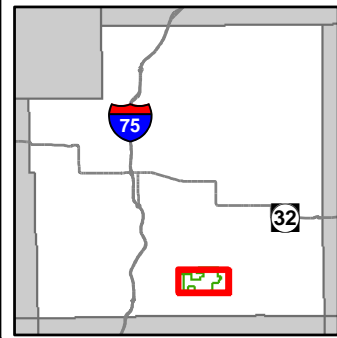


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- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Cold Water Streams
- High Priority Trout Stream Buffer
- Verified Type 1 Old Growth
- Research, Development, and Military Lands
- Possible Type 1 Old Growth
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- 3D: Recreational / Scenic values
- 5E: Long-Term Retention
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 1A: Federal/State/Local Law
- 2G: Too wet (sensitive soils, does not include access issues)

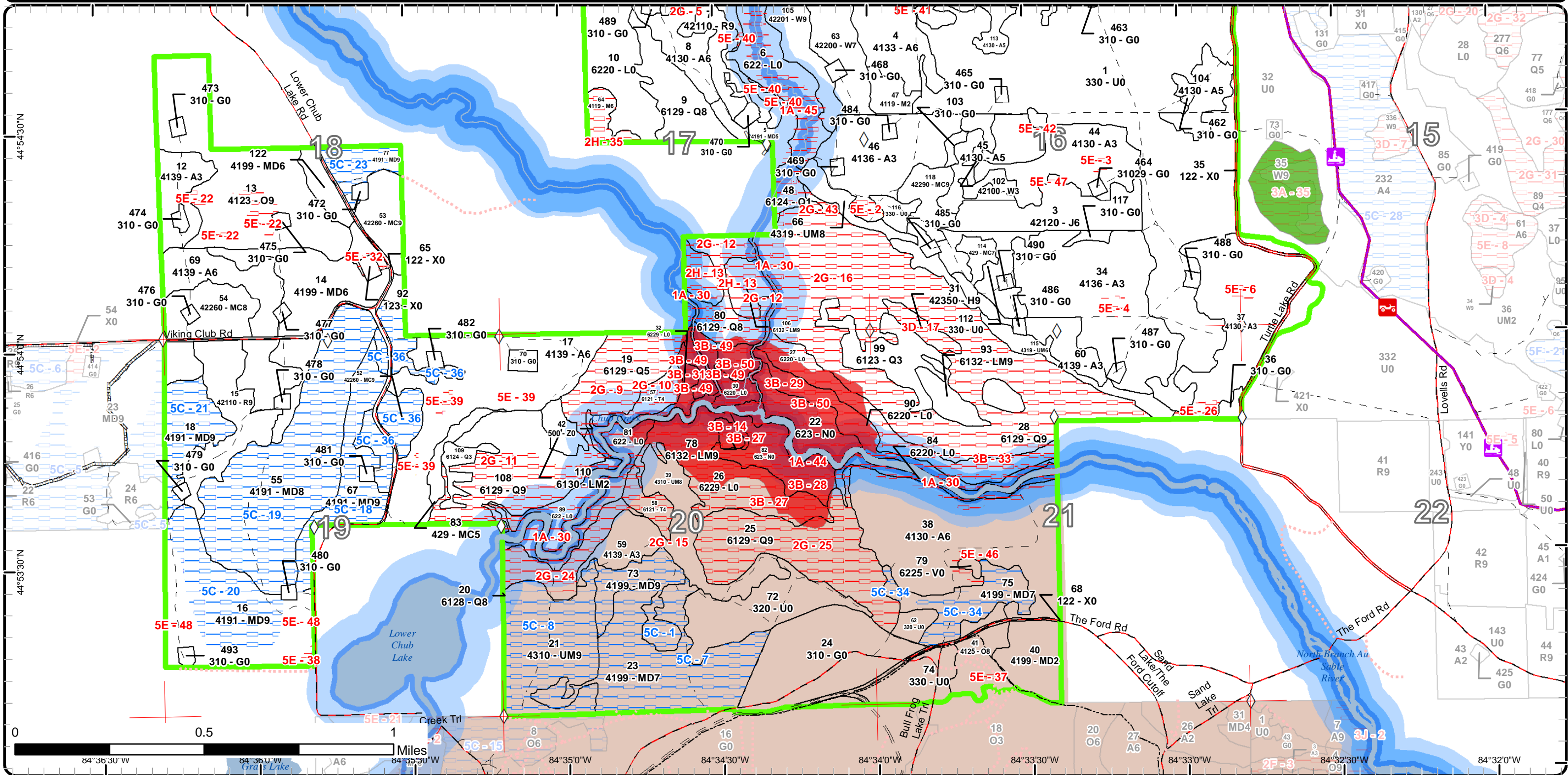


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Report 1 – Total Acres by Cover Type and Age Class

Gaylord Mgt. Unit

Compartment 14

Year of Entry 2019

Luke Gilner : Examiner



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	211	49	26	21	195	70	0	0	0	0	0	0	0	0	0	0	0	571
Bog	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hemlock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6
Herbaceous Openland	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109
Jack Pine	0	0	0	0	0	0	0	31	0	0	0	0	0	0	0	0	0	0	31
Low-Density Trees	298	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	298
Lowland Conifers	0	0	0	6	0	29	0	56	0	0	0	78	179	20	0	0	0	24	392
Lowland Mixed Forest	0	7	0	0	0	0	3	0	0	0	0	0	13	17	0	0	0	0	40
Lowland Shrub	203	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	203
Marsh	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41
Mixed Upland Deciduous	0	19	0	0	0	21	0	42	0	191	0	141	0	0	0	0	0	0	414
Natural Mixed Pines	0	0	0	0	0	0	12	0	45	0	0	0	0	0	0	0	0	26	83
Northern Hardwood	0	0	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	14
Oak	0	0	0	0	0	0	0	0	0	0	77	16	0	0	0	0	0	0	93
Red Pine	0	0	0	0	0	0	0	47	0	0	0	0	0	0	0	0	0	0	47
Tamarack	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	16
Upland Conifers	0	0	0	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	12
Upland Mixed Forest	0	0	0	0	0	0	20	0	26	0	0	50	0	0	0	0	0	0	96
Upland Shrub	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36
Urban	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33
Water	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34
White Pine	0	0	8	0	0	0	0	31	0	20	0	0	0	0	0	0	0	0	59
Total	756	237	57	32	28	245	134	207	77	211	77	285	192	37	0	0	6	50	2629



Report 2 – Treatment Summary

Gaylord Mgt. Unit

Year of Entry: 2019

Acres of Harvest

Compartment 14

Total Compartment Acres: 2,626

Commercial Harvest - 402
 Harvests with Site Condition - 0
 Next Step Harvest - 0
 Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	154	0	0	0	0	0	0	0	0	154
Jack Pine	30	0	0	0	0	0	0	0	0	30
Lowland Conifers	29	0	0	0	0	0	0	0	0	29
Mixed Upland Deciduous	39	0	0	0	0	0	0	0	0	39
Natural Mixed Pines	17	0	0	0	0	0	0	0	0	17
Oak	85	0	0	0	0	0	0	0	0	85
Red Pine	0	0	0	0	0	47	0	0	0	47
Total	354	0	0	0	0	47	0	0	0	402

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	402	2	0	0	0	7	0	417		827
Next Step	0	283	146	0	69	144	353	0	11	1007
Total	402	285	146	0	69	144	360	0	428	1834



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	Approval Status
1	52014001-NF	253.9	330 - Low-Density Trees	Nonstocked			NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Mow, plant, burn, brush, or herbicide to maintain openings. Plant hard and soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Protect trail and signs along north during any treatment.

Comment:

Proposed Start Date: 10/01/2018

1	52014001-Prep	1.8	330 - Low-Density Trees	Nonstocked			SitePrep	Trenching	4211 - Planted Red Pine	Even-Aged	Proposal - Approval Pending Edits
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Habitat Cut: No

Site Condition:

Prescription Start date is TBD depending on when next steps for stand 3 are implemented. Add this small portion of stand 1 to the trenching and planting of stand 3, to increase acreage of red pine plantation. Leave narrow fire break along road.

Specs:

Next Step Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable Fully stocked red pine plantation.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2020

3	52014003-Cut	30.3	42120 - Planted Jack Pine	Poletimber Well	60	51-80	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Final harvest all trees 2" DBH and greater. Cut stumps low for planting. Leave 3% retention located along the north central boundary. Leave any mast producing oak. May be some legacy trees along the north, that should be marked to leave.

Specs:

Next Step SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); Pesticide, Skidder/Mechanical

Treatments:

Acceptable Fully stocked red pine plantation. Some mixed oak, red maple, aspen, and cherry will likely regenerate naturally.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

4	52014004-Cut	27.0	4133 - Aspen, Mixed Pine	Poletimber Well	48	51-80	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Final harvest all trees 2" DBH and greater. Do not cut red pine or oak. Mark to leave white pine potential legacy trees. Leave 2 to 3 acres of scattered retention in islands of 0.25 to 0.5 acres in size. Islands must contain a significant component of young (subcanopy) white pine. Consider placing some on the north end as a visual barrier (islands on map are approximate).

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Predominantly aspen and red maple, with small components of cherry, white pine, and other species.

Regen:

Other

Comment: Protect hawthorn in sale specs. Wildlife requests to include follow up opening maintenance treatment on fingers on east side of road, so burn line for stand 1 can follow the road.

Proposed Start Date: 10/01/2018



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	Approval Status
4	52014004-Cut2	10.7	4133 - Aspen, Mixed Pine	Poletimber Well	48	51-80	Harvest	Clearcut	310 - Herbaceous Openland		Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Treatment has 3 polygons due to next step treatment. Set up harvest with larger portion of stand (treatment 52014004-Cut). Final harvest all trees 2" DBH and greater. Do not cut oak. Mark to leave any white pine potential legacy trees. Retention will be placed in the larger portion of the stand (treatment 52014004-Cut).

Next Step NonForestMgt, Other - Specify
Treatments:

Acceptable Aspen will regenerate, but the goal is to periodically burn through the stand to minimize aspen and manage with stand 1.
Regen:

Other Protect hawthorn in sale specs. Wildlife requests to include follow up opening maintenance treatment on fingers on east side of road, so burn line for stand 1 can follow the road.
Comment:

Proposed Start Date: 10/01/2018

5	52014005-Cut	8.1	4191 - Mixed Upland Deciduous with Conifer	Poletimber Medium	46	51-80	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Final harvest all trees 2" DBH and greater. Leave all red pine and sugar maple. Mark to leave some pole-size oak (west side), and some large mast producing oak (1-2 per acre). Protect oak saplings if possible. Note - power line runs through west portion of stand. Maintain 150 foot buffer from Turtle Creek for natural river HCVA.

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

Acceptable Mixed deciduous species with a conifer component. Aspen and balsam fir pockets, with red maple, oak, basswood, and white pine is acceptable. Some areas will probably remain non-stocked.
Regen:

Other Blue line may be difficult - exclude white pine and red pine log pocket at corner of private boundary. Place retention up in the narrow fingers along stand 6. Could probably utilize open stands 470 & 471 as landings for the two pieces
Comment:

Proposed Start Date: 10/01/2018

7	52014007-Cut	18.1	42110 - Planted Red Pine	Sawtimber Well	60	141- 170	Harvest	Low Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Thin from below. Remove about 1/3 of basal area - focus on removing sweep, forks, doubles, suppressed, heavy limbed, and any over 16".
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other Open stands 470 and/or 471 could probably be used as landings. Note - the power line that bisects the stand.
Comment:

Proposed Start Date: 10/01/2018

9	52014009-Cut	14.7	6129 - Mixed Coniferous Lowland Forest	Sawtimber Medium	86	81-110	Harvest	Clearcut	612 - Lowland Coniferous Forest	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Clearcut all trees 2" DBH and greater, including non-merchantable shrubs. Do not cut legacy white pine trees. Exclude areas heavier to cedar and tag alder - mostly along the southwest and central portions of the stand. No retention within harvest area. Include a couple small open pockets along the edge of stand 8 and 5 to utilize as access for small landings along the road, to minimize skidding distances in the lowland. Put habitat specs in sale.

Next Step Monitoring, Natural Regen (Intermediate)
Treatments:

Acceptable Lowland conifer species such as cedar, tamarack, balsam fir, black spruce, and white pine. Components of aspen, balsam poplar, red maple, black ash, and white birch are also acceptable.
Regen:

Other Wet soils! Boundary is approximate and should be determined with snow off conditions. Harvest only during very dry summer or very cold winter. Blue line may be difficult - consider buffering private boundary.
Comment:

Proposed Start Date: 10/01/2018



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	Approval Status
13	52014013-Cut	69.4	4123 - Red Oak	Sawtimber Well	97	81-110	Harvest	Clearcut with Retention	412 - Oak Types	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Harvest all trees 2" DBH and greater. Do not cut hemlock or white oak. Leave retention islands around pockets of hemlock, for protection. Also
Specs: mark to leave scattered, large crowned red oak for mast production at a density of about 5-10 BA. Do not harvest during oak wilt season. Ensure that stumps are cut low for any future herbicide or cultivation needs.

Next Step SitePrep, Roller Chopping; SitePrep, Other - Specify; Burn, Slash; Pesticide, Skidder/Mechanical; Planting, Initial Plant; SitePrep,
Treatments: Trenching

Acceptable Predominantly composed of red oak, with lesser amounts of beech, red maple, and aspen. Reassess if this does not pass.
Regen:

Other After the harvest, the site will be evaluated for next step treatments. The stand offers a good site to try different methods of regenerating oak
Comment: and minimizing beech competition. The stand may be split into 3 areas where different treatments and timing can be tested. These treatments could include: roller chopping, shredding, brush hogging, burning, herbicide, and/or planting. Be sure to document the methods/steps used and results of testing on the intranet in the Silviculture Research and Informal Field Trials folder, or another appropriate location.

Proposed Start Date: 10/01/2017

15	52014015-Cut	29.1	42110 - Planted Red Pine	Sawtimber Well	60	141- 170	Harvest	Low Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Thin from below, take about 1/3 of BA. Focus on removing suppressed, doubles, forks, and trees with heavy limbs or significant sweep. Target
Specs: residual should be around 120 BA.

Next Step
Treatments:

Acceptable
Regen:

Other Overall timber will be smaller, but there should be a fair amount of logs too.
Comment:

Proposed Start Date: 10/01/2018

16	52014016-Cut	27.7	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	102	81-110	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Final harvest all trees 2" DBH and greater. Leave 2 retention islands, 0.25 to 0.5 acres in size, that preferably include mature red oak, white oak,
Specs: and white pine, for additional hard mast and diversity. Also leave the boundary retention in the southeast corner to meet retention guidelines.

Next Step SitePrep, Trenching; Pesticide, Skidder/Mechanical; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)
Treatments:

Acceptable Plant a fully stocked red pine plantation. Leave 3 to 5 islands, 0.1 to 0.25 acres in size, unplanted to promote natural oak and/or white pine
Regen: regeneration. Also incorporate some oak species into the planting.

Other Identify and GPS 3 to 5 islands, 0.1 to 0.25 acres in size, where it is likely that oak and/or white pine will naturally regenerate after the harvest.
Comment: These areas will be identified as no spray, no trench, no plant areas, in order to promote natural regeneration and maintain some diversity in the future plantation.

Proposed Start Date: 10/01/2018



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Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
17	52014017-Cut	65.2	4139 - Aspen, Mixed Deciduous	Poletimber Well	54	81-110	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Final harvest - cut all trees 2" DBH and greater. Leave all white oak. Mark to leave some scattered, large diameter or large crown red oak (1-3 per acre). Mark to leave scattered red pine (1 per 5 acres). Leave 3 - 5% retention in islands. Include balsam fir component in retention on west side for greater visual barrier (boundaries on map are approximate). Protect pre-merchantable (<4" DBH) balsam fir, white pine, red pine, and black spruce in sale specs. The northwestern pocket along Lower Chub Lake Road is intentionally left out of the sale for an additional visual buffer and to be managed with stand 52.

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

Acceptable Predominantly aspen and red maple. Some balsam fir, birch, oak, and cherry are also acceptable.
Regen:

Other MNFI polygon in the W 1/2 of NW 1/4, Section 20 - Bald Eagle nest last observed in 2012. MNFI point in the SE 1/4 of NE 1/4, Section 19 -
Comment: Grizzled Skipper last observed 1988.
May be difficult to protect all pre-merchantable balsam fir along south and eastern boundaries.

Proposed Start Date: 10/01/2018

24	52014024-NF	51.1	310 - Herbaceous Openland	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, burn, brush, or herbicide to maintain openings. Plant hard and soft mast.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

38	52014038-Cut	32.8	4130 - Aspen	Poletimber Well	42	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Final harvest all trees 2" DBH and greater. Leave all white oak and white pine. Mark to leave mixed oak with large diameters or large crowns at a rate of 3-5/acre in scattered clumps where available. Leave minimum retention around bog (stand 79), by buffering 100 feet from bog edge.

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

Acceptable Predominantly aspen, mixed with other deciduous species such as red maple, cherry, and oak. Some white pine and balsam fir are also acceptable.
Regen:

Other Put military specifications in place. Package sale with treatments in stands 75 & 41.
Comment:

Proposed Start Date: 10/01/2018

41	52014041-Cut	15.1	4125 - Black, N. Pin Oak	Sawtimber Medium	103	81-110	Harvest	Clearcut with Retention	412 - Oak Types	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Final harvest all trees 2" DBH and greater. Leave all white oak. Leave mixed oak with large diameters and/or large crowns at a rate of 3-5/acre in scattered clumps where available. Leave minimum retention along the south boundary with advanced oak regeneration.

Next Step Monitoring, Natural Regen (Intermediate)
Treatments:

Acceptable Oak should be a dominant species, mixed with aspen, red maple, and cherry. The south central area will be dominated by aspen.
Regen:

Other Protect advanced oak regeneration where possible in sale specs. Note that the military fence cuts through the north east portion of the stand.
Comment: Put military specifications in place.

Proposed Start Date: 10/01/2018



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	Approval Status
45	52014045-Cut	18.6	4130 - Aspen	Poletimber Medium	48	51-80	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Final harvest all trees 2" DBH and greater. Leave minimum retention along the northeast boundary. Leave all oak. Protect oak saplings as well
Specs: as service berry and hawthorn where possible, in sale specs.

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

Acceptable Predominantly aspen, red maple, and cherry. May be somewhat patchy.
Regen:

Other Could access from Old State Road. Landing north of stand, or in open stand 103.
Comment:

Proposed Start Date: 10/01/2018

53	52014053-Cut	17.0	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	74	111- 140	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Final harvest all trees 2" DBH and greater. Mark to leave any older, legacy red pine and white pine. Place retention around the gas facility.
Specs:

Next Step Pesticide, Skidder/Mechanical; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)
Treatments:

Acceptable Fully stocked planted red pine. Some natural red maple, oak, and aspen is also acceptable.
Regen:

Other MNFI polygons in section 18 - Doll's merolonche, last observed in 1994.
Comment: Include in sale specs that stumps are to be cut low, for replanting purposes.

Proposed Start Date: 10/01/2018

72	52014072-NF	31.6	320 - Upland Shrub	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Mow, plant, burn,brush, or herbicide to maintain openings. Plant hard and soft mast.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

74	52014074-NF	18.3	330 - Low-Density Trees	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Mow, plant, burn,brush, or herbicide to maintain openings. Plant hard and soft mast.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018



Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
75	52014075-Cut	3.1	4199 - Other Mixed Upland Deciduous	Sawtimber Poor	103	1-50	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Grab the aspen pockets on the north and east portions of this stand, and include with the sale of stand 38 to the north. Final harvest all trees 2" DBH and greater in these pockets. Do not cut white oak. Leave at least a 100 foot buffer around the bog (stand 79) if necessary. Boundaries on map are approximate, focus on grabbing the aspen pockets, not just scattered aspen.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Regen: Aspen should be dominant. Lesser amounts of red maple, cherry, oak, balsam fir, and white pine are acceptable, but not required.

Other Comment: Put military specifications in place. Protect any service berry and hawthorn where possible. Remainder of stand will serve as retention.

Proposed Start Date: 10/01/2018

104	52014104-NF	13.7	4130 - Aspen	Poletimber Medium	44	51-80	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Mow, plant, burn, brush, or herbicide to maintain openings. Plant hard and soft mast.

Specs:Next StepTreatments:AcceptableRegen:

Other Comment: Manage with stand 1.

Comment:

Proposed Start Date: 10/01/2018

108	52014108-Cut	14.7	6129 - Mixed Coniferous Lowland Forest	Sawtimber Well	105	141-170	Harvest	Clearcut with Retention	6129 - Mixed Coniferous Lowland Forest	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Harvest all trees 2" DBH and greater. Boundary is approximate and should be determined with snow off conditions to avoid areas that may be too wet. Leave 5 retention islands 0.25 to 0.5 acres in size. Wetter areas could be utilized for retention.

Specs:

Next Step Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable Regen: A mix of the current species composition. Balsam fir, black spruce, tamarack, and cedar should be dominant, with lesser amounts of white pine, aspen, red maple, and white birch. Stand should be at least lowly or moderately stocked at re-inventory.

Other Comment: Harvest during a winter or very dry summer only.

Comment:

Proposed Start Date: 10/01/2018

110	52014110-Monitor	6.6	6130 - Fir, Aspen, Maple	Sapling Medium	3	Immature	Monitoring	Natural Regen (Intermediate)	6129 - Mixed Coniferous Lowland Forest	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Initial monitoring check failed, due to lack of cedar regeneration. Check more thoroughly with snow off conditions.

Specs:Next StepTreatments:

Acceptable Regen: A mix of lowland species that resembles the composition of the former stand that is well stocked.

Regen:

Other Comment: Percent to Treat = 100%

Comment:

Proposed Start Date: 10/01/2018



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	Approval Status
112	52014112-NF	15.6	330 - Low-Density Trees	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Mow, plant, burn, brush, or herbicide to maintain openings. Plant hard and soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

113	52014113-NF	20.5	4130 - Aspen	Poletimber Medium	31	51-80	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, burn, brush, or herbicide to maintain openings, along with stand 1. Plant hard and soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Originally part of stand 1, manage together.

Comment:

Proposed Start Date: 10/01/2018

114	52014114-NF	4.8	429 - Mixed Upland Conifers	Sawtimber Poor	76	51-80	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, burn, brush, or herbicide to maintain openings. Plant hard and soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

116	52014116-NF	4.4	330 - Low-Density Trees	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Mow, plant, burn, brush, or herbicide to maintain openings. Plant hard and soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018



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	Approval Status
119	52014119-NF	3.4	310 - Herbaceous Openland	Nonstocked		Unspecified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Mow, plant, burn, brush, or herbicide to maintain openings. Plant hard and soft mast.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

Total Treatment Acreage Proposed: 827.3

Report 4 – Site Conditions

Gaylord Mgt. Unit
Luke Gilner : Examiner

Compartment: 14
Year of Entry: 2019

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions							
		With Condition	Not Available		5C	1A	2G	2H	3B	3D	5E	
571	546	0	25	Aspen		6	1					18
1	1	0	0	Bog								
6	0	0	6	Hemlock						6		
110	109	0	0	Herbaceous Openland		0						
31	30	0	1	Jack Pine								1
297	297	0	0	Low-Density Trees								
390	66	0	324	Lowland Conifers		26	298					
39	20	0	19	Lowland Mixed Forest		3		14	2			
203	52	0	151	Lowland Shrub		80			71			
41	0	0	41	Marsh		18			23			
413	110	299	4	Mixed Upland Deciduous	299	1						3
83	55	27	1	Natural Mixed Pines	27							1
15	7	0	7	Northern Hardwood				7				
93	85	0	8	Oak								8
47	47	0	0	Red Pine								
16	0	0	16	Tamarack		5	11					
12	12	0	0	Upland Conifers								
96	45	50	0	Upland Mixed Forest	50	0						
36	36	0	0	Upland Shrub								
34	34	0	0	Urban								
34	0	0	34	Water		34						
58	57	0	1	White Pine		1						
2,626	1,610	377	640	Total Forested Acres	377	176	310	21	96	6	31	
	61%	14%	24%	Relative Percent								

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

Site No.	Dominant Site Cond	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	19	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gaylord Mgt. Unit
Luke Gilner : Examiner

Compartment: 14
Year of Entry: 2019

2	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
3	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	64	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
8	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	50	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gaylord Mgt. Unit
Luke Gilner : Examiner

Compartment: 14
Year of Entry: 2019

9	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	27	5A: Not able to obtain desirable regeneration	2D: Portable Bridge Needed (Dept. bridge will be adequate)	Unspecified	Unspecified
Comments:							
10	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	5	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
Comments:							
11	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	28	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
12	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	13	2B: Unknown if access through adjacent landowner(s) is possible	Unspecified	Unspecified	Unspecified
Comments:							
13	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	14	2B: Unknown if access through adjacent landowner(s) is possible	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gaylord Mgt. Unit
Luke Gilner : Examiner

Compartment: 14
Year of Entry: 2019

14	Unavailable	3B: Threatened, endangered, and special concern species	2	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	Unspecified	Unspecified	Unspecified
Comments:							
15	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
16	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	157	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
17	Unavailable	3D: Recreational / Scenic values	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
18	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	29	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
19	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	96	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gaylord Mgt. Unit
Luke Gilner : Examiner

Compartment: 14
Year of Entry: 2019

20	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	37	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
21	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	21	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
22	Unavailable	5E: Long-Term Retention	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
23	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	12	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
24	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
25	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	55	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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Gaylord Mgt. Unit
Luke Gilner : Examiner

Compartment: 14
Year of Entry: 2019

26	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
27	Unavailable	3B: Threatened, endangered, and special concern species	35	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
28	Unavailable	3B: Threatened, endangered, and special concern species	12	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
29	Unavailable	3B: Threatened, endangered, and special concern species	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
30	Unavailable	1A: Federal/State/Local Law	94	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Approximate 150 foot vegetative buffer for natural river (Ausable River system).							
31	Unavailable	3B: Threatened, endangered, and special concern species	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gaylord Mgt. Unit
Luke Gilner : Examiner

Compartment: 14
Year of Entry: 2019

32	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Boundaries are approximate until sale is setup.							
33	Unavailable	3B: Threatened, endangered, and special concern species	22	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
34	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	20	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
35	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
36	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	27	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
37	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Boundary is approximate until sale is setup.							

Report 4 – Site Conditions

Gaylord Mgt. Unit
Luke Gilner : Examiner

Compartment: 14
Year of Entry: 2019

38	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Boundary is approximate until sale is setup.							
39	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Boundaries are approximate until sale is setup.							
40	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Boundaries are approximate until sale is setup.							
41	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Boundary is approximate until sale is setup.							
42	Unavailable	5E: Long-Term Retention	0	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Boundary is approximate until sale is setup.							
43	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
44	Unavailable	1A: Federal/State/Local Law	51	3B: Threatened, endangered, and special concern species	Unspecified	Unspecified	Unspecified
Comments: Approximate 150 foot vegetative buffer for natural river (Ausable River system).Northern Shrub Thicket Ecological Reference Area.							

Report 4 – Site Conditions

Gaylord Mgt. Unit
Luke Gilner : Examiner

Compartment: 14
Year of Entry: 2019

45	Unavailable	1A: Federal/State/Local Law	30	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Approximate 150 foot vegetative buffer for natural river (Ausable River system).							
46	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Boundary is approximate until sale is setup.							
47	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Boundary is approximate until sale is setup.							
48	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Boundaries are approximate until sale is setup.							
49	Unavailable	3B: Threatened, endangered, and special concern species	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
50	Unavailable	3B: Threatened, endangered, and special concern species	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Mgt. Unit

Compartment: #Type!

Year of Entry:



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

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

SCA Name	SCA Category	Detail Type	Recommendation	Acres
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Comments



Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

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

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

Conservation Area	Type	Description
SCA	Cold Water 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	Type 1 and Type 2 Old Growth	Old-Growth forest (also termed primary forest, ancient forest, virgin forest, or primeval forest) is an area of forest that has few or no signs of human disturbance and that exhibits unique ecological features related to age, composition and associated structure. Old growth forests are of natural origin. They may be dominated by late successional forest species (i.e. sugar maple and American beech), or may be a very old example of a stand dominated by long-lived early- or mid-seral species (i.e. oak, or red pine).
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.
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	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.
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	General Comments:
3	42120 - Planted Jack Pine	Poletimber Well	31.1	60	51-80	Planted in 1959 with 2-0 jack pine at 1200 trees/acre. Quality is ok, but significant mortality, lots of dead and dying. Scattered pockets of pole/log aspen.
4	4133 - Aspen, Mixed Pine	Poletimber Well	39.5	48	51-80	Nearly log-sized, but pole overall. All size classes of white pine, but <5" DBH determined to be in subcanopy. High amount of pre-merchantable white pine. Areas with heavy red maple seedlings/saplings also. Patches of red pine logs and poles, and scattered white pine xlogs (potential legacy).
5	4191 - Mixed Upland Deciduous with Conifer	Poletimber Medium	12.8	46	51-80	Extremely variable mixed, conglomerate stand. Semi-open stand with patches of non-stocked areas. Nearly log-sized, but pole overall - most red pine, white pine, oak, and basswood are log sized. Some higher density pockets of aspen and balsam fir. Nearly equal amounts of balsam fir and aspen, with significant components of red maple, mixed oak and white pine. Past weevil damaged to white pine. Includes transitional areas from stand 9 with some tamarack, and lowland areas from stand 6. Oak and some other hardwoods are probably older age class. Stand is within Natural River HCVA 400 foot zoning district, and parts are within the 150 foot vegetative buffer. Power line runs through west side of stand. 2 polygons total.
7	42110 - Planted Red Pine	Sawtimber Well	18.1	60	141-170	Planted in 1960 with 3-0 red pine @ 750 per acre. Parts of stand included in Pine Release Aspen sale (52-011-89-01), all trees 2" DBH and greater were harvested, except red pine and oak. Repository Red Pine Sale (52-012-09-01), third row thinning completed in December 2011. Decent red pine about 6 stick and 11" DBH average. Log size overall but still many poles. BA averages about 140-150. Includes unthinned island on northwest - 2 polygons total. Mixed deciduous seedling and saplings as well as some balsam fir, white pine, and red pine. Electric power line bisects stand. Parts of stand are within the Natural River HCVA 400 foot zoning district.
8	4130 - Aspen	Poletimber Well	25.8	28	1-50	Pine Release Aspen sale (52-011-89-01), final harvest in 1989, except for red pine and oak, which also included portions of adjacent red pine stand to east. Barely makes pole-sized, still many saplings overall. Scattered oak logs as well as mixed oak saplings. Decent amount of balsam fir sapling and poles. May be some wet areas mixed with alder along the west edges. Scattered lowland pockets on northeast should be omitted from future treatments. Red pine stand 7 splits this stand into 3 polygons.
9	6129 - Mixed Coniferous Lowland Forest	Sawtimber Medium	23.6	86	81-110	Moderately-stocked lowland swamp conifer with somewhat heavy tag alder understory in areas. Stocking is sporadic, but probably closer to 75% coverage and on the lower end of the basal area range. The central portion of the stand has lower stocking with mostly balsam fir and alder. Balsam fir in all size classes and canopy levels. Tamarack and cedar ranges from 7 to 15 inches or so. Tamarack is averages about 6 or 7 sticks. Cedar is mostly along the west and southern boundary, and tamarack is mostly along the eastern boundary. Mixed ages, and some legacy white pine trees.
12	4139 - Aspen, Mixed Deciduous	Sapling Well	15.8	16	Immature	Final harvest in 2001, Squirrely Aspen sale, 52-024-99-01. Red pine, white pine, oak, hemlock, and white birch were left and remain as scattered overstory. Aspen is regenerating well. Mixed with red maple and beech. Beech may become a significant component of the stand.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
13	4123 - Red Oak	Sawtimber Well	76.7	97	81-110	Selection cut completed in 2011 as part of Conundrum Mix 52-027-09-01. Site fails regeneration monitoring due to the lack of oak regeneration and the heavy amount of beech and red maple regeneration. Nice red oak overall with beech and red maple mixed in and scattered red pine and white pine logs. East side has larger component of red maple and beech with less oak. Hilly terrain along the far north and also east stand boundary, but still workable. Heavy beech understory throughout most of the stand, and very little oak regeneration. Fair amount of hemlock around the southern gas well site.
14	4199 - Other Mixed Upland Deciduous	Poletimber Well	41.9	68	81-110	Mixed, variable stand. Predominantly pole-sized red maple, beech, aspen, and oak with significant second age of red/white oak. Nearly log-sized overall because of second age class, but not quite. Some rolling topography. Aspen is generally in pockets. Somewhat similar to southern end of stand 18.
15	42110 - Planted Red Pine	Sawtimber Well	29.1	60	141-170	Planted in 1960 with 3-0 red pine at 1000 trees/acre. A third row thinning was completed in 2000, Viking Club Rd. Red Pine 52-017-99-01. Some scattered old relic red pine still left. Log-sized overall, averages about 9-10" DBH. Decent quality red pine. Regeneration is patchy, but some areas have significant beech and oak seedlings.
16	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	66.8	102	81-110	Some red pine and white pine logs harvested in SW in 1990, Lower Chub Lake Pine Logs, 52-026-89-01. Mixed two-age stand. Older red pine, white pine, red oak, and white oak, intermixed with aspen, red maple, and mixed oak poles from a past cutting about 45 years ago. A red oak core next to younger aspen, showed a release about 45 years ago. Managed as one stand in the past & breaking out aspen in stand would be difficult. Aspen and red maple are generally patchy but also scattered throughout. Mixed species regeneration, with variable density. Southeast portion of stand may be within the Natural River HCVA 400 foot zoning district.
17	4139 - Aspen, Mixed Deciduous	Poletimber Well	70.3	54	81-110	According to old notes, the stand was harvested in 1963. Fairly decent quality aspen, but size and quality does vary. Nearly log-sized overall, but not quite. Red maple is a major component. Scattered oak and red pine logs. Northeast contains a patch of oak and white pine. Intermixed balsam fir especially along the south and eastern boundary. Decent amount of balsam fir seedling/saplings also. Consider travel and residential influence along Lower Chub Lake Road.
18	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	21.4	103	81-110	Northern portion had some red pine and white pine logs harvested in 1990, Lower Chub Lake Pine Logs, 52-026-89-01. Two age stand with large oak and some white pine and red pine. Younger class of aspen, red maple, beech, and birch. Fair amount of red oak and white oak poles in the younger class as well. Aspen starts to fade towards the north and changes to more white pine. Some oak regeneration but also a lot of beech.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
19	6129 - Mixed Coniferous Lowland Forest	Poletimber Medium	29.6	105	81-110	Great variability. Stand has several wildlife strip cuts that are regenerating well to thick balsam fir and birch mostly. Stand has a high amount of balsam fir seedlings and saplings. Intermittent creek runs through the west side of the stand. Cedar varies greatly in size. West side has a higher portion of logs, whereas east is mostly pole-sized. Stocking is fairly low on the northwest, and contains more alder. Stand has significant mortality in some areas. Part of the stand is within the Natural River HCVA 400 foot zoning district, and parts may be within the 150 foot vegetative buffer.
20	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Medium	16.6	115	81-110	Swamp conifer mixed with white birch, red maple, lowland hardwood, and patches of tag alder. Some poorly stocked alder areas. Some areas heavily stocked with cedar logs and/or balsam fir poles. Stand is within military leased lands. Most of the stand is within the Natural River HCVA 400 foot zoning district, and parts may be within the 150 foot vegetative buffer.
21	4310 - Pine, Oak Mix	Sawtimber Well	50.0	101	81-110	Stand is primarily red (hybrid) and white oak large logs, with significant amount of red pine. Density and composition varies, some areas lack red pine and are dominated by oak, aspen, and red maple. Red pine is decent quality with some potential for poles. All overstory species are represented in the subcanopy, but at low stocking levels. Stand is within military leased lands. Part of the stand is within the Natural River HCVA 400 foot zoning district.
23	4199 - Other Mixed Upland Deciduous	Sawtimber Poor	64.4	86	1-50	Scattered large, older oak with scattered younger oak, red maple, and aspen. Most oak has fire scar damage and/or is hollow. Poorly stocked stand with lots of cherry and service berry brush. Fair amount of oak seedlings however. Some military use.
25	6129 - Mixed Coniferous Lowland Forest	Sawtimber Well	55.6	68	111-140	Predominantly black spruce and white pine logs and poles with tamarack, cedar, and white birch mixed in. Fairly productive site for swamp conifer. Fair amount of volume, dominant trees are 6 sticks. Generally a wet site, but maybe not too bad. Alder and lowland shrubs throughout. Some areas are wetter with more shrubs and lower stocking levels. Elevation increases slightly on the east side, where red maple and balsam fir become more dominant. Part of the stand is within the Natural River HCVA 400 foot zoning district, and may be within the 150 foot vegetative buffer.
28	6129 - Mixed Coniferous Lowland Forest	Sawtimber Well	162.3	114	141-170	Predominantly cedar with significant component of younger balsam fir. Stand is extremely variable. Some areas are dominated mostly by cedar, some areas mostly by balsam fir, and some by black spruce. Black spruce tends to be on the northwest. Classified as a log stand, but some areas are mostly pole sized. Stand has had some small wildlife clearcuts in the past, that regenerated with thick balsam fir and mixed species. The west side has also had some cedar thinned in the past. Some small pockets of higher ground with aspen, red maple, and some oak. Stand is definitely wet, but not too bad in some areas. Becomes wetter nearer to the river. Significant blowdown in some areas. Parts of the stand are within the Natural River HCVA 400 foot zoning district, and parts are within the 150 foot vegetative buffer.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
31	42350 - Upland Hemlock	Sawtimber Well	6.1	160	171-200	Unique stand dominated by hemlock and huge white pine. Hemlock is mixed sizes. Some white pine are over 30" DBH. Mixed with some cedar, red maple, and balsam fir. South eastern portion lacks hemlock and has more red maple and balsam fir. Evidence of some old white pine, hemlock and cedar stumps that were cut.
34	4136 - Aspen, Mixed Conifer	Sapling Well	72.7	5	Immature	Final harvest completed in 2012 as part of Crossed Path Aspen sale, 52-010-09-01, unit 4 & 5. Red & white pine, oak, and hemlock were not harvested. Aspen regen is somewhat patchy, probably on the low end of 75-100 closure. Large retention island in center.
37	4130 - Aspen	Sapling Well	62.6	6	Immature	Final harvest completed in late 2011 with stand 80 in compartment 13. Regenerating fairly well. Scattered residual white pine and oak, especially on the north end. Somewhat of a wetter site, mostly on the south. Recently cleared narrow pipeline cuts through the stand.
38	4130 - Aspen	Poletimber Well	88.5	42	81-110	Aspen stand, mostly quaking on the south and big-tooth on the north. May have some slight age variability. Quaking aspen is generally poor quality. Pole sized overall, but nearly 30% log sized. Scattered mixed other species. The north along the river has a heavier conifer component. Some low, wet areas and some open patchy areas. Some slight rolling topography. Stand is within military leased lands. North part of the stand is within the Natural River HCVA 400 foot zoning district, and parts are within the 150 foot vegetative buffer.
39	4310 - Pine, Oak Mix	Sawtimber Medium	25.9	75	81-110	White pine has mixed ages. Some large legacy trees around 106 years old. Most dominant age class is about 75. Younger age classes mixed in as stand expanded. Significant amount of large red pine scattered throughout. Quite a bit of variability in this stand. The northern portion has a pocket of mostly red maple and mature aspen. The northwest is red maple, white birch, mixed oak, and balsam fir poles/saplings. The far east has a pocket of aspen. Some scattered openings in the center. But white pine is scattered throughout. Some lower wet areas along the edges and within the center of the stand. Part of the stand is within the Natural River HCVA 400 foot zoning district.
40	4199 - Other Mixed Upland Deciduous	Sapling Medium	18.7	4	Immature	Final harvest completed in 2013, CO's Roost (52-614-10-01). White oak were not harvested. Fairly significant amount of white oak over story left. Aspen regen is somewhat patchy, with scattered open areas. Quite a bit of red maple and oak regen though. Hilly topography. Passes regen monitoring.
41	4125 - Black, N. Pin Oak	Sawtimber Medium	16.1	103	81-110	Moderately stocked oak of relatively low quality. Fire damage to base of trees, and heavy military use. Density varies, western edge more scattered. Aspen pocket on the south center. Military fence cuts through northeast portion.
44	4130 - Aspen	Sapling Well	33.2	5	Immature	Final harvest completed in 2012 as part of Crossed Path Aspen sale (52-010-09-01), scattered red pine, white pine, and oak were left. Originally A6 with some jack pine from plantation with adjacent stand to south. Regenerating fairly well, some scattered residual.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
45	4130 - Aspen	Poletimber Medium	18.9	48	51-80	Aspen is very clonal and patchy and generally declining. Nearly log sized overall, but still lots of poles. Big old white pine stumps scattered throughout. Some fire scars. Decent amount of white pine seedlings/saplings.
46	4136 - Aspen, Mixed Conifer	Sapling Well	40.0	5	Immature	Final harvest completed in 2012 as part of Crossed Path Aspen Sale (52-010-09-01). All cedar, white pine, and red pine were left. Aspen is regenerating well. Some open patchy spots. Mixed with red maple, cherry, and some oak. Part of stand is within Natural River HCVA 400 foot zoning district, and parts may be within the 150 foot vegetative buffer.
47	4119 - Mixed Northern Hardwoods	Sapling Medium	7.3	35	1-50	Scattered cherry saplings/poles with some aspen mixed in. Cherry is poor, shrubby quality.
48	6124 - Lowland Spruce-Fir	Sapling Poor	6.7	45	1-50	Wet site that floods periodically. Lots of dead black ash that are stump sprouting, as well as cedar and tamarack mortality in flooded areas. Dominated by poorly stocked balsam fir and white birch saplings. Mixed species of lowland shrubs and wetland vegetation. Turtle creek runs through the north, which is a tributary of the North Branch of the Ausable, which has natural river status. Stand is within the Natural River HCVA 400 foot zoning district, and the 150 foot vegetative buffer.
49	42200 - Natural White Pine	Sawtimber Well	2.6	66	111-140	Natural white pine stand along marsh/lowland shrub. Variable size and ages of white pine. Significant component of aspen. Fairly heavy red maple seedlings and saplings in areas. Stand is within Natural River HCVA 400 foot zoning district, and parts are within 150 foot vegetative buffer.
50	4130 - Aspen	Sapling Well	2.3	5	Immature	Stand part of Repository Red Pine Sale (52-012-09-01) unit 2, which was a final harvest completed in September 2011, white pine and balsam fir were left. Regenerating well - mixed with some red maple and cherry.
52	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	27.2	74	111-140	Similar to stand 53, but less red pine and more aspen and red maple. Red pine is large and good quality. Fair amount of deciduous regeneration in areas. Some areas are more dominated by white pine, and some areas have a greater oak component. Consider travel & residential influence along Lower Chub Lake Road.
53	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	18.0	74	111-140	Mixed red pine log stand with white pine, oak, red maple, and some aspen intermixed. Overall nice, tall pole quality red pine. Diameters range between 12 - 18" DBH on average, but also some larger, older legacy red pine and white pine. Some areas have heavy red maple regeneration, and some with heavy white pine saplings. Some slight rolling topography. Similar to stand 52, but has greater component of red pine and less red maple/aspen. Two polygons total. Consider travel & residential influence along Lower Chub Lake Road.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
54	42260 - Natural Pine, Mixed Deciduous	Sawtimber Medium	25.5	73	51-80	Some red pine and white pine logs harvested in 1990, Lower Chub Lake Pine Logs, 52-026-89-01. Red pine, white pine, and red maple thinned in 2011 as part of Conundrum Mix 52-027-09-01, all oak were left. Variable density, composition, and ages. Red pine and white pine has multiple ages. Aspen is mostly in pockets. Fairly dense white pine understory. Decent amount of oak regeneration mixed with red maple, beech, and white pine. Passes regeneration monitoring.
55	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Medium	95.8	89	51-80	Warthog Run selection cut completed in 2013 (52-018-09-01). Thinned red oak, white oak, red pine, red maple and removed aspen. Density and composition is somewhat variable. BA plots ranged from 30 to 120. Lots of large diameter oak, red pine, and white pine. The hill in the south central tends to have higher density of white pine & red pine and heavy white pine understory. More red pine on the north end. Stand has established regeneration of mixed species. Some pockets are heavy to aspen, some to beech, some to white pine regen. Also red maple and oak regen scattered throughout. Passes regeneration monitoring.
57	6121 - Tamarack	Poletimber Poor	9.2	58	1-50	Poorly stocked tamarack ranges from 3 - 12" DBH. Maybe mixed ages. Becomes more dense in the north. Significant mortality in cedar and tamarack overstory. Impressive amount of cedar sapling understory with very little browse. Lots of alder and lowland shrubs. Portion of stand may be within Northern Shrub Thicket ERA. Most of the stand is within the Natural River HCVA 400 foot zoning district, and parts are within the 150 foot vegetative buffer.
58	6121 - Tamarack	Poletimber Poor	7.0	57	1-50	Poorly stocked tamarack stand, although density does vary. Some mortality in areas. Canopy closure is around 50%. Tamarack is mixed ages. Mixed with other lowland conifer. Wet, boggy site with heavy alder in some areas. Part of the stand is within the Natural River HCVA 400 foot zoning district, and part may be within the 150 foot vegetative buffer.
59	4139 - Aspen, Mixed Deciduous	Sapling Well	12.6	15	Immature	Final harvest completed in 2002. Fly-Over Aspen sale (52-002-00-01), scattered white pine, red pine, oak and birch were left. Aspen is regenerating well. Significant amount of red maple mixed in, some areas are primarily red maple. Stand is within military leased lands. Part of the stand is within the Natural River HCVA 400 foot zoning district.
60	4139 - Aspen, Mixed Deciduous	Sapling Well	20.5	12	Immature	F-14 Spruce sale completed in 2005 (52-021-99-01). All red pine, white pine, oak, cedar, and white birch were left. Aspen regenerating well. Mixed with red maple, cherry, and balsam fir. Some open patchy areas.
63	42200 - Natural White Pine	Sawtimber Poor	27.7	68	1-50	Final harvest completed in 2012 as part of Crossed Path Aspen Sale (52-010-09-01). All white pine and oak were left, which accounts for greater than 30% canopy coverage. The second age class of aspen is regenerating fairly well, with some patchy spots. Multiple ages of white pine; <5" DBH are included in subcanopy.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
64	4119 - Mixed Northern Hardwoods	Poletimber Well	7.4	55	81-110	Predominantly red maple with a few other species mixed in. Pole-sized overall but also some logs and sapling red maple. Includes some lowland transitional areas. Also includes about 1 acre of lowland conifer/cedar swamp in the southwest corner, much like stand 9 to the east.
66	4319 - Mixed Upland Forest	Sawtimber Medium	8.7	58	51-80	Very mixed stand, transitional area between lowland and upland. Somewhat similar to stand 115. Some areas are mostly red maple, aspen, and balsam fir, and some areas are mostly balsam fir and black spruce. White pine, red pine, and oak logs scattered throughout. Some monster red pine. At least 30% logs sized, but still lots of pole sized timber. Open patchy areas. Stocking decreases to the southeast. Part of the stand is within the Natural River HCVA 400 foot zoning district, and part may be within the 150 foot vegetative buffer.
67	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	29.4	103	51-80	Variable mixed stand. Mostly oak, white pine, and red maple, with scattered aspen patches. White pine is mixed ages. Aspen and most red maple are part of the younger age class. Oak and some red maple are part of the older age class. Consider travel influence along Lower Chub Lake Road.
69	4139 - Aspen, Mixed Deciduous	Poletimber Well	33.9	46	81-110	Mostly pole-sized aspen, red maple with some beech and birch. Aspen diameter varies somewhat. Decent quality in some areas. Also a fair amount of red and white oak poles, but most are log/xlog size. Some red pine logs scattered throughout. Second age of large oak and red maple, but not significant enough to classify as a two-aged stand.
73	4199 - Other Mixed Upland Deciduous	Sawtimber Well	19.0	86	51-80	Moderately stocked red (hybrid) oak with second age of red maple. Oak is somewhat mixed ages and many trees are wolfy. Fair amount of white oak seedlings and saplings. Density is variable. Similar composition of stand 23, but with higher density and volume. Stand is within military leased lands.
75	4199 - Other Mixed Upland Deciduous	Sawtimber Poor	23.4	103	1-50	Scattered, mixed, variable stand with mixed ages. Some pockets of aspen, some of jack pine, some of cherry and service berry shrubs. Scattered large oak. Utilized by military. Oak age is estimated from adjacent oak stand. Somewhat similar to stand 23. Low density and volume.
77	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	11.7	81	111-140	Mostly large oak and white pine, with a younger age of aspen and red maple. Stand has a significant amount of white pine seedlings and saplings in subcanopy. Density and composition varies. Two track runs through the stand. Consider travel and residential influence along Lower Chub Lake Road.
78	6132 - Mixed Lowland Forest with Cedar	Sawtimber Well	2.7	52	51-80	Forested island within marshy Northern Shrub Thicket ERA. Predominantly younger red maple and balsam fir, with older cedar and white pine. Cedar is mostly around the edges. Lots of fir saplings. Heavy deer use. Stand is within the Natural River HCVA 400 foot zoning district, and parts may be within the 150 foot vegetative buffer.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
80	6129 - Mixed Coniferous Lowland Forest	Sawtimber Medium	19.7	124	51-80	Wet site, currently some flooding on west from beaver dam. Stand has a great deal of blow down, as well as mortality in very wet areas. Southern portion has had some harvesting in the past, lots of cut cedar stumps. Second age of balsam fir and white birch. Heavy alder and lowland shrubs. Stocking varies greatly due to mortality, blowdown, and past harvesting. Stand is not really accessible for any future harvesting. Most of the stand is within the Natural River HCVA 400 foot zoning district, and parts are within the 150 foot vegetative buffer.
83	429 - Mixed Upland Conifers	Poletimber Medium	6.0	52	81-110	Quite a variable, transitional stand. Basically a two age stand with older white pine, red pine, and some oak, black spruce, and cedar, with a younger age class of red maple and balsam fir. Size and ages vary. Some large red and white pine trees scattered throughout.
93	6132 - Mixed Lowland Forest with Cedar	Sawtimber Well	13.3	115	141-170	Slightly higher in topography than surrounding stand. Somewhat similar composition to stand 28, but dryer and has a much higher component of red maple logs, and white birch. Two polygons. East polygon has some hemlock pockets.
99	6123 - Lowland Fir	Sapling Well	21.5	40	1-50	Stand was clearcut for wildlife in the past. Stand has regenerated to fairly thick balsam fir and mixed species. Nearly pole-sized overall, but not quite. A lot of blowdown and/or intentionally pushed down trees especially along edges. There is some cedar regeneration coming back. Scattered older overstory of cedar and white pine.
102	42100 - Planted White Pine	Sapling Well	7.8	17	Immature	White pine seeding failed. Planted white pine seedlings in 2000. Survival is patchy but pretty good overall. Scattered cherry mixed in. Some weevil damage, but very little. Two polygons total.
104	4130 - Aspen	Poletimber Medium	13.7	44	51-80	Generally poor quality and patchy aspen and black cherry. Some larger diameter aspen. Stand has been burned through with prescribed burns. Narrow pipeline recently cleared that cuts through stand.
105	42201 - Natural White Pine, Mixed Deciduous	Sawtimber Well	19.8	86	141-170	Unique stand of natural white pine along the lowland shrub/marsh. More mixed species on the north, and heavier to aspen on the far south. Somewhat lower BA on the south with more white pine saplings. Decent quality white pine, though may have had some minor weevil damage in the past. White pine has mixed ages. Some legacy white pine and red pine trees. Fairly heavy red maple seedlings and saplings in areas. Stand is within Natural River HCVA 400 foot zoning district, and parts are within 150 foot vegetative buffer.
106	6132 - Mixed Lowland Forest with Cedar	Sawtimber Well	16.6	124	111-140	Slightly higher in elevation than surround stand 80. Includes two polygons, split by wet, poorly stocked area. Stand is dominated by cedar and red maple logs, with a fair amount of balsam fir in canopy and heavy amount in subcanopy. Lots of black ash seedlings and saplings as well. Some blowdown in areas, especially along Turtle Creek. Stand is not easily accessible for any future harvesting. Most of the stand is within the Natural River HCVA 400 foot zoning district, and parts are within the 150 foot vegetative buffer.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
108	6129 - Mixed Coniferous Lowland Forest	Sawtimber Well	48.2	105	141-170	Mostly cedar logs and poles with black spruce, balsam fir, and tamarack mixed in. Black spruce become more dominant to the east, whereas balsam fir is more dominant on the west. Density varies. Some areas are predominantly pole-sized, but is over 30% log sized overall. Lots of balsam fir seedlings and saplings in large portions of the stand. Some mixed deciduous species mixed in. Intermittent creek in southwest. Wet site overall, but maybe not too bad. Some areas with significant mortality and blowdown. Stand has some wildlife strip cuts that are regenerating well with mostly thick balsam fir, but also some white birch, red maple, and aspen. Some areas have heavy alder. Southern area has pocket of higher elevation with large white pine and red pine. Parts of the stand are within the Natural River HCVA 400 foot zoning district, and parts may be within the 150 foot vegetative buffer.
109	6124 - Lowland Spruce- Fir	Sapling Well	6.3	26	Immature	Stand is a combination of wildlife cuts & blowdown. Seedlings and saplings developing of mostly balsam fir, black spruce, white birch, and tamarack with some other species and alder mixed in. Diameters range from 1-3" DBH with variable heights and densities. Some cedar regeneration is present. Some wet areas.
110	6130 - Fir, Aspen, Maple	Sapling Medium	6.6	3	Immature	Final harvest in the winter of 13/14 by Bernie Kondrat, and finally closed 7/10/14. Kondrat Cedar 52-002-11-02, hemlock and white pine were left. Some timber was cut and not utilized, so there is a lot of dead and down wood. Appears that advanced balsam fir regeneration was protected during the harvest. Original stand composition was primarily black spruce, cedar, and red maple, with some balsam fir, white birch, and aspen mixed in. Stand is regenerating fairly well with mostly balsam fir, red maple, and aspen. Part of the stand is within the Natural River HCVA 400 foot zoning district.
113	4130 - Aspen	Poletimber Medium	20.5	31	51-80	Moderately-stocked aspen, clonal and patchy, with some transitional areas from stand 1. Generally poorer quality aspen, has been burned through from sharp tail grouse management in stand 1.
114	429 - Mixed Upland Conifers	Sawtimber Poor	6.3	76	51-80	Very mixed, variable, scattered stand. Large red pine mixed with aspen pockets, balsam fir, and white pine. Poorly stocked.
115	4319 - Mixed Upland Forest	Poletimber Well	11.0	52	81-110	Variable stand. Density and species composition varies. Mixture of aspen with balsam fir and black spruce. Somewhat of a wetter site. Fair amount of red maple poles in some areas. East portion has more aspen with intermixed balsam fir canopy. Density, size, quality, and aspen diminishes to the west.
118	42290 - Natural Mixed Pine	Sawtimber Well	12.2	51	81-110	Great variability and diversity. Mixed ages and sizes. Almost 2 age stand with the heavy white pine understory in spots. Some large old legacy red and white pine. Pocket of mostly jack pine on the north, and even some scattered tamarack on south. Some areas dominated by aspen, and others dominated by red pine. Very mixed stand.

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Gaylord Mgt. Unit

Report 7 – Forested Stands

Compartment: 14
Year of Entry: 2019



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
122	4199 - Other Mixed Upland Deciduous	Poletimber Well	7.9	44	81-110	OPIC - FMD: Mixed red pine log stand with oak intermixed. Some low volume, value aspen. Favor pine. Consider travel & residential influence along Lower Chub Lake Road. Primarily a pole-sized stand of aspen, red maple, and beech with some white birch and white pine also. Stand does have large oak and white pine logs like stand 77, but not as significant. Includes some scattered hemlock. Fair amount of oak, beech, and white pine saplings.



Stand	Cover Type	Acres	Managed Site	General Comments:
1	330 - Low-Density Trees	255.7	Yes	Previously managed for sharp-tail grouse. Periodically burned to stimulate native grasses. Variety of grasses and sedges, but heavy knapweed and sweet fern in areas. Lacks bracken fern like other openings within compartment. Scattered cherry seed/saps/poles and aspen pockets throughout, as well as scattered oak, white pine and other species.
2	110 - Low Intensity Urban	2.2	No	Natural Gas Pipelines
6	622 - Lowland Shrub	34.8	No	Lowland shrub/marsh part of an expansive wetland that flows into Turtle Creek. Mixture of lowland shrubs, grasses, and wetland vegetative. Scattered trees along perimeter - tamarack, white pine, balsam fir, black spruce. Narrow portion of Turtle Creek included in this stand, has some beaver activity with some dams and flooding.
10	6220 - Alder/willow	38.2	No	Lowland alder and lowland vegetation. Scattered balsam fir, white birch, aspen, balsam poplar, black spruce, black ash, cedar, and tamarack mostly along the perimeter. Includes transitional zone from stand 9 with higher density trees. Pocket of A8 on west boundary with mature aspen and balsam fir.
11	3303 - Mixed Low Density Trees	3.4	No	Borrow pit used for construction of old state road. Areas that were excavated are now filled with water. Quaking aspen, balsam poplar, tamarack, balsam fir, white birch, and red pine mostly along the perimeter slope.
22	623 - Emergent Wetland	21.7	No	This stand is more open and marshy than stand 90, not as much alder. Has more grasses, sedges, and wetland vegetation. Stand is within the Northern Shrub Thicket ERA. Two polygons split by Turtle Creek. Stand is within the Natural River HCVA 400 foot zoning district, and parts are within the 150 foot vegetative buffer.
24	310 - Herbaceous Openland	51.1	No	Scattered oak & cherry. Utilized heavily by the military.
26	6229 - Mixed lowland shrub	39.3	No	Wet site. Marshy open areas mixed with lowland shrubs (alder, willow, dogwood, blueberry). Also includes scattered balsam fir, white pine, and tamarack saplings. Some scattered poles and logs along the southern edge. North becomes more open and marshy. Most tamarack is on the west. Stand is mostly within the Northern Shrub Thicket ERA. Parts of the stand are within the Natural River HCVA 400 foot zoning district, and parts are within the 150 foot vegetative buffer.
27	6220 - Alder/willow	27.4	No	Scattered aspen, cedar, white birch, red maple, and balsam fir with heavy tag alder. Lowland, wet site. Part of stand is within the Northern Shrub Thicket ERA. Parts of the stand are within the Natural River HCVA 400 foot zoning district, and parts may be within the 150 foot vegetative buffer.
30	6220 - Alder/willow	11.5	No	Predominantly thick tag alder. Some birch and white pine saplings. Mixed with some flooded marshy areas and other lowland shrubs and wetland vegetation. Two polygons split by North Branch of Ausable River. Stand is within the Northern Shrub Thicket ERA. Stand is within the Natural River HCVA 400 foot zoning district, and within the 150 foot vegetative buffer.
32	6229 - Mixed lowland shrub	4.4	No	Marshy open areas mixed with lowland shrubs. Similar to stand 26, but has more of a tamarack component. Also includes scattered balsam fir, and white pine. Stand is within the Northern Shrub Thicket ERA. Stand is within the Natural River HCVA 400 foot zoning district, and parts are within the 150 foot vegetative buffer.



Stand	Cover Type	Acres	Managed Site	General Comments:
33	310 - Herbaceous Openland	4.9	No	Buried Gas Pipelines along Old State Road. Grassy surface.
35	122 - Road/Parking Lot	14.1	No	Old State Road (paved) & Turtle Lake Road (gravel)
36	310 - Herbaceous Openland	2.0	No	Open land with knapweed and scattered cherry shrubs.
42	500 - Water	34.2	No	Includes the North Branch of Ausable, Chub Creek, and Turtle Creek. Includes some marshy flooded areas, and some areas dominated by tag alder. North Branch of Ausable River is considered a Natural River HCVA with its associated tributaries. Maintain a 150 foot vegetative buffer on both sides. Northern Shrub Thicket (ERA) in center where rivers/creeks converge.
62	320 - Upland Shrub	4.5		Mostly cherry brush and open patches. Some aspen and oak regen. Classify as non-forested stand for now.
65	122 - Road/Parking Lot	9.8	No	Lower Chub Lake Rd. & Viking Club Rd. includes some pipeline opening as well.
68	122 - Road/Parking Lot	4.5	No	The Ford Road. Good condition - gravel.
70	310 - Herbaceous Openland	2.7	No	Gas well site - 3 well heads. Muskegon Development Co., Emergency Contact: 989-772-4900
72	320 - Upland Shrub	31.6	No	Scattered oak with cherry and service berry shrubs throughout. Utilized heavily by the military.
74	330 - Low-Density Trees	18.3	No	Low density scattered trees and shrubs throughout. Utilized heavily by the military. Within outer military fence.
79	6225 - Bog	1.4	No	Blueberry bog/wetland - scattered trees and shrubs along perimeter.
81	622 - Lowland Shrub	13.5	No	Low density trees, lowland site. Mixed marshy areas with grass, cattails, wetland shrubs. Some areas dominated by thick tag alder. Some areas contain cedar and tamarack saplings and poles, with significant mortality. Northern portion has more tamarack. Basically the same stand as 89 split by Chub Creek. Part of stand may be within the Northern Shrub Thicket ERA. Stand is within the Natural River HCVA 400 foot zoning district, and within the 150 foot vegetative buffer.
82	623 - Emergent Wetland	19.3	No	This stand is more open and marshy than stand 26, not as much alder. Has more grasses, sedges, and wetland vegetation. Stand is within the Northern Shrub Thicket ERA. Most of the stand is within the Natural River HCVA 400 foot zoning district, and parts are within the 150 foot vegetative buffer.
84	6220 - Alder/willow	6.0	No	Predominantly thick tag alder. Some birch and white pine saplings. Mixed with some flooded marshy areas and other lowland shrubs and wetland vegetation. Stand is within the Natural River HCVA 400 foot zoning district, and within the 150 foot vegetative buffer.



Stand	Cover Type	Acres	Managed Site	General Comments:
89	622 - Lowland Shrub	10.6	No	Low density trees, lowland site. Mixed marshy areas with grass, cattails, wetland shrubs. Some areas dominated by thick tag alder. Some areas contain cedar and tamarack saplings and poles, but with significant mortality. Northern portion has more tamarack. Basically the same stand as 81 split by Chub Creek. Stand is within the Natural River HCVA 400 foot zoning district, and within the 150 foot vegetative buffer.
90	6220 - Alder/willow	17.3	No	Predominantly thick tag alder. Some birch and white pine saplings. Mixed with some flooded marshy areas and other lowland shrubs and wetland vegetation. Parts or most of this stand is within the Northern Shrub Thicket ERA. Most of the stand is within the Natural River HCVA 400 foot zoning district, and parts are within the 150 foot vegetative buffer.
92	123 - Other High Intensity Urban	1.7	No	Gas Treatment Facility. Maintained by Muskegon Development. Several facility buildings & storage tanks.
103	310 - Herbaceous Openland	1.8	No	Open stand with scattered cherry saps/poles. Fairly heavy bracken fern, sweet fern, and other forbs. Does not have the grass and sedges like stand 1.
112	330 - Low-Density Trees	15.6	No	Scattered trees and shrubs in an upland opening.
116	330 - Low-Density Trees	4.4	No	Scattered trees and shrubs in an upland opening.
117	310 - Herbaceous Openland	1.8	No	Open stand with scattered cherry saps/poles. Fairly heavy bracken fern, sweet fern, and other forbs. Does not have the grass and sedges like stand 1.
119	310 - Herbaceous Openland	3.4	Yes	Previously managed for sharp-tail grouse, through prescribed burning. This may have been an area with some past development or wildlife planting.
461	310 - Herbaceous Openland	12.0	No	Buried Gas Pipelines along Old State Road. Grassy surface.
462	310 - Herbaceous Openland	0.5	No	Gas well site. Permit #27030, Enervest Operating LLC, State Chester - 14, MPSC 1604, Emergency Contact: 989-705-2803.
463	310 - Herbaceous Openland	1.1	No	Gas well site. Permit #39041, Enervest Operating LLC, State Chester - 21, MPSC# 2311, Emergency Contact: 989-705-2803.
464	31029 - Grass (OI)	1.0	No	Gas well site. Enervest LLC company.
465	310 - Herbaceous Openland	0.9	No	Gas well site. Permit # 39380, Enervest Operating LLC, State Chester - 24, MPSC# 2322, Emergency Contact: 989-705-2803.
466	110 - Low Intensity Urban	1.3	No	Gas well site with out building. Permit #47221, Enervest Operating LLC, State Chester - 1-16, MPSC# 5904, Emergency Contact: 989-705-2803.



Stand	Cover Type	Acres	Managed Site	General Comments:
467	310 - Herbaceous Openland	0.9	No	Old gas well site. Well head removed. Some aspen, cherry, and white pine seedlings/saplings along edges.
468	310 - Herbaceous Openland	1.3	No	Old gas well site. Well head removed.
469	310 - Herbaceous Openland	1.0	No	Old gas well site. Well head removed.
470	310 - Herbaceous Openland	1.8	No	Old gas well site with well head removed. Muskegon Development? Mixed deciduous seedlings and saplings on edges, and includes patch of cherry brush.
471	310 - Herbaceous Openland	1.1	No	Old gas well site. Well head removed. Some mixed deciduous saplings along edges.
472	310 - Herbaceous Openland	1.2	No	Gas well site with well head. Muskegon Development Company, State Chester C3-18, Permit# 43830, MPSC# 3885, Emergency Contact: 989-772-4900
473	310 - Herbaceous Openland	1.1	No	Gas well site with well head. Muskegon Development Company, St Chester B1-18, Permit# 43661, MPSC# 2889, Emergency Contact: 989-772-4900.
474	310 - Herbaceous Openland	1.4	No	Gas well site with well head. Muskegon Development Company. Pump jack on site also. No permit signage.
475	310 - Herbaceous Openland	1.1	No	Gas well site with well head. Muskegon Development Company, State Chester C2-18, Permit# 42173, MPSC# 3143, Emergency Contact 989-772-4900.
476	310 - Herbaceous Openland	0.9	No	Gas well site with well head. Muskegon Development Company. No permit signage.
477	310 - Herbaceous Openland	0.9	No	Gas well site. Muskegon Development Company, State Chester D2-18, Permit# 42171, Emergency Contact: 989-772-4900.
478	310 - Herbaceous Openland	1.1	No	Gas well site. Muskegon Development Company, Permit# 42175, State Chester A2-19, MPSC#3140, Emergency Contact: 989-772-4900.
479	310 - Herbaceous Openland	0.9	No	Gas well site. Muskegon Development Company, Permit# 42176, State Chester B1-19, MPSC# 3145, Emergency Contact: 989-772-4900
480	310 - Herbaceous Openland	1.0	No	Gas well site with small building. Muskegon Development Co., Permit #42823, State Chester - C2-19, 989-772-4900
481	310 - Herbaceous Openland	1.0	No	Gas well site. Muskegon Development Company.
482	310 - Herbaceous Openland	1.1	No	Gas well site. Muskegon Development Co., Permit #43663, State Chester - A4-19, Emergency Contact: 989-772-4900



Stand	Cover Type	Acres	Managed Site	General Comments:
484	310 - Herbaceous Openland	1.0	No	Gas well site. Permit #56283 , Enervest Operating LLC, State Chester - B1-16, MPSC #11148 , Emergency Contact: 989-705-2803.
485	310 - Herbaceous Openland	0.9	No	Gas well site. Permit # 39380, Enervest Operating LLC, State Chester - 24, MPSC 2322, Emergency Contact: 989-705-2803.
486	310 - Herbaceous Openland	0.9	No	Gas well site. Permit # , Enervest Operating LLC, State Chester - , MPSC # , Emergency Contact: 989-705-2803.
487	310 - Herbaceous Openland	1.2	No	Gas well site. Permit #44261, Enervest Operating LLC, State Chester Venture - 52, MPSC #4355, Emergency Contact: 989-705-2803.
488	310 - Herbaceous Openland	1.1	No	Gas well site. Permit #39043, Enervest Operating, LLC, State Chester - 23, MPSC #2296, Emergency Contact: 989-705-2803
489	310 - Herbaceous Openland	1.4	No	Old well site, wellhead removed. And scattered seedlings and saplings and raspberry along perimeter.
490	310 - Herbaceous Openland	0.9	No	Gas well site. Permit # , Enervest Operating LLC, State Chester - , MPSC # , Emergency Contact: 989-705-2803.
493	310 - Herbaceous Openland	1.2	No	Gas well site with well head. Muskegon Development? MPSC # 3144