



Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 61244

Entry Year 2023

Acreage: 2,387

County Kalkaska

Management Area: Manistee River Valley

Revision Date: 2021-05-31

Stand Examiner: Patrick Cotant

Legal Description:

Sections 25, 26, 35 and 36, T25N–R7W, Kalkaska County

Identified Planning Goals:

Visual management is important along Little Cannon Creek and Silver Creek corridor, as is erosion control. Maintain or improve aesthetics. In addition, aesthetics should be taken into account when making management decisions along the travel corridors throughout the compartment including Dutch John Rd, Silver Creek Rd and Beaver Dam Rd.

Soil and topography:

The dominant soil types within the compartment are Rubicon Sand and Lupton Muck. Rubicon is limited to the more upland areas while Mucks are present along creek/stream corridors and in both forested and non-forested lowland stands.

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

State land lays to the north and east and private land lays to the south and west. Changes (additions and deletions) have been made to the Miss.-Kal. ORV Trail in this compartment. (See map.) Main uses are timber and recreation. Small private holdings that have small camps on them are within compartment.

Unique Natural Features:

This compartment falls within landtype association (LTA) 5131 of sub-subsection VII.2.2. This LTA, a broad flat outwash plain with poorly drained sand or sandy loam, is one of the least homogeneous LTAs mapped within Subsection VII.2.2. The lack of homogeneity results from a complicated topography and an intricate mosaic of excessively drained sand, poorly drained sand, and very poorly drained organic soils. In general, topography is level. However, the land surface is often undulating to hummocky and, in these areas, alternates from poorly drained and very poorly drained to well and excessively well drained sands over relatively short distances. The most common soil of the LTA is Saugatuck sand, which is poorly drained. However, soils are extremely variable and inclusions within the LTA range from deep, excessively drained, acidic sands to very poorly drained organic mucks and peats, e.g. Rubicon sand, Lupton muck and Rifle peat, respectively. The variety of precolonial types which occur reflect the LTAs complexity. Forests of hemlock, usually mixed white pine or American beech, were common on poorly drained sands whereas mixed conifer swamps dominated very poorly drained organic soils. Finally, well drained inclusions supported northern hardwood forests of American beech and sugar maple while forests of mixed red and white pine occurred on excessively drained, fire-prone areas within the LTA. The LTA has become quite fragmented and 23% of its surface area now supports cover types with less than 5% individual cover. Hemlock dominated forests have been virtually eliminated whereas aspen/white birch forests, rare in precolonial times, have become the predominant cover type (35%). Conifer dominated wetlands, which covered more than one quarter of the LTA in precolonial times, have been reduced to about 8% cover, while formerly absent hardwood and shrub/scrub swamps now collectively cover 24% of the area. The remaining northern hardwood forests, which now occur on only about 5% of the LTA, are second growth, often fragmented, woodlots that lack the original white pine or hemlock component. Finally, another 6% of the LTA is in old fields.

Archeological, Historical, and Cultural Features:

No features identified in the Archeological and MNFI concerns within the Citrix database.

Special Management Designations or Considerations:

MNFI lists the Yellow Banded Bumble Bee as a species of concern. Occurrence/observation was from 1974, no notes or follow-up in database. Unclear if this affects any type of management within the compartment.

Watershed and Fisheries Considerations:

Silver and Little Cannon Creeks are both small, self-sustaining brook trout streams that are vulnerable to excessive beaver damming. Therefore, Fisheries Division recommends large enough vegetative buffers for any proposed aspen clearcuts to discourage beaver activity along these streams.

Wildlife Habitat Considerations:

This compartment falls partially on a poorly drained outwash plain (landtype association 5131), typically driven by blowdowns and some flooding and fire. The terrain is mostly low and flat with some low pine ridges. Historical cover types included mesic conifer forests of hemlock and white pine and conifer swamps in the lowlands. Mixed conifer swamps in this compartment serve as important deer wintering cover as well as habitat for species such as winter wren, brown snake, Swainson's thrush, bobcat, pileated woodpecker, barred owl, and snowshoe hare. Some understory regeneration of conifers is desirable but made difficult by repeated browsing. Prolific balsam fir may serve as a surrogate to some degree for once abundant hemlock. Provision of some browse/early successional habitat by regenerating suitable upland stands, while maintaining existing mature cover in lowlands, will help in the short run. However, long-term management of this landscape should emphasize mature mixed conifers as much as possible. Future natural blowdowns may add to the diversity of this landscape and should be left unsalvaged if they occur. Prescribed final harvests should incorporate retention of snags, down logs, saplings, and some sturdy, mature leave trees to mimic natural blowdown patches as much as possible. Mature floodplain forest should be maintained as riparian habitat for otter, wood turtle, bald eagle, and great blue heron.

The rest of the compartment is on an excessively well drained outwash plain (LTA 5111), supporting fire-dependent communities of jack pine, mixed pine forest, pine plantations, and barrens. Currently red pine is a dominant cover type along with aspen stands of various age classes. Management for mature and regenerating pine forests, along with some wildlife opening maintenance, will benefit species such as Nashville warbler, badger, garter snake, coyote, field sparrow, golden-crowned kinglet, red squirrel, and red-tailed hawk. Some wildlife opening maintenance should continue.

Mineral Resource and Development Concerns and/or Restrictions

Active sand/gravel pits are located three miles to the east and south. There appears to be some potential for sand & gravel within the compartment on the uplands. There was past natural gas production from the Traverse Group within the compartment, but those wells were plugged more than 60 years ago. There has been no well permitting or leasing of State-owned mineral rights in the compartment over the past five years. State-owned mineral rights about one mile south are currently nominated for the next oil & gas lease auction. There was past exploration and testing of the Collingwood Formation in this area, but the Collingwood Formation overall has not been proven to be a viable economic play in Michigan to date, and additional future development in the Collingwood is unlikely at current gas prices. It is possible there could be additional potential for production from other known producing formations beneath the compartment in the future. There is no known metallic mineral potential in this part of the state.

Vehicle Access:

Access to compartment is good via county maintained roads and seasonal forest roads. Access to interior of compartment is limited however during winter months as no county maintained roads traverse compartment. No bridge needs at this time. Road closures should be done where appropriate following all management operations.

Survey Needs:

No survey needs at this time.

Recreational Facilities and Opportunities:

The Miss-Kal Snowmobile trails runs through the southern portions of sections 35 and 36. The North Missaukee ORV trail traverses sections 25, 35 and 36.

Fire Protection:

Fire protection for this area is carried out by the Fire Management division, specifically the Traverse City FMU, Kalkaska Field Office.

Additional Compartment Information:

The following reports from the Inventory are attached:

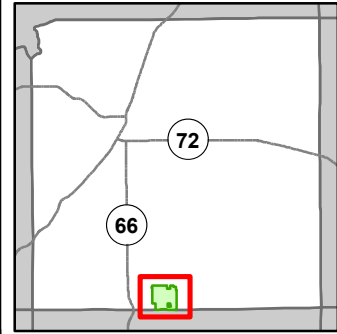
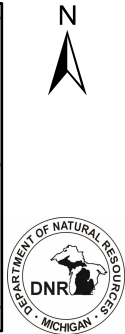
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

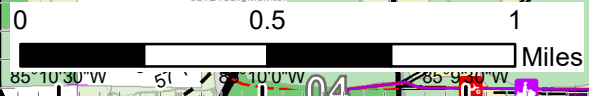
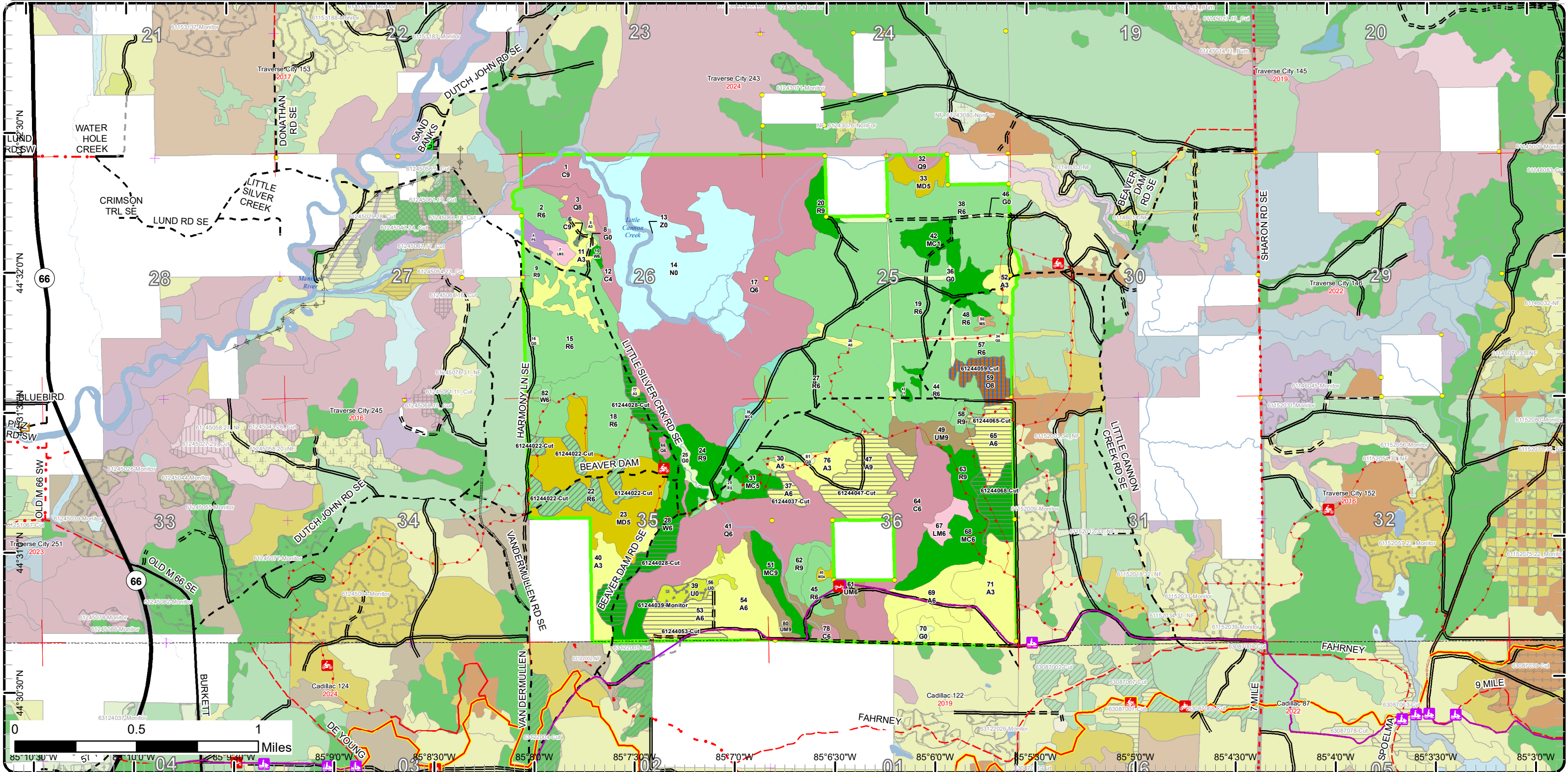
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 244
 T25N R07W 25, 26, 35, 36
 County: Kalkaska
 Unit: Traverse City
 Mgmt Area: Manistee River Valley
 YOE: 2023
 Acres: 2387.1 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 9/15/2021
 Map Phase: Post-Review

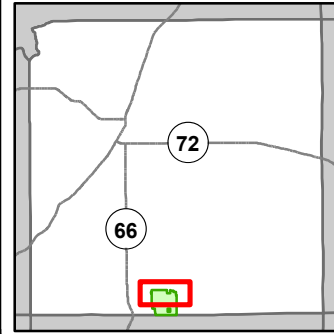


- Miris Corners
- + Remonumented Section Corners
- Survey Grade Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State - Dirt / Gravel Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Paved Road
- Private - Dirt / Gravel Road
- 🏍️ Motorcycle Trails (DNR License)
- 🏍️ MCCCT Trails
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- 🛵 ORV License & Trail Permit
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- ▲ Berms
- G Gate
- 🚤 Boating Access Site
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Pipeline
- ⊕ Powerline
- Compartment Boundary
- Clearcut (w/Reserves)
- Seed Tree (w/Reserves)
- Thinning (Crown, Low, Systematic)
- Regeneration Survey
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 500 - Water
- 623 - Emergent Wetland

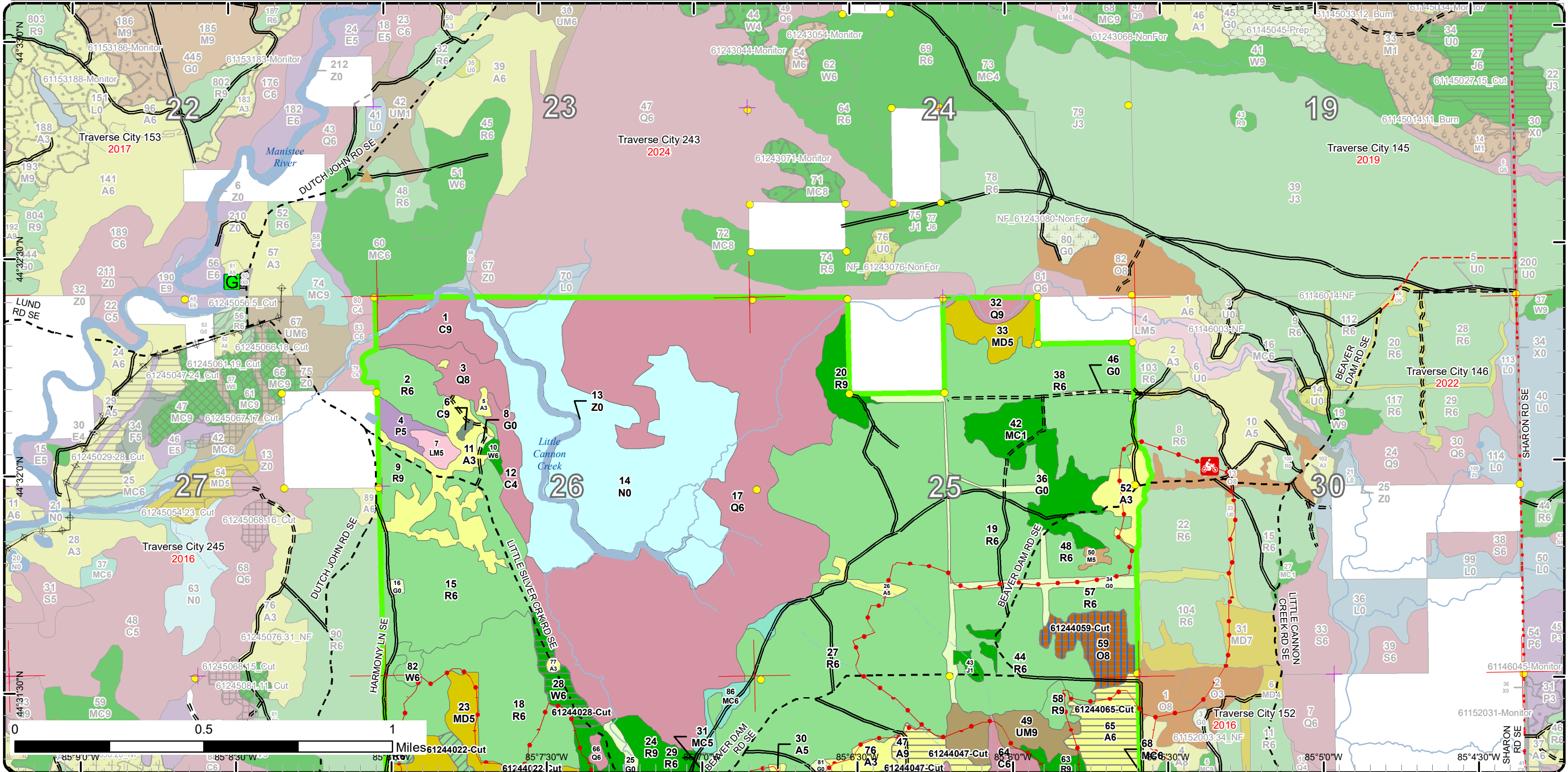


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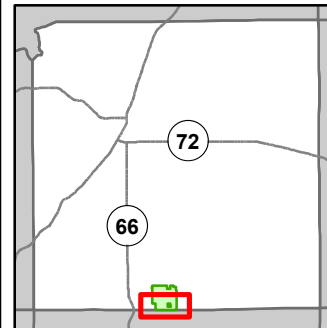


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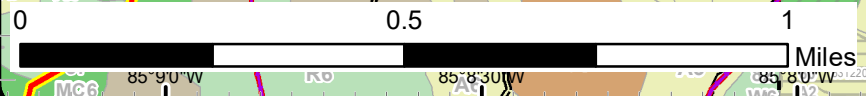
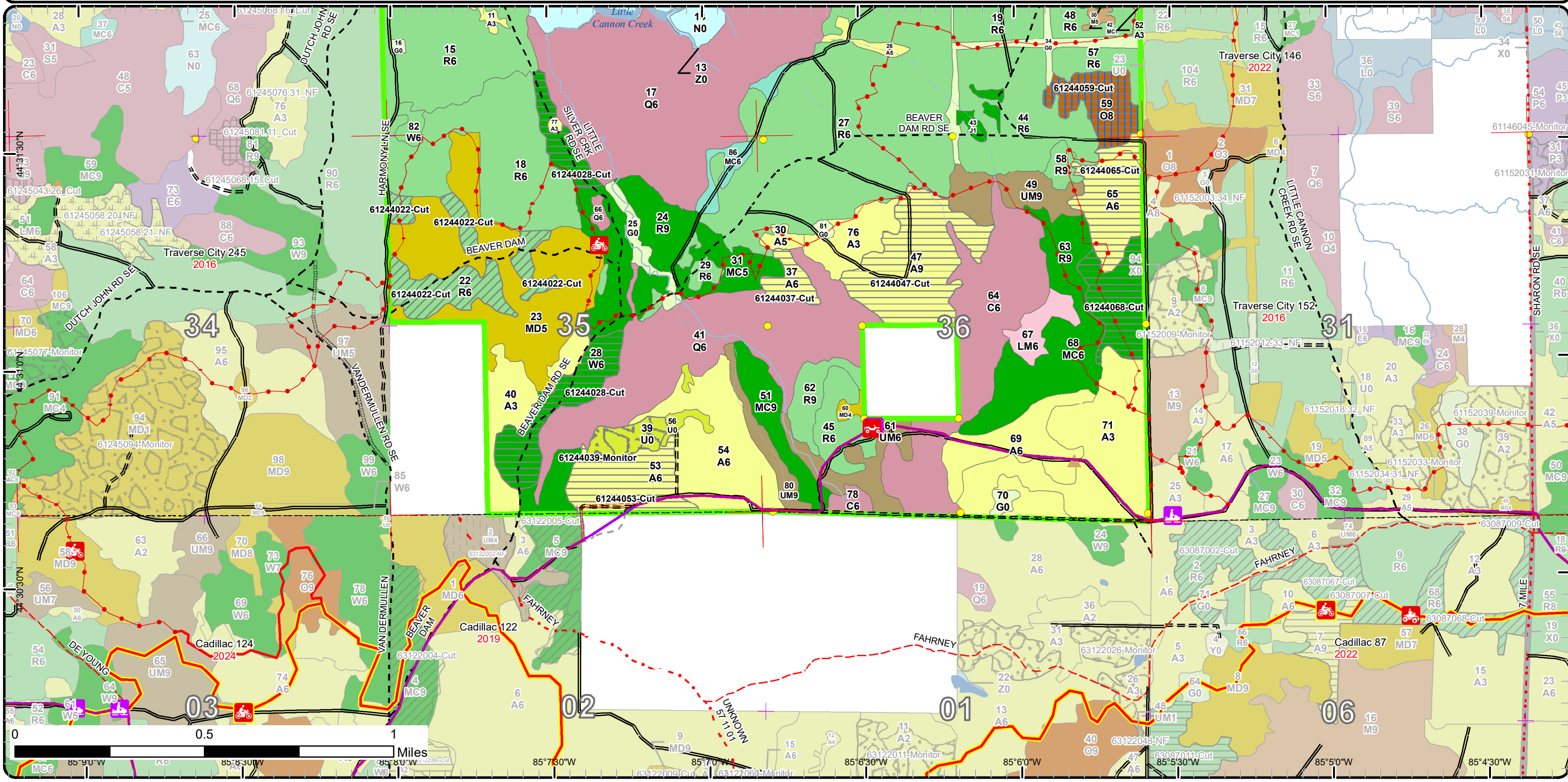


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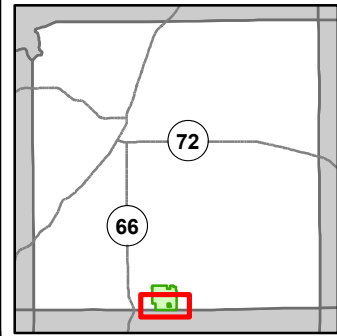


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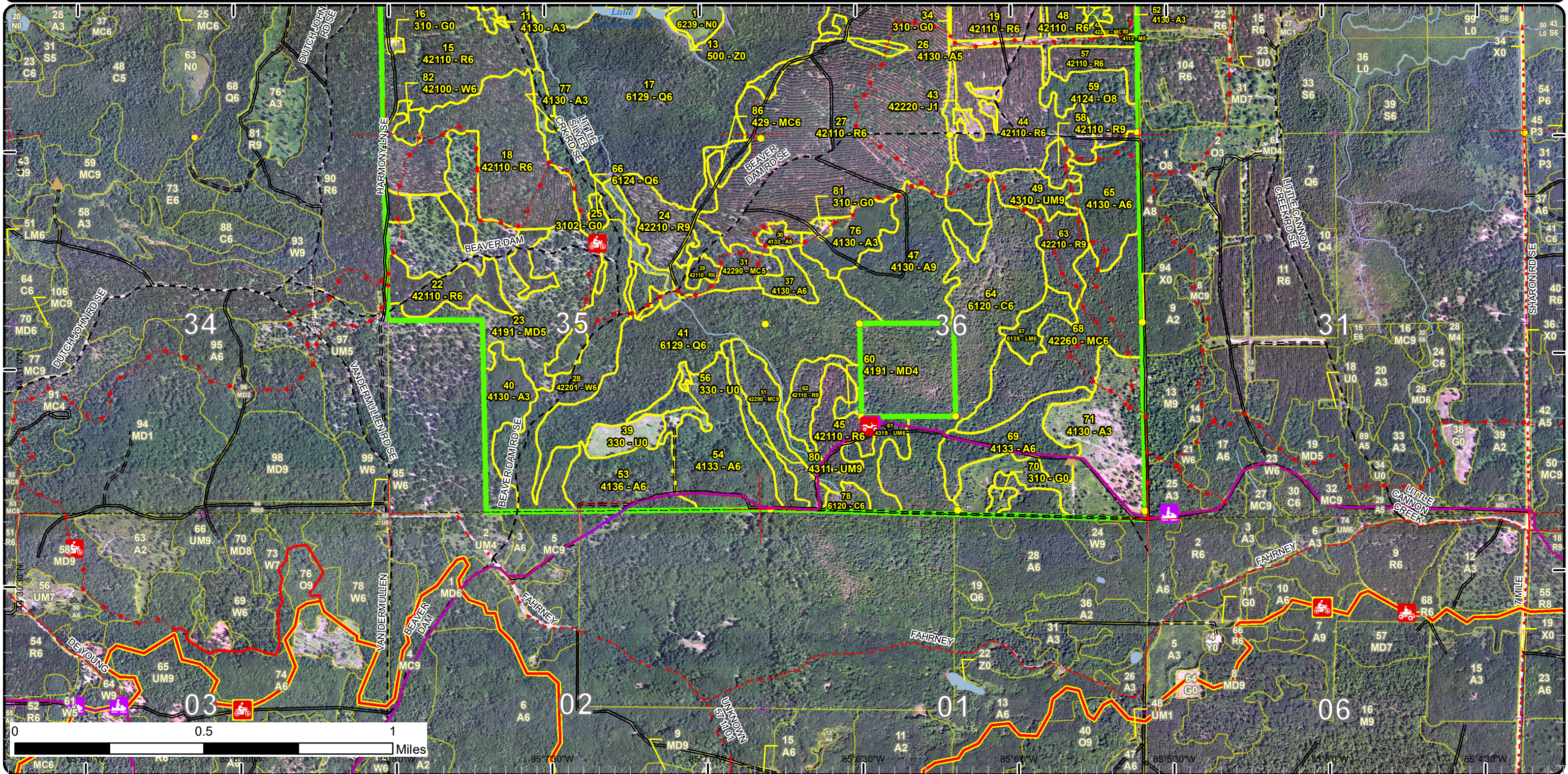


Stand Boundary Map

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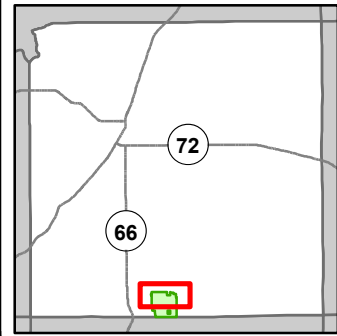


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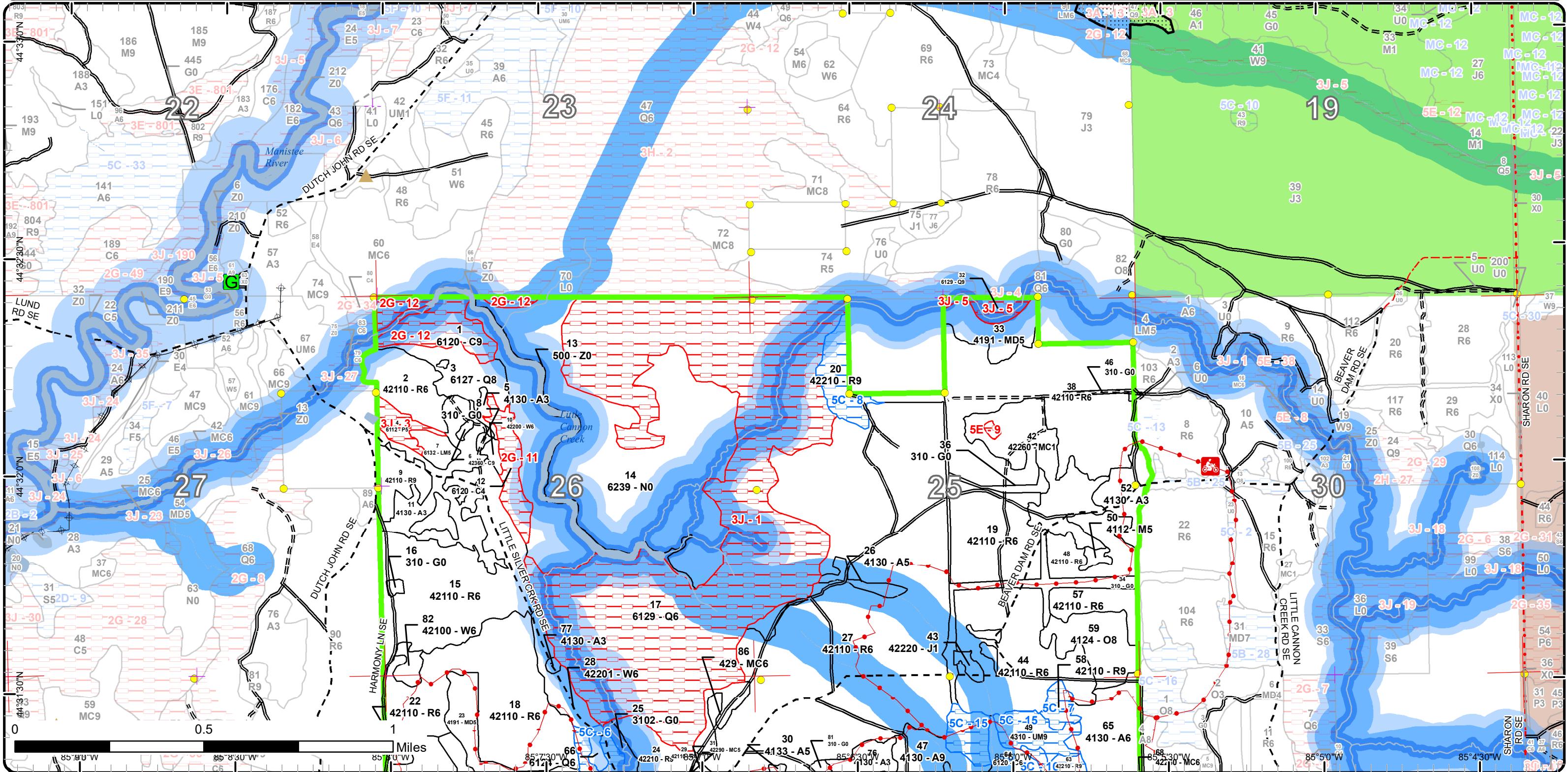


Special Conservation Areas

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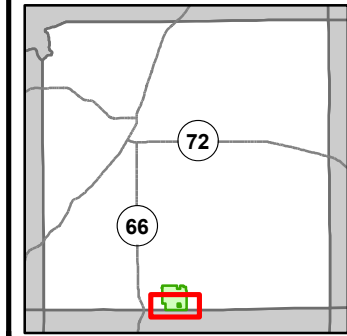


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- Powerline
- Compartment Boundary
- Available w/ Constraints
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- SCA
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Kirtland Warbler Habitat
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer
- Research, Development, and Military Lands

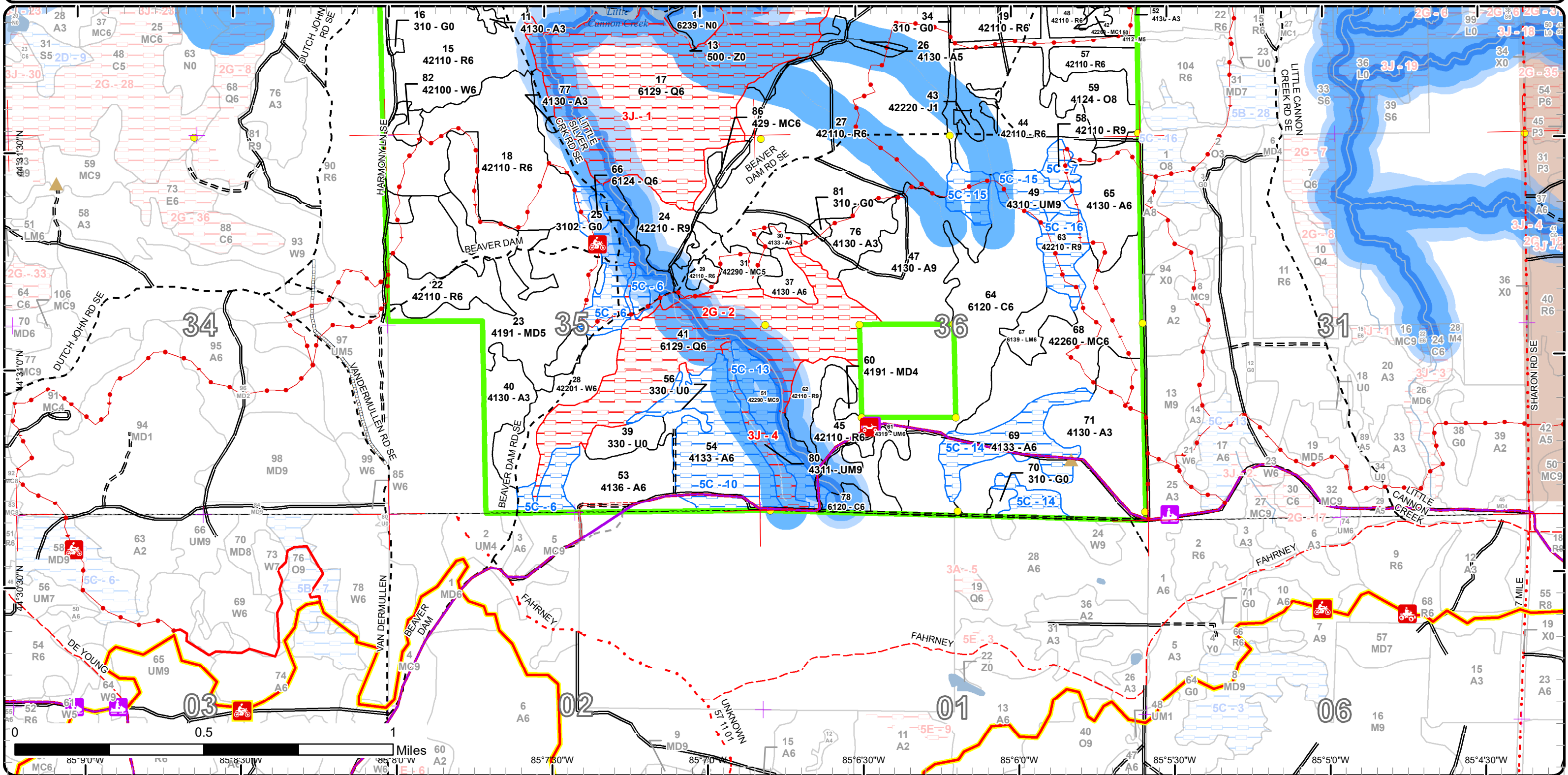


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- Available w/ Constraints
- Unavailable
- Stand Boundaries
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Cold Water Streams
- High Priority Trout Stream Buffer
- Research, Development, and Military Lands
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2G: Too wet (sensitive soils, does not include access issues)
- 3J: Water quality / BMPs (stream, river, or lake)



Report 1 – Total Acres by Cover Type and Age Class



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	69	0	88	0	34	170	8	0	0	0	0	0	0	0	0	0	0	369
Cedar	0	0	0	0	0	0	0	0	12	85	25	0	0	0	0	0	0	0	122
Herbaceous Openland	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36
Jack Pine	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Low-Density Trees	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Lowland Aspen/Balsam Poplar	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	6
Lowland Conifers	0	0	0	0	0	0	0	2	333	6	105	0	0	0	0	0	0	0	446
Lowland Mixed Forest	0	0	0	0	10	0	0	0	0	5	0	0	0	0	0	0	0	0	15
Marsh	178	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	178
Mixed Upland Deciduous	0	0	0	0	0	0	108	0	0	0	0	0	0	0	0	0	0	0	108
Natural Mixed Pines	0	36	0	0	0	60	17	0	19	0	0	0	0	0	0	0	0	0	132
Northern Hardwood	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Oak	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	20
Red Pine	0	0	0	0	0	36	555	144	12	21	14	0	0	0	0	0	0	0	782
Upland Conifers	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	10
Upland Mixed Forest	0	0	0	0	0	0	0	0	30	21	0	0	0	0	0	0	0	0	51
Water	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
White Pine	0	0	0	0	0	0	2	78	0	0	0	0	0	0	0	0	0	0	80
Total	241	110	0	88	10	130	864	232	412	159	144	0	0	0	0	0	0	0	2389



Report 2 – Treatment Summary

Traverse City Mgt. Unit
Year of Entry: 2023

Acres of Harvest

Compartment 244
Total Compartment Acres: 2,387

Commercial Harvest - 235
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	117	0	0	0	0	0	0	0	0	117
Natural Mixed Pines	24	0	0	0	0	0	0	0	0	24
Oak	0	0	0	21	0	0	0	0	0	21
Red Pine	0	0	0	0	0	35	0	0	0	35
White Pine	38	0	0	0	0	0	0	0	0	38
Total	179	0	0	21	0	35	0	0	0	235

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	235	0	0	0	0	0	10	0	0	245
Next Step	0	0	0	0	0	0	200	0	0	200
Total	235	0	0	0	0	0	210	0	0	445



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
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Approved Treatments:

22	61244022-Cut	34.9	42110 - Planted Red Pine	Poletimber Well	43	141- 170	Harvest	Systematic Thinning	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Third row thin stand. Rows look to be wide enough to accommodate a take 1/leave 2 thinning regime but if need be could remove 2 and</p> <p><u>Specs:</u> leave 3 or 4 rows. Use appropriate VMS sale specs to protect cycle trail.</p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u></p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											

28	61244028-Cut	37.8	42201 - Natural White Pine, Mixed Deciduous	Poletimber Well	63	81-110	Harvest	Clearcut with Retention	4311 - Pine, Aspen Mix	Even-Aged	No
<p><u>Prescription</u> Final harvest treatment area, retaining scattered white pine, red pine and oak as retention. could also retain a small island or two of white</p> <p><u>Specs:</u> pine where white pine density is higher - retention should not inhibit aspen regeneration where possible. Treatment area does not have to be exactly as outlined but approximately 1/2-2/3 of stand should be harvested. These areas were identified as having a higher concentration of aspen in canopy and a better likelihood of higher stems/acre of aspen regen in combination with white pine regen. Expand southern treatment area into stand 41 if there are any opportunities to do so where 41 is not excessively wet and aspen and red maple are more highly concentrated. protect recreation cycle trail in treatment area, specifically in northern portion where it enters stand along western edge.</p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> white pine, aspen, red maple and oak species.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											

37	61244037-Cut	7.5	4130 - Aspen	Poletimber Well	64	81-110	Harvest	Clearcut with Retention	4133 - Aspen, Mixed Pine	Even-Aged	No
<p><u>Prescription</u> Final harvest stand retaining most if not all balsam fir and scattered white pine and red pine and a couple oak for mast/seed. Be mindful of</p> <p><u>Specs:</u> lowland and creek at southern edge of stand and determine appropriate setback for harvest at time of sale prep. Harvest in conjunction with stand 47.</p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> aspen, red maple, white and red pine and balsam fir.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
39 61244039-Monitor	10.1	330 - Low-Density Trees	Nonstocked	0	Unspecified	Monitoring	Artificial Regen(3yr)	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Conduct regen survey to determine survival rates of red pine seedlings and also free to grow status of plantation as a whole.</p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Red pine at plantation spacing.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>										
47 61244047-Cut	51.8	4130 - Aspen	Sawtimber Well	57	111-140	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	No
<p><u>Prescription</u> Final harvest stand, retaining clumps/small islands of white and red pine along with some individual red pine, white pine and well formed oak species for seed and mast production. islands should be less than an acre and not exceed 4-5 acres of total stand area. Retention of individual trees should be relatively minimal and scattered, representing no more than 10 sq ft/ac. Rec trail skirts along northern edge just inside of treatment boundary - address trail protection by excluding this small area from treatment or leave retention trees adjacent to trail. In addition, use trail protection specs in proposal.</p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Aspen, white pine, red pine, oak and red maple.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>										
53 61244053-Cut	29.6	4136 - Aspen, Mixed Conifer	Poletimber Well	44		Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	No
<p><u>Prescription</u> Final harvest stand retaining balsam fir for cover. In addition, retain some scattered oak and white pine for mast and seed source. Pockets of white pine regen present, should retain these where possible as well to maintain diversity. Protect snowmobile trail with appropriate VMS specs.</p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Aspen, white pine, red maple and oak species.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>										



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
59 61244059-Cut	20.5	4124 - Red with White Oak	Sawtimber Medium	88	51-80	Harvest	Seed Tree	4121 - Oak, Aspen	Even-Aged	No
<p><u>Prescription</u> Seed tree stand, retaining white pine and also scattered good quality/healthy crowned white oak. Western lobe of stand contains higher density of smaller diameter aspen, avoid retaining overstory trees in this area to maximize aspen regen in combination with oak stump sprout regen.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> White and red oak, white pine and aspen.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>										
65 61244065-Cut	28.4	4130 - Aspen	Poletimber Well	56	Unspecified	Harvest	Clearcut with Retention	4133 - Aspen, Mixed Pine	Even-Aged	No
<p><u>Prescription</u> Final harvest stand retaining scattered pine and oak for seed and mast sources. Cycle trail traverses a few portions of treatment area, should be protected with additional retention trees or small islands nearby - where it travels through northern tip of stand oak is higher density and retention could be left more dense in this area to protect trail. Regardless, VMS trail protection specs should be used.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Aspen, red pine, white pine and scattered oak.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>										
68 61244068-Cut	24.2	42260 - Natural Pine, Mixed Deciduous	Poletimber Well	45	1-50	Harvest	Clearcut with Retention	4133 - Aspen, Mixed Pine	Even-Aged	No
<p><u>Prescription</u> Final harvest this area of stand 68, retaining scattered individual red and white pine, specifically near rec trail to account for retention and aesthetics. In addition, delineate a couple islands stocked heavier to red and white pine of ~an acre near western edge to account for aesthetics. Within these islands aspen could be removed, or retained.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> aspen, red pine, white pine, red maple and scattered oak.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>										

Total Treatment 244.8
Acreage Proposed:

Report 4 – Site Conditions

Traverse City Mgt. Unit

Patrick Cotant : Examiner

Compartment: 244

Year of Entry: 2023

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions			
		With Condition	Not Available		5C	2G	3J	5E
368	282	86	0	Aspen	86			
122	85	0	37	Cedar		37		
36	36	0	0	Herbaceous Openland				
5	5	0	0	Jack Pine				
14	14	0	0	Low-Density Trees				
6	0	0	6	Lowland Aspen/Balsam Poplar			6	
446	18	0	428	Lowland Conifers		105	322	
15	15	0	0	Lowland Mixed Forest				
178	178	0	0	Marsh				
108	108	0	0	Mixed Upland Deciduous				
131	112	19	1	Natural Mixed Pines	19			1
2	2	0	0	Northern Hardwood				
20	20	0	0	Oak				
782	748	34	0	Red Pine	34			
10	10	0	0	Upland Conifers				
51	20	21	10	Upland Mixed Forest	21		10	
13	13	0	0	Water				
79	43	36	0	White Pine	36			
2,387	1,709	196	482	Total Forested Acres	196	142	339	1
	72%	8%	20%	Relative Percent				

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

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	317	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

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2	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	105	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							
3	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand represents creek corridor along Silver Creek. Partially upland but entire stand area should be identified as an area to protect long term for water quality and BMP concerns.							
5	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	36	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

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8	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	14	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
9	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
10	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	50	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
11	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	12	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
12	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	25	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							
13	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	19	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Traverse City Mgt. Unit

Patrick Cotant : Examiner

Compartment: 244

Year of Entry: 2023

14	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	36	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
15	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	21	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
16	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	16	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	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																		
1	6120 - Lowland Cedar	Sawtimber Well	24.8	95	201+	N/A	Dense cedar stand in western portion, less cedar and more supercanopy red and white pine in eastern parts of stand. Other lowland conifers present. Lots of seeps to little cannon creek which runs through stand. Some blowdown areas, regenerating to fir. Any cedar regen is heavily browsed. Occasional large white and red pine in western portion but again, concentrated most in eastern area of stand, near transition to stand 2.																																																		
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2	42110 - Planted Red Pine	Poletimber Well	19.4	67	111-140	N/A	doing well after recent second thinning. ba averages 140 with much variability, mainly trending a bit lower than 140. quality is decent, red oak and white pine scattered throughout. stand is pole log size, almost considered log. Third row thinned last YOE, has responded fairly well to previous treatment. BA is not as high as would be expected, most likely because of variable stand density. Descent amount of red maple and white pine scattered throughout stand. 'Little Cannon Red' sale was thinned and completed on 5/13/2016.																																																		
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3	6127 - Lowland Pine	Sawtimber Medium	16.1	70	51-80	N/A	Variable stand, dominated by white pine in most areas. Variable edge to adjacent stands. Small pockets of l-type and pockets of cedar. Lowland aspen present in pockets.																																																		
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4	6112 - Lowland Aspen	Poletimber Medium	6.4	75		N/A	Mixed stand of red maple and aspen with conifers throughout. Aspen dominant along northern edge. Some large white pine, red pine, cherry and oak. Scattered ironwood in understory along with hawthorn, white pine and balsam fir. Creek/seep runs through center of stand. stand area should be hard factored to protect creek and sensitive soils.																																																		
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5	4130 - Aspen	Sapling Well	1.3	6	Immature	N/A	aspen regenerating well following recent cut, good stems /acre. a few white pine were retained. Aspen (A6) stand, good quality. Overall stand is relatively uniform throughout in terms of height, dbh and species composition. White pine present in understory along w/ few rm in overstory. New stand added. Stand was clearcut with 'Little Cannon Red' in 2016.																																																		
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6	42360 - Upland Cedar	Sawtimber Well	0.8	80	141-170	N/A	Island of cedar and aspen in center of stand 6. Lots of browse and general deer activity. Paper birch scattered, some balsam fir throughout. New stand added.																																																															
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7	6132 - Mixed Lowland Forest with Cedar	Poletimber Medium	5.0	85	51-80	N/A	should be hard factored for water quality protection. Cedar stand with mixed conifer and some deciduous. Heavy browse and deer activity throughout. White pine present are quite large. Quite a bit of red maple along with a descent amount of paper birch. New stand added.																																																															
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8	310 - Herbaceous Openland	Nonstocked	0.8			No	Small grassy opening, surrounded by A3 and W6. Some wildlife use along edges, browse of aspen in places.																																																															
9	42110 - Planted Red Pine	Sawtimber Well	11.1	69	111-140	N/A	responding well to most recent thinning, stand continues to grow well and is now classified as small log size w/ poles. larger dbh and more uniform density than some of the larger plantations nearby. ba homes in the 140-170 range in areas that are uniformly stocked, overall average is about 140 because of openings and canopy gaps from recent thinning. could do a light thinning removing remaining defect removing 1/4-1/3 of volume depending on stocking in certain areas. Red pine plantation, responding well to thin. Lots of defect/suppressed individuals remain. Red maple present, scattered balsam fir in understory. Variable size red pine throughout stand along with some areas of lower basal area. 'Little Cannon Red' sale was thinned and completed on 5/13/2016.																																																															
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10	42200 - Natural White Pine	Poletimber Well	1.8	58	141-170	N/A	Small white pine pole stand, dense. Red pine present along with aspen in low numbers. some lowland spots, hummocky ground, retain for diversity and thermal cover.																																																															
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11	4130 - Aspen	Sapling Well	30.4	20	Immature	N/A	Young aspen stand A3 of big tooth aspen. Growing well, quite dense overall. White pine scattered throughout, occasional red pine in over and understory. Some cherry regen as well.																																																															
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12	6120 - Lowland Cedar	Poletimber Poor	12.3	70	Unspecified	N/A	Lowland cedar/alder stand with other species scattered throughout. Stand contains pockets of lowly stocked trees surrounded by I-type areas. Could almost be non-forested and combined with adjacent stand 14 but estimated cover at approx 25%.																																											
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13	500 - Water	Nonstocked	13.2			No	Little cannon creek throughout compartment.																																											
14	6239 - Mixed Emergent Wetland	Nonstocked	178.2			No	Large tag-alder swamp, very difficult access. Scattered birch, tamarack, black ash, cedar and spruce/fir.																																											
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15	42110 - Planted Red Pine	Poletimber Well	79.2	64	111-140	N/A	variable ba in spots, generally averaging 120 with some of the more uniformly stocked areas a bit higher in the 160 range. stand is decent quality, some open gaps but little regen aside from white pine is establishing. could thin by removing 1/3 of ba but stocking is generally not quite there yet following recent thinning. Red pine stand, thinned previous yoe and is currently responding well. Some areas more open. Red maple scattered as well as white pine 'Little Cannon Red' sale was rowed thinned and completed on 5/13/2016.																																											
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16	310 - Herbaceous Openland	Nonstocked	1.0			No	Small grassy opening, old well site most likely.																																											
17	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	316.7	78		N/A	Cedar stand with fair amount of lowland conifer species throughout. Stand is very dense in places with pole sized cedar, balsam fir and tamarack. Seeps and small flowing creeks can be found in several locations throughout the stand, all of which flow to little cannon and silver creeks. Lots of wildlife activity. Fair amount of browse in places, Not very many deciduous stems within stand. Some paper birch, red maple and scattered lowland aspen present.																																											
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18	42110 - Planted Red Pine	Poletimber Well	74.5	51	111-140	N/A	responding fairly well to recent thinning, still overall relatively small dbh on average and variable stocking with some gaps and some more heavily stocked areas. generally ba is in the 110-140 range with pockets higher but on average ba is still relatively low and averages ~120 ba. based on stocking, canopy closure and size criteria not quite ready for thinning. if acreage is needed for restart this stand could be considered. Red pine stand, overall small pole sized dbh. Ready to be third row thinned. Has not been thinned previously. Quite a few open areas and pockets of slightly lower density. Stand was row thinned 'Little Cannon Red' closed on 5/13/16			
Canopy Species		% Cover	Size Class	DBH	Age					
Red Maple		2	Pole	6						
Red Oak		2	Log	12						
Red Pine		96	Pole/Sap/Log	7	51					
19	42110 - Planted Red Pine	Poletimber Well	36.6	55	111-140	N/A	Red pine stand that has not been third row thinned. Growing well albeit suppressed.			
Canopy Species		% Cover	Size Class	DBH	Age					
Red Pine		100	Pole/Log	9	55					
20	42210 - Natural Red Pine	Sawtimber Well	13.5	94	171-200	N/A	Small stand of large red pine. Understory is very open except for scattered spruce/fir, some planted spruce as well. Looks like PVT may be encroaching on state land in this area with fence posts. Stand blends into adjacent lowland conifer stand along western edge. Nice stand, has been treated in the past but has a natural feel to it and should be retained as majority of red pine in this compartment is smaller size and within large plantations.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Red Pine		100	Log	13	94	Balsam Fir		Low	5 - 10 feet	Sapling
22	42110 - Planted Red Pine	Poletimber Well	35.8	43	141-170	N/A	pole stand, growing well. recommend third row thinning at this time. rows somewhat irregular but should be able to follow for a typical third row thinning, may need to adjust in spots. trace oak, white and Aspen. some small dbh suppressed red pine scattered throughout. pine plantation, growing fairly well. Has not been thinned however recommend waiting until next yoe. Has not self pruned very much yet and in addition is small in terms of dbh and height. Many areas of lower stocking where plantation was less successful.			
Canopy Species		% Cover	Size Class	DBH	Age					
Red Pine		100	Pole/Log	8	43					
23	4191 - Mixed Upland Deciduous with Conifer	Poletimber Medium	91.3	55	1-50	N/A	Relatively open stand of white pine, aspen, red maple and occasional oak. Aspen are mostly small dbh with occasional clones having larger trees where density is higher. Oak are scattered. White pine regenerating heavily in places along with some aspen and red maple regeneration. Scattered oak saplings present, mostly white oak but some red oak developing as well, scattered red pine mainly around perimeter of stand.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Red Maple		25	Pole/Sapling	5		White Pine		Medium	5 - 10 feet	Sapling
Red Oak		5	Log/Pole	10						
Quaking Aspen		30	Sapling/Pole	5						
White Pine		35	Pole/Sap/Log	7	55					
24	42210 - Natural Red Pine	Sawtimber Well	17.4	66	81-110	N/A	Stand was thinned in the spring of 2016 'Sno Trail Mix' (61-088-13-01. All of the Aspen jack pine fir, and red maple were cut out and the pine was thinned through. Mixed stand of white and red pine logs and poles. Descent quality throughout and responding well to recent treatment.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
White Pine		35	Log/Pole	10	66	White Pine		Low	5 - 10 feet	Sapling
Red Pine		65	Log/Pole	10	66	Balsam Fir		Low	10 - 20 feet	Sapling
25	3102 - Grass	Nonstocked	7.5			No	Lowland area, open, surrounding portion of silver creek. Result of a small beaver dam possibly. Vegetation consists mainly of tag alder with black ash and red maple present along with some lowland conifer snags.			



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																															
26	4130 - Aspen	Poletimber Medium	4.1	54	1-50	N/A	Narrow aspen stand, seasonal drainage. Some large red and white pine. Aspen is variable in terms of size, overall lower quality and density.																																															
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27	42110 - Planted Red Pine	Poletimber Well	264.2	55	111-140	N/A	responding fairly well to thinning, however ba is still relatively low with stocking taken within 4 rows that were left in the 150 range, and when taken in the 2 rows that were cut it average 110. dbh remains low on average too but seems to be increasing based on cores of dominant trees. recommend waiting to thin, allowing stand to add diameter and for stocking to get in the more appropriate range to warrant thinning. Red pine plantation with some white pine, red maple and scattered red oak. Some variation in density and size of red pine however overall. Stand was thinned in the winter of 2016. Memorial Pine 61-026-13-01. Rows were pretty tight so we cut 2 and left 4. It would be nice to thin again next time this is up to release the interior parts of the rows.																																															
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28	42201 - Natural White Pine, Mixed Deciduous	Poletimber Well	73.6	63	81-110	N/A	Variable stand in terms of density and species composition. Lumped together some areas that might otherwise be separated. Overall it is a white pine stand with red maple and aspen along with scattered red pine and balsam fir. Aspen is distributed throughout much of stand but is also present in low density clones and does have some significant size variability throughout stand. narrow red maple and aspen transition zone present between this stand and adjacent stand 41. Lowland pockets w/ fir in places, no evidence of standing water. Topo drops slightly to stand, approx 10 ft. across stand with another slight drop to adjacent q-type. Scattered red oak, all of which are concentrated on portions of stand higher in elevation with a more significant pocket in the northern/central portion of the stand. Pockets of lower density in western areas of stand. Red pine rows separate from adjacent plantations are present in areas. Small seeps in se areas of stand are present and make their way to join silver cr.																																															
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29	42110 - Planted Red Pine	Poletimber Well	6.0	57	141-170	N/A	Red pine plantation, has not been thinned, growing fairly well albeit suppressed. Multi part stand, NW portion is more variable and lower stocked. scattered Aspen and oak present, oak is dying out of stand with some standing snags present. If harvest takes place, exclude this portion from sale. Could merge w/ stand 21. Variable rows, edge of stand is variable as well-rows trail off to adjacent stands and blend with white pine to create a mixed red/white pine edge.																																															
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30	4133 - Aspen, Mixed Pine	Poletimber Medium	3.5	40	1-50	N/A	Low stocked stand of poor quality aspen and white pine, almost seems like a frost pocket in spots. Open, low density. Balsam fir scattered. Small trickle of water flows from adjacent stand 34 and disappears under 26. Drain can be followed in a northwesterly direction but water does not appear again until stand 13.																																															
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31	42290 - Natural Mixed Pine	Poletimber Medium	16.9	52	51-80	N/A	Mixed stand of white pine, red pine and aspen with other species present in descent numbers. Some more pure pockets of both white and red pine and aspen in places. Overall relatively small dbh, lower stocking in places. Small diameter overall, some areas of high water table and small bog present in center of stand. some larger red and white present.																																																
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32	6129 - Mixed Coniferous Lowland Forest	Sawtimber Well	5.8	80	Unspecified	N/A	Mixed stand of lowland conifers dominated by cedar and white pine with balsam fir, red pine red maple and birch present in fair numbers. Little cannon cr runs along southern edge of stand-wide, braided, choked w/ deadfall. Steep slope to creek on south side.																																																
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33	4191 - Mixed Upland Deciduous with Conifer	Poletimber Medium	14.2	55	81-110	N/A	Mixed stand, dominated by red maple, white pine, pockets of aspen and scattered oak. White pine is main component of low density understory. Overall low density throughout stand with some pockets exhibiting higher basal area. Slope at northern edge of stand leading to creek/lowland.																																																
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34	310 - Herbaceous Openland	Nonstocked	18.9		Unspecified	No	What looks to be an old fire lane opening, Scattered cherry, occasional large overstory red pine. ORV trail runs through portions of stand. Some areas of stand are more heavily treed, representing more of a u-type.																																																
36	310 - Herbaceous Openland	Nonstocked	2.9			No	Old fire lane, scattered trees throughout.																																																
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37	4130 - Aspen	Poletimber Well	7.5	64	81-110	N/A	Mixed stand, aspen dominant. mostly upland with some lowland ground at edges, high water table in some areas of stand. creek flows along southern edge of stand. Some cedar near edges of adjacent stands, large white and red pine present in lower numbers. could consider final harvest retaining some conifers.																																																
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38	42110 - Planted Red Pine	Poletimber Well	90.8	55	111-140	N/A	responding fairly well to recent thinning but stocking of 110-140 ba in combination with low dbh on average does not yet warrant a second thinning. seems that a subsequent thinning at this time would leave residual susceptible to windthrow and also discourage some height as trees are still 4 sticks in many areas, other areas of stand 5+ sticks is average. pine plantation, has not been thinned as of yet. Scattered large jack pine and red maple throughout. Occasional aspen and scattered oak.	
Canopy Species		% Cover	Size Class	DBH	Age			
Red Maple		2	Pole/Log	8				
Red Pine		98	Pole/Log	8	55			
39	330 - Low-Density Trees	Nonstocked	10.1	0	Unspecified	4211 - Planted Red Pine	Stand was final harvested in spring of 2016 and then trenched that same summer. '61-088-13-01' Snow Trail Pine. Stand planted in 2017. 1 yr regen 6/2018. Recommended release.	
Sub-Canopy Species		Density	Avg. Height	Size				
Red Pine		High	< 5 feet	Sapling				
40	4130 - Aspen	Sapling Well	25.8	26	Unspecified	N/A	Young aspen stand (A3), growing well. Red oak were left during previous harvest along w/ scattered white pine poles. White pine is regenerating in understory of aspen saplings. Some pole sized trees present, on average still sapling size, will be pole next YOE.	
Canopy Species		% Cover	Size Class	DBH	Age			
Red Oak		5	Log	13				
Bigtooth Aspen		90	Sapling/Pole	4	26			
White Pine		5	Pole/Log	8				
41	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	105.1	90	141-170	N/A	Mixed lowland conifer stand. Silver creek in center of stand. Pockets of pure cedar, other areas of spruce/fir/cedar. Scattered pockets of birch, balsam poplar, red maple and balsam fir. Some very large red and white pine on scattered hummocks which can be found throughout stand. There is a great deal of winter deer activity in stand. Lots of browse on cedar, very little coniferous regen aside from scattered balsam fir thickets and occasional white pine. Hemlock can be found in spots. Tamarack present throughout stand with dense pockets found in places.	
Canopy Species		% Cover	Size Class	DBH	Age			
Red Maple		5	Pole	6				
Paper Birch		5	Pole	8				
Balsam Poplar		3	Log	10				
Balsam Fir		10	Pole	6				
Black Spruce		10	Pole/Log	8				
Northern White Cedar		40	Log/Pole	8	90			
Tamarack		10	Pole/Log	8				
White Pine		8	Log/Pole/XLog	10				
Red Pine		7	Log/Pole/XLog	10				
Hemlock		2	Log/Pole	10				
42	42260 - Natural Pine, Mixed Deciduous	Sapling Poor	35.7	5	Immature	N/A	Regenerating fairly well, may be higher than 25-50% canopy but that appears to be range of regen extent at this time. Jack pine will likely continue to fill in as will aspen and white pine along with some more red maple. If/when surrounding red pine plantations are harvested and replanted, it would be good to incorporate this area into plantation in order to have a more regular shaped plantation, unless this jack pine stand is wanted for diversity. Jack pine stand, final harvested under tsale contract 08913 by Biewer FP. Forested objective, not yet regenerating at time of timber sale closure.	
Canopy Species		% Cover	Size Class	DBH	Age			
Jack Pine		55	Sapling	1	5			
Red Maple		25	Sapling	1				
Quaking Aspen		10	Sapling	1				
White Pine		5	Sapling	1				
Red Pine		5	Sapling/Pole/Log	2				



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
43	42220 - Natural Jack Pine	Sapling Poor	4.6	6	Immature	N/A	Stand was final harvested with adjacent red pine row thinning 'fire lane pine'
Canopy Species		% Cover	Size Class	DBH	Age		
Red Pine		5	Pole	8			
Jack Pine		95	Sapling	1	6		
44	42110 - Planted Red Pine	Poletimber Well	53.8	55	111-140	N/A	responding well to recent thinning but ba still in the 110-140 range with some pockets less and a few scattered areas higher. dbh is relatively low and averages 7-8" overall. concern with subsequent thinning would be the combination of low ba and relatively low dbh. Red pine plantation growing fairly well, suppressed at this time. Some jack pine scattered throughout. Scattered large oak and pole size red maple in southeastern corner.
Canopy Species		% Cover	Size Class	DBH	Age		
Red Oak		2	Log	12			
Red Pine		98	Pole/Log	8	55		
45	42110 - Planted Red Pine	Poletimber Well	17.3	62	111-140	N/A	red pine doing well following recent treatment, overall decent quality. ba averages about 140 with some lower and higher stocked areas. allow to grow another cycle before thinning again unless needed for partial harvest acres but stocking and dbh do not warrant treatment at this time. Stand was row thinned in the spring of 2010 Sno Trail Pine (61-088-13-01). Descent quality, fair dbh, has not self pruned much and was planted around remnant stumps so therefore rows are erratic/variable in many areas of stand, most notably in north. White pine, aspen and red maple present in low numbers.
Canopy Species		% Cover	Size Class	DBH	Age		
Red Pine		95	Pole/Log	8	62		
White Pine		3	Log	10			
Red Oak		2	Log	14			
46	310 - Herbaceous Openland	Nonstocked	1.3			No	Similar to stand 32, what looks to be an old fire lane. Some scattered cherry, white pine and occasional naturally regenerated red pine. Helps to provide a nice break in the plantations of the area.
47	4130 - Aspen	Sawtimber Well	51.8	57	111-140	N/A	Variable aspen stand in terms density and overall quality - some size variability as well with log and pole sized trees present throughout and also pockets where larger trees are more uniform density. white pine present along with red pine, balsam fir and scattered oak. White pine is much more prevalent in eastern portions of stand, some transition areas to adjacent stands to the east where species composition is much more variable and water table influence is greater, specifically along eastern edge.
Canopy Species		% Cover	Size Class	DBH	Age		
Red Maple		5	Pole	6			
Red Oak		3	Log	12			
Bigtooth Aspen		78	Log/Pole	10	57		
White Pine		10	Log/Pole	10			
Red Pine		4	Log/Pole	10			
Sub-Canopy Species		Density	Avg. Height	Size			
Balsam Fir		Low	10 - 20 feet	Sapling			
White Pine		Low	5 - 10 feet	Sapling			
48	42110 - Planted Red Pine	Poletimber Well	17.6	50	141-170	N/A	third row thin stand, rows are tight in spots but should generally be operable taking one and leaving two rows. remove deciduous trees where possible. Lower in terms of density, quality and dbh than surrounding plantations, More of a deciduous component as well.
Canopy Species		% Cover	Size Class	DBH	Age		
Red Maple		10	Pole/Log	8			
Red Oak		5	Log	10			
Red Pine		85	Pole	8	50		



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																
49	4310 - Pine, Oak Mix	Sawtimber Well	21.0	88	51-80	N/A	Pine oak stand with aspen relatively evenly distributed throughout. Aspen is scattered, not in densely stocked clones but it should still regenerate well if stand were to be opened up. More open in NW portion of western part of stand. A small seasonal watercourse splits stand, does not look to be a perennial stream, disappears about a chain into plantation to the north but old drainage course is visible on aerial photos. If treated, determine if this drainage should have more of a boundary than what is delineated with stand lines.																																																
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50	4112 - Maple, Beech, Cherry Association	Poletimber Medium	1.9	59	51-80	N/A	Low density red maple stand with larger red and white oak present. Oak regeneration throughout understory in relatively low density, however growing fairly well. New stand added.																																																
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51	42290 - Natural Mixed Pine	Sawtimber Well	18.7	76	141-170	N/A	Mixed natural pine stand with red and white pine evenly distributed throughout. Some variability of size and stocking, with areas where aspen and oak component is a bit more concentrated, albeit still in relatively low numbers. Oak are generally large trees with big crowns providing good mast and adding to wildlife habitat value of stand. some small hummocky/lowland areas with drainages that look to be seasonal and/or historic leading towards Silver Creek. Could thin stand and remove aspen or could retain long term for age and species diversity.																																																
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52	4130 - Aspen	Sapling Well	12.9	20	Immature	N/A	Young, fully stocked aspen (A3) stand with occasional large white oak and pole sized red pine. Jack pine saplings throughout in low numbers.																																																
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53	4136 - Aspen, Mixed Conifer	Poletimber Well	29.6	44		N/A	pole sized Aspen stand with size and stocking variability throughout. growing well with white pine, red oak, balsam fir and red maple present throughout. Both big tooth and quaking aspen present. Remnant white pine stumps throughout. consider final harvesting stand to regenerate Aspen and hopefully get some new vigor established and more stems per acre. retain fir along with some larger well formed oak and white pine for seed and mast																																																
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54	4133 - Aspen, Mixed Pine	Poletimber Well	49.9	56	51-80	N/A	Western part of original stand 46. Aspen stand, possibly 2 aged. Consists of scattered clones separated by smaller dbh aspen in conjunction w/ white pine, balsam fir, oak and red maple. Aspen is variable in terms of size, quality and overall stocking. Stand is patchy in places with open areas and pockets of unmerchatable aspen, specifically in central and northwest portions of stand. white pine is more concentrated in areas of stand. expand eastern boundary of stand to creek valley edge. could final harvest portion or all of stand to regenerate Aspen and hopefully get more vigor and better stocking.																																											
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56	330 - Low-Density Trees	Nonstocked	4.1	0	Unspecified	No	Multi-part area of low density trees, consisting mainly of aspen and white pine regen. Originally part of stand 54 and may be able to merge back in next yoe if regen expands but for now density it too low. Variable quality as well, aspen is stunted. If 54 is harvested this entry or next these areas should be cut as well, maybe this will reinvigorate the regen.																																											
57	42110 - Planted Red Pine	Poletimber Well	11.6	55	111-140	N/A	merge with stand 44. Red pine plantation, has not been thinned. Some patchy spots with low density, most notably in finger jutting off southeastern corner of stand, Some variable size. N/S finger has lower density than bulk of stand, consider final harvesting this portion of stand and 1/3 row thin the rest.																																											
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58	42110 - Planted Red Pine	Sawtimber Well	5.0	86	201+	N/A	Old plantation, really nice red pine. Large white pine scattered throughout as well. Has been treated, Some oak in understory. trace Aspen in canopy. New stand added.																																											
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59	4124 - Red with White Oak	Sawtimber Medium	20.5	88	51-80	N/A	Oak pine stand with some variability in terms of species makeup throughout, Aspen clone, small dbh in western part of stand. Overall low density, not great quality. white and red pine are filing in more open areas, lots of wildlife use.																																											
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60	4191 - Mixed Upland Deciduous with Conifer	Poletimber Poor	2.2	58	1-50	N/A	Small stand adjacent to PVT, looks to be failed plantation in spots and naturally regenerated deciduous species evenly scattered throughout albeit in low numbers.																																											
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments	
61	4319 - Mixed Upland Forest	Poletimber Well	19.8	70	81-110	N/A	Variable stand, transition between red pine plantations and natural red pine stands with adjacent q-type. White and red pine present with aspen and other mixed deciduous. Contains drainages going towards silver creek, look to be seasonal. Scattered hemlock and cedar near creeks. Some lowland areas, occasional openings. Aspen is dominant in spots with clones present.	
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		
Red Maple		10	Pole	8		Red Maple		
Red Oak		10	Log	13		Low		
Paper Birch		10	Pole	8		10 - 20 feet		
Balsam Fir		10	Pole	6		Sapling		
White Pine		25	Log/Pole	10	70	10 - 20 feet		
Red Pine		10	Log	10		Sapling		
Bigtooth Aspen		25	Pole/Sapling	7		5 - 10 feet		
62	42110 - Planted Red Pine	Sawtimber Well	12.2	76	141-170	N/A	Multi part stand-looks to be a planted red pine/white pine stand with some definitive rows while other areas have a more natural feel. Was originally a multi-part stand coupled with stand 51 however that stand looks natural with no planting record found. Could attempt to free thin stand, removing approximately 1/3 of overall volume with focus being on forked, suppressed or otherwise poorly formed individuals - could also wait until stand 45 is treated again and manage at that time.	
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		
Red Maple		5	Pole	6		White Pine		
White Pine		30	Log/Pole	10		Low		
Red Pine		60	Log/Pole	10	76	5 - 10 feet		
Red Oak		5	Log	12		Sapling		
63	42210 - Natural Red Pine	Sawtimber Well	15.6	87	111-140	N/A	Mixed stand of red and white pine with aspen throughout. High water table in places, some wet areas, especially in western portions of stand. Red pine is variable in size with some variability in density - parts of stand are denser, smaller DBH red pine while other pockets are larger, more spaced out red pine - Aspen is generally heavier in this more open areas where medium stocked clones are present in conjunction with red pine.	
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		
Red Maple		5	Pole	6		Balsam Fir		
Bigtooth Aspen		10	Pole	8	20	Low		
White Pine		20	Pole/Log	8		10 - 20 feet		
Red Pine		60	Log/Pole	10	87	Sapling		
Red Oak		5	Pole/Log	8				
64	6120 - Lowland Cedar	Poletimber Well	79.7	80	141-170	N/A	Cedar stand with multiple other lowland species present in relatively low numbers. Some openings, areas of standing water in understory along with some upland areas between drainage, especially in Southern portion of stand. some of these areas are occupied by relatively low density Aspen poles along with larger red and white pine. Some blowdown. Occasional seeps, flowing northward. Pockets of E-type, some areas of aspen/red maple. Pockets of pole sized white pine.	
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		
Red Maple		5	Pole	7		Balsam Fir		
Paper Birch		3	Pole	6		Medium		
Bigtooth Aspen		10	Pole/Log	8		5 - 10 feet		
Balsam Fir		5	Pole	6		Sapling		
Northern White Cedar		65	Pole/Log	8	80			
White Pine		7	Log	10				
Red Pine		5	Log	10				



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																					
65	4130 - Aspen	Poletimber Well	28.4	56	Unspecified	N/A	growing well, fair quality and relatively uniform stocking. final harvest, retain scattered red pine and white oak and maximize Aspen regen. cycle trail needs to be protected, also protect coniferous regen where possible.																																																					
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66	6124 - Lowland Spruce-Fir	Poletimber Well	2.0	65	51-80	N/A	Small lowland pocket significant enough to separate from adjacent stand 28. Looks to be a bog with two historic drainages running eastward towards silver creek but no water present at time of inventory. Could be seasonal or when water table is higher than average. Black spruce, balsam fir and white pine of varying sizes are dominant, stocking relatively low but generally in the 75% canopy cover range. Some more open spots have tag alder and leatherleaf in low numbers.																																																					
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67	6139 - Mixed Lowland Forest	Poletimber Well	10.2	35	51-80	N/A	Mixed stand of small dbh red maple, aspen, balsam fir and white pine with scattered overstory trees of same species. Occasional oak, mostly around edges, some concentrated pockets. Occasional large white pine present. Variable stand in terms of size, stocking and species composition.																																																					
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68	42260 - Natural Pine, Mixed Deciduous	Poletimber Well	59.8	45	1-50	N/A	Mixed stand of aspen and white and red pine. Aspen is of sapling/pole size, growing fairly well and definitely more prevalent in northern 1/2 of stand. Red and white pine is variable in size, good quality. Some large white and red pine present. Overall small dbh on average.																																																					
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments		
69	4133 - Aspen, Mixed Pine	Poletimber Well	36.2	54		N/A	Adjacent stand harvested last yoe, regenerating well. this stand is multipart, in Northern portion small draw in center of stand that looks dry but trace cedar and hemlock present, exclude if necessary from any management areas. Western portion of stand has higher concentration of red and white pine, especially south of snowmobile trail. This area was originally part of stand 64 but was found to be upland with a higher concentration of aspen. harvest this stand by final harvest, retain some larger white and red pine and a few large crowned red oak for seed and mast production. in Southern portion,, exclude sma lowland pocket. red pine and red maple are generally low in presence throughout stand. oak and beech in understory, expect good Aspen regen. snow trail runs through stand, focus some retention along it and use appropriate specs for protection. Western portion of original stand 58. Lower density, overall lower size and slightly less quality than eastern portion. Red oak present throughout. Aspen variable in terms of size.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
Red Oak	10	Log	12		Balsam Fir	Low		10 - 20 feet	Sapling
Quaking Aspen	65	Pole/Log	9	54	White Pine	Low		5 - 10 feet	Sapling
White Pine	10	Log/Pole	10		Witch Hazel	Low		5 - 10 feet	Tall Shrub
Red Pine	10	Log	12		Red Maple	Low		10 - 20 feet	Sapling
Red Maple	5	Pole	8						
70	310 - Herbaceous Openland	Nonstocked	2.4			No	low density aspen, wp, rm with gpass as groundcover.		
71	4130 - Aspen	Sapling Well	67.6	6	Immature	N/A	Stand regenerating well with aspen dominant - remainder of regen is a mixture of white pine, cherry, red maple and some oak scattered throughout. Some browse on stump sprouts but it looks as though the aspen regen is above the browse line. Overstory retention is heaviest in eastern 1/2 of stand where hardwood concentration was higher. Stand was cut in 2015 and 2016. All trees were cut except pine, sugar maple, basswood and scattered oak trees marked with green paint. 'PC MIX' 61-027-13-01. This was nice quality aspen so it should regenerate very well.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
Sugar Maple	2	Pole/Log	8						
Red Maple	5	Sapling	1						
Beech	2	Sapling	1						
Red Oak	8	Log	12						
Bigtooth Aspen	73	Sapling	1	6					
White Pine	8	Log/Pole	10						
Red Pine	2	Log	12						
76	4130 - Aspen	Sapling Well	17.9	20	Immature	N/A	Aspen stand regenerating well, a bit more open in nw area of stand likely where landing was, portion of this area looks to be a maintained opening. scattered red pine throughout. minimal understory of scattered conifers.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
Bigtooth Aspen	98	Sapling/Pole	3	20	White Pine	Low		5 - 10 feet	Sapling
Red Pine	2	Pole	5		Balsam Fir	Low	5 - 10 feet	Sapling	
77	4130 - Aspen	Sapling Well	0.8	26	1-50	N/A	Small regenerating aspen clone, did not find a cutting record for stand. Dense, good quality regen, transitioning from sapling to pole. Some white pine in understory.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
Quaking Aspen	100	Sapling/Pole	4	26	White Pine	Low	5 - 10 feet	Sapling	
78	6120 - Lowland Cedar	Poletimber Well	4.5	80	141-170	N/A	Small cedar pocket very similar in composition to stand 64. Has a small spring feeding a small creek that flows towards Silver Creek in stand 80 before going underground, pretty sure it resurfaces just north of snow trail at southern edge of stand 80. Some cedar blow down, quite a bit of wildlife activity in this small stand.		
Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density		Avg. Height	Size
Red Maple	10	Pole	7		Balsam Fir	Medium		5 - 10 feet	Sapling
Paper Birch	5	Pole	6						
Balsam Fir	10	Pole	6						
Northern White Cedar	65	Pole/Log	8	80					
White Pine	10	Log	10						



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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80	4311 - Pine, Aspen Mix	Sawtimber Well	10.3	70	81-110	N/A	Narrow valley with upper portion of Silver Creek flowing through it. Larger diameter white pine, red pine and aspen make up majority of canopy with other deciduous species present in low numbers. Generally upland banks with some seeps and obviously creek bottom is lowland - typed upland w/ lowland. In northern tip of stand trace cedar and hemlock present in transition zone to stand 41. Very scenic stand, retain long term for water quality purposes and for aesthetics. If harvest occurs in stand 54, buffer could be extended to further protect this stand if FISH deems appropriate.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		10	Pole	8		Red Maple		Low	10 - 20 feet	Sapling	
Red Oak		5	Log	13		Balsam Fir		Low	5 - 10 feet	Sapling	
Paper Birch		5	Pole	8		White Pine		Low	5 - 10 feet	Sapling	
Balsam Fir		5	Pole	6							
White Pine		30	Log/Pole	12	70						
Red Pine		20	Log	12							
Bigtooth Aspen		25	Log/Pole	11	70						

81	310 - Herbaceous Openland	Nonstocked	1.5	0	Unspecified	No	Opening, looks to be maintained? WLD input needed.
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82	42100 - Planted White Pine	Poletimber Well	3.9	64	111-140	N/A	Small area that was planted to white pine in the larger red pine plantation area. Slightly lower elevation, white pine is growing well with relatively high, uniform density throughout stand area. Retain as a small area of diversity amidst larger red pine plantation.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		5	Pole	8		Balsam Fir		Low	5 - 10 feet	Sapling	
White Pine		78	Pole/Log	8	64	White Pine		Low	5 - 10 feet	Sapling	
Red Pine		15	Pole/Log	9	64						
Northern Pin Oak		2	Log	16							

86	429 - Mixed Upland Conifers	Poletimber Well	9.8	50	51-80	N/A	Multi-part mixed stand of spruce/fir, red and white pine - oak, red maple and aspen in lower numbers. Small amount of slop-over from plantation included in stand-all these areas have lower density than plantation. stand is a nice island of some upland diversity near plantation and larger lowland complex.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Maple		5	Pole/Sapling	5		Balsam Fir		Low	5 - 10 feet	Sapling	
Red Oak		2	Log/Pole	10							
Quaking Aspen		5	Pole	6							
Balsam Fir		40	Pole	6	50						
White Pine		25	Log/Pole	10							
Red Pine		23	Log/Pole	11							