



Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 61222

Entry Year 2025

Acreage: 2,000

County Kalkaska

Management Area: Kalkaska Sandy Moraines

Stand Examiner: Steve Crigier

Legal Description:

T26N R5W, Sections 9, 16, 21, 28 and 29

Identified Planning Goals:

This compartment is part of the Kalkaska Sandy Moraines Management area. Management goals for this MA include balancing the age classes of aspen on suitable sites, thinning northern hardwoods, balancing age classes of red pine and jack pine, and regenerating the aging swamp hardwood and conifer resource. Dominant cover types in this compartment include nearly 500 acres of opening, which Wildlife Division attempts to maintain with prescribed burning, and 400 acres of planted red pine. There are also sizeable stands of oak and wetland conifers. Management challenges include maintaining wildlife openings given the logistical and funding challenges that make prescribed burning increasingly hard to accomplish and regenerating certain species, especially in wet areas, in the context of elevated deer browse levels. While not true old growth, a couple natural pine stands are starting to exhibit complex vertical structure, species diversity and good habitat value. These values will be promoted within these stands.

Soil and topography:

Most of the compartment lies on sandy soils including Rubicon, Croswell, and Au Gres sands. The areas near the Manistee River and Black Creek are dominated by wetlands with poorly drained muck soils including Au Sable-Bowstring and Tawas-Leafriver mucks. Most of the compartment is flat with the exception of a relatively steep ridge north of Riverview Road. This ridge, which gains 200 feet of elevation, generally faces southeast and south with multiple smaller valleys.

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

Several private parcels are located along the Manistee River. These are mostly cabins with seasonal use. The private parcel along the Manistee River, which divides this compartment into two parts, is protected by the Grand Traverse Regional Land Conservancy with a conservation easement. Three parcels that were owned by Consumers Energy and formerly had private leases have been added to the compartment since the last inventory. Section 9 and most of Section 16 is leased to the Department of Military and Veterans Affairs as part of the Camp Grayling training area. The Black Creek Conservation association owns nearly 1,500 acres west of this compartment, which it manages primarily for white-tailed deer habitat.

Unique Natural Features:

There is at least one record of a state-Special Concern animal species in the compartment. A few jack pine stands, although relatively small, are within the age range that might support Kirtland's warblers.

Archeological, Historical, and Cultural Features:

There is at least one known archaeological site in Section 16 and potential for additional sites is higher because of the river corridor.

Special Management Designations or Considerations:

One stand of natural red and white pine is proposed for designation as a Special Conservation Area (SCA) due to its age and diversity. This area extends into Compartment 122 to the west. Eastern Massasauga Managed Lands (HVCA) encompasses section 29, western portion of section 21 and the southwestern part of section 16. The Natural Rivers Vegetative Buffer along the Manistee River.

Watershed and Fisheries Considerations:

The Manistee River and its tributaries are protected by the Natural Rivers Act, which prohibits most timber management within 175 feet of the river and 50 feet of tributaries. The Manistee River is a Designated Trout Stream. The Upper Manistee River supports self-sustaining populations of brook and brown trout and is a world-famous trout fishery. Black Creek is also a Designated Trout Stream.

Wildlife Habitat Considerations:

Feature Wildlife Species for this MA include: pileated woodpecker, ruffed grouse, snowshoe hare, wild turkey, and white-tailed deer. [Additional text to be added by WLD.]

The Black Creek Deeryard extends into this compartment from the west. It is one of the most heavily used deeryards in the region and heavy deer concentrations affect timber management in the entire compartment due to heavy browse. There is a deer enclosure within a jack pine stand in Section 21. The large open area in the north part of the compartment, along with areas to the west, has been maintained through prescribed burning in recent history. Some of this area is filling in with woody vegetation, however, since burning has not occurred as often as necessary.

Habitat types found within this compartment of State Forest are influenced by three types of glacial formations. A large area of outwash plain consisting of poorly drained organic soils can be found along Black Creek and the Manistee River in the south. These wet soils support lowland conifers (Black Creek Deer Yard) and lowland shrub communities.

The center section of the compartment is mostly an outwash plain consisting of excessively drained sands, which supports aspen, upland brush/grass communities, and plantation pine. Fire was a major disturbance on these dry soils and should be considered a valuable treatment tool in perpetuating these fire driven ecosystems. The upland brush stands have been prescribed for burning to set back woody encroachment and stimulate native herbaceous vegetation. These stands are part of a larger burn area and will be burnt on a rotational basis during the entry cycle. Mechanical treatment including brush hog, hydro-axe, and other equipment may need to be employed when burning is not available. Monitoring and treatment of invasive plant species should be conducted as needed. Similarly, seeding of appropriate native herbaceous vegetation should be considered to further diversify this upland non-forested habitat. A variety of species make use of habitats found on these dry sandy soils, including: Kirtland's warbler, deer, ruffed grouse, smooth green snake, wild turkey, eastern box turtle, and badger.

Aspen harvests should be designed to mimic wildfires of various intensities, when possible. This creates a mosaic of age classes and increases structural diversity within an area. Harvest operations should be utilized to create some (approximately 1-2 trees per acre) coarse woody debris (CWD), preferably via timber sale specs. This provides essential habitat for various wildlife species. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet its stump. Standing dead timber is usually left during harvest operations unless deemed a safety hazard.

The hilly region in the north of this compartment is underlain by steep, broken ice contact ridges (LTA 3121). The sandy soils found on these ridges have moderately low fertility and low available moisture. Aspen and oak communities dominate here and support a variety of wildlife.

Mineral Resource and Development Concerns and/or Restrictions

There is no known metallic mineral potential in this part of the state. No active sand/gravel pits are known to exist in the area. Best potential for sand & gravel in the compartment is at the north end. This area is part of a lease agreement with Camp Grayling, and development of sand & gravel may not be allowed without permission from the DMVA. Relatively little oil & gas drilling has occurred in the area, and there has been no significant production for miles. Some testing and minor production from the Collingwood Formation occurred a few miles to the northeast, but the Collingwood has not been proven to be economical to produce. Other test wells that have been drilled in and around the compartment over the years have all been dry holes. Nevertheless, all State-owned mineral rights in and around the compartment were recently nominated for oil & gas leasing by Lambda Energy. Lambda's intentions in the area are unknown. The state does not own much of the mineral rights within the compartment. Because the mineral estate is the dominant estate, reasonable access to the surface must be provided to private owners if they choose to explore or develop their mineral rights.

Vehicle Access:

Existing roads are adequate and no closures are necessary at this time.

Survey Needs:

None at this time.

Recreational Facilities and Opportunities:

The Kalkaska ORV trail, which has a 50-inch maximum vehicle width, crosses the northern portion of the compartment in an east/west fashion. The Kalkaska ORV route, which is designed for vehicles wider than 50", bisects the compartment and then runs north along the western side of the compartment. Proposed timber management activities should include trail protection specifications to reduce impacts, as well as serve as an example of how silviculturally sound timber harvesting practices can co-exist and often improve recreation and hunting experiences for future generations. Treatments proposed directly adjacent to the ORV trail tread should include either a "flush cut" specification, or be stumped high enough (3 feet) to avoid being hidden by perennial flora (ferns). Yellow Trees Landing which provides canoe and kayak access to the Manistee River and a small parking area is in this compartment.

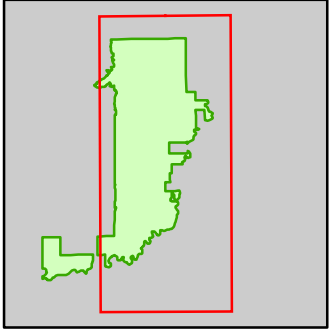
Fire Protection:

Between the wet stands along the Manistee River and the large open areas, wildfire risk in this compartment is relatively low. Due to the remoteness of this compartment, however, response time would be lengthy if a fire did start.

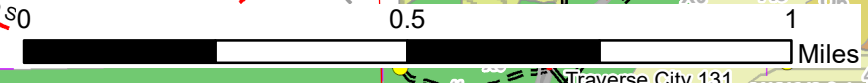
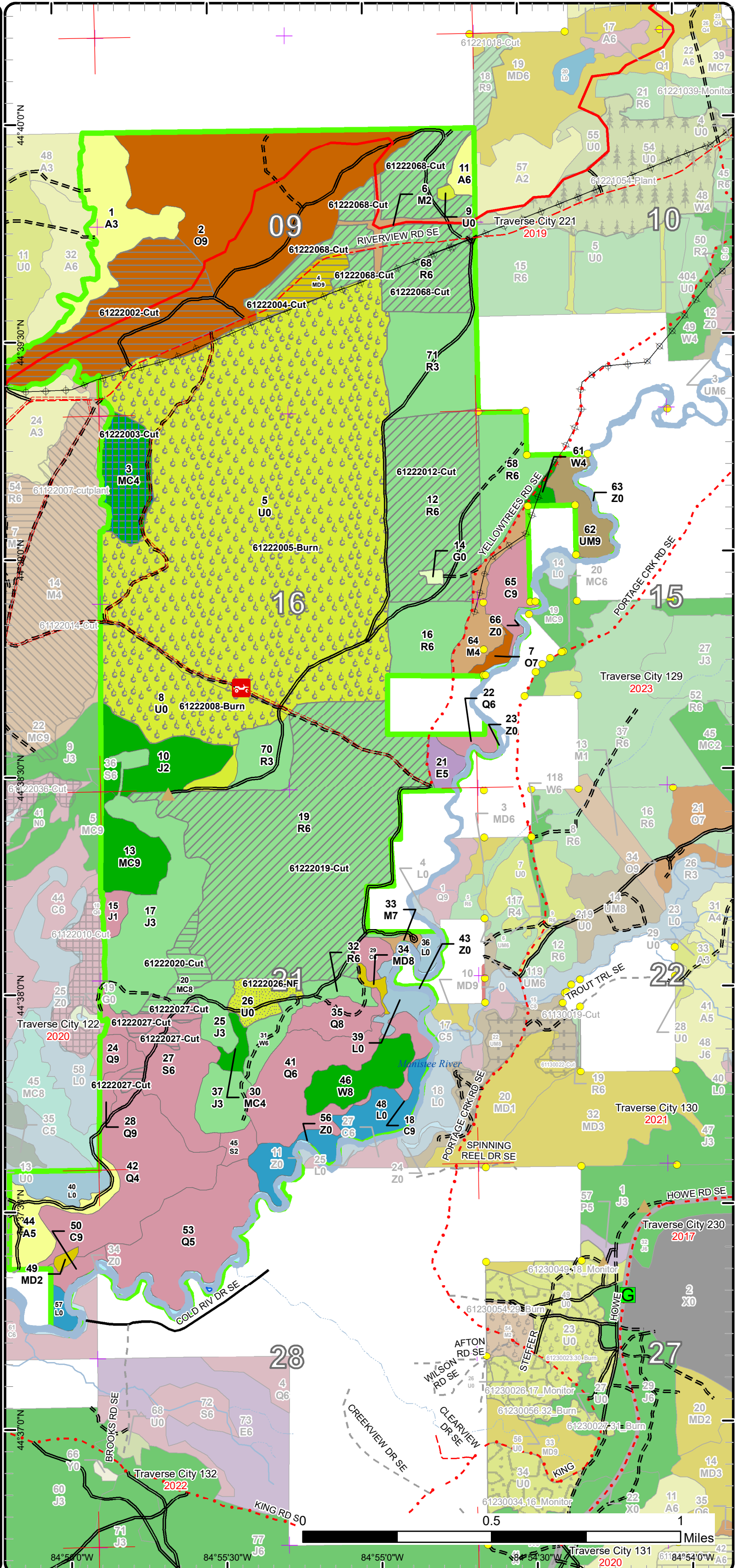
Additional Compartment Information:

Cover Type & Treatments Map

Compartment: 222
 T26N-R05W Sec. 09,16,21
 T26N-R05W Sec. 28 and 29
 County: Kalkaska
 Unit: Traverse City
 Mgmt Area: Kalkaska Sandy Moraines
 YOE: 2025
 Acres: 2000.2 GIS Calculated
 Examiner: Steve Crigier
 Map Revised: 5/12/2023
 Map Phase: Pre-Review



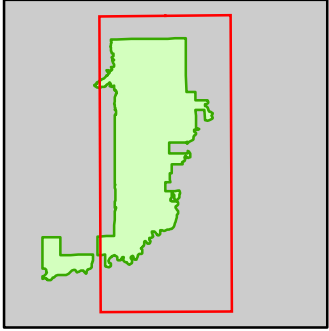
- Miris Corners
- + Remonumented Section Corners
- Survey Grade Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
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- 629 - Mixed Non-forested Wetland



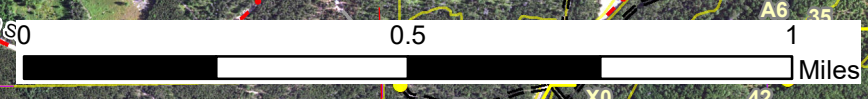
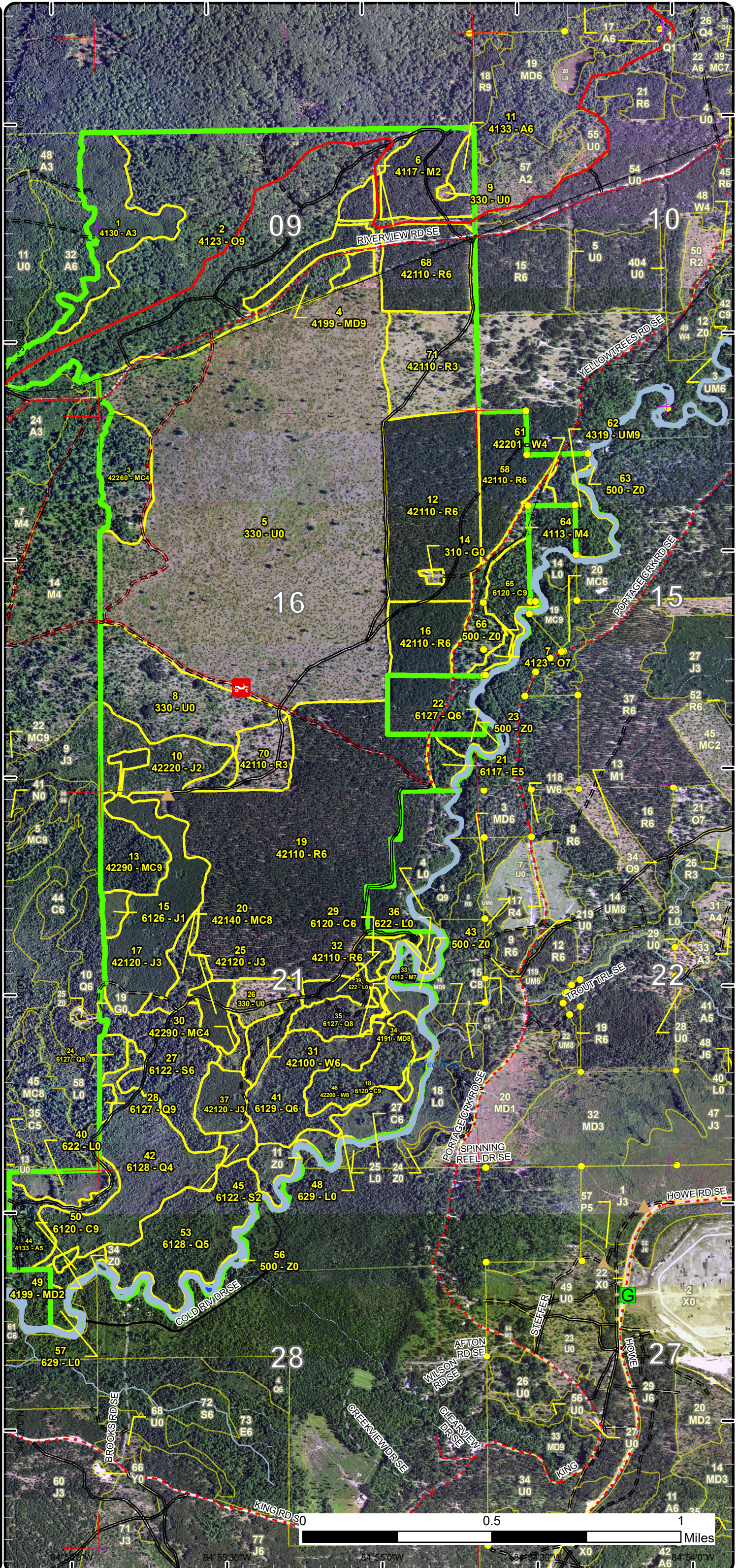
Traverse City 122 2020
 Traverse City 129 2023
 Traverse City 130 2021
 Traverse City 131 2020
 Traverse City 132 2022
 Traverse City 221 2019
 Traverse City 230 2017

Stand Boundary Map

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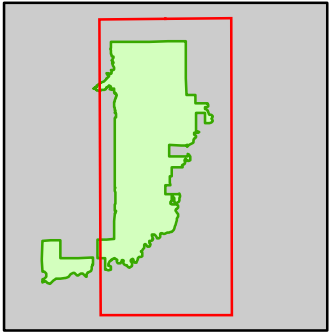
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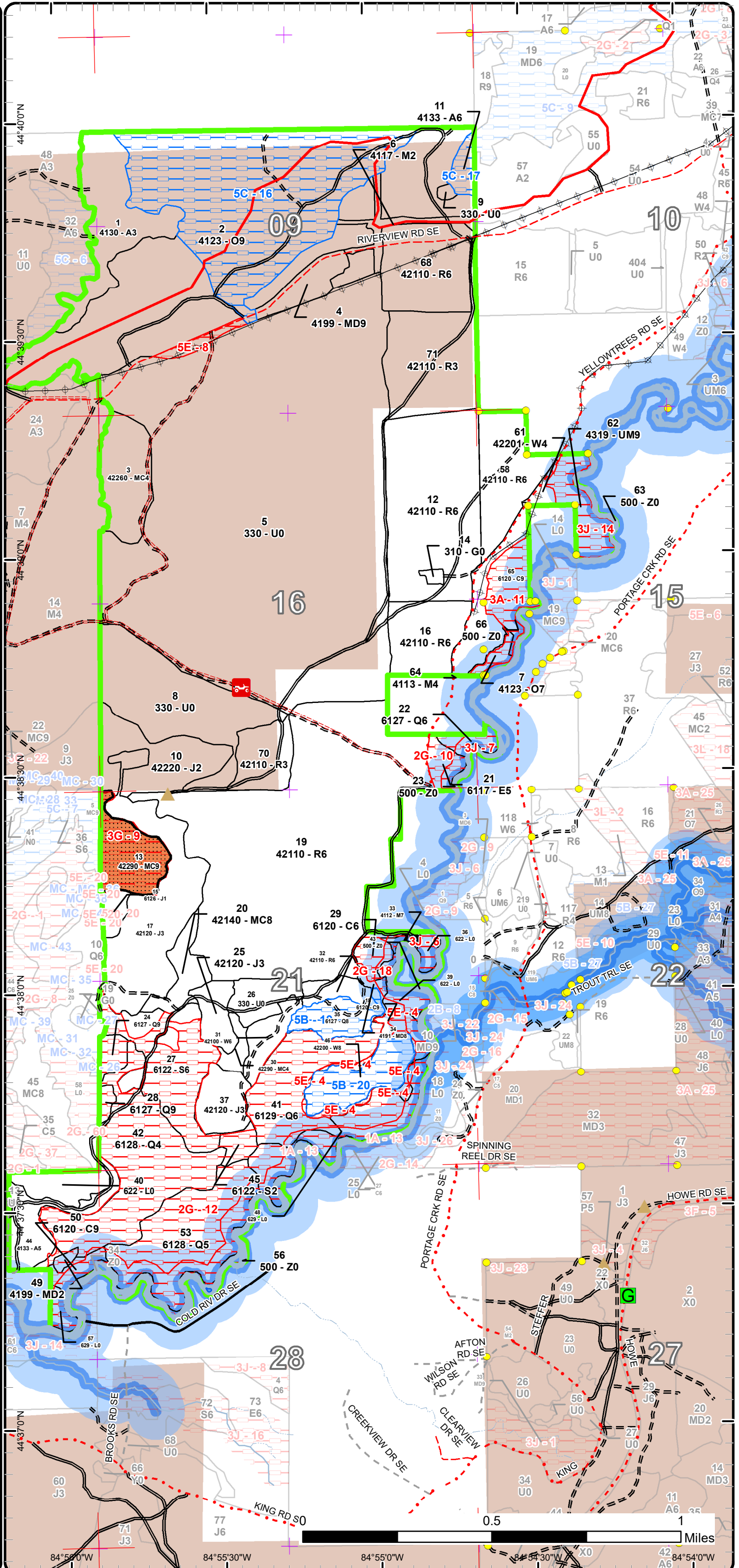
84° 55' 30" W 84° 55' 30" W 84° 55' 30" W 84° 55' 30" W

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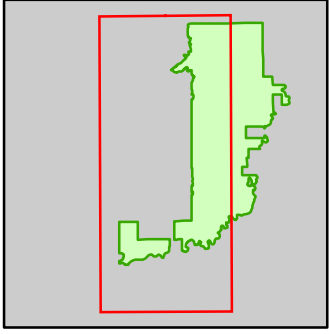


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- High Priority Trout Stream Buffer
- Research, Development, and Military Lands
- Boat Access Site
- Other Habitat Area

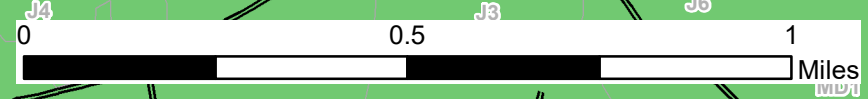
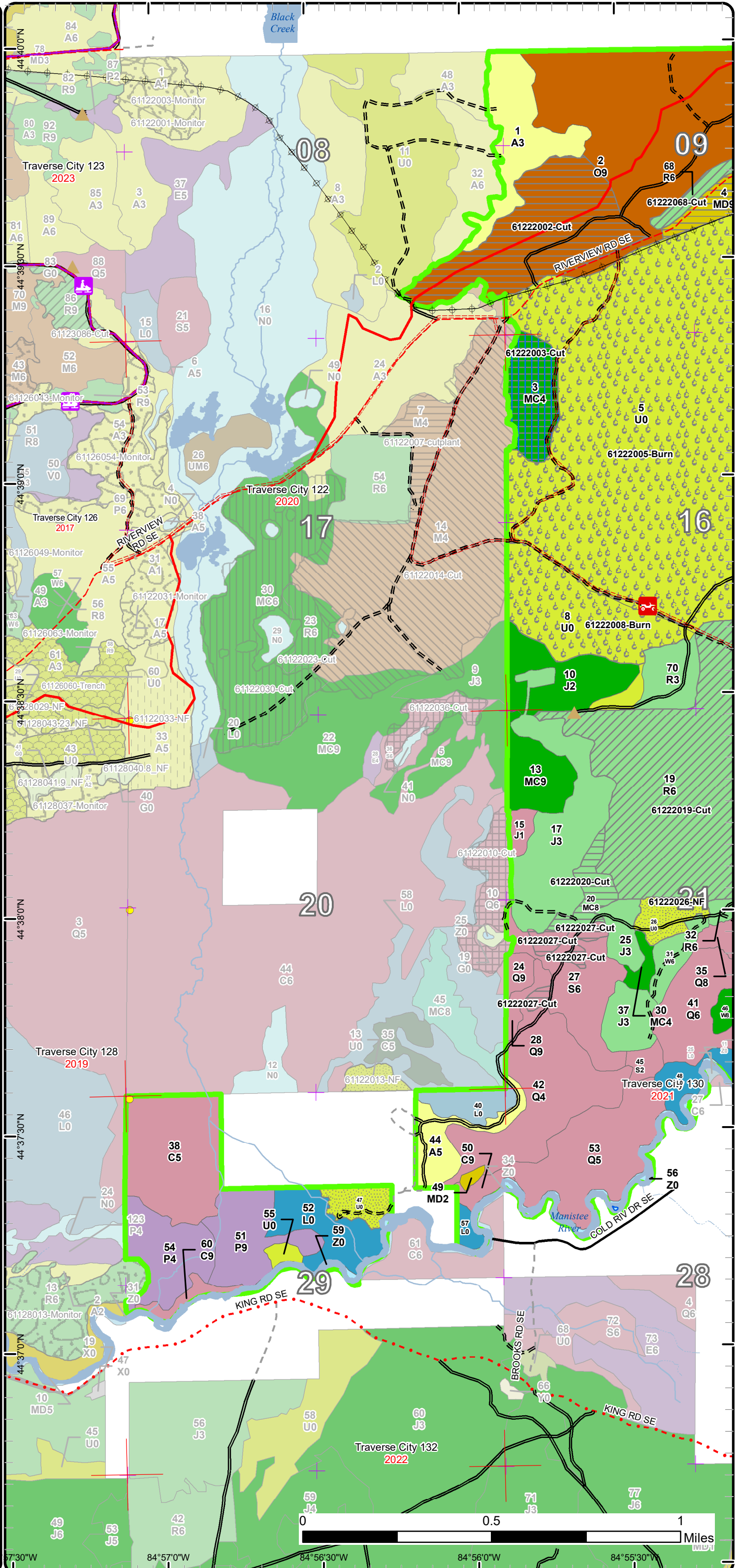


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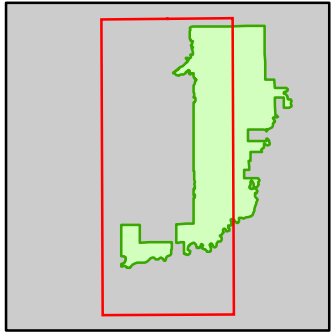
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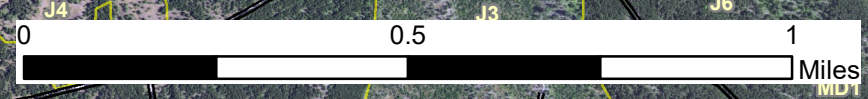
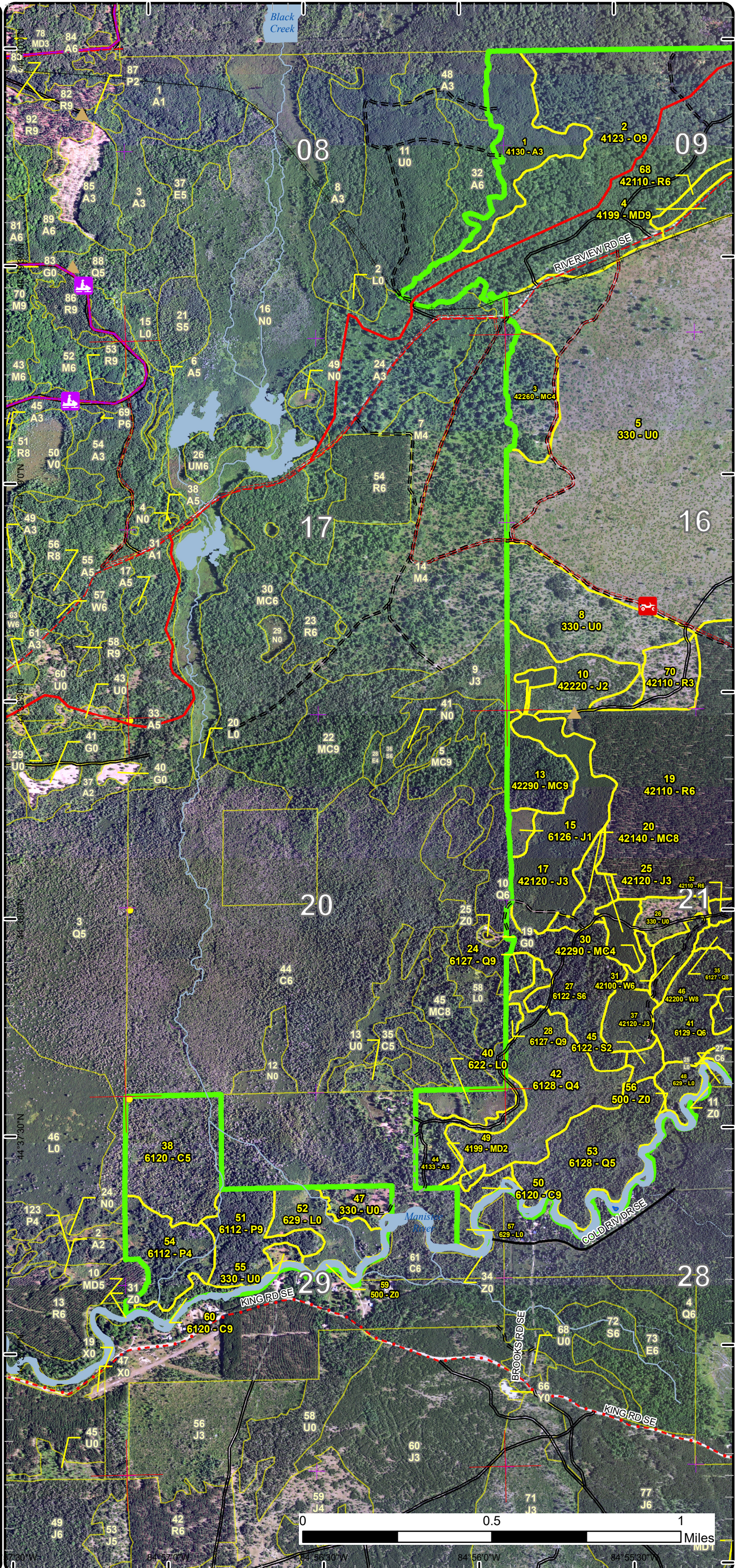
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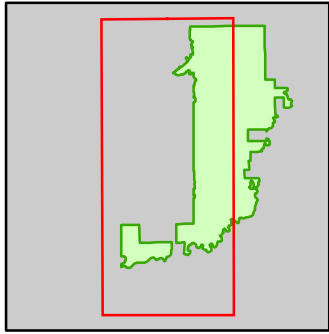
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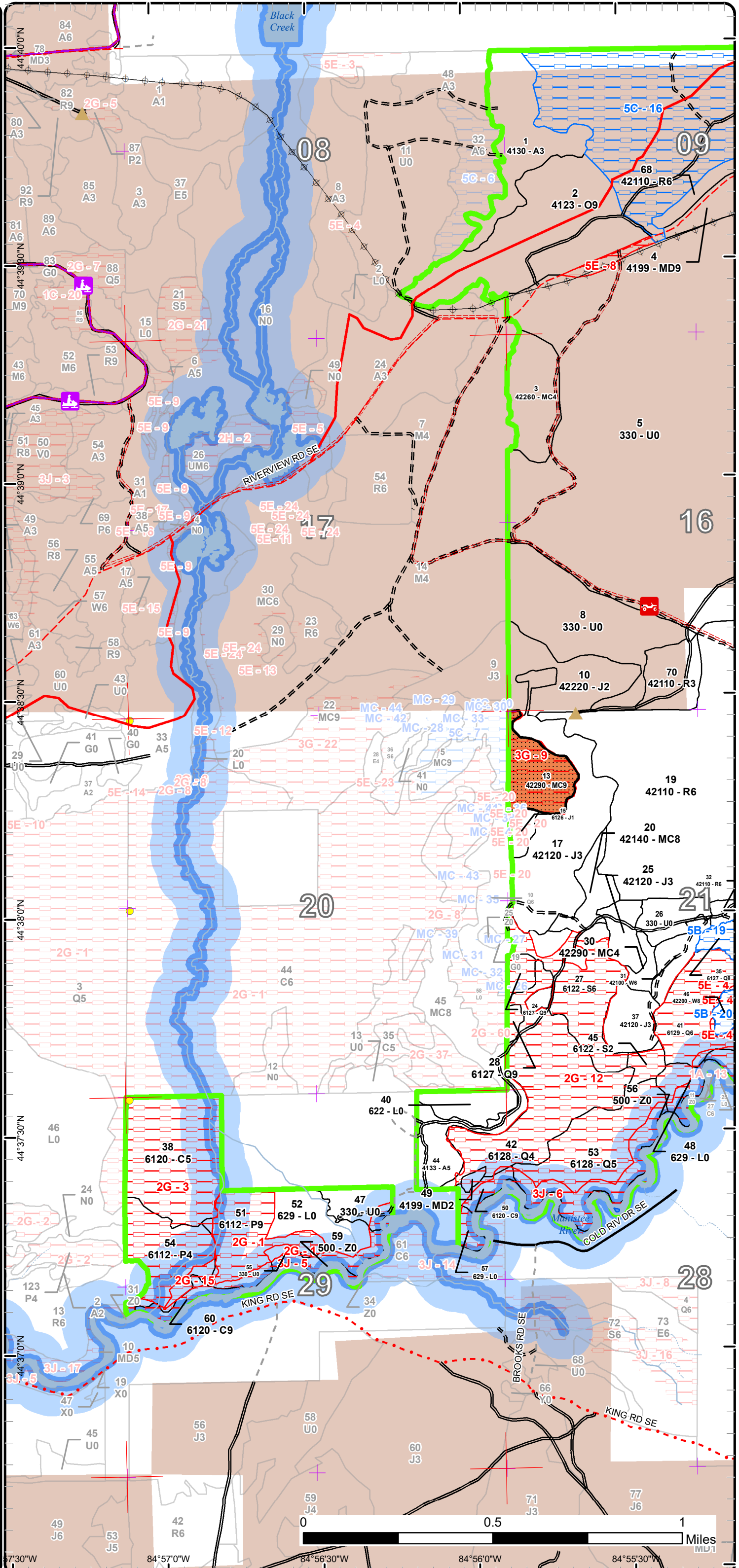
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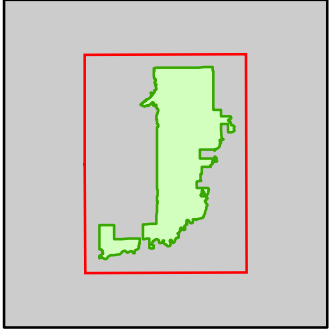


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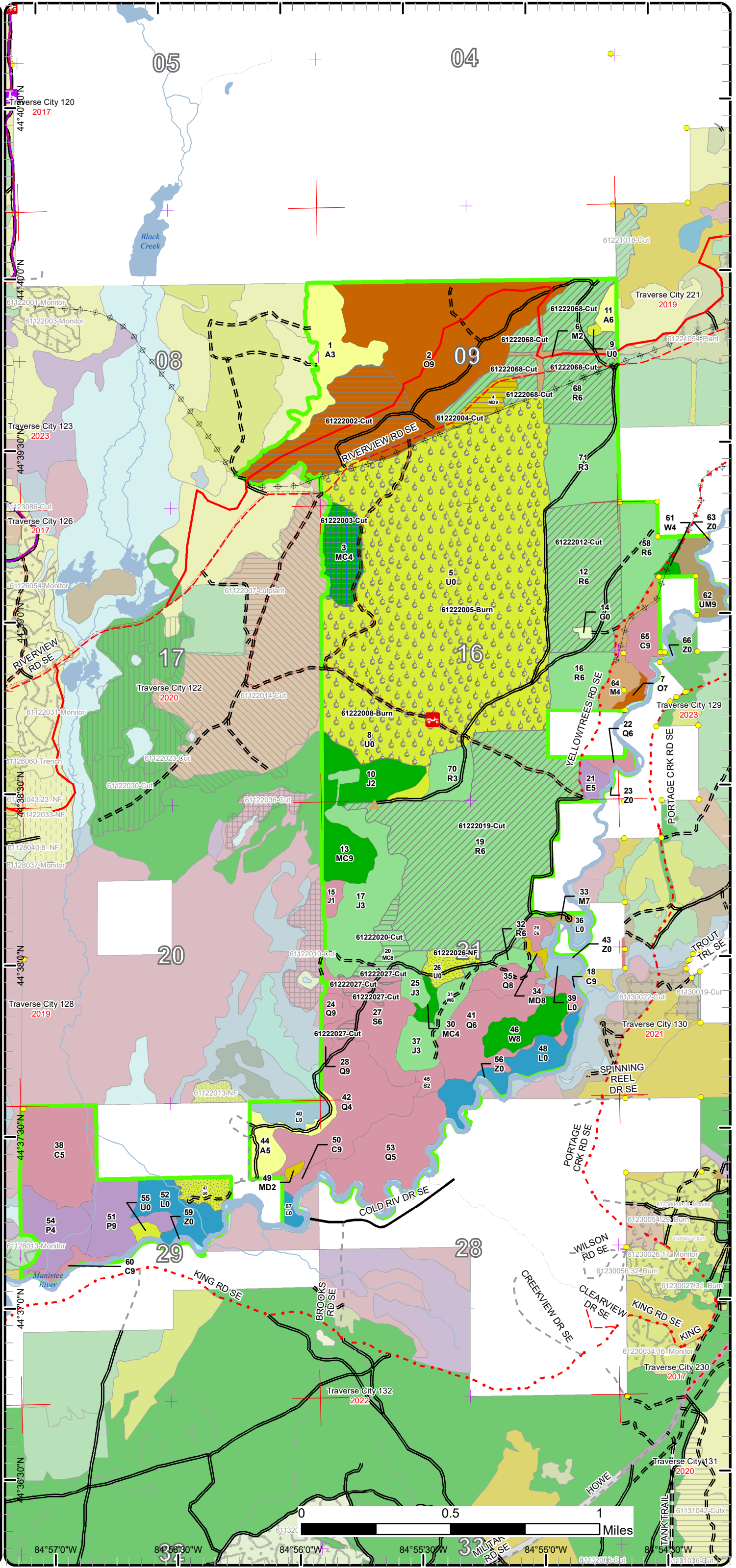


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The following reports from the Inventory are attached:

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

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

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

Report 1 – Total Acres by Cover Type and Age Class



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	0	0	0	37	18	5	0	0	0	0	0	0	0	0	0	0	0	60
Cedar	0	0	0	0	0	0	0	0	0	0	10	14	0	57	5	0	0	0	86
Herbaceous Openland	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Jack Pine	0	0	0	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109
Low-Density Trees	509	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	509
Lowland Aspen/Balsam Poplar	0	0	0	0	29	0	28	0	0	0	0	0	0	0	0	0	0	0	57
Lowland Conifers	0	0	0	0	0	0	0	0	0	49	66	14	0	38	5	0	0	0	171
Lowland Deciduous	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6
Lowland Shrub	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74
Lowland Spruce/Fir	0	0	0	0	0	0	0	5	0	0	0	40	0	0	0	0	0	0	45
Mixed Upland Deciduous	0	0	0	0	0	1	0	0	2	0	0	0	11	0	0	0	0	0	14
Natural Mixed Pines	0	0	0	0	0	29	0	0	0	0	0	0	20	0	0	0	0	0	49
Northern Hardwood	0	0	0	0	8	16	0	0	0	0	2	0	0	0	0	0	0	0	26
Oak	0	0	0	0	0	0	0	0	0	0	3	211	0	0	0	0	0	0	214
Planted Mixed Pines	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	12
Red Pine	0	59	0	0	0	0	29	398	0	0	0	0	0	0	0	0	0	0	486
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	14
Water	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34
White Pine	0	0	0	0	0	0	0	10	0	0	0	0	0	19	0	0	0	3	32
Total	618	59	0	111	74	64	72	415	2	49	81	293	31	114	16	0	0	3	1999



Report 2 – Treatment Summary

Traverse City Mgt. Unit
Year of Entry: 2025

Acres of Harvest

Compartment 222
Total Compartment Acres: 2,000

Commercial Harvest - 495
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
Lowland Spruce/Fir	9	0	0	0	0	0	0	0	0	9
Mixed Upland Deciduous	11	0	0	0	0	0	0	0	0	11
Natural Mixed Pines	0	0	0	25	0	0	0	0	0	25
Oak	73	0	0	0	0	0	0	0	0	73
Planted Mixed Pines	12	0	0	0	0	0	0	0	0	12
Red Pine	0	0	0	0	0	366	0	0	0	366
Total	105	0	0	25	0	366	0	0	0	495

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	495	0	0	0	479	0	0	0	21	995
Next Step	0	0	0	0	119	0	130	0	479	728
Total	495	0	0	0	598	0	130	0	500	1723



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

2	61222002-Cut	73.1	4123 - Red Oak	Sawtimber Well	101	51-80	Harvest	Clearcut with Retention	412 - Oak Types	Even-Aged	No
<p><u>Prescription</u> Look at treating the west half with a clearcut. Protect as much regen as possible and leave 1-2 trees/ac of preferably white oak for mast <u>Specs:</u> /seed. May want to chip for scarification and /or a follow up treatment (burn) is necessary. Oak wilt spec with no exemptions as well as low stumps. ORV trail runs mid slope and will be a challenge to protect. May look to reroute to the ridge top.</p> <p><u>Next Step</u> Burn, Other; Monitoring, Natural Regen (Re-Inventory) <u>Treatments:</u></p> <p><u>Acceptable</u> Moderately stocked oak, aspen, pine, maple. <u>Regen:</u></p> <p><u>Other</u> Stand is on some moderately steep terrain. Retention is designated south of Riverview Road but can look for an additional opportunity in the <u>Comment:</u> western tip. May look to burn post harvest to encourage oak sprouting.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2024</p>											
3	61222003-Cut	24.9	42260 - Natural Pine, Mixed Deciduous	Poletimber Poor	40	1-50	Harvest	Seed Tree	31021 - Cool Season Grass		No
<p><u>Prescription</u> Reduce wood vegetation in preparation for a prescribe burn/ barren restoration. Mark to leave scattered large diameter oak and white pine. <u>Specs:</u> Spacing between leave trees should be 50-100 ft. Leave any witch hazel and service berry. Also mark a few cherry trees to leave as well. Apply EMR seasonal restriction to this sale.</p> <p><u>Next Step</u> Burn, Opening; Monitoring, Natural Regen (Re-Inventory) <u>Treatments:</u></p> <p><u>Acceptable</u> cool and warm season grasses. <u>Regen:</u></p> <p><u>Other</u> Look to pair with with adjacent sale '122 Pothole'. This sale is currently under contract with Precision Forestry. <u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 8 /1 /2023</p>											
4	61222004-Cut	11.0	4199 - Other Mixed Upland Deciduous	Sawtimber Well	113	81-110	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	No
<p><u>Prescription</u> Final harvest stand. Save all pine and mark some oak to leave for mast. Protect the oak regen during harvest. Oak wilt restriction. <u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory) <u>Treatments:</u></p> <p><u>Acceptable</u> moderate stocked oak, aspen, maple, pine. <u>Regen:</u></p> <p><u>Other</u> <u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2024</p>											



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
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5	61222005-Burn	425.9	330 - Low-Density Trees	Nonstocked		Unspecified	Burn	Opening	3105 - Mixed Upland Herbaceous	No
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Prescription Burn on a rotational basis. The goal of prescribed burning is to restore and/or maintain a grassland/barrens ecosystem. The timing and frequency of the burns will be based on current needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods. Maintain as needed with mowing, seeding of native grasses and forbs, planting native mast bearing shrubs or trees, burning, or removal of woody encroachment.

Next Step NonForestMgt, Other - Specify
Treatments:

Acceptable Grassland with scattered trees and shrubs.
Regen:

Other Remove exotics as needed. Maintain as needed with mowing, seeding of native grasses and forbs, planting native mast bearing shrubs or trees, burning, or removal of woody encroachment.
Comment:

Site Condition

Proposed Start Date: 10/1 /2024

8	61222008-Burn	53.2	330 - Low-Density Trees	Nonstocked	0	Unspecified	Burn	Opening	3105 - Mixed Upland Herbaceous	No
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Prescription Burn this stand at least once per entry period in order to set back woody encroachment, increase species diversity, stimulate native herbaceous vegetation, promote berry production, and recycle nutrients. The timing and frequency of the burns will be based on current needs of restoration such as reducing woody encroachment or promoting grasses versus forbs.

Next Step NonForestMgt, Other - Specify
Treatments:

Acceptable Grassland with scattered trees and shrubs.
Regen:

Other Remove exotics as needed. Maintain as needed with mowing, seeding of native grasses and forbs, planting native mast bearing shrubs or trees, burning, or removal of woody encroachment.
Comment:

Site Condition

Proposed Start Date: 10/1 /2024

12	61222012-Cut	75.8	42110 - Planted Red Pine	Poletimber Well	66	171-200	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	No
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Prescription Thin stand for a second time. Target BA of 120-140.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Site Condition

Proposed Start Date: 10/1 /2024



Standard

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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19	61222019-Cut	207.3	42110 - Planted Red Pine	Poetimber Well	61	141-170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	No
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Prescription Stand is ready for a second thinning. Thin stand down to 120-140 sqft/ac.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Some areas of tight rows but most of them looked operable.

Comment:

Site Condition

Proposed Start Date: 10/1 /2024

20	61222020-Cut	11.6	42140 - Planted Mixed Pine	Sawtimber Medium	61	81-110	Harvest	Clearcut with Retention	429 - Mixed Upland Conifers	Even-Aged	No
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Prescription Final harvest all the jack pine. In the red pine plantation portion mark to leave about 20 sqft/ac of red pine to leave for seed and shelter.

Specs: Avoid damaging any white pine or oak advanced regen. This treatment is within the EMR managed lands. Apply appropriate cutting restrictions.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Low to moderately stocked Jack pine, white pine, red pine, spruce.

Regen:

Other

Comment:

Site Condition

Proposed Start Date: 10/1 /2024

26	61222026-NF	10.9	330 - Low-Density Trees	Nonstocked			NonForestMgt	Mowing	3205 - Mixed Upland Shrub		No
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Prescription Brush hog (or hand fell) around select leave trees and/or patches . Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. Could plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. Fertilize plantings and protect with wire cages or tubex. Considering establishing native herbaceous/forbs ground cover for wildlife food source.

Next Step Burn, Opening

Treatments:

Acceptable

Regen:

Other Apply EMR specs.

Comment:

Site Condition

Proposed Start Date: 10/1 /2024

27	61222027-Cut	8.9	6122 - Black Spruce	Poetimber Well	103	81-110	Harvest	Clearcut with Retention	6122 - Black Spruce	Even-Aged	No
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Prescription Final harvest pockets of spruce. Stand has several drainages and were left out of the treatment but adjust sale boundary appropriately if needed. Cut all spruce greater than 2". Leave any white pine, cedar, oak and hemlock. This treatment is within the EMR managed lands. Apply appropriate cutting restrictions.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Moderately stocked spruce, fir, pine, oak, aspen, maple.

Regen:

Other Recommend a winter harvest and look to pair with stand 20 and possibly stand 19.

Comment:

Site Condition

Proposed Start Date: 10/1 /2024



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
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47	61222047-NF	10.1	330 - Low-Density Trees	Nonstocked		Immature	NonForestMgt	Mowing	3205 - Mixed Upland Shrub	No
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Prescription Brush hog (or hand fell) around select leave trees and/or patches . Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. Could plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. Fertilize plantings and protect with wire cages or tubex. Considering establishing native herbaceous/forbs ground cover for wildlife food source.

Next Step Burn, Opening

Treatments:

Acceptable

Regen:

Other Will need to access across private property. Apply EMR specs.

Comment:

Site Condition

Proposed Start Date: 10/1 /2024

68	61222068-Cut	82.6	42110 - Planted Red Pine	Poletimber Well	61	141-170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	No
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Prescription Stand is ready for a second thinning. Target BA of 120-140.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Fiber optic cable is present south of Riverview rd will need protected during harvest. Include stand 18 of compartment 221.

Comment:

Site Condition

Proposed Start Date: 10/1 /2024

Total Treatment 995.3
Acreage Proposed:

Report 4 – Site Conditions

Traverse City Mgt. Unit
Steve Crigier : Examiner

Compartment: 222
Year of Entry: 2025

Availability for Management

Total Acres	Acres Available	Acres Available With Condition	Acres Not Available
60	55	5	0

Dominant Site Conditions

	Total Acres	Acres Available	Acres Available With Condition	Acres Not Available	Dominant Site Conditions							
					5B	5C	2G	3A	3G	3J	5E	
60	55	5	0		Aspen	5	0					
86	0	0	85		Cedar		56	14		13	2	
1	1	0	0		Herbaceous Openland							
110	109	0	0		Jack Pine		0		0			
509	505	0	3		Low-Density Trees					3		
57	0	0	57		Lowland Aspen/Balsam Poplar			53			4	
172	1	12	158		Lowland Conifers	12		133			22	3
6	0	0	6		Lowland Deciduous			4			2	
74	31	0	43		Lowland Shrub			12			31	0
45	10	0	35		Lowland Spruce/Fir			35				
14	12	0	2		Mixed Upland Deciduous			1			1	
49	29	0	20		Natural Mixed Pines			0		20		
25	24	0	2		Northern Hardwood						2	
214	74	134	7		Oak		134		3			4
12	12	0	0		Planted Mixed Pines							
487	486	0	0		Red Pine						0	
14	0	0	14		Upland Mixed Forest						14	
34	5	0	30		Water						30	
31	12	19	0		White Pine	19		0			0	0
2,001	1,368	170	463		Total Forested Acres	31	139	295	17	20	122	9
	68%	8%	23%		Relative Percent							

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

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	25	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Traverse City Mgt. Unit

Steve Crigier : Examiner

Compartment: 222

Year of Entry: 2025

3	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	75	3H: Deer Wintering Area - habitat is incompatible with harvest at this time	Unspecified	Unspecified	Unspecified
Comments: Very wet. Part of Black Creek Deeryard.							
4	Unavailable	5E: Long-Term Retention	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	25	(Inactive)3C: Legally Designated Quiet Area, Natural Area, or Wilderness	Unspecified	Unspecified	Unspecified
Comments: Upper Manistee River is Designated Natural River. Within Native Vegetation Buffer for Manistee River (175 feet) or tributary (Black Creek, 50 feet).							
6	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	76	(Inactive)3C: Legally Designated Quiet Area, Natural Area, or Wilderness	Unspecified	Unspecified	Unspecified
Comments: Manistee River Natural River Corridor. Within Native Vegetation Buffer for Manistee River (175 feet).							
7	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	7	(Inactive)3C: Legally Designated Quiet Area, Natural Area, or Wilderness	Unspecified	Unspecified	Unspecified
Comments: Manistee River Natural River Corridor. Within Native Vegetation Buffer for Manistee River (175 feet).							
8	Unavailable	5E: Long-Term Retention	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Traverse City Mgt. Unit

Steve Crigier : Examiner

Compartment: 222

Year of Entry: 2025

9	Unavailable	3G: Other Influence zones - See comments	20	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Older natural pine stand with good vertical structure. Allow natural processes to dominate.							
10	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
11	Unavailable	3A: Conservation Values incompatible with harvest at this time	17	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments: Manistee River, natural river buffer.							
12	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	183	5D: Unproductive Forest Land	Unspecified	Unspecified	Unspecified
Comments: Wet stands and parts are also unproductive supporting only small trees.							
14	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	14	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
15	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Traverse City Mgt. Unit
Steve Crigier : Examiner

Compartment: 222
Year of Entry: 2025

16	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	134	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
17	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
18	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
19	Available	5B: Maintain for regeneration purposes	12	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
20	Available	5B: Maintain for regeneration purposes	19	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 Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																								
1	4130 - Aspen	Sapling Well	37.2	30	Immature	N/A	2023- Very well stocked aspen stand. Starting to convert to pole timber.																																																								
<table border="1"> <thead> <tr> <th>Canopy Species</th> <th>% Cover</th> <th>Size Class</th> <th>DBH</th> <th>Age</th> </tr> </thead> <tbody> <tr> <td>Bigtooth Aspen</td> <td>70</td> <td>Sapling/Pole</td> <td>4</td> <td>30</td> </tr> <tr> <td>Red Oak</td> <td>10</td> <td>Sapling/Pole</td> <td>3</td> <td></td> </tr> <tr> <td>Red Maple</td> <td>15</td> <td>Sapling/Pole</td> <td>3</td> <td></td> </tr> <tr> <td>Black Cherry</td> <td>5</td> <td>Sapling</td> <td>1</td> <td></td> </tr> </tbody> </table>		Canopy Species	% Cover	Size Class	DBH	Age	Bigtooth Aspen	70	Sapling/Pole	4	30	Red Oak	10	Sapling/Pole	3		Red Maple	15	Sapling/Pole	3		Black Cherry	5	Sapling	1		<table border="1"> <thead> <tr> <th>Sub-Canopy Species</th> <th>Density</th> <th>Avg. Height</th> <th>Size</th> </tr> </thead> <tbody> <tr> <td>Beech</td> <td>Trace</td> <td>5 - 10 feet</td> <td>Sapling</td> </tr> </tbody> </table>		Sub-Canopy Species	Density	Avg. Height	Size	Beech	Trace	5 - 10 feet	Sapling	<p>2013 -Clearcut in summer 1993 as Red Line Aspen, 61-016-93-01. Continues into and accessed via Compartment 122, Stand 48. Military lease land.</p>																										
Canopy Species	% Cover	Size Class	DBH	Age																																																											
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2	4123 - Red Oak	Sawtimber Well	211.0	101	51-80	N/A	2023- A low to medium amount of oak regen, mostly in the western 1/3 of the stand. Most of which is stunted in growth or has been browsed. Larger timber on the south end in the flats. smaller and poor quality trees on the hill top to the north. Northeastern part of the stand has mostly red maple in the understory.																																																								
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Canopy Species	% Cover	Size Class	DBH	Age																																																											
White Oak	15	Log/Pole	11																																																												
Red Oak	70	Log	13	101																																																											
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Bigtooth Aspen	Low	10 - 20 feet	Sapling																																																												
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3	42260 - Natural Pine, Mixed Deciduous	Poletimber Poor	24.9	40	1-50	N/A	Steve Griffith 11/30/22-This stand has a history of prescribed burning. On FTP W62-455 of 1962 it was part of burn unit 3 and 4. I think that it the WP 9.9" dbh and smaller were removed from this stand, with possibly few additional trees, it would be burnable. Discuss with FRD! The center third of this stand just has shrubs and saplings for woody veg. Also found throughout the stand little bluestem, blueberry, sweetfern, Juneberry, witch hazel, prairie willow, and old plow lines.																																																								
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4	4199 - Other Mixed Upland Deciduous	Sawtimber Well	11.0	113	81-110	N/A	2013 -Variable stand, more aspen at eastern end and western end gradually transitions into U-type. Poor quality oak but significant oak regeneration in some places. Aspen is ready for treatment. Very heavy browse on red maple and other seedlings. OI treatment was delayed for age/size class diversity. Military lease land.																																																								
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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5	330 - Low-Density Trees	Nonstocked	428.2		Unspecified	Managed Opening	11/30/22-I found little bluestem, poverty grass, with scattered single stem clumps of bracken throughout this upland brush stand. Multi-stemmed black cherry saplings were also scattered evenly across the stand. Other plants observed were some sweetfern, sedge spp., blueberry spp., St. John's wort, the occasional black cherry pole, occasional oak spp. poles and logs, and occasional white pine, red pine, and jack pine logs, poles, and some saplings/seedlings. I did see one log sized red maple. The two areas of this stand west of the two track/orv trail were feconed in 2021, as well as the portion in the SE corner cut off from the main burn unit by the two track.				
								Sub-Canopy Species	Density	Avg. Height	Size
								Black Cherry	Medium	< 5 feet	Sapling
								Oak (spp.)	Low	>20 feet	Log
								Pines (spp.)	Trace	>20 feet	Log
								Pines (spp.)	Trace	5 - 10 feet	Sapling
								Blueberry/Bilberry/Cranberry	Low	< 5 feet	Tall Shrub
								Little Bluestem	Full	Unspecified	Non-Wood
								Sweet Fern	Low	< 5 feet	Tall Shrub
								Bracken Fern	Low	Unspecified	Non-Wood
Sedges	Medium	Unspecified	Non-Wood								

6	4117 - Mixed N. Hardwood - Pine	Sapling Medium	7.6	31	Immature	N/A	This stand is intended to serve as a firebreak around the planted red pine. It is heavily filling in with aspen, pine, and black cherry. The ORV trail runs through the north and east "arms" of the cross. Military lease land.
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Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Sapling	2	
Quaking Aspen	5	Sapling	2	61
White Pine	10	Sapling/Pole	2	
Northern Pin Oak	5	Sapling/Pole	4	
Jack Pine	5	Sapling/Pole	2	
Red Pine	10	Sapling/Pole	4	
Black Cherry	55	Sapling	2	31

7	4123 - Red Oak	Sawtimber Poor	3.1	96	1-50	N/A	2017 - Open grown poor quality oak. Is dead or declining.
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Canopy Species	% Cover	Size Class	DBH	Age
White Pine	10	Pole	9	
Red Oak	80	Log/Pole	12	96
Red Maple	10	Pole/Log	9	

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

8	330 - Low-Density Trees	Nonstocked	55.6	0	Unspecified	Managed Opening	2023 - There are several pockets of pole sized jack pine. 2022 - Military lease land. 11/30/22-I found little bluestem, poverty grass, with scattered single stem clumps of bracken throughout this upland brush stand. Multi-stemmed black cherry saplings were also scattered evenly across the stand. Other plants observed were some sweetfern, sedge spp., blueberry spp., St. John's wort, the occasional black cherry pole, occasional oak spp. poles and logs, and occasional white pine, red pine, and jack pine logs, poles, and some saplings/seedlings.
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9	330 - Low-Density Trees	Nonstocked	1.0			No	Abandoned well site (plugged 1994) that is filling in with cherry and other brushy vegetation. Used as landing and bermed at southwest corner. Military lease land.
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Sub-Canopy Species	Density	Avg. Height	Size
Black Cherry	Low	Variable	Sapling
Jack Pine	Low	Variable	Sapling



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments			
10	42220 - Natural Jack Pine	Sapling Medium	28.6	28	Immature	N/A	2023 - stand is starting to fill in a bit. Stand is starting to convert to pole sized timber. 2013 -Clearcut (except oak) in winter 1995-1996 as part of Yellowtree Jack Pine sale, 61-014-93-01. Most of the clearcut area was trenched and seeded but this was not. Regeneration was spotty since much of the western part of the stand appears rather wet. Military lease land.			
Canopy Species		% Cover	Size Class	DBH	Age					
Jack Pine		95	Sapling/Pole	4	28					
Black Cherry		5	Sapling/Pole	3						
11	4133 - Aspen, Mixed Pine	Poletimber Well	5.3	50	51-80	N/A	2023 - Fairly small diameter aspen with a developing white pine understory. Overstory looks healthy. 2013 - Variable stand. Mostly aspen with some pine at south end and scattered oaks. Military lease land.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Quaking Aspen		60	Pole	7	50	Oak (spp.)		Low	10 - 20 feet	Sapling
White Pine		30	Log/Pole	12		White Pine		High	Variable	Sapling
Red Maple		10	Pole/Sapling	5		Black Cherry		Low	10 - 20 feet	Sapling
12	42110 - Planted Red Pine	Poletimber Well	75.8	66	171-200	N/A	2023 - BA: 190, 140, 210, 180. Rows are fairly tight. Canopy is closed in. 2013 -Third row thinned as part of Yellow Trees Red Pine sale, 61-024-05-01, completed July 2009. Included 33' clearcut area along eastern edge of stand to serve as a firebreak. Very few non-pine trees within rows.			
Canopy Species		% Cover	Size Class	DBH	Age					
Black Cherry		2	Pole	8						
Red Pine		95	Pole/Log	8	66					
Northern Pin Oak		3	Log	14						
13	42290 - Natural Mixed Pine	Sawtimber Well	20.0	111	141-170	N/A	2013 -Variable stand. Probably upland overall but is wetter around the edges especially the western edge and in interior pockets. Canopy is large red and white pine with understory of spruce. Biggest pine is in the southern 2/3 of stand with more jack pine and spruce in canopy at north end. Western edge of stand seems wetter and is more of a spruce stand. Evidence of significant deer numbers. Very heavy browse on red maple seedlings. Evidence of past fire. A few rows of planted red pine at very northern tip of stand.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
White Pine		35	Log/XLog	17		Black Spruce		Medium	Variable	Sapling
Red Pine		35	Log/XLog/Pole	14	111	White Pine		Trace	Variable	Sapling
Black Spruce		15	Pole	8		Red Maple		Low	>20 feet	Pole
Jack Pine		10	Pole	8						
Red Maple		5	Pole/Log	9						
14	310 - Herbaceous Openland	Nonstocked	1.3		Unspecified	No	Former well pad (plugged 1971 or 1985). Very open with a few shrubby cherry trees.			
Sub-Canopy Species		Density	Avg. Height	Size						
Black Cherry		Low		Sapling						
15	6126 - Lowland Jack Pine	Sapling Poor	4.5	28	Immature	N/A	2013 - Clearcut (except oak) in winter 1995-1996 as part of Yellowtree Jack Pine sale, 61-014-93-01. Then trenched and seeded with jack pine seeds. This part of plantation appears rather wet and regeneration was poor.			
Canopy Species		% Cover	Size Class	DBH	Age					
Jack Pine		100	Sapling	3	28					
16	42110 - Planted Red Pine	Poletimber Well	23.6	66	111-140	N/A	2023- BA: 120, 190, 170, 130. Rows are pretty tight. Canopies haven't quite expanded out yet. 2017 -Purchased from Consumers Power in 1994 but had a private lease until 2011. Row-thinned fall 2017. Did not cut ows areas much dead oak as we would have liked because of markets/issues with county road commission.			
Canopy Species		% Cover	Size Class	DBH	Age					
Red Pine		95	Pole/Log	8	66					
Northern Pin Oak		3	Log	13						
Black Cherry		2	Pole	9						



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments	
17	42120 - Planted Jack Pine	Sapling Well	53.4	28	Immature	N/A	2023 - Very dense stocking. Small diameter trees. Looks to be heavily used by deer in the winter. 2013 - Clearcut (except oak) in winter 1995-1996 as part of Yellowtree Jack Pine sale, 61-014-93-01. Then trenched and seeded with jack pine seeds. OI noted some issues with regeneration due to deer browse and blister rust. Problems appear patchy. A few overstory oaks and some seedling-/sapling-sized spruce. Drainage runs through stand in southwest corner.	
Canopy Species		% Cover	Size Class	DBH	Age			
Northern Pin Oak		5	Pole/Sapling	5				
Jack Pine		95	Sapling	3	28			
18	6120 - Lowland Cedar	Sawtimber Well	5.8	123	111-140	N/A	2023 - This stand is dominated by cedar and low ground. Scattered large red and white pine. Part of Stand 46 that was not treated due to wet ground and/or proximity to Manistee River. Original data (2/4/2013): Stand includes upland and lowland areas and is wetter along edges. Contains some very large white pine but BA is low overall due to scattered canopy gaps. Heavy white pine understory but mostly suppressed. Some cedar and red pine in the understory is reaching pole size. Evidence of past fire and high deer activity.	
Canopy Species		% Cover	Size Class	DBH	Age			
Red Pine		10	Log/Pole	13				
Paper Birch		5	Log/Pole	10				
Northern White Cedar		50	Log/Pole	10	123			
Red Maple		15	Pole/Log	8				
White Pine		20	XLog/Log	20	123			
Sub-Canopy Species		Density	Avg. Height	Size				
White Pine		Trace	Variable	Sapling				
19	42110 - Planted Red Pine	Poletimber Well	208.9	61	141-170	N/A	2023 - Some areas have tight row spacing but for the most part the row spacing is operable. Canopy is closed together. Some areas of lower stockings. B.A.: 190, 170, 130, 150, 170, 160. 2013- Third row thinned as part of Yellow Trees Red Pine sale, 61-024-05-01, completed July 2009. Moderate slash as you would expect from recent thinning. Road has been rerouted to basically follow state/private boundary along much of eastern edge of stand. Occasional large oak and pine in the middle of rows.	
Canopy Species		% Cover	Size Class	DBH	Age			
Black Cherry		2	Pole/Log	9				
Red Pine		95	Pole/Log	9	61			
Northern Pin Oak		3	Log/Pole	13				
Sub-Canopy Species		Density	Avg. Height	Size				
White Pine		Trace	Variable	Sapling				
20	42140 - Planted Mixed Pine	Sawtimber Medium	11.6	61	81-110	N/A	2023 - jack pine is mature. some white pine and spruce appearing in the understory. 2013 -Stand appears to be a mixture of semi-open areas (north), planted red pine (central) and jack pine (south). Most, if not all, of the red pine did not get thinned with the adjacent row thinning because it was poorly stocked in the first place.	
Canopy Species		% Cover	Size Class	DBH	Age			
White Pine		10	Log/Pole	12				
Jack Pine		45	Pole/Log	9				
Red Pine		45	Log/Pole	12	61			
Sub-Canopy Species		Density	Avg. Height	Size				
White Pine		Low	Variable	Sapling				
Northern Pin Oak		Trace	5 - 10 feet	Sapling				
Black Cherry		Low	5 - 10 feet	Sapling				
21	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Medium	6.1	138	1-50	N/A	Adjacent to Manistee River. Some shrubby, nonforested areas at river's edge. Overhead powerline runs through stand along Yellowtrees Road. Mixture of upland areas, mostly along the road, and lower areas closer to the river. Elevation drops off significantly from road. A few large oaks along the road.	
Canopy Species		% Cover	Size Class	DBH	Age			
Red Maple		30	Pole	6				
White Pine		40	Log	14	138			
Northern Pin Oak		20	Log	12				
Sub-Canopy Species		Density	Avg. Height	Size				
Tag Alder		High	5 - 10 feet	Tall Shrub				
White Pine		Low	Variable	Sapling				
22	6127 - Lowland Pine	Poletimber Well	4.8	138	81-110	N/A	Adjacent to Manistee River. Wet ground throughout. Some shrubby non-forested areas along the river. Significantly lower than Yellowtrees Road and adjacent stand. Evidence of high deer numbers. Numerous blowdown trees, high coarse woody debris.	
Canopy Species		% Cover	Size Class	DBH	Age			
Black Ash		7	Pole/Sapling	4				
Red Maple		10	Pole	6				
Paper Birch		3	Pole	6				
White Pine		60	Log	14	138			
Northern White Cedar		20	Pole/Log	8				
Sub-Canopy Species		Density	Avg. Height	Size				
Tag Alder		Medium	5 - 10 feet	Tall Shrub				



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																										
23	500 - Water	Nonstocked	1.7		Unspecified	No	Manistee River.																																																										
24	6127 - Lowland Pine	Sawtimber Well	4.5	98	111-140	N/A	2013 - Topo shows this as a wet stand but it is relatively dry compared to surrounding areas. Has some wet pockets, though, and access would be difficult. Good quality, tall red and white pine with scattered canopy gaps. Good development of understory. Some spruce is pole-sized. Very heavy browse on red maple seedlings, less than 3' tall.																																																										
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26	330 - Low-Density Trees	Nonstocked	10.9			No	Former opening mostly filling in with cherry sprouts and few scattered log- and pole-sized white pine and oaks. Was disked, fertilized and planted with rye in 1974.																																																										
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27	6122 - Black Spruce	Poletimber Well	40.2	103	81-110	N/A	2023- some scattered pin oak. Pockets of cedar and hemlock in the south end. Lots of age/size classes. Several wooded drainages throughout.																																																										
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28	6127 - Lowland Pine	Sawtimber Well	2.1	103	51-80	N/A	2013 - Variable stand on hummocky, wet ground. Includes some dry areas. Significant deer browse on red maple seedlings.																																																				
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29	6120 - Lowland Cedar	Poletimber Well	5.0	138	81-110	N/A	Low stand near Manistee River. Evidence of significant deer population. Lots of coarse woody debris. Cedar is denser in middle of stand with scattered white pine and other species along the edges.																																																				
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30	42290 - Natural Mixed Pine	Poletimber Poor	4.2	47	1-50	N/A	2023 - Lots of age and size classes. Sapling are filling in the canopy gaps. 2013 -Stand is an opening that is filling in. Evidence of fire.																																																				
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31	42100 - Planted White Pine	Poletimber Well	9.6	56	81-110	N/A	2023 - Some large Super canopy red and white pine present. Healthy stand, heavily used by deer. 2013 -The northern part of the stand appears to be white pine planted in 1967. It was part of a larger stand, the rest of which has since been harvested and converted to jack pine. The white pine is poor quality and form -- limby and many trees with multiple leaders. The southern third of the stand is natural jack pine of merchantable size. Evidence of past fire.																																																				
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32	42110 - Planted Red Pine	Poletimber Well	6.8	61	111-140	N/A	2023 - Canopies are still growing into the cut gap. BA: 130, 160, 150. 2017 - Similar to stand to north but was under private lease until 2011. Row thinned in fall 2017.																																																				
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments			
33	4112 - Maple, Beech, Cherry Association	Sawtimber Poor	1.6	93	1-50	N/A	2013 -Contains Yellowtrees Access Site on the Manistee River, vehicle turnaround and limited parking. Very open canopy with a few large trees and shrubby understorey. North boundary is against private property but is not marked.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Red Maple		60	Pole/Log	8	93	Oak (spp.)		Low	5 - 10 feet	Sapling
Red Oak		20	Pole/Log	8		Red Maple		Low	5 - 10 feet	Sapling
Black Cherry		20	Pole/Sapling	6		Black Cherry		Low	5 - 10 feet	Sapling
34	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Medium	1.9	77	1-50	N/A	2013 -Adjacent to Manistee River, wet on eastern end. Stand used to have some aspen and red pine but almost all has died. Was part of private lease until 2011 and has remnants of an old camp: overhead electric lines, well, wire gate and old furniture.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Red Oak		10	Log	14		White Pine		Low	10 - 20 feet	Sapling
Red Maple		50	Log/Pole	10	77	Oak (spp.)		Low	Variable	Sapling
Paper Birch		5	Pole	8						
Northern White Cedar		5	Pole/Log	6						
35	6127 - Lowland Pine	Sawtimber Medium	12.4	108	1-50	N/A	2023 - Black spruce is regenerating at the south end of the stand. Lost some overstorey trees to the wind. 2017 -Slightly more upland than stand to south but still fairly wet. Canopy of large white and red pine with understorey of spruce and smaller white pine. Most of stand was part of private lease until 2011. Contains grassy/shrubby opening and deciduous upland too small to map in northeast corner. Cut fall 2017. Removed all JP, all BS and marked red pine and white pine.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
White Pine		60	Log/XLog	14	108	Jack Pine		Low	< 5 feet	Sapling
Red Pine		35	Log/Pole/XLog	12		Red Maple		Low	5 - 10 feet	Sapling
Northern White Cedar		5	Pole/Log	8		Black Spruce		Low	< 5 feet	Sapling
						Red Pine		Trace	< 5 feet	Sapling
						White Pine	Low	Variable	Sapling	
36	622 - Lowland Shrub	Nonstocked	3.2		Unspecified	No	2013 -Low area in bend of the Manistee River. Mostly dense tag alder with a couple pockets of trees -- cedar, paper birch and a few large white pine.			
Sub-Canopy Species		Density	Avg. Height	Size						
White Pine		Low		Log						
Paper Birch		Trace		Pole						
Tag Alder		Full		Tall Shrub						
Northern White Cedar		Low		Pole						
37	42120 - Planted Jack Pine	Sapling Well	13.4	28	Immature	N/A	2023- very dense stand, east edge is on some lower ground.2013 - Clearcut (except oak) in winter 1995-1996 as part of Yellowtree Jack Pine sale, 61-014-93-01. Then trenched and seeded with jack pine seeds. Excellent regeneration. OI noted regeneration setbacks from deer browse and blister rust.			
Canopy Species		% Cover	Size Class	DBH	Age					
Black Cherry		3	Sapling	2						
Jack Pine		95	Sapling	3	28					
White Pine		2	Sapling	2						
38	6120 - Lowland Cedar	Poletimber Medium	50.6	122	51-80	N/A	2013 -Stand is a combination of dense cedar pockets with other areas of more open canopy and dense tag alder and blackberry. Black Creek runs along eastern edge. Part of south end of stand was harvested (all species greater than 1") for emergency deer feeding in 1982. Lots of deer activity.			
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size
Red Maple		8	Pole	6		Tag Alder		Medium	5 - 10 feet	Tall Shrub
Quaking Aspen		10	Pole/Log	8						
Northern White Cedar		80	Pole/Sap/Log	9	122					
Paper Birch		2	Pole	6						



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments					
39	622 - Lowland Shrub	Nonstocked	6.8		Unspecified	No	Low area next to Manistee River. Wet to very wet. Very few trees in southern part. Lots of deer activity.					
								Sub-Canopy Species	Density	Avg. Height	Size	
								Northern White Cedar	Low			
								Tag Alder	Full		Tall Shrub	
Paper Birch	Low		Pole									
40	622 - Lowland Shrub	Nonstocked	11.4		Unspecified	No	Very wet perhaps due to beaver activity. Section along north line is upland with some aspen, cedar, and paper birch.					
								Sub-Canopy Species	Density	Avg. Height	Size	
								Tag Alder	Full		Tall Shrub	
41	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	37.8	123	81-110	N/A	Stand is mixture of small diameter dense swamp conifers. Some wetter areas have sparse canopies and heavy tag alder. Lots of evidence of deer activity. Much of south part of stand was acquired since last inventory.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Black Spruce	40	Pole/Sapling	6	123
								Paper Birch	2	Pole/Log	8	
								Jack Pine	5	Pole	7	
								White Pine	15	Pole/Log	8	
								Tamarack	10	Pole	6	
								Northern White Cedar	8	Log/Pole	10	
								Red Maple	15	Pole	6	
								Red Pine	5	Log	14	
								Sub-Canopy Species	Density	Avg. Height	Size	
								White Spruce	Trace	5 - 10 feet	Sapling	
Tag Alder	Medium	5 - 10 feet	Tall Shrub									
White Pine	Low	Variable	Sapling									
Black Spruce	Medium	Variable	Pole									
42	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Poor	61.1	93	1-50	N/A	2013 - Very wet stand. Northern and western parts are mostly tag alder with very sparse tree canopy cover. More cedar in eastern part of stand. Very few supercanopy white pine. Ash shows damage and mortality due to EAB. Records of cutting for emergency deer feeding in 1982.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Black Spruce	25	Pole/Sapling	5	
								Paper Birch	10	Pole/Sapling	5	
								Northern White Cedar	40	Pole/Log	8	93
Sub-Canopy Species	Density	Avg. Height	Size									
Tag Alder	Full	10 - 20 feet	Tall Shrub									
43	500 - Water	Nonstocked	6.9		Unspecified	No	Manistee River.					
44	4133 - Aspen, Mixed Pine	Poletimber Medium	17.6	45	1-50	N/A	2023 - white pine is seeding in a few areas. Quaking aspen at the north end, bigtooth to the south. Aspen is healthy. 2013 - Variable, two-aged stand. Was typed as U0 in OI but has large white and red pine in super-canopy with multiple pockets of merchantable aspen. Younger aspen is also filling in other canopy gaps. Lots of red maple seedlings but heavily browsed. Stand has rolling topography, dropping off sharply to wet areas on all sides. Road to access stand follows a narrow ridge. Network of roads on west side to access private properties to west. Well site permit approved in 1983. Texaco #14, for seismic survey, 1/4 acre. Aspen, red maple, paper birch, and white cedar were selectively cut for emergency deer feeding in 1982. Sold as part of Cape Cod Copycat, 61-165-15-01, but never cut.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Quaking Aspen	30	Pole/Sap/Log	8	45
								Northern Pin Oak	5	Pole/Log	8	
								Red Pine	10	Log/XLog	14	
								Jack Pine	10	Pole	8	
								Bigtooth Aspen	25	Pole/Sap/Log	8	
								White Pine	20	Log/XLog	16	88
								Sub-Canopy Species	Density	Avg. Height	Size	
								Red Maple	Medium	Variable	Sapling	
White Pine	Low	Variable	Sapling									
Quaking Aspen	Medium	10 - 20 feet	Sapling									
Black Cherry	Low	5 - 10 feet	Sapling									



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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45 6122 - Black Spruce Sapling Medium 4.8 63 1-50 N/A Wet with sparse canopy.

Canopy Species	% Cover	Size Class	DBH	Age
Jack Pine	20	Sapling/Pole	4	
Black Spruce	60	Sapling/Pole	4	63
White Pine	5	Pole/Log	9	
Tamarack	15	Sapling/Pole	3	

46 42200 - Natural White Pine Sawtimber Medium 19.0 123 1-50 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Northern White Cedar	8	Log/Pole	10	
White Pine	65	XLog/Log	18	123
Red Pine	20	Log	14	
Paper Birch	2	Pole/Log	8	
Red Maple	5	Pole/Log	9	

Sub-Canopy Species	Density	Avg. Height	Size
Northern White Cedar	Low	>20 feet	Sapling
White Pine	Medium	Variable	Sapling
Red Maple	Medium	5 - 10 feet	Pole
Black Spruce	Trace	5 - 10 feet	Sapling

2023 - stand is responding well to the harvest, quite a bit of white pine regeneration and traces of spruce. Healthy looking overstory. A few scattered oak trees. 2017 -Treated fall 2017. Removed marked maple and pine to shelterwood density. Tried to leave enough trees to minimize blowdown.
Original notes: Stand includes upland and lowland areas and is wetter along edges. Contains some very large white pine but BA is low overall due to scattered canopy gaps. Heavy white pine understory but mostly suppressed. Some cedar and red pine in the understory is reaching pole size. Spruce understory is heavy in southwest corner of stand. Some large blowdown trees along edge so coarse woody debris is high. Evidence of past fire and high deer activity.

47 330 - Low-Density Trees Nonstocked 10.1 Immature No

Sub-Canopy Species	Density	Avg. Height	Size
Quaking Aspen	Low		Pole
White Pine	Low		Log
Black Cherry	Medium		Sapling

2023 - A few drainages with strings of cedar. River access site present.
2013 - Mostly upland but there are some wet spots and drainages. Scattered trees including some shrubby cherry, a few L/XL white pines, and at least one aspen clone. Some debris from adjacent camp in northwest corner. Part is adjacent to Manistee River. Private property to east (gap in state ownership) is protected by GTRLC conservation easement.

48 629 - Mixed non-forested wetland Nonstocked 26.0 No

Sub-Canopy Species	Density	Avg. Height	Size
Paper Birch	Low	>20 feet	Pole
White Pine	Low	>20 feet	Log
Northern White Cedar	Low		Pole

Low area adjacent to Manistee River. Contains scattered cedar and white pine.

49 4199 - Other Mixed Upland Deciduous Sapling Medium 1.4 47 1-50 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	45	Sapling/Pole	4	47
Paper Birch	5	Pole	6	
Bigtooth Aspen	10	Pole/Sapling	6	
Quaking Aspen	25	Sapling/Pole	4	
White Pine	10	Sapling/Pole	4	
Northern White Cedar	5	Pole/Log	9	

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

2023 - stand is filling in with red maple and white pine. 2013 - Stand is isolated upland surrounded by wetter stands. Sparse canopy with poor quality trees.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																
50	6120 - Lowland Cedar	Sawtimber Well	4.7	97	81-110	N/A	2023 - Nice large diameter and tall cedar. Heavily used by deer. 2013 - Stand is adjacent to the Manistee River and mostly wet. Scattered canopy gaps with dense tag alder. Some human activity from nearby camps.																																																
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51	6112 - Lowland Aspen	Sawtimber Well	28.4	57	81-110	N/A	2023 - A couple of wooded drains within the stand. Portions of stand is upland 2017 -Sold as part of Cape Cod Copycat, 61-165-15-01, but never cut.2013 - Stand is a mixture of lowland aspen and areas of pure tag alder, but there is significant aspen volume. Some aspen is older and is starting to decline. Diameters vary from pockets of 10" average to 6" average. Trace of paper birch and a few large white pine. Ash has EAB. Black Creek runs through stand but is not mapped correctly. Some areas are probably pretty wet based on wetland ferns visible despite the snow. Evidence of deer and beaver activity. Part of stand was treated in 1982 with limited cutting: 15 sf/acre of aspen, paper birch, maple and cedar.																																																
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52	629 - Mixed non-forested wetland	Nonstocked	22.8		Unspecified	No	2023 - Confluence of Black Cr and Manistee. Old Road bed across Black Cr. Old Consumers lease cabin in the southeast corner of the stand along the river bed. 2013 - Adjacent to Manistee River. Stream runs through stand. Contains some scattered trees. May have supported road to aspen stand to the west at one time.																																																
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53	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Medium	49.0	87	51-80	N/A	2013 - Adjacent to Manistee River. Very wet stand. Overall canopy is more sparse than other stands nearby. Dense tag alder throughout. Canopy is variable with some pockets of pure cedar and some with more ash. Scattered supercanopy white pine. Ash is infested with EAB but not worth harvesting due to wet ground and small diameters. Evidence of high deer numbers.																																																
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54	6112 - Lowland Aspen	Poletimber Poor	28.9	35	1-50	N/A	2013 -Stand is a mixture of nonforested lowland shrub (tag alder) and clumps of pole/sapling sized aspen with a few cedar. Very wet. Black Creek runs through stand. Evidence of cutting for emergency deer feeding in mid-1980s. Was typed as L0 in OI but aspen has filled in enough to call this a forested stand.																																																
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55	330 - Low-Density Trees	Nonstocked	2.8			No	Isolated upland adjacent to Manistee River. Scattered large white pine, a few jack pine and a few cherry, aspen and red maple seedlings.																																																



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																					
56	500 - Water	Nonstocked	14.8		Unspecified	No	Manistee River.																																					
57	629 - Mixed non-forested wetland	Nonstocked	3.5			No	Low area adjacent to Manistee River. Mostly tag alder with a few scattered trees.																																					
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58	42110 - Planted Red Pine	Poletimber Well	29.4	51	111-140	N/A	2023 - BA: 80, 150, 110, 100. Some canopy gaps left from where the oak or jack pine was removed. Rows are fairly tight in spots. 2020 - Stand was row thinned in 2020 most of the jack pine and some of the oak were removed as well. 2017- Deows aread oak. Try to remove. Stand is ready for a row thin. Take the jack pine and oak too. Mostly 4-5 stick trees. Some rows are tight. Corners are in.																																					
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59	500 - Water	Nonstocked	6.3		Unspecified	No	Manistee River.																																					
60	6120 - Lowland Cedar	Sawtimber Well	5.7	97	81-110	N/A	Relatively narrow band of cedar adjacent to Manistee River. River is a few feet lower than this stand so it seems relatively upland but has wet spots and is likely subject to flooding. Lots of deer and beaver activity. Numerous private cabins on the other side of the river. This land was acquired since the last inventory.																																					
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61	42201 - Natural White Pine, Mixed Deciduous	Poletimber Poor	2.9	61	1-50	N/A	2023- Some of the pin oak is regenerating. Hopefully it continues to fill in. 2018 - we removed the dead and dying oak. 'Haunted Oak' 61-103-18-01. 2017 - Stand is a mix of pine and oak but most of the oak is dead or dying leaving a mix of white pine saplings and pole timber.																																					
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62	4319 - Mixed Upland Forest	Sawtimber Well	14.3	101	81-110	N/A	2017 - Big pine over pole size maple. Mix of high and low ground. Nice quality white pine.																																					
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63	500 - Water	Nonstocked	2.2		Unspecified	No	Manistee river																																					



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments				
64	4113 - R.Maple, Conifer	Poletimber Poor	16.3	44	1-50	N/A	2023 - The pin oak is regenerating fairly well. Oak regen is patchy but will hopefully continue to fill in. 2019 - Stand had the oak and aspen removed in 2018, 'Haunted Oak' 61-103-18-01. I should of had them cut the red maple too, opps. : (. Now the stand is a bunch of scraggly red maple and scattered white and red pine.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
White Pine		40	Pole/Sap/Log	8		Red Maple		Low	Variable	Sapling	
Red Maple		60	Pole/Sapling	6	44	Northern Pin Oak		Low	5 - 10 feet	Sapling	
65	6120 - Lowland Cedar	Sawtimber Well	14.0	101	81-110	N/A	2017 - Mostly cedar with some scattered white pine and patches of tag alder. Old cabin sitting on south end of the stand along the river?				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
White Pine		20	Log	12		Tag Alder		Medium	5 - 10 feet	Tall Shrub	
Northern White Cedar		70	Log/Pole	10	101	White Pine		Low	Variable	Sapling	
66	500 - Water	Nonstocked	2.3		Unspecified	No	Manistee River				
68	42110 - Planted Red Pine	Poletimber Well	82.6	61	141-170	N/A	2023- BA: 170, 180, 130, 170, 150, 200, 140 .Canopy is closed in. Nice quality pine. More advanced regen in the north and west parts of stand. 2013 - Planted in fall of 1962 with 3-0 red pine. Release treatment (non-commercial hardwood removal) in 1978. Thiarerd row thinned in summer 2007 as part of 222 Red Pine sale, 61-025-05-01. Decent girth on red pine. Scattered cherry and oaks amid the rows. Some scattered large white pine. Stand is divided by firebreak and Riverview Rd. Firebreak is filling in with woody species, however, so may not be effective as such. Private property boundary along north edge is fenced and posted. Military lease land.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Northern Pin Oak		2	Log	13		Oak (spp.)		Low	5 - 10 feet	Sapling	
Jack Pine		5	Pole/Sapling	7		Red Maple		Low	10 - 20 feet	Sapling	
White Pine		3	Pole/Log	9		Black Cherry		Trace	5 - 10 feet	Sapling	
Red Pine		90	Pole/Log	9	61	White Pine		Trace	5 - 10 feet	Sapling	
70	42110 - Planted Red Pine	Sapling Well	16.2	6	Immature	N/A	2023 - Red pine is about 3ft tall. Some cherry competition 8-10 tall. 2019 - Chopped and trenched in August 2016. ORV route runs on two-track along north edge of stand. Military lease land. Planted May 2017. 3-year regen check 10/7/2019. 25% mortality, trees are ~12" tall, 82% FTG. Average height of competition 5-10'. Scattered mature white pine, oak, and red pine. Some planted through, some avoided.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Black Cherry		10	Sapling	1							
Northern Pin Oak		3	Log	13							
White Pine		2	Pole/Log	9							
Red Pine		85	Sapling	1	6						
71	42110 - Planted Red Pine	Sapling Well	42.9	6	Immature	N/A	2023 - Red pine is about 3ft tall. Some scattered oak, cherry and jack pine mixed in. Stand is still free to grow. 2017 - Chopped and trenched August 2016. Planted May 2017. 3-year regen check 10/7/19. 13% mortality. Trees are 12-18" high. 84% FTG. average competition 8-10' high, mostly cherry. Stand has some pockets of mature timber. Some are planted through and others were avoided.				
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		Density	Avg. Height	Size	
Red Pine		90	Sapling	1	6						
Northern Pin Oak		2	Log	12							
Black Cherry		5	Sapling	1							
Jack Pine		3	Pole/Sapling	6							