



Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 61039

Entry Year 2019

Acreage: 2,489

County Manistee

Management Area: Manistee Plains

Revision Date: 2017-05-18

Stand Examiner: Patrick Cotant

Legal Description:

T23N, R13W, Sections 6, 7

T23N, R14W, Sections 1, 2, 3, 4, 7, 9, 10, 12, 15, 16

T22N, R14W, Section 18

Identified Planning Goals:

Vegetation management in the Manistee Plains management area (MA) will provide forest products; maintain or enhance wildlife habitat; protect areas of unique character including the Betsie River (a designated natural river), Bear Creek and the Grass Lake Flooding State Wildlife Management Area; threatened, endangered and special concern species; and provide for forest-based recreational uses. The primary attributes and associated uses that influence and drive management in the Manistee Plains management area are wood fiber production, wildlife habitat for existing species and recreational uses. Management activities will emphasize the age, size and species distribution within cover types. Expected trends within this 10-year planning period are increased recreation pressure and continued management to balance cover type age-class distributions for timber and wildlife habitat.

Soil and topography:

The terrain in this compartment is flat. The eastern part of the compartment falls into Land Type Association 6149 characterized as a flat lake plain with very poorly drained soils (muck). The western part of the compartment is in LTA 6111, a broad flat lake plain with excessively drained sand and loamy sand. The only exception is the Bear Creek block west of Brethren. This block of land has dramatic topography with changes in elevation of approximately 180 feet between the river bed and the top of the ridges to the west.

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

This compartment is on the southern edge of a large block of state owned land. State land is contiguous to the north. Private ownership borders the compartment on the east, south, and west. Private lands are predominantly rural residential and seasonal recreational along with a few agricultural properties. Residential development in this area remains sparse with little change since last entry period. The Village of Kaleva is just south of the compartment.

The Bear Creek block is surrounded by private property except for on the south which borders USDA Forest Service land. The Spirit of the Woods Conservation Club is located on the NWNE of section 18 just north of state ownership.

Unique Natural Features:

Lemon Lake is located within the compartment. Lemon Creek, Cedar Creek, Big Beaver Creek, and Bear Creek flow through the compartment. There is a Michigan Natural Features Inventory (MNFI) identified example of a Southern Swamp Community in sections 10 and 15.

Archeological, Historical, and Cultural Features:

One archaeological site is located in section 1 of this compartment, 20MT231, the Dickson Spur Lookout tower. The precise location of the tower isn't known, however there are no treatments proposed in this area, so we have no concerns.

Special Management Designations or Considerations:

Special Conservation Areas (SCA) for Northern Swamp Community in sections 10 and 15, nominated SCA of a deeryard in section 15, and a nominated SCA for the steep riparian areas in the Bear Creek Valley area of section 18, T22N, R14W.

Watershed and Fisheries Considerations:

Bear Creek, Lemon Creek, Cedar Creek, and Beaver Creek flow through Compartment 39. Lemon Lake is also located within the compartment. The streams in this compartment are all Designated Trout Streams, with naturally reproducing populations of Chinook salmon, coho salmon, brown trout, steelhead, and brook trout. Bear Creek is very heavily fished, particularly for salmon and steelhead. Lemon Lake provides fishing opportunities for largemouth bass, northern pike,

bluegill, and yellow perch. A goal for this compartment should be to add riparian frontage along Bear Creek, for watershed protection purposes, as well as to provide better access to Bear Creek for anglers, canoeists, kayakers, etc. There is currently very little access to the "middle" portion of Bear Creek. The small parcel in section 7 might be improved into a better access site, although it is primarily wetland.

Wildlife Habitat Considerations:

12/21/16 - The northwest portion of this compartment is underlain by excessively drained sandy soils. Pine plantations cover a large percentage of this area. Hardwoods, oak, aspen, shrubs, etc., should be encouraged within these plantations for diversity. When possible, a 2-5 acre island within a mature plantation could be left relatively un-thinned to provide winter roosting cover for turkeys. One "leave" island is good for this compartment. Aspen stands are found within the compartment and should be managed to provide a variety of age classes. Retention of mast/bud producing trees/shrubs, creation of downed logs during harvest operations, and leaving tops un-chipped are excellent ways to increase wildlife use of regenerating aspen. Regenerating aspen is utilized by many wildlife species, including snowshoe hare, ruffed grouse, deer, woodcock, chestnut-sided warblers, and tiger salamanders. Several hardwood stands also provide diversity amongst the pine plantations. Hardwood treatments should incorporate the preservation of tree species diversity, the retention of mature mast producing trees, and the protection of den, cavity, and downed trees. Species benefiting from hardwood forests include northern goshawk, wild turkey, gray squirrels, and eastern box turtles.

The poorly drained soils at the east end of this compartment support a large lowland complex of mostly lowland deciduous forests. Lowland coniferous and brush communities are scattered about the deciduous forests. Great blue herons, deer, wood ducks, red-shouldered hawks, black bear, and wood frogs are just several of the many species that use bottomland forests. Several land locked parcels have been nominated as SCAs and should be retained in State ownership based on the presence of a valuable deer yard and the fact that MNFI has identified an example of a Southern Swamp community.

Several small forest openings are scattered about this compartment and should be maintained as a source of diversity and forage base among the plantations and forested types. Most of these openings are abandoned well sites and have sandy sterile soils in need of revegetating. Projects scheduled for this entry period, including, selective felling both to retain openings and to encourage aspen to reclaim badly degraded sites; and planting, mowing and fertilizing of grassy openings. Future timber treatments should be utilized to expand grass-shrubland habitat. Non-forested habitats provide essential life requirements for a variety of wildlife in the form of food (herbaceous forage, fruiting shrubs, insects, small mammals, etc.) and cover (clumps of shrubs, tall grasses and ferns, brushy edges, etc.). Turkey, deer, eastern bluebirds, meadow jumping mice, and smooth green snakes are just a sample of the many species that use these openings.

Featured wildlife species for the Manistee Plains include American woodcock, Beaver, Black bear, Eastern massasauga rattlesnake (Grass Lake Flooding SWMA), Mallard (Grass Lake Flooding SWMA), Pileated woodpecker, Red-headed woodpecker, Ruffed grouse, Wild turkey, White-tailed deer, Wood duck (Grass Lake Flooding SWMA). Based on the selected featured species, some of the most significant wildlife management issues in the MA are the maintenance of young forest, large open grassland complexes, and marsh/grassland complexes; the retention of large, over-mature trees and snags; and the maintenance and expansion of hard mast and mesic conifer components.

Mineral Resource and Development Concerns and/or Restrictions

There is no known metallic mineral potential in this region. Former sand/gravel pits exist in sections 6 and 7. Due to numerous wetland areas and limited quantities of gravel (sand is dominant), potential for sand & gravel production appears to be low. The compartment is located within the Niagaran reef trend and also has Antrim Shale gas production. All of the State-owned mineral rights in the compartment are currently leased for oil and gas development.

Vehicle Access:

Access to majority of compartment originates from Healy Lake Rd, 13 Mile Rd and Thompsonville Rd. Forest 2-tracks lead to interior portions of compartment. Much of the lowland areas of the compartment are inaccessible except by foot. The area of the compartment that lies within sections 10 & 15 of 23N14W have no public access so are inaccessible without prior permission from adjacent landowners. The outlying pieces of the compartment in sections 7 & 19 of 23N14W are on county roads and can be accessed by foot. The southern most portion of the compartment in 22N14W is accessed off of Coates Hwy.

Survey Needs:

Survey request has been submitted (12/2/16) for state ownership in T23NR14W, Section 7 to accurately determine boundary between state and PVT ownership..

Recreational Facilities and Opportunities:

Snowmobile Trail #3 runs along an old rail grade within this compartment. Trail protection specifications should be considered if forest treatments impact the existing designated snowmobile trail #3. Unimproved access to Lemon Lake, and to Bear Creek in Section 18 both may need restoration work. Manistee County Recreation plan identifies the need to work with Merit Energy to obtain 1 mile section of grade south of Bear Creek that would connect Thompsonville to

Fire Protection:

This compartment consists of mixed ownership of state and private, with several small state land blocks of land. Travel time from the Platte River Field Office make it possible for fires to grow some in size, but cover type is such that catastrophic fire is not a real concern. There are scattered homes within the private land, but no real urban interface concerns. VFD is from the Maple Grove VFD.

Additional Compartment Information:

The following reports from the Inventory are attached:

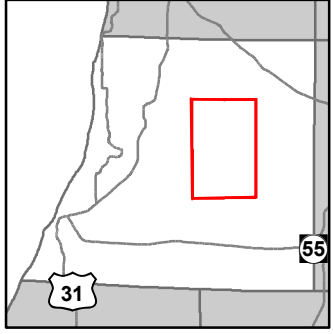
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

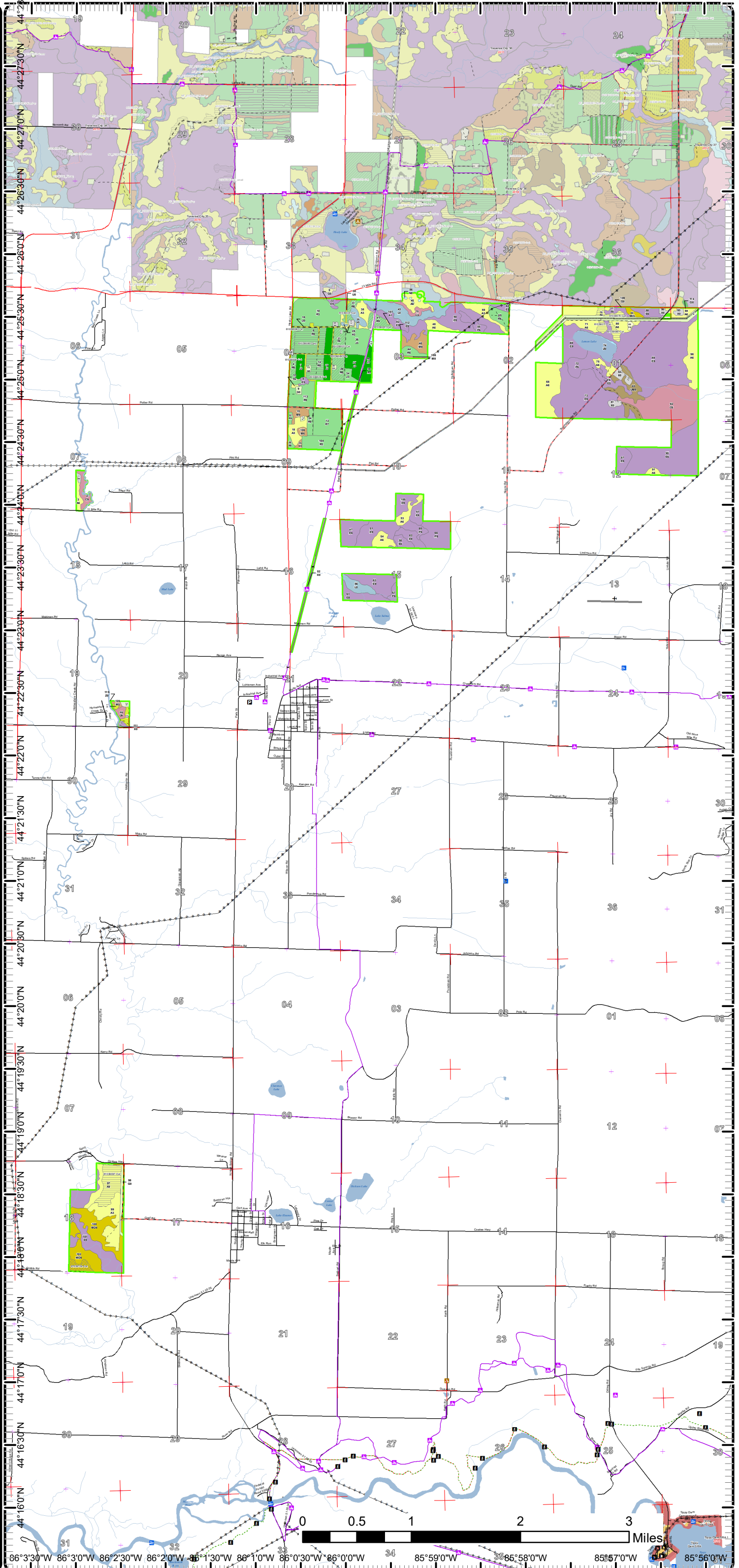
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 39
 T23N R13W Sec. 06, 07
 County: Manistee
 Unit: Traverse City
 Mgmt Area: Manistee Plains
 YOE: 2019
 Acres: 2489.4 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 8/7/2017
 Map Phase: Post-Review



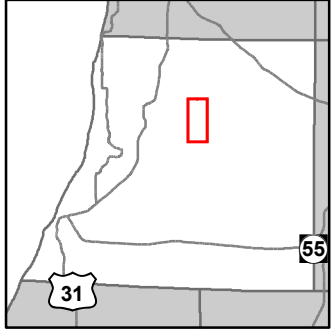
- Miris Corners
- + Remonumented Section Corners
- ▭ Counties
- Bridge
- Dams
- + Airport
- Parking Lot
- Snowmobile Trails
- Designated Snowmobile Trails
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Closed
- Streams
- Lakes and Rivers All
- Pipeline
- Powerline
- Airports
- ▭ Compartment Boundary
- ▭ Selection (Group, Single Tree)
- ▭ Clearcut (w/Reserves)
- ▭ Thinning (Crown, Low, Systematic)
- 411 - Northern Hardwood
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 110 - Low Intensity Urban
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 710 - Sand/Soil
- 790 - Other Bare/Sparsely Vegetated
- Lakes



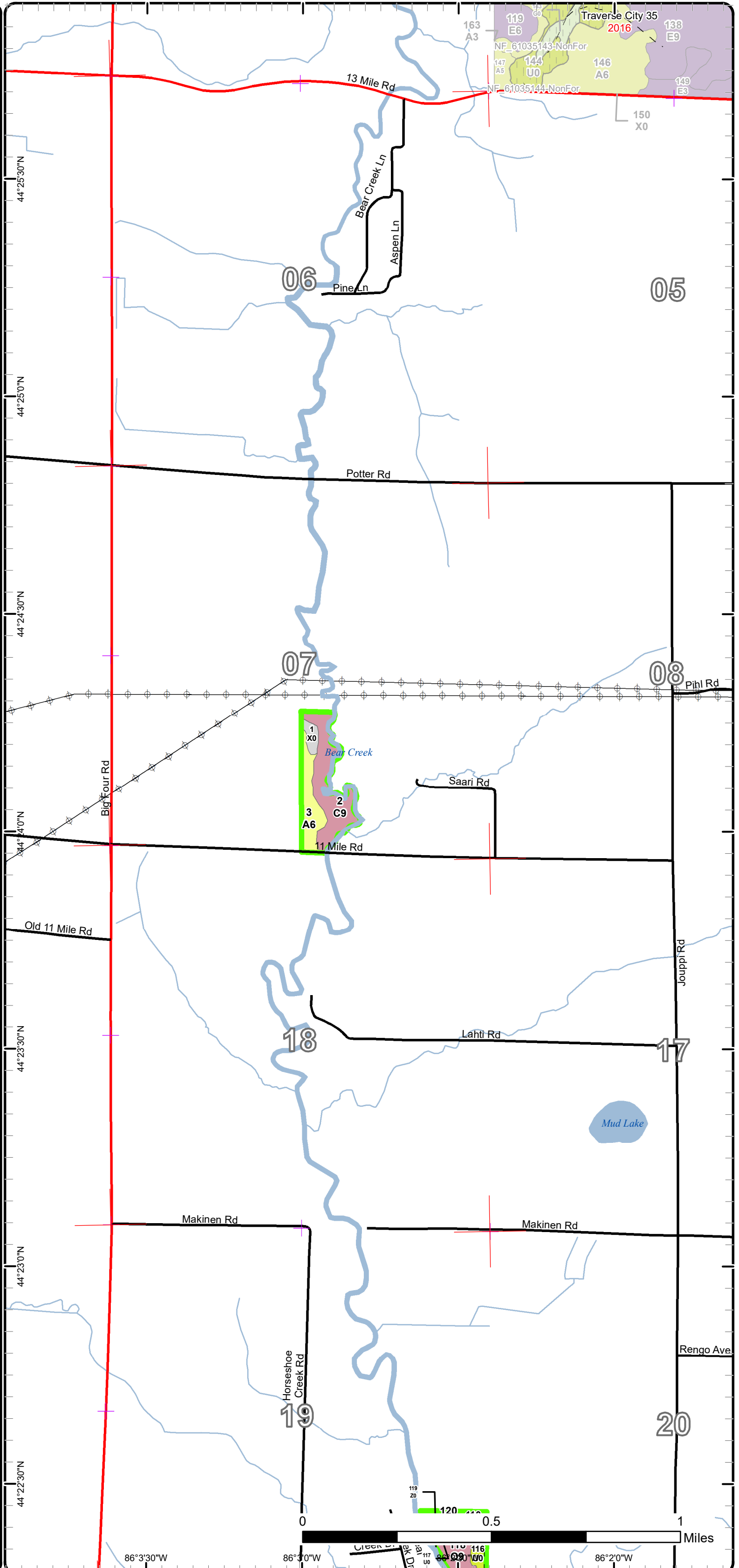
86°3'30"W 86°3'0"W 86°2'30"W 86°2'0"W 86°1'30"W 86°1'0"W 86°0'30"W 86°0'0"W 85°59'0"W 85°58'0"W 85°57'0"W 85°56'0"W

Cover Type & Treatments Map

Compartment: 39
 T23N R13W Sec. 06, 07
 County: Manistee
 Unit: Traverse City
 Mgmt Area: Manistee Plains
 YOE: 2019
 Acres: 2489.4 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 8/7/2017
 Map Phase: Post-Review

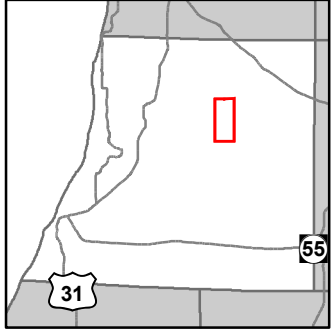


- Miris Corners
- + Remonumented Section Corners
- Counties
- County Paved Roads
- Paved Roads
- Poor Dirt Roads
- Streams
- Lakes and Rivers All
- Powerline
- Compartment Boundary
- 411 - Northern Hardwood
- 413 - Aspen
- 612 - Lowland Coniferous Forest
- 110 - Low Intensity Urban
- 330 - Low Density Trees
- 500 - Water
- 790 - Other Bare/Sparsely Vegetated
- Lakes

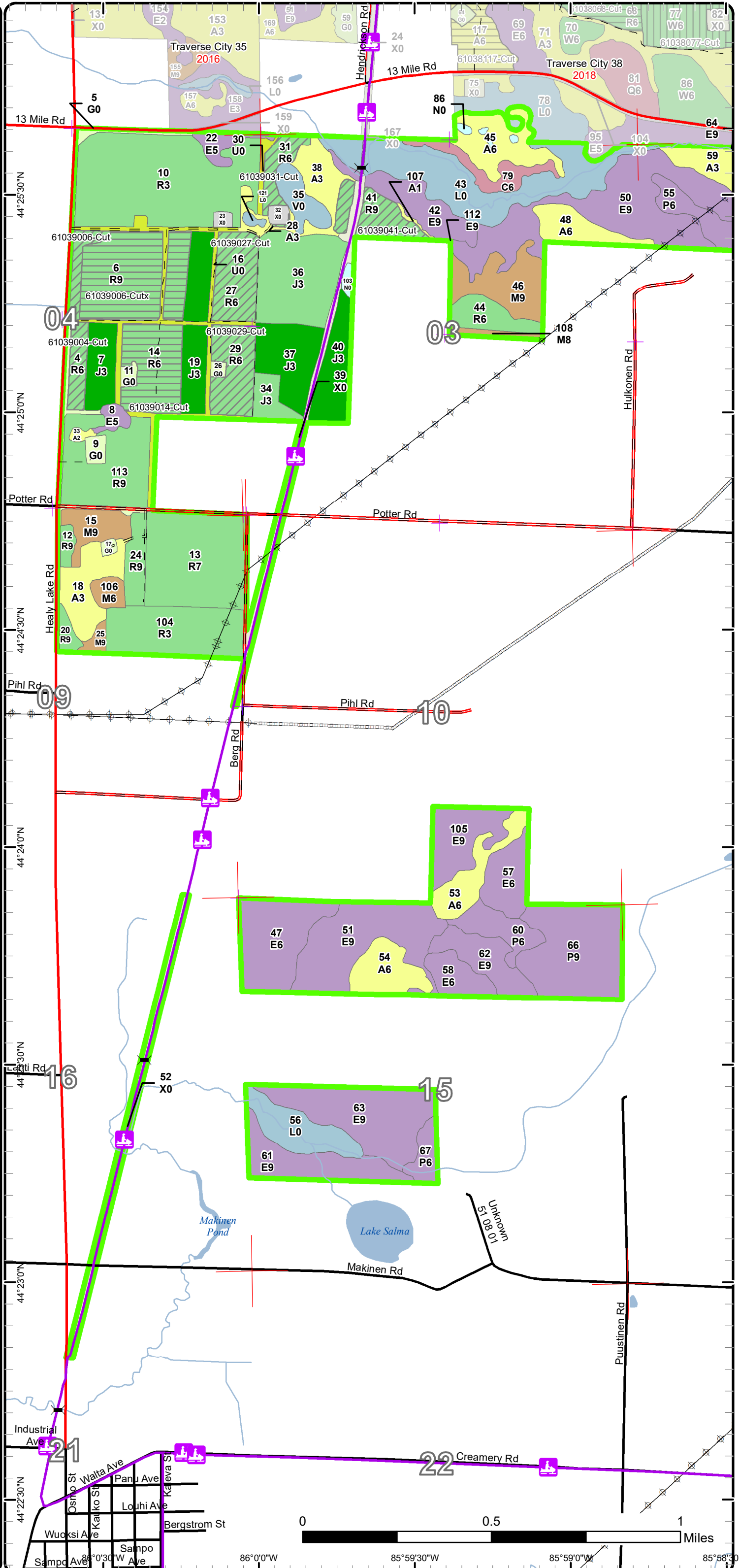


Cover Type & Treatments Map

Compartment: 39
 T23N R13W Sec. 06, 07
 County: Manistee
 Unit: Traverse City
 Mgmt Area: Manistee Plains
 YOE: 2019
 Acres: 2489.4 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 8/7/2017
 Map Phase: Post-Review

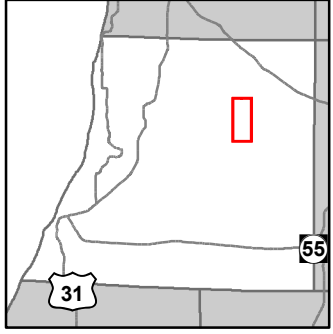


- Miris Corners
- + Remonumented Section Corners
- Counties
- Bridge
- Snowmobile Trails
- Designated Snowmobile Trails
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Streams
- Lakes and Rivers All
- Pipeline
- Powerline
- Compartment Boundary
- Clearcut (w/Reserves)
- Thinning (Crown, Low, Systematic)
- 411 - Northern Hardwood
- 413 - Aspen
- 421 - Planted Pines
- 422 - Natural Pines
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 790 - Other Bare/Sparsely Vegetated
- Lakes

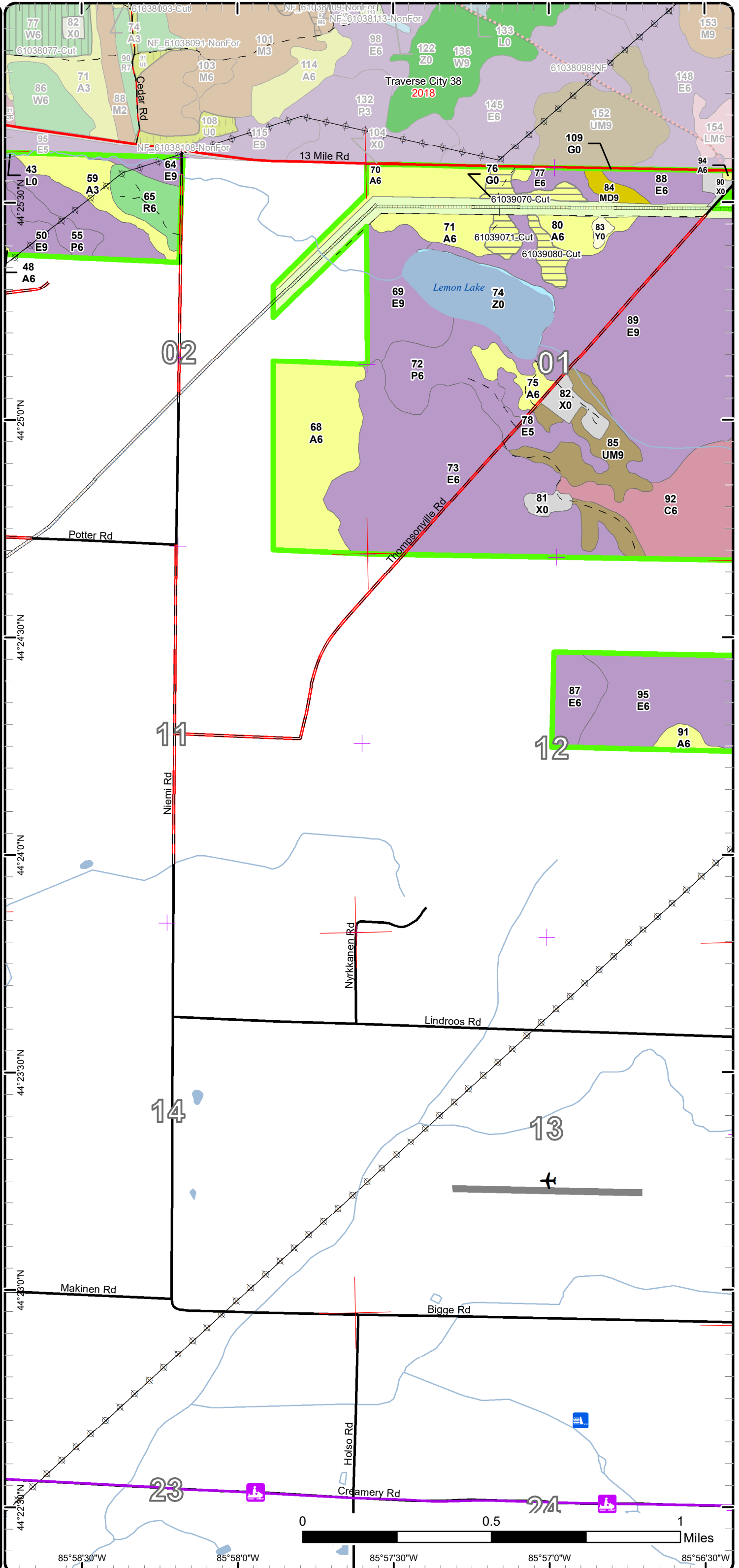


Cover Type & Treatments Map

Compartment: 39
 T23N R13W Sec. 06, 07
 County: Manistee
 Unit: Traverse City
 Mgmt Area: Manistee Plains
 YOE: 2019
 Acres: 2489.4 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 8/7/2017
 Map Phase: Post-Review

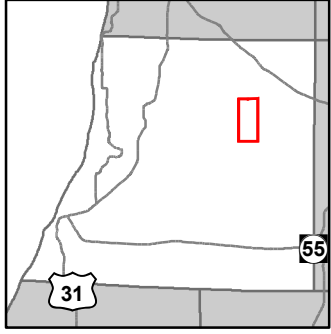


- Miris Corners
- + Remonumented Section Corners
- Counties
- Dams
- Airport
- Snowmobile Trails
- Designated Snowmobile Trails
- County Paved Roads
- Paved Roads
- County Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- - - Closed
- Streams
- Lakes and Rivers All
- Pipeline
- Powerline
- Airports
- Compartment Boundary
- Clearcut (w/Reserves)
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
- 500 - Water
- 710 - Sand/Soil
- Lakes

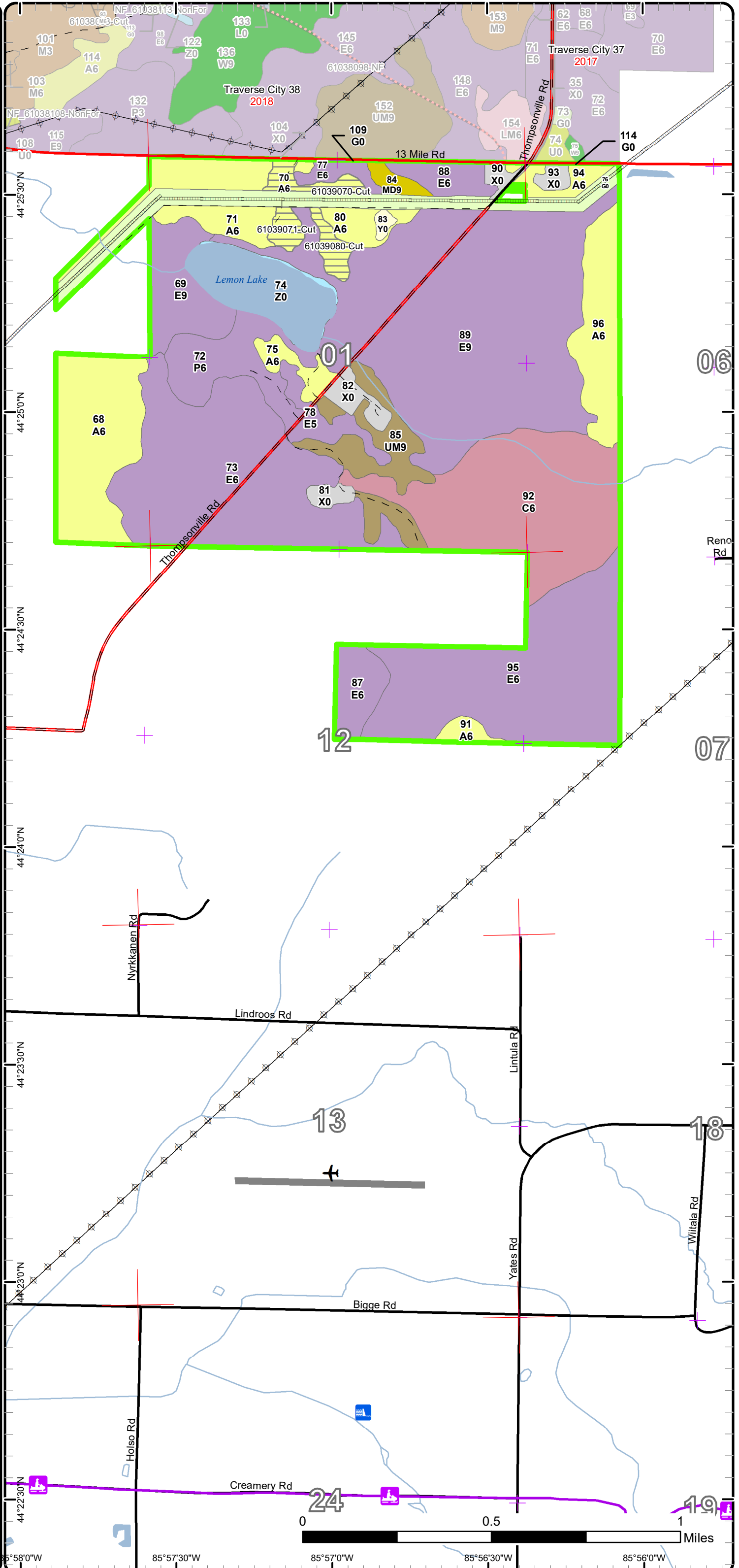


Cover Type & Treatments Map

Compartment: 39
 T23N R13W Sec. 06, 07
 County: Manistee
 Unit: Traverse City
 Mgmt Area: Manistee Plains
 YOE: 2019
 Acres: 2489.4 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 8/7/2017
 Map Phase: Post-Review

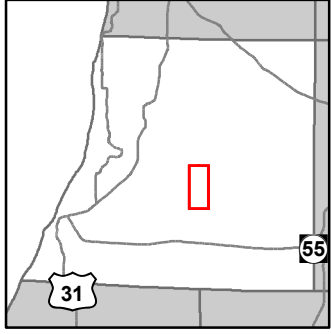


- Miris Corners
- + Remonumented Section Corners
- Counties
- Dams
- Airport
- Snowmobile Trails
- Designated Snowmobile Trails
- County Paved Roads
- Paved Roads
- County Gravel Roads
- - Poor Dirt Roads
- - - Closed
- Streams
- Lakes and Rivers All
- Pipeline
- Powerline
- Airports
- Compartment Boundary
- Clearcut (w/Reserves)
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
- 500 - Water
- 710 - Sand/Soil
- Lakes

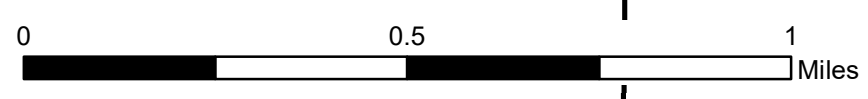
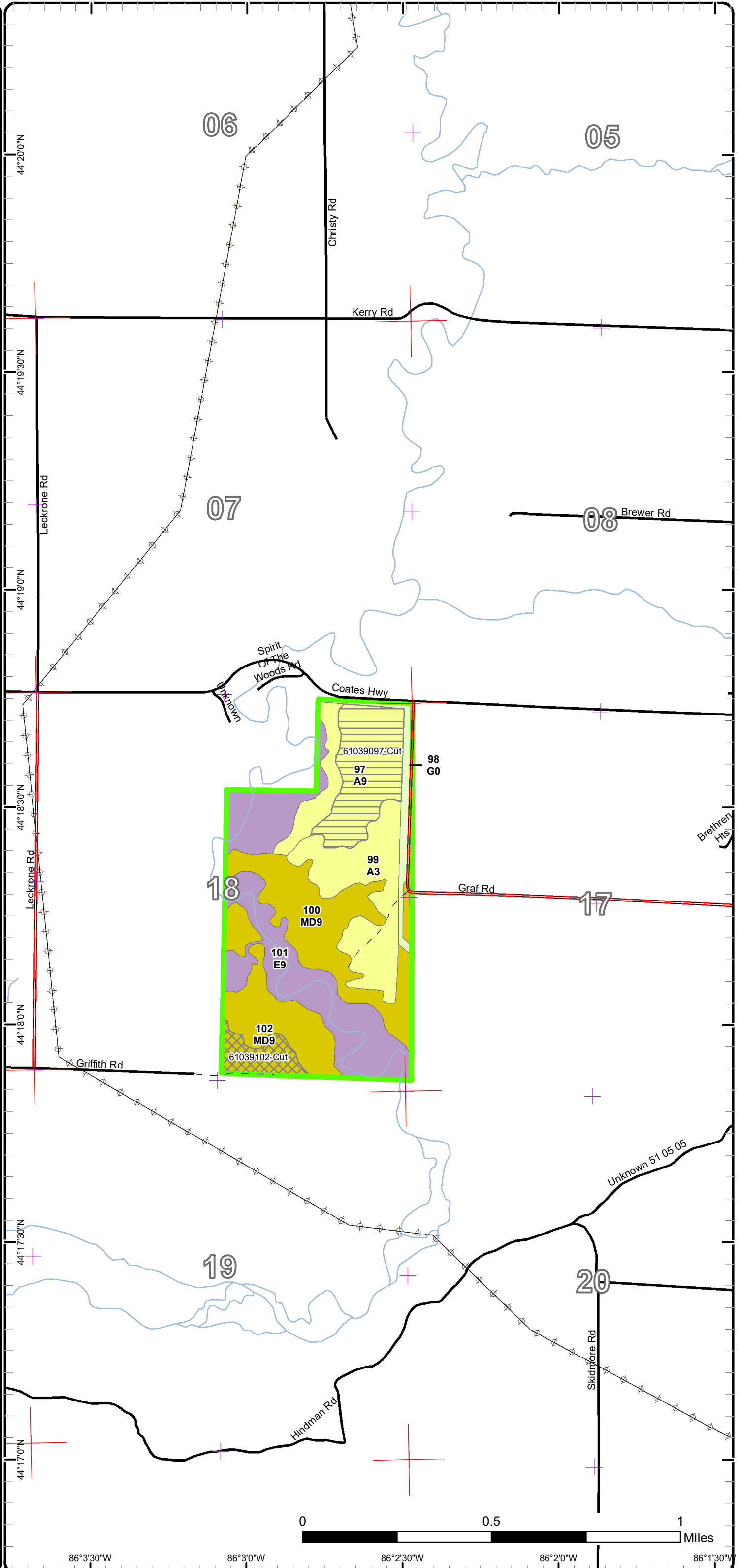


Cover Type & Treatments Map

Compartment: 39
 T23N R13W Sec. 06, 07
 County: Manistee
 Unit: Traverse City
 Mgmt Area: Manistee Plains
 YOY: 2019
 Acres: 2489.4 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 8/7/2017
 Map Phase: Post-Review



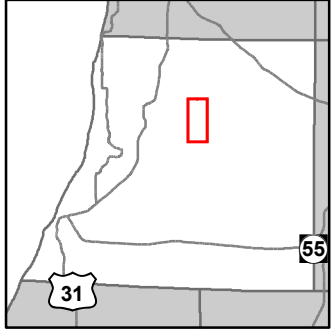
- Miris Corners
- + Remonumented Section Corners
- Counties
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- Streams
- Powerline
- Compartment Boundary
- Selection (Group, Single Tree)
- Clearcut (w/Reserves)
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 611 - Lowland Deciduous Forest
- 310 - Herbaceous Openland



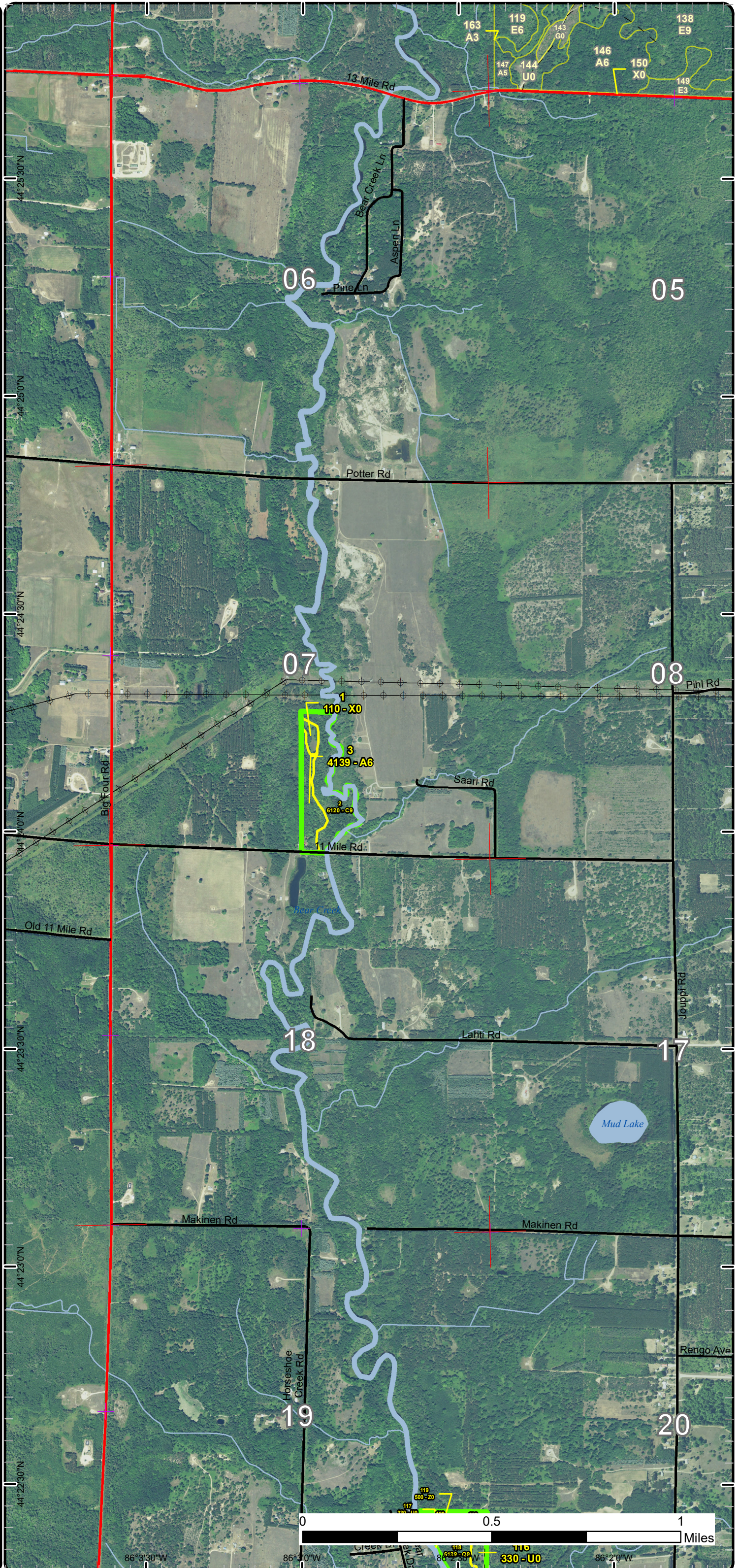
86°3'30"W 86°3'0"W 86°2'30"W 86°2'0"W 86°1'30"W

Stand Boundary Map

Compartment: 39
 T23N R13W Sec. 06, 07
 County: Manistee
 Unit: Traverse City
 Mgmt Area: Manistee Plains
 YOE: 2019
 Acres: 2489.4 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 8/7/2017
 Map Phase: Post-Review

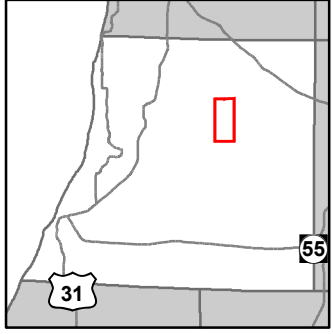


- Miris Corners
- + Remonumented Section Corners
- Counties
- County Paved Roads
- Paved Roads
- Poor Dirt Roads
- Streams
- Lakes and Rivers All
- Powerline
- Compartment Boundary
- Stand Boundaries
- 411 - Northern Hardwood
- 413 - Aspen
- 612 - Lowland Coniferous Forest
- 110 - Low Intensity Urban
- 330 - Low Density Trees
- 500 - Water
- 790 - Other Bare/Sparsely Vegetated

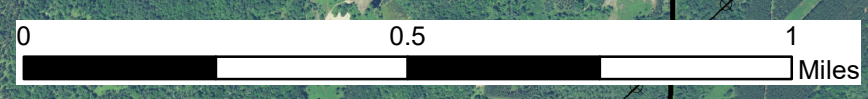
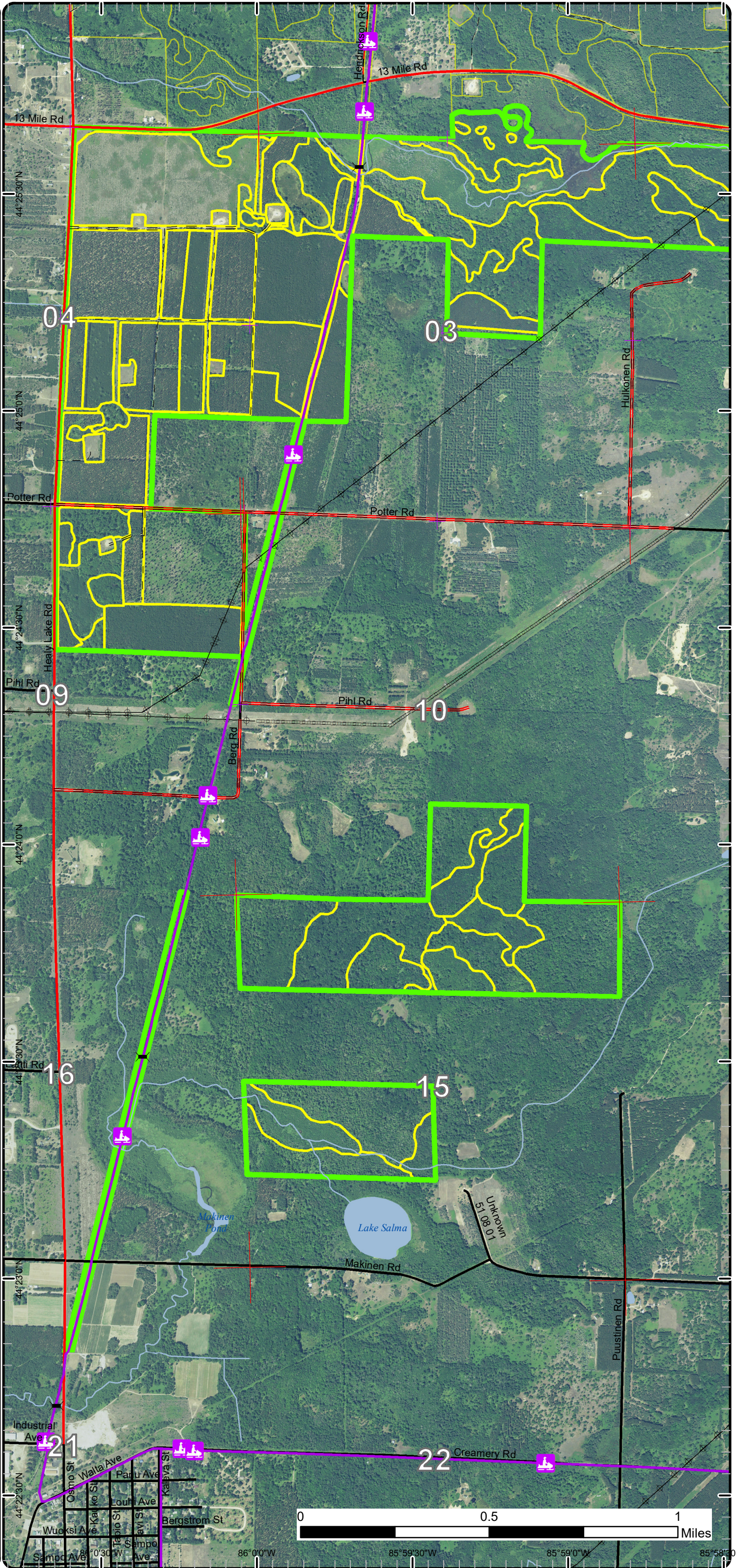


Stand Boundary Map

Compartment: 39
 T23N R13W Sec. 06, 07
 County: Manistee
 Unit: Traverse City
 Mgmt Area: Manistee Plains
 YOE: 2019
 Acres: 2489.4 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 8/7/2017
 Map Phase: Post-Review



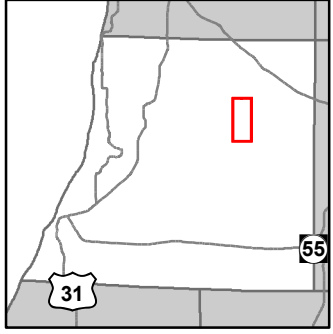
- Miris Corners
- + Remonumented Section Corners
- Counties
- Bridge
- Snowmobile Trails
- Designated Snowmobile Trails
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Streams
- Lakes and Rivers All
- Pipeline
- Powerline
- Compartment Boundary



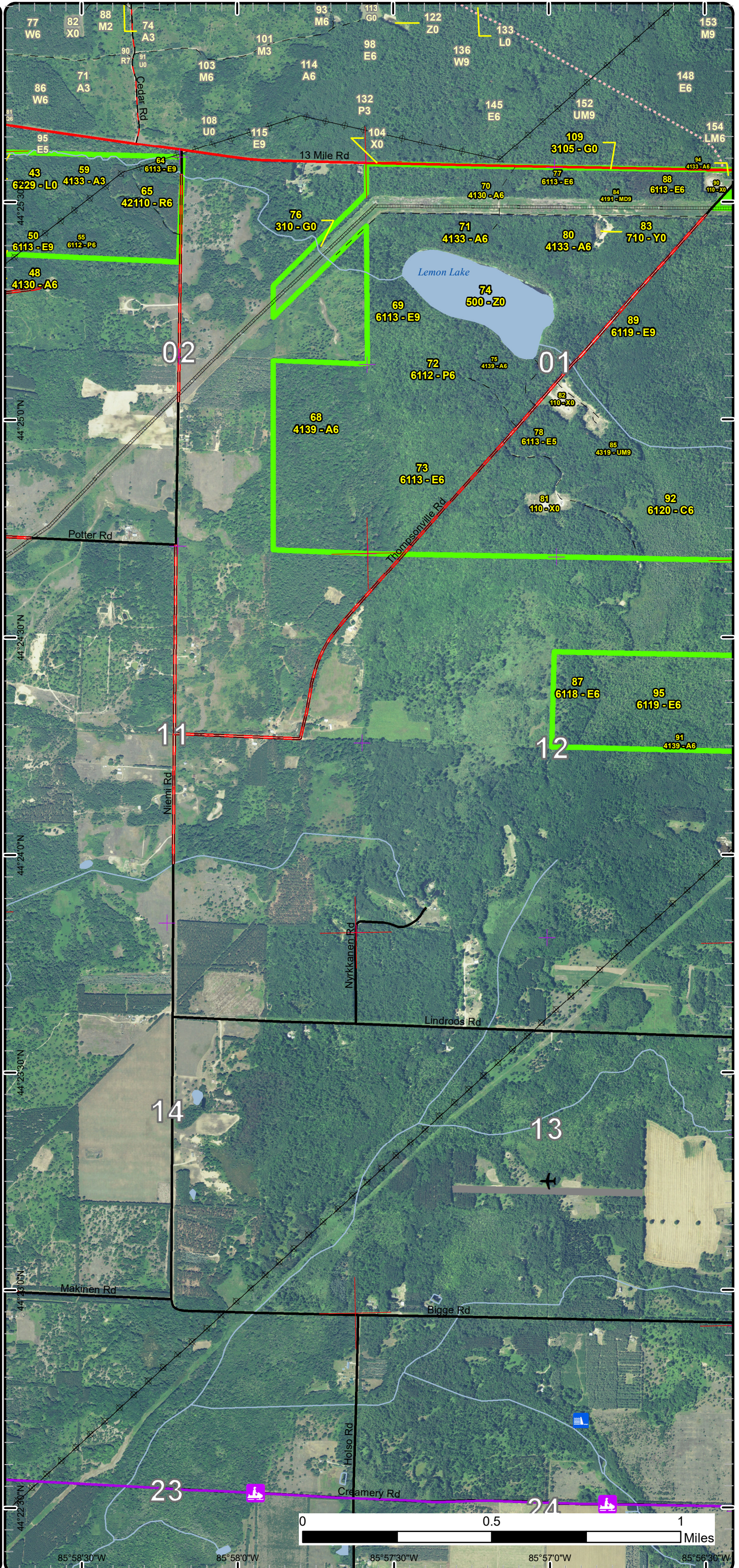
86°00'W 85°59'30"W 85°59'00"W 85°58'30"W

Stand Boundary Map

Compartment: 39
 T23N R13W Sec. 06, 07
 County: Manistee
 Unit: Traverse City
 Mgmt Area: Manistee Plains
 YOE: 2019
 Acres: 2489.4 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 8/7/2017
 Map Phase: Post-Review

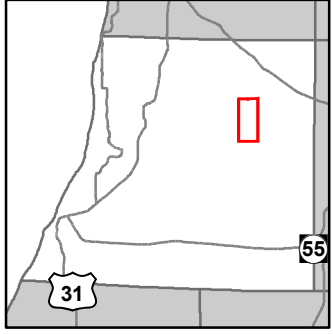


- Miris Corners
- + Remonumented Section Corners
- Counties
- Dams
- Airport
- Snowmobile Trails
- Designated Snowmobile Trails
- County Paved Roads
- Paved Roads
- County Gravel Roads
- County Poor Dirt Roads
- - - Poor Dirt Roads
- - - Closed
- Streams
- Lakes and Rivers All
- Pipeline
- Powerline
- Airports
- Compartment Boundary
- Stand Boundaries
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
- 500 - Water
- 710 - Sand/Soil

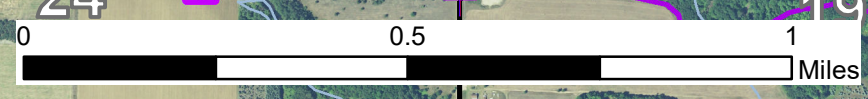
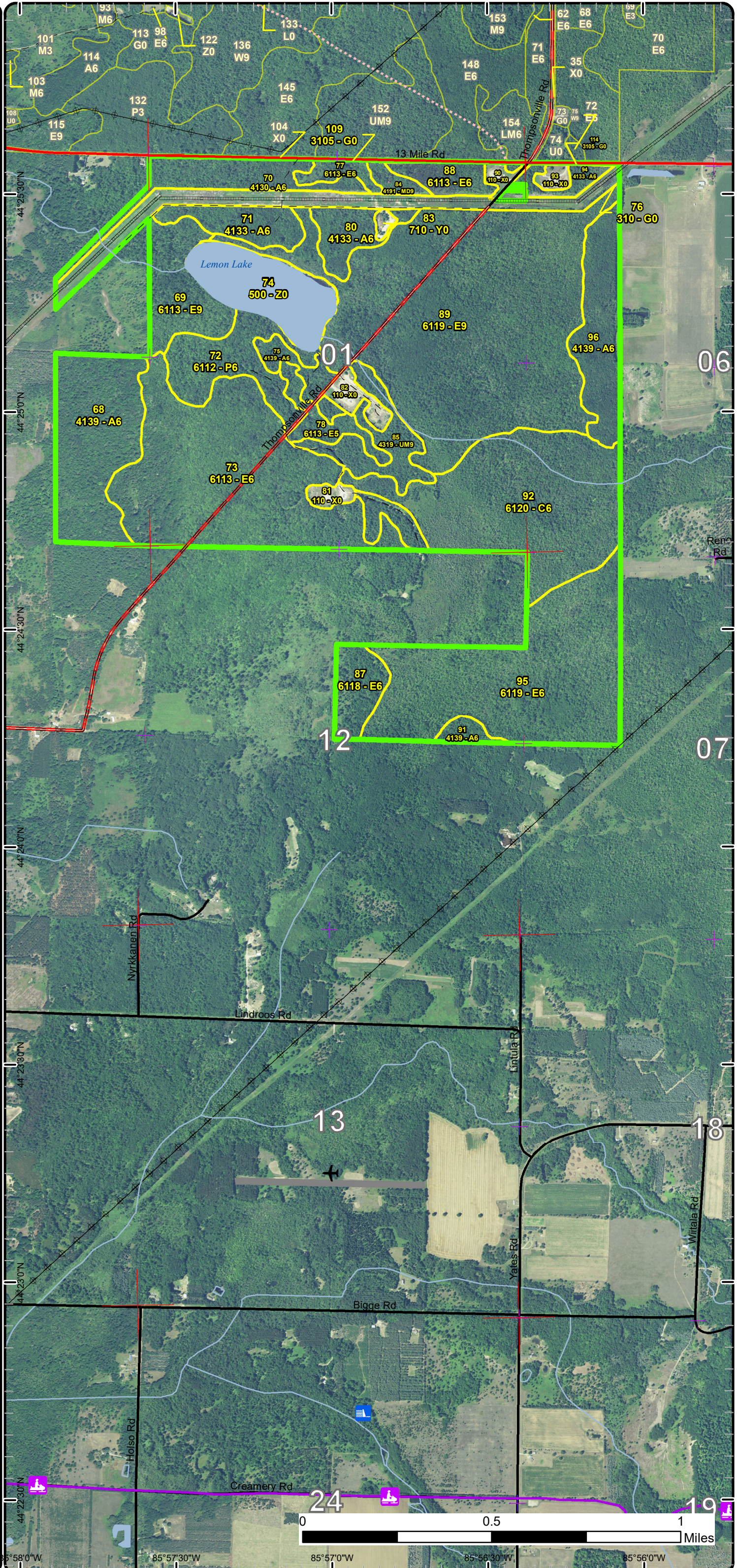


Stand Boundary Map

Compartment: 39
 T23N R13W Sec. 06, 07
 County: Manistee
 Unit: Traverse City
 Mgmt Area: Manistee Plains
 YOE: 2019
 Acres: 2489.4 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 8/7/2017
 Map Phase: Post-Review



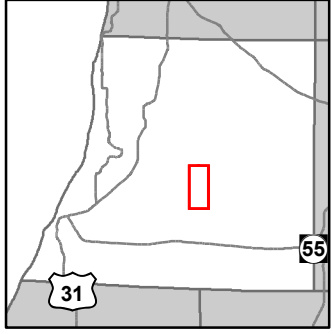
- Miris Corners
- + Remonumented Section Corners
- Counties
- Dams
- Airport
- Snowmobile Trails
- Designated Snowmobile Trails
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- - - Closed
- Streams
- Lakes and Rivers All
- Pipeline
- Powerline
- Airports
- Compartment Boundary
- Stand Boundaries
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
- 500 - Water
- 710 - Sand/Soil



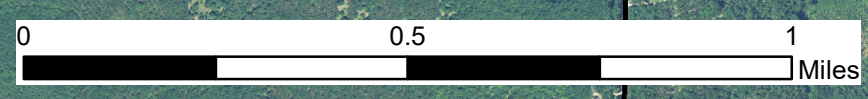
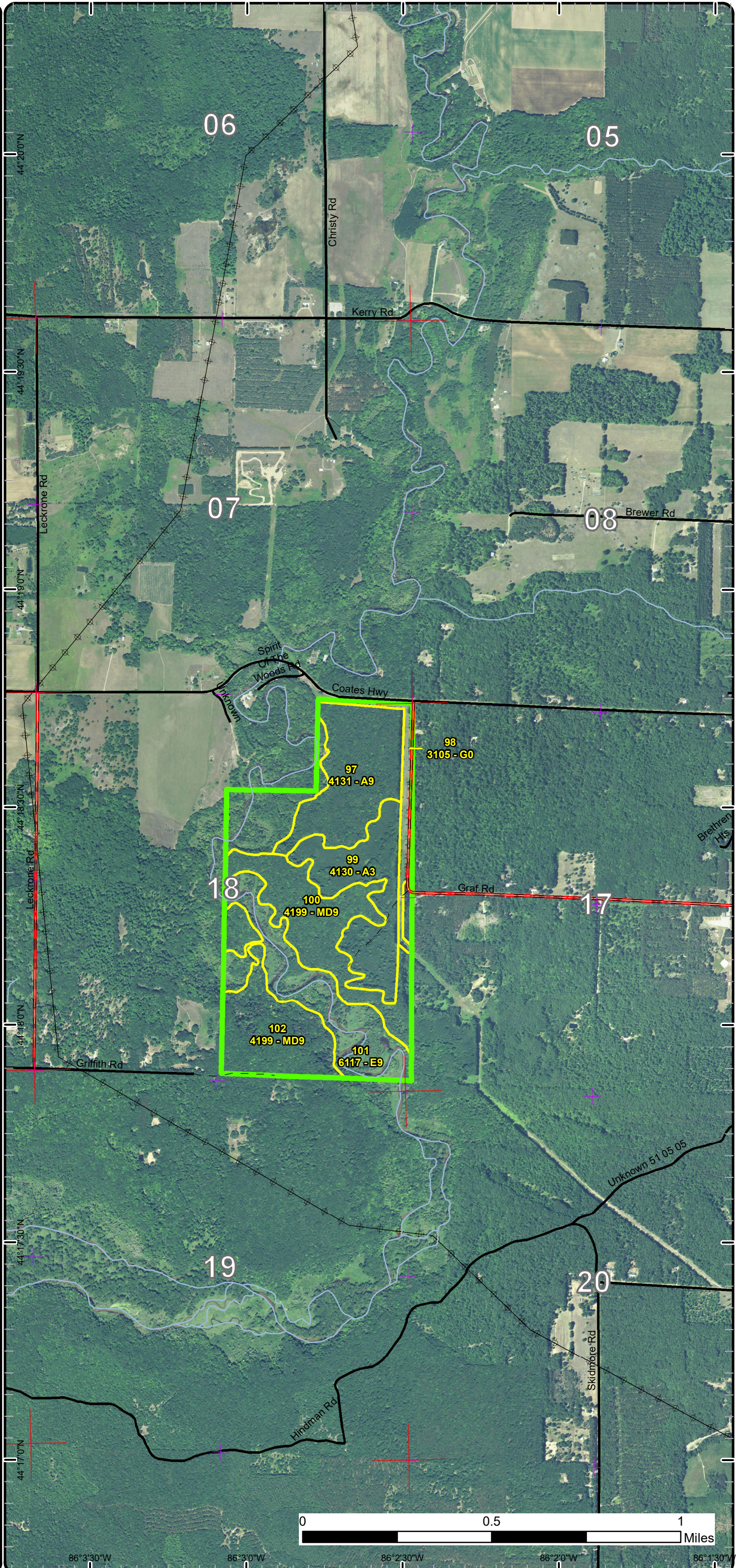
85°58'0"W 85°57'30"W 85°57'0"W 85°56'30"W 85°56'0"W

Stand Boundary Map

Compartment: 39
 T23N R13W Sec. 06, 07
 County: Manistee
 Unit: Traverse City
 Mgmt Area: Manistee Plains
 YOE: 2019
 Acres: 2489.4 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 8/7/2017
 Map Phase: Post-Review



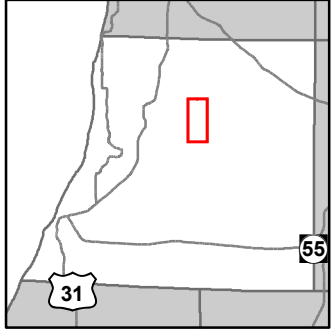
- Miris Corners
- + Remonumented Section Corners
- Counties
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- Streams
- Powerline
- Compartment Boundary
- Stand Boundaries
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 611 - Lowland Deciduous Forest
- 310 - Herbaceous Openland



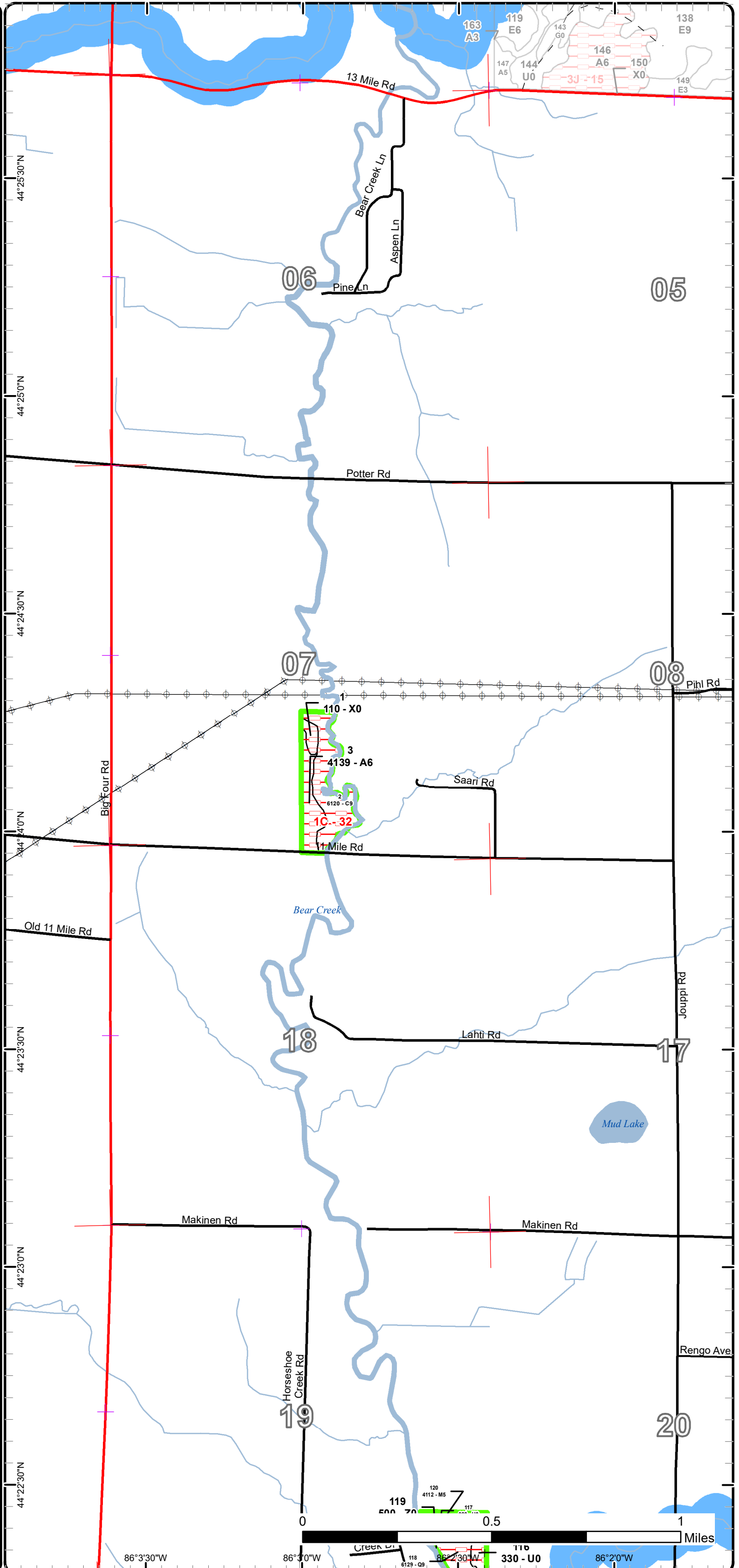
86°3'30"W 86°3'0"W 86°2'30"W 86°2'0"W 86°1'30"W

Special Conservation Areas & Site Conditions Map

Compartment: 39
 T23N R13W Sec. 06, 07
 County: Manistee
 Unit: Traverse City
 Mgmt Area: Manistee Plains
 YOE: 2019
 Acres: 2489.4 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 8/7/2017
 Map Phase: Post-Review

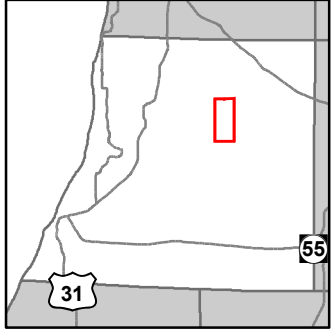


- Miris Corners
- + Remonumented Section Corners
- Counties
- County Paved Roads
- Paved Roads
- Poor Dirt Roads
- Streams
- Lakes and Rivers All
- Powerline
- Compartment Boundary
- Unavailable
- 1C: Other dept or div proc/practices
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer

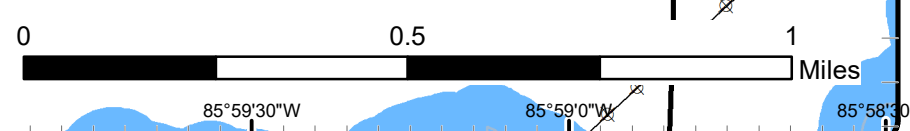
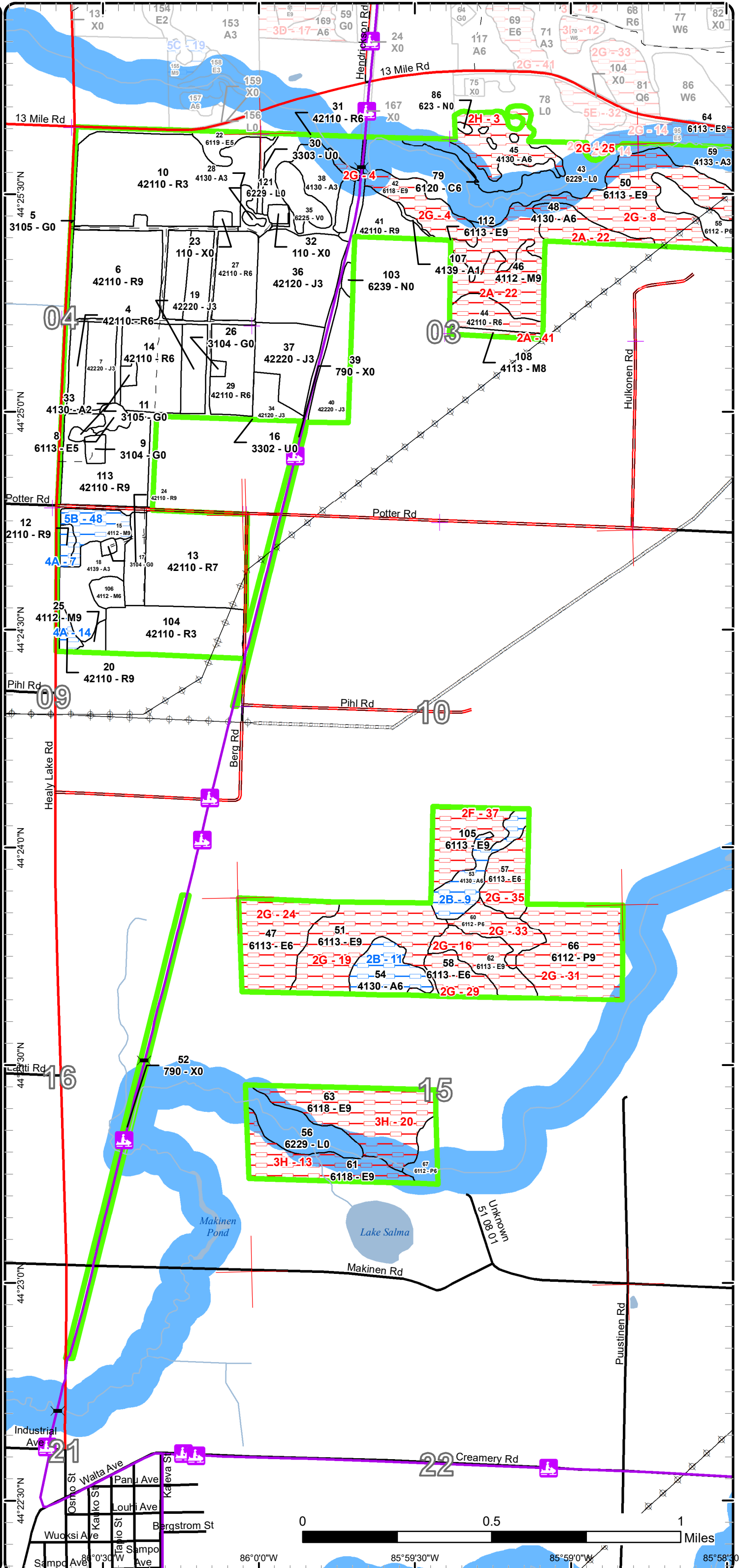


Special Conservation Areas & Site Conditions Map

Compartment: 39
 T23N R13W Sec. 06, 07
 County: Manistee
 Unit: Traverse City
 Mgmt Area: Manistee Plains
 YOE: 2019
 Acres: 2489.4 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 8/7/2017
 Map Phase: Post-Review

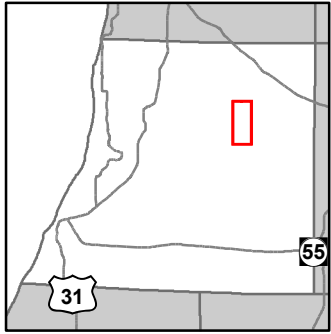


- Miris Corners
- + Remonumented Section Corners
- Counties
- Bridge
- Snowmobile Trails
- Designated Snowmobile Trails
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Streams
- Lakes and Rivers All
- Pipeline
- Powerline
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 4A: No Markets Available for these Forest Products
- 5B: Maintain for regeneration purposes
- 2A: Adjacent landowner denied access
- 2F: Too steep
- 2G: Too wet (sensitive soils, does not include access issues)
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- Stand Boundaries
- Cold Water Streams
- High Priority Trout Stream Buffer

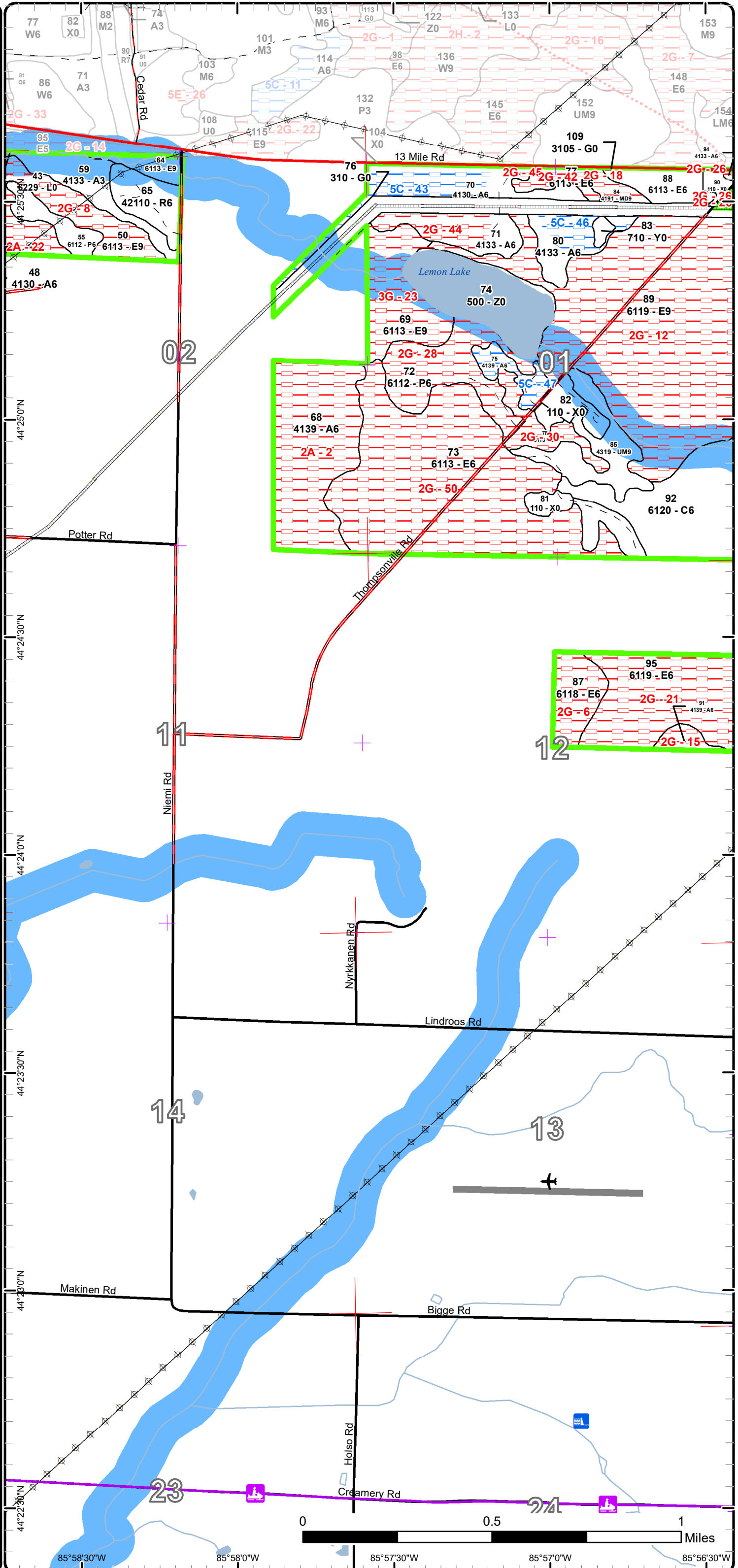


Special Conservation Areas & Site Conditions Map

Compartment: 39
 T23N R13W Sec. 06, 07
 County: Manistee
 Unit: Traverse City
 Mgmt Area: Manistee Plains
 YOE: 2019
 Acres: 2489.4 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 8/7/2017
 Map Phase: Post-Review

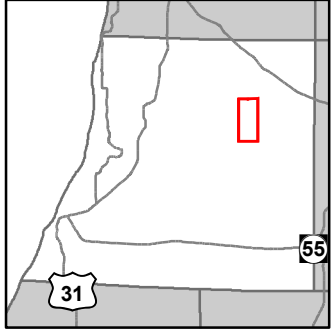


- Miris Corners
- Remonumented Section Corners
- Counties
- Dams
- Airport
- Snowmobile Trails
- Designated Snowmobile Trails
- County Paved Roads
- Paved Roads
- County Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Closed
- Streams
- Lakes and Rivers All
- Pipeline
- Powerline
- Airports
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2A: Adjacent landowner denied access
- 2G: Too wet (sensitive soils, does not include access issues)
- 3G: Other Influence zones - See comments
- Stand Boundaries
- Cold Water Streams
- High Priority Trout Stream Buffer

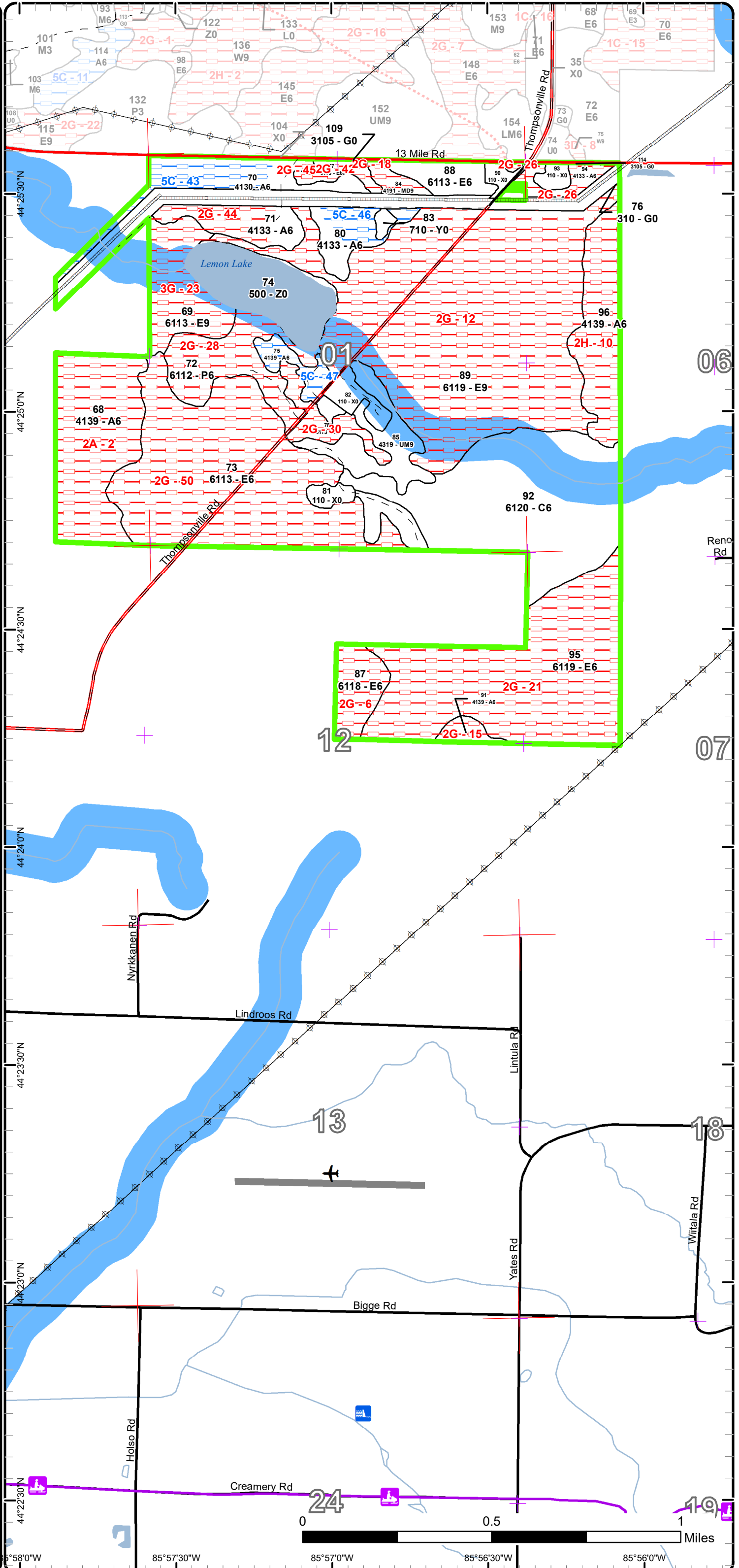


Special Conservation Areas & Site Conditions Map

Compartment: 39
 T23N R13W Sec. 06, 07
 County: Manistee
 Unit: Traverse City
 Mgmt Area: Manistee Plains
 YOE: 2019
 Acres: 2489.4 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 8/7/2017
 Map Phase: Post-Review

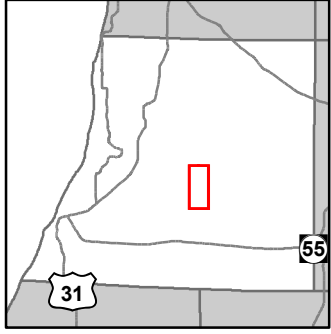


- Miris Corners
- + Remonumented Section Corners
- Counties
- Dams
- ✈ Airport
- Snowmobile Trails
- Designated Snowmobile Trails
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- Closed
- Streams
- Lakes and Rivers All
- Pipeline
- Powerline
- ✈ Airports
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2A: Adjacent landowner denied access
- 2G: Too wet (sensitive soils, does not include access issues)
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- 3G: Other Influence zones - See comments
- Stand Boundaries
- Cold Water Streams
- High Priority Trout Stream Buffer

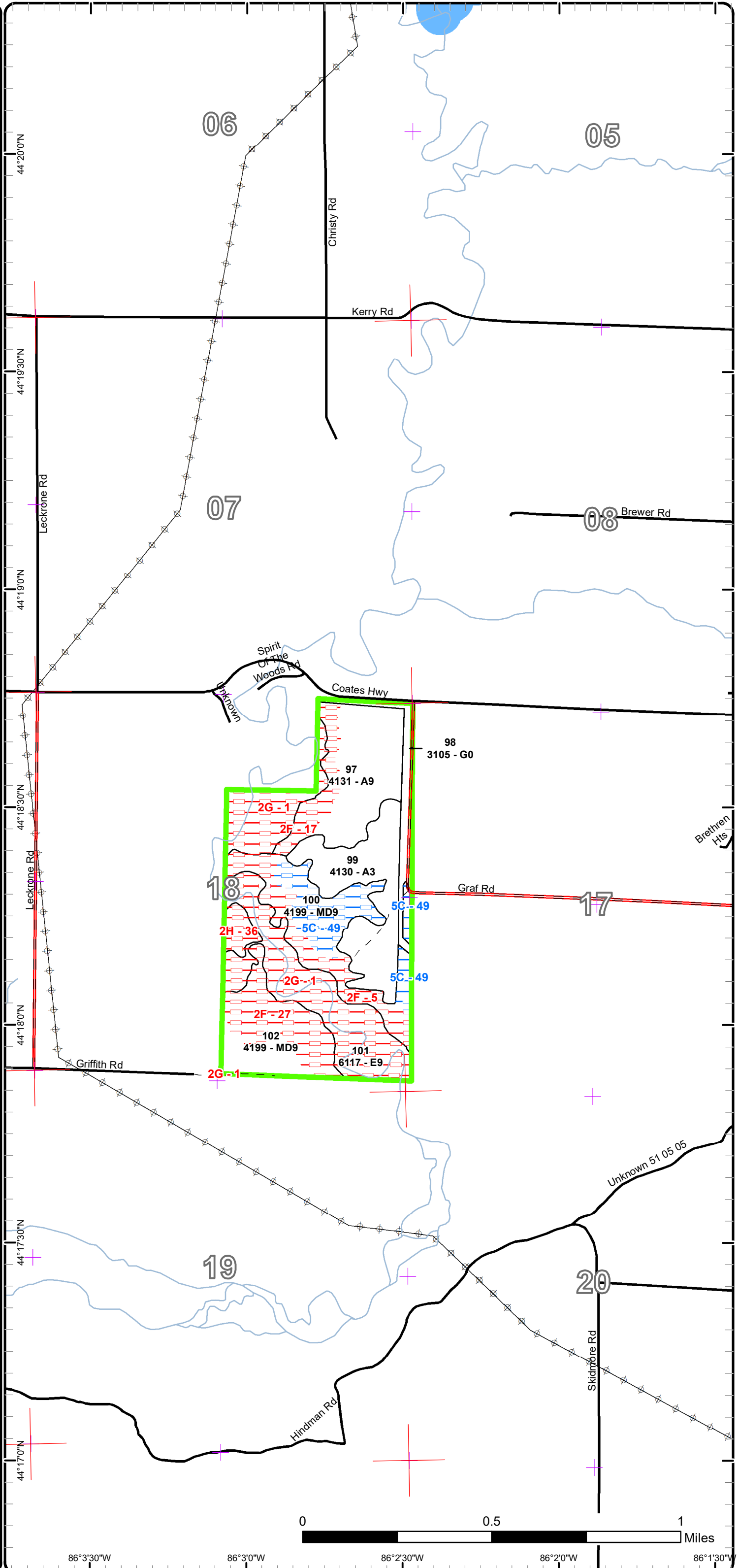


Special Conservation Areas & Site Conditions Map

Compartment: 39
 T23N R13W Sec. 06, 07
 County: Manistee
 Unit: Traverse City
 Mgmt Area: Manistee Plains
 YOE: 2019
 Acres: 2489.4 GIS Calculated
 Examiner: Patrick Cotant
 Map Revised: 8/7/2017
 Map Phase: Post-Review



- Miris Corners
- + Remonumented Section Corners
- Counties
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- Streams
- Powerline
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2F: Too steep
- 2G: Too wet (sensitive soils, does not include access issues)
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- Stand Boundaries
- Cold Water Streams
- High Priority Trout Stream Buffer



86°3'30"W 86°3'0"W 86°2'30"W 86°2'0"W 86°1'30"W

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	5	60	30	0	99	63	136	0	5	0	0	0	0	0	0	0	0	398
Bare/Sparsely Vegetated	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36
Bog	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Cedar	0	0	0	0	0	0	0	0	0	24	114	0	0	0	0	0	0	0	138
Herbaceous Openland	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	76
Jack Pine	0	0	31	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105
Low-Density Trees	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
Lowland Aspen/Balsam Poplar	0	0	0	0	6	60	0	0	40	0	0	0	0	0	0	0	0	0	106
Lowland Conifers	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5
Lowland Deciduous	0	0	0	0	0	0	10	164	63	411	128	167	0	0	0	0	0	0	943
Lowland Shrub	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66
Marsh	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Mixed Upland Deciduous	0	0	0	0	0	0	0	5	0	99	0	0	0	0	0	0	0	0	104
Northern Hardwood	0	0	0	0	0	0	0	5	4	32	0	0	0	0	0	0	0	0	41
Red Pine	0	67	0	30	0	0	79	123	36	0	0	0	0	0	0	0	0	0	334
Sand, Soil	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	35
Urban	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
Water	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38
Total	282	72	91	134	6	159	152	433	143	576	242	167	0	0	0	0	0	35	2490



Report 2 – Treatment Summary

Traverse City Mgt. Unit
Year of Entry: 2019

Compartment 39
Total Compartment Acres: 2,489

Acres of Harvest

Commercial Harvest - 194
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	Oversory Removal	Salvage	Other	Total Acres
Aspen	56	0	0	0	0	0	0	0	0	56
Mixed Upland Deciduous	0	13	0	0	0	0	0	0	0	13
Red Pine	61	0	0	0	0	65	0	0	0	127
Total	117	13	0	0	0	65	0	0	0	195

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	195	0	0	0	0	0	0	0	0	195
Next Step	0	122	61	0	0	0	190	0	0	374
Total	195	122	61	0	0	0	190	0	0	568



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
4	61039004-Cut	6.7	42110 - Planted Red Pine	Poletimber Well	59	141-170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Thin red pine down to approximately 120 sq ft/ac removing forked, suppressed or otherwise poorly formed trees. Some well formed trees may need to be removed throughout stand to get overall stocking to more appropriate levels.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

6	61039006-Cut	5.3	42110 - Planted Red Pine	Sawtimber Well	70	111-140	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
---	--------------	-----	--------------------------	----------------	----	---------	---------	----------------	-------------------------	-----------	----------------------

Habitat Cut: No

Site Condition:

Prescription Thin this portion of stand 6 reducing BA by approximately 1/2. This should account for aesthetics near road and for landowners across Healy Lake Rd. as stand 10 is fully stocked but still short in height and remainder of this stand (6) and stand 14 further to the east are proposed to be final harvested and replanted.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 04/03/2017

6	61039006-Cutx	30.5	42110 - Planted Red Pine	Sawtimber Well	70	111-140	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
---	---------------	------	--------------------------	----------------	----	---------	---------	----------	-------------------------	-----------	----------------------

Habitat Cut: No

Site Condition:

Prescription Final harvest all species and replant to red pine at plantation spacing. Consider joining stands 6 & 14 when establishing new plantation, trenching/planting across current U-type between these two proposed treatments. Require chipping on this sale.
Specs:

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

Acceptable Red pine at plantation spacing.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

14	61039014-Cut	30.6	42110 - Planted Red Pine	Poletimber Well	57	141-170	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
----	--------------	------	--------------------------	-----------------	----	---------	---------	----------	-------------------------	-----------	----------------------

Habitat Cut: No

Site Condition:

Prescription Final harvest red pine and all other species throughout stand and replant to red pine at plantation spacing. Require stump heights 6" or less. Require chipping for this sale.
Specs:

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

Acceptable Red pine at plantation spacing.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
27	61039027-Cut	16.7	42110 - Planted Red Pine	Poletimber Well	56	141-170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No **Site Condition:**

Prescription Thin red pine by removing forked, suppressed and/or poorly formed individuals with some better formed red pine being removed to get stocking to
Specs: more appropriate levels.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

29	61039029-Cut	16.5	42110 - Planted Red Pine	Poletimber Well	60	171-200	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
----	--------------	------	--------------------------	-----------------	----	---------	---------	----------------	-------------------------	-----------	----------------------

Habitat Cut: No **Site Condition:**

Prescription Thin red pine reducing BA by approximately 1/3 to ~130 sq ft/ac. Remove hardwoods that are present where necessary to facilitate operability and
Specs: remove suppressed red pine around larger crowned hdwds.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

31	61039031-Cut	7.4	42110 - Planted Red Pine	Poletimber Well	61	171-200	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
----	--------------	-----	--------------------------	-----------------	----	---------	---------	----------------	-------------------------	-----------	----------------------

Habitat Cut: No **Site Condition:**

Prescription Thin red pine, reducing overall BA to approximately 130 sq ft/ac, focusing on removing forked, suppressed and/or poorly formed individuals while also
Specs: removing some well formed trees to improve overall stand stocking.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

41	61039041-Cut	12.8	42110 - Planted Red Pine	Sawtimber Well	61	171-200	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
----	--------------	------	--------------------------	----------------	----	---------	---------	----------------	-------------------------	-----------	----------------------

Habitat Cut: No **Site Condition:**

Prescription Thin red pine, reducing overall BA by 1/3. Target residual BA should be approximately 130 sq ft/ac. Focus on removing forked, defected and/or
Specs: suppressed individuals with some well formed individuals being removed to improve overall stocking.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018



Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
70	61039070-Cut	7.1	4130 - Aspen	Poletimber Well	58		Harvest	Clearcut	4136 - Aspen, Mixed Conifer	Even-Aged	Draft Field Boundary

Habitat Cut: No Site Condition:

Prescription Harvest all aspen and red maple within treatment area. Extend treatment into wetter portions of stand where possible, specifically along the west edge and if possible westward through stand 70. Leave scattered white pine in treatment area along with balsam fir. High water table throughout stand makes delineation of treatment area difficult so treatment shape and size will most likely differ when sale is set up.

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

Acceptable Regen: aspen, red maple, white pine and balsam fir are expected to regenerate.

Other Comment:

Proposed Start Date: 03/06/2017

71	61039071-Cut	5.1	4133 - Aspen, Mixed Pine	Poletimber Well	52		Harvest	Clearcut	4136 - Aspen, Mixed Conifer	Even-Aged	Draft Field Boundary
----	--------------	-----	--------------------------	-----------------	----	--	---------	----------	-----------------------------	-----------	----------------------

Habitat Cut: No Site Condition:

Prescription Harvest all aspen and red maple, leave scattered conifers throughout stand for aesthetics and thermal cover. exclude small wet areas along trail through treatment area from sale, these areas were created when dirt was borrowed to build up primitive trail to Lemon lake. Expand treatment area to the west wherever possible in an attempt to regenerate more aspen and red maple.

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

Acceptable Regen: aspen, red maple, white pine and balsam fir are expected to regenerate throughout treatment area.

Other Comment:

Proposed Start Date: 03/06/2017

80	61039080-Cut	6.6	4133 - Aspen, Mixed Pine	Poletimber Well	59	Unspecified	Harvest	Clearcut	4136 - Aspen, Mixed Conifer	Even-Aged	Draft Field Boundary
----	--------------	-----	--------------------------	-----------------	----	-------------	---------	----------	-----------------------------	-----------	----------------------

Habitat Cut: No Site Condition:

Prescription Cut all aspen and red maple, retain scattered conifers. Expand treatment along edges where possible, most notably along NE edge. Appropriate setback near Lemon lake should be determined by consultation with fisheries division. Avoid excessively wet areas throughout stand.

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

Acceptable Regen: aspen, red maple and mixed conifers are expected to regenerate.

Other Comment:

Proposed Start Date: 03/06/2017

97	61039097-Cut	36.7	4131 - Aspen, Oak	Sawtimber Well	67	Unspecified	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary
----	--------------	------	-------------------	----------------	----	-------------	---------	----------	-------------	-----------	----------------------

Habitat Cut: No Site Condition:

Prescription Cut all aspen and red maple, mark to leave scattered, large crowned white and red oak - in addition, leave all white pine throughout stand. Treatment shape was adjusted to exclude western edge of stand where topography and proximity to Bear Creek inhibit harvest potential and

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

Acceptable Regen: Aspen, red maple, white pine and scattered oak are expected to regenerate throughout stand.

Other Comment:

Proposed Start Date: 10/01/2018



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
102	61039102-Cut	12.5	4199 - Other Mixed Upland Deciduous	Sawtimber Well	86	171-200	Harvest	Single Tree Selection	4199 - Other Mixed Upland Deciduous	Two-Aged	Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription This stand reducing overall BA to more appropriate levels - in the 70-90 sq ft/ac range. In addition, create 1-3 canopy gaps in an attempt to stimulate regeneration. Will expect bramble development within these gaps initially but should expect regen to develop in the future. Remove all aspen along with any beech and ash present. Favor best quality red oak, sugar maple and red maple for retention.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Regen: Expect oak, beech, aspen and red/sugar maple regen along with some white pine regen.

Other

Comment:

Proposed Start Date: 04/03/2017

Total Treatment Acreage Proposed: 194.5

Report 4 – Site Conditions

Traverse City Mgt. Unit

Patrick Cotant : Examiner

Compartment: 39

Year of Entry: 2019

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions										
		With Condition	Not Available		2B	4A	5B	5C	1C	2A	2F	2G	2H	3G	3H
399	151	66	181	Aspen	27			39	8	76	13	28	57		
37	34	0	3	Bare/Sparsely Vegetated					3						
9	9	0	0	Bog											
138	124	0	15	Cedar					15						
76	76	0	0	Herbaceous Openland							0				
105	105	0	0	Jack Pine											
27	21	0	6	Low-Density Trees					6						
106	17	0	89	Lowland Aspen/Balsam Poplar					2			87			
5	0	0	5	Lowland Conifers					5						
941	27	0	915	Lowland Deciduous							18	807		33	57
66	66	0	0	Lowland Shrub											
3	3	0	0	Marsh											
104	13	28	63	Mixed Upland Deciduous				28			52	5	6		
41	7	9	25	Northern Hardwood			9		3	22					
334	319	5	10	Red Pine		5				10					
2	2	0	0	Sand, Soil											
35	35	0	0	Upland Mixed Forest											
24	22	0	2	Urban					2			0			
37	37	0	0	Water											
2,489	1,066	109	1,314	Total Forested Acres	27	5	9	67	43	108	84	926	63	33	57
	43%	4%	53%	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)	73	2F: Too steep	Unspecified	Unspecified	Unspecified
Comments:							
Majority of stand is too wet and includes Bear Creek, portions containing seeps flowing towards creek are too steep.							

Report 4 – Site Conditions

Traverse City Mgt. Unit

Patrick Cotant : Examiner

Compartment: 39

Year of Entry: 2019

2	Unavailable	2A: Adjacent landowner denied access	65	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Need to secure permission to cross private property in order to harvest this stand. The southern third of the stand will be inaccessible due to small lowland area bisecting stand making access to the southern third unlikely.</p>							
3	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	18	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: Small bridge of land connects this stand with gas well site to the north. degraded at this time, would need a culvert, fill and portable bridge to access stand. Consider treating and using this access next inventory cycle - 2029 YOY.</p>							
4	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	16	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments:</p>							
5	Unavailable	2F: Too steep	24	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments:</p>							
6	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	17	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments:</p>							
7	Available	4A: No Markets Available for these Forest Products	2	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments:</p>							

Report 4 – Site Conditions

Traverse City Mgt. Unit

Patrick Cotant : Examiner

Compartment: 39

Year of Entry: 2019

8	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	67	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Standing water throughout the year, seeps on small ridges within stand.							
9	Available	2B: Unknown if access through adjacent landowner(s) is possible	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Access was granted by landowner to the NE of stand when cut in 1973. Unknown if landowner will allow access next YOY when stand would be ready/desirable to harvest.							
10	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	39	2A: Adjacent landowner denied access	Unspecified	Unspecified	Unspecified
Comments:							
11	Available	2B: Unknown if access through adjacent landowner(s) is possible	14	Unspecified	Unspecified	Unspecified	Unspecified
Comments: PVT landowner to the south allowed access to inventory this landlocked piece of state land, unknown if access for timber harvesting would be granted.							
12	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	241	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Traverse City Mgt. Unit

Compartment: 39

Patrick Cotant : Examiner

Year of Entry: 2019

13	Unavailable	3H: Deer Wintering Area - habitat is incompatible with harvest at this time	21	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
14	Available	4A: No Markets Available for these Forest Products	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
15	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
16	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	15	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
17	Unavailable	2F: Too steep	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
18	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Traverse City Mgt. Unit

Patrick Cotant : Examiner

Compartment: 39

Year of Entry: 2019

19	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	38	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
20	Unavailable	3H: Deer Wintering Area - habitat is incompatible with harvest at this time	36	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
21	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	129	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
22	Unavailable	2A: Adjacent landowner denied access	41	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
23	Unavailable	3G: Other Influence zones - See comments	33	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
24	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	28	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Traverse City Mgt. Unit

Patrick Cotant : Examiner

Compartment: 39

Year of Entry: 2019

25	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
26	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
27	Unavailable	2F: Too steep	28	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments: Very steep portion of stand 102 with some wet seeps and adjacent lowland pockets in northern finger of stand.							
28	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	36	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
29	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Traverse City Mgt. Unit

Patrick Cotant : Examiner

Compartment: 39

Year of Entry: 2019

30	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
31	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	40	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
32	Unavailable	1C: Other dept or div proc/practices	24	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Joint management between PRD and FISH.							
33	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
35	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
36	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	6	2F: Too steep	Unspecified	Unspecified	Unspecified
Comments: Somewhat of an upland island surrounded by lowland areas and also areas that inhibit access due to being too steep and/or sensitive soils.							

Report 4 – Site Conditions

Traverse City Mgt. Unit

Patrick Cotant : Examiner

Compartment: 39

Year of Entry: 2019

37	Unavailable	2F: Too steep	18	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
38	Unavailable	1C: Other dept or div proc/practices	19	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Joint management between PRD and FISH.							
41	Unavailable	2A: Adjacent landowner denied access	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
42	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
43	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	20	2I: Survey needed	Unspecified	Unspecified	Unspecified
Comments: Portions of this area of stand 70 will be cut however majority should be left to diversify aspen age classes and avoid excessively wet areas. Survey will also be needed eventually to delineate boundary near powerline ROW.							
44	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	14	Unspecified	Unspecified	Unspecified	Unspecified
Comments: potential to harvest portions of stand, will attempt to cut more of stand when adjacent harvest takes place.							

Report 4 – Site Conditions

Traverse City Mgt. Unit

Patrick Cotant : Examiner

Compartment: 39

Year of Entry: 2019

45	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
46	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Delay treatment in this area to allow aspen to increase size a bit more and to allow for development of multiple aspen age classes in area.							
47	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
48	Available	5B: Maintain for regeneration purposes	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
49	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	28	Unspecified	Unspecified	Unspecified	Unspecified
Comments: keep for size class diversity on this small outlying chunk of state land, with adjacent young aspen stand and proposed treatment to the north along Coates Hwy.							
50	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	141	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
----------	--------------	-------------	----------------	-------

Comments



Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

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

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

Conservation Area	Type	Description
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	6120 - Lowland Cedar	Sawtimber Well	14.6	85	Unspecified	lowland stand, difficult to access for inventory, done with a combo of field/edge. Stand is more representative of a cedar swamp in terms of species composition in southern areas of stand, then transitions to more of an e-type in north with red maple and aspen more common. Seeps/small creeks common throughout stand, leading towards Bear Creek.
3	4139 - Aspen, Mixed Deciduous	Poletimber Well	7.7	62	Unspecified	Walked to the north edge of stand - difficult to determine where property line is. Could not find a reliable corner on road at south end of state ownership, or a corner at northern edge. Stand is mix of aspen and hardwoods, with aspen more common in northern portion of stand and sugar maple/hardwoods more common in south. Some hemlock and cedar present along east edge of stand.
4	42110 - Planted Red Pine	Poletimber Well	6.7	59	141-170	Nice red pine, still some defect present. Some variability on stocking with an average ba of 170 sq Ft/ac with some pockets around 190-200. Consider thinning to remove lesser quality trees and improve overall stocking.
6	42110 - Planted Red Pine	Sawtimber Well	35.8	70	111-140	Very nice quality stand, ba averages 110-130. Consider treating this yoe. One small pocket of decline along northern edge of stand - more than likely bark beetle. High concentration of hwd regen within this pocket.
7	42220 - Natural Jack Pine	Sapling Well	11.3	15	Unspecified	Some natural red pine regeneration present along with scattered red pine poles and black cherry poles. Very dense JP regen.
8	6113 - Lowland Maple	Poletimber Medium	2.9	83		Lowland with some hummocks/upland, somewhat open in places. Dense winterberry in pockets of under story. Split small a3 pocket from west edge of stand, cut last yoe, now a fully stocked aspen sapling pocket/stand. West part of stand was cut along with adjacent pine thinning. Monitor at time of next inventory to see if warrants being split into a new stand.
10	42110 - Planted Red Pine	Sapling Well	67.1	6	Immature	Planted stand of red pine, growing well with good stocking overall and minimal competition from less desirable species. Some small pockets of variable stocking, occasional mortality on red pine saplings but overall good health. Great deal of red pine volunteers throughout stand - from regen survey: 642 planted TPA, 1846 total site species TPA.
12	42110 - Planted Red Pine	Sawtimber Well	2.4	60	171-200	Good quality red pine, growing well. Red maple and other hardwood regen is established along with scattered white pine. Could thin again to reduce stocking and remove remaining defect.
13	42110 - Planted Red Pine	Sawtimber Poor	42.5	67	1-50	Decent quality red pine that was seed tree/shelterwood harvested last YOE. Red pine is fair quality, tops are thin in places. Stand has a couple vernal ponds that were excluded from treatment area in north central portions of the stand.
14	42110 - Planted Red Pine	Poletimber Well	30.6	57	141-170	Some variability in stocking, stand averages about 170 sq Ft/ac. Consider thinning this yoe. Transitioning from pole to log, average dbh is 8-10".



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
15	4112 - Maple, Beech, Cherry Association	Sawtimber Well	9.4	87	111-140	Mediocre red maple stand, typed as log sized but variability in diameter and prevalence of red maple poles results in potential for stand to be typed as pole rather than log. Trace paper birch along with some pockets of stand dominated by aspen of mediocre quality. Treated last YOE, not much regeneration in understory. Current BA falls in the lower end of the 111-140 range, averaging 110-120. Stand transitions to more pole sized trees in south finger, similarly to NW corner which also has more aspen in canopy, albeit not very much.
18	4139 - Aspen, Mixed Deciduous	Sapling Well	16.0	15		Mixed deciduous stand with pockets dominated by aspen spp but also areas where red maple and bc dominate. Scattered red oak throughout, concentrated in northern portion, also areas of smaller wp, mostly in the south. Small vernal pond in southern part of stand, other small areas of high water table present. Areas mainly occupied by shrubs and minimal deciduous regeneration. Trace cedar small poles present in southern wet area, consider delineating this area out as own lowland nonforested stand.
19	42220 - Natural Jack Pine	Sapling Well	19.7	16	Unspecified	Some natural red pine reproduction present, overall very dense JP regen with scattered BC overstory trees. In addition, this long, linear stand includes two rows of red pine log sized trees along the eastern edge, left as retention from previous harvest.
20	42110 - Planted Red Pine	Sawtimber Well	2.7	60	171-200	Nice rp stand with pockets of hardwood regeneration present, most notably sugar maple. Beech, rm, aspen and white pine also present along with trace oak. Red pine is good quality, tall, minimal defect present. High stocking, consider thinning with small plantation directly to the north.
22	6119 - Mixed Lowland Deciduous Forest	Poletimber Medium	5.3	63	Unspecified	Stand has some low areas with cattails and standing water near the north central part of the stand. Small area of stand was harvested when stand 10 was cut, providing a small area of lowland aspen/red maple regen in the southern finger of the stand.
24	42110 - Planted Red Pine	Sawtimber Well	7.9	60	81-110	Ba hovers in the 90 sq Ft range, trees growing well and responding to most recent treatment with good growth. Not much in understory, some red pine natural regen, more dense pockets in places. Northern portion of stand was left for long term retention resulting from adjacent seed tree harvest and thinning to the south - ba in northern chunk of stand is more in the 200 sq Ft/ac range.
25	4112 - Maple, Beech, Cherry Association	Sawtimber Well	2.5	83	111-140	White ash present is completely dead. Sugar maple, basswood and cherry present in low numbers. Overall low quality, some decent stems, aspen present is good quality. Old comment-Trace of beech and white ash in canopy.
27	42110 - Planted Red Pine	Poletimber Well	16.7	56	141-170	Nice red pine stand, no understory at all. Some defect present, forked tops, suppressed, crooked trees. Could remove with a thinning, reducing ba from 170 to 120. Average ba is 170, with pockets in the 180-190 range. Overall good quality and responding well to most recent thinning. In the process of transitioning from pole to log, similar to the other plantations nearby.
28	4130 - Aspen	Sapling Well	2.9	6	Unspecified	Aspen regenerating fairly well, mixed with other deciduous species reflected in canopy make-up. Scattered white pine and fir present.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
29	42110 - Planted Red Pine	Poletimber Well	16.5	60	171-200	Nice rp stand, slightly higher stocking than stand 27 to the north, this stand is averaging 180 sq Ft/ac so on the lower end of the range identified. Good quality overall, some defect and suppressed trees present, consider treating stand by thinning to remove defect and get stocking back to more appropriate levels. Scattered red maple and black cherry present throughout.
31	42110 - Planted Red Pine	Poletimber Well	7.4	61	171-200	Rp stand growing well, responding well to most recent thinning. Still defect present, could consider treating with another thinning to reduce stocking to more appropriate levels.
33	4130 - Aspen	Sapling Medium	1.2	8	Immature	Split off portion of stand 8 that was cut when adjacent red pine was thinned. Stand has noticeable high water table but looks to be dry aside from spring. Aspen regen is dense in eastern part of stand, more mixed with red maple in western portion.
34	42120 - Planted Jack Pine	Sapling Well Pine	6.7	22	Unspecified	Mixed stand of jack pine/red pine - JP is of natural origin and red pine is planted. Very dense stand overall with pockets heavier to red pine where plantation was successful but plenty of pockets of jack pine regen dominant.
36	42120 - Planted Jack Pine	Sapling Well Pine	32.7	22		Red pine plantation that has high jp natural regent/stocking. Rp is fair quality, albeit suppressed. Jp bearing cones, trees present are too big for roller chopping. Recommend waiting to see eventual species composition and evaluate for treatment options.
37	42220 - Natural Jack Pine	Sapling Well Pine	19.0	22	Unspecified	Fully stocked jack pine regen, very dense throughout. Scattered BC scattered throughout.
38	4130 - Aspen	Sapling Well	12.6	24	Unspecified	Fully stocked aspen stand, growing well. White present as well along with bf and trace rp around perimeter of stand. Some areas along the ne edge have beaver activity from adjacent lowland/creek. White pine concentrated in spots, notably adjacent to nearby stand 35 and in south/southwest finger of stand.
40	42220 - Natural Jack Pine	Sapling Well Pine	15.7	22	Unspecified	Very dense jack pine regen, growing well.
41	42110 - Planted Red Pine	Sawtimber Well	12.8	61	171-200	Good quality rp stand, responding well to last thinning. Transitioning from pole to log, dbh averages about 10". Some defect present, also some higher than desirable stocking levels-could thin by removing approximately 1/3 to remove defect and get stocking to more desirable levels.
42	6118 - Lowland Deciduous with Cedar	Sawtimber Well	16.0	72	Unspecified	Mixed stand with red maple dominant, mixed species make up remainder of overstory stocking. Overall stand is lowland but upland areas are present along with slopes containing seeps flowing towards lemon creek. Quite a few standing snags. Consider dipping in to stand to capture/regenerate aspen when adjacent red pine stands are treated. Multi part stand, area west of snow trail is more sloped with slight upland along southern
44	42110 - Planted Red Pine	Poletimber Well	9.9	57	201+	Nice red pine stand, not yet thinned. Some mortality in intermediate, suppressed individuals. If access can be obtained from PVT landowners to the east, recommend row thinning stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
45	4130 - Aspen	Poletimber Well	18.4	46	Unspecified	Aspen stand with red maple and bc throughout. Yellow birch along lowland edges, trace large wp also present. Trace cedar in understory, concentrated near vernal/lowland pockets which are scattered throughout stand. Merged with original stand 80 to the north in compartment 38. There is a small bridge of land connecting well pad to the north with this upland aspen area, most likely put in place when stand was cut previously. Missed this potential access when inventorying 61038, would need significant work to access stands, including fill, culvert and portable bridge. Recommend considering next yoe, stand is overall small dbh with variability of size classes throughout.
46	4112 - Maple, Beech, Cherry Association	Sawtimber Well	19.7	86	141-170	Nice stand of red maple with bc and sugar maple throughout as well, along with aspen pockets near edge of stand. Dense black cherry in areas of understory. Some scattered standing snags. Northern fingers of stand have slightly higher water table and some small low spots, slightly higher concentration of overstory yellow birch and understory hemlock however still low in numbers.
47	6113 - Lowland Maple	Poletimber Well	28.1	92	Unspecified	Lowland stand with significant standing water in places throughout stand, otherwise wet with muck soils. Pockets of blow down present, resulting in pockets of red maple regen. Very difficult stand to legally access...
48	4130 - Aspen	Poletimber Well	11.4	44		Slight rise creating upland stand surrounded by lowland and Pvt to the south. Aspen is good quality, tall. Red maple and bc scattered throughout - majority along north edge of stand, along with trace sugar maple and yellow birch.
50	6113 - Lowland Maple	Sawtimber Well	66.6	90		Lowland stand with standing water throughout most of stand for much of the year. Red maple dominates with other species, mostly deciduous making up remainder of stocking.
51	6113 - Lowland Maple	Sawtimber Well	37.9	102	171-200	Wet throughout with standing water throughout much of stand but also some upland ridges 2-3' above surrounding lowland. Still consists of heavy soils with hummocks that have stand water in in low spots, within "upland" portions of stand. Some very large red and silver maple present. Upland ridges may connect to stand 53 in places, with maybe a small crossing of lowland to access these ridges - consider accessing these areas of aspen if/when stand 53 is cut. Traces of cedar, balsam fir, white pine, and paper birch in the canopy.
53	4130 - Aspen	Poletimber Well	13.4	44	Unspecified	Aspen growing well, stand is fully stocked and looks to be in good health overall. Aspen is still of small DBH, some variability in size throughout stand. Would recommend considering treatment options next YOE. trace cedar along edges and in areas where ridge falls into adjacent lowland areas - these are also the areas where balsam fir are most prevalent.
54	4130 - Aspen	Poletimber Well	14.0	61		Trace oak and paper birch.
55	6112 - Lowland Aspen	Poletimber Well	10.5	44	Unspecified	



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
57	6113 - Lowland Maple	Poletimber Well	13.3	77	Unspecified	Trace of yellow birch present in stand. Stand is very wet throughout with hummocky ground present. Standing water in many locations of stand. Fair amount of tipped up red maple in places with small pockets of red maple regen present in these locations.
58	6113 - Lowland Maple	Poletimber Well	9.6	52	Unspecified	Wet stand with significant standing water throughout, hummocky ground in places. Sheet flow heading in a southerly direction.
59	4133 - Aspen, Mixed Pine	Sapling Well	17.6	25	Unspecified	Aspen with black cherry and red maple regen scattered throughout. BTA is ~4" DBH on average and is slowly moving into the pole size class. Northern portion of stand contains a significant component of white pine poles/logs - could have been separated into a separate stand as the deciduous regeneration is noticeably less in this area but decided to leave as is since this white pine was retention from the final harvest that restarted this stand. Stand growing well, fully stocked.
60	6112 - Lowland Aspen	Poletimber Well	11.2	44	Unspecified	Lowland stand with pockets of upland, trace cedar along edges along with balsam fir pockets. Areas of quite wet ground, standing water in places and many areas of hummocky ground. Red maple are relatively small diameter, multi stemmed/stump sprout origin.
61	6118 - Lowland Deciduous with Cedar	Sawtimber Well	20.8	76		Trace amounts of cedar in canopy.
62	6113 - Lowland Maple	Sawtimber Well	14.8	90	Unspecified	Wet throughout with significant sheet flow and standing water, heading in a southerly direction.
63	6118 - Lowland Deciduous with Cedar	Sawtimber Well	35.8	83	Unspecified	Cedar present in pockets and then intermediate in canopy throughout remainder of stand where red maple is more dominant. Pockets of tag alder present, trace hemlock along with scattered isolated pockets of aspen. Some elm saps, good cedar pockets along north side of tag alder, good deer yard habitat.
64	6113 - Lowland Maple	Sawtimber Well	6.6	69		Lowland stand with lemon creek flowing through it and high water table, standing water throughout remainder of stand. Red maple dominant species overall with scattered aspen along edges. Trace balsam fir in understory.
65	42110 - Planted Red Pine	Poletimber Well	15.4	57	141-170	Variable stocking throughout nut averaging 140 sq Ft ac overall. Stand does include more open areas along trail that are occupied mainly by red maple regen along with some overstory deciduous trees and some whet pine saplings.
66	6112 - Lowland Aspen	Sawtimber Well	39.5	74	Unspecified	Variable between upland/lowland. Stand contains many low areas or pockets and is generally lowland. Areas where aspen is concentrated tend to be slightly more upland but still significant standing water in these areas of stand. Large white pine present is scattered throughout stand but also concentrated in pockets along southern border of stand. Illegal ORV trail coming into stand from PVT to the south accessing hunting blinds. An old skid trail/grade/ice road travels through stand from east to west.
67	6112 - Lowland Aspen	Poletimber Well	6.3	32	Unspecified	



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
68	4139 - Aspen, Mixed Deciduous	Poletimber Well	64.6	69	Unspecified	Pockets of large white pine with good natural regeneration in places. Many old white pine stumps present. Deer are yarding in these areas of dense white pine. Southern one third of stand there is a marginally lowland drainage bisecting stand east/west this area dominated by red maple and aspen. Slight elevation gains throughout stand attribute to changes in species comp even in areas that are still upland. Hills are 5-10' in height and contain a greater concentration of larger wp. Small pocket of cedar adjacent to PVT in north edge of stand.
69	6113 - Lowland Maple	Sawtimber Well	33.4	89		Large red maple dominate stand with moderate understory stocking in places. Stand is seasonally very wet with standing water at times.
70	4130 - Aspen	Poletimber Well	28.0	58		Mixed stand with variability in species composition and size within species. Some pockets of stand have high water table. Overall aspen is the dominant canopy species with some clones containing larger log sized individuals while other areas are more average size - 9-10" trees. Could harvest portion of stand, using 2track in east of stand as access. High water table/wet areas should be avoided. Leave scattered large wp and red maple for seed source and aesthetics. Advanced wp regent throughout mug of stand, attempt to protect majority of this regent, similar to other stands in area, this stand is converting to wp and this should be encouraged, in conjunction with maximizing aspen regen.
71	4133 - Aspen, Mixed Pine	Poletimber Well	18.9	52		Larger super canopy white pine, some cedars in riparian area along edge of lake, stand is upland for the most part, but transitions to lowland around edges of Lemon Lake. Aspen and red maple are similarly distributed, however red maple is more prevalent in western portion of stand where the transition from upland to lowland is more apparent while aspen is more common in eastern, more upland parts of stand.
72	6112 - Lowland Aspen	Poletimber Well	36.1	45		Some larger wp present throughout, concentrated on small ridges. Heavy pockets of balsam fir in the sub-canopy visible on dog's. Some of the higher pockets and ridges are supporting q. aspen as well. Scattered yellow birch and ash snags throughout. Traces of oak and beech saps and occasional paper birch in these higher spots. Small pockets of understory hemlock in in eastern finger. Stand has an old trail/ice road leading into eastern finger that deteriorates as the stand gets more wet. Some overstory oaks present within stand near Thompsonville rd.
73	6113 - Lowland Maple	Poletimber Well	140.5	69		Red maple dominant, high water table throughout. Seems to be two size classes of red maple with a 68 year age and an approximately 40 year age class of smaller dbh trees. Removed ash species from canopy as all overstory ash are dead, understory has significant amount of ash seedlings along with pockets of dogwood in areas where canopy gaps have developed. Fair amount of coarse woody debris on the ground and quite a few standing snags throughout stand, lots of wildlife activity in spots. white pine prevalent in overstory in eastern portion of stand, this area is the transition zone from up/lowland. Hemlock and wp also present in underscore in this area.
75	4139 - Aspen, Mixed Deciduous	Poletimber Well	9.3	44	Unspecified	Mixed stand on mostly upland small ridges, some lowland present within stand, closer to lemon lake. Trace red oak poles on ridges. Access to lemon lake within stand, small boat launch present, in relatively good shape. Red maple variable in terms of size throughout stand, some large multi stemmed individuals present along with pole/log sized trees.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
77	6113 - Lowland Maple	Poletimber Well	6.4	80		Lowland stand, trace cedar along edges along with hemlock and birch, all pole size. Standing water at time of inventory.
78	6113 - Lowland Maple	Poletimber Medium	12.8	77		Mixed stand of lowland brush, sparsely forested and red maple/white pine, more densely stocked. Standing water in much of stand, with pockets of hummocky ground. West of Thompsonville Rd stand becomes more uniformly stocked with a higher concentration of white pine. Lowland areas less densely stocked have thick concentrations of tag alder.
79	6120 - Lowland Cedar	Poletimber Well	9.3	82	81-110	Edge stand separated from stand 45. Consists of lowland cedar with other species in canopy list scattered throughout. wet/heavy soils throughout with some seeps and a small creek in western finger. Significant cedar mortality along southern edges of stand where flooding has fluctuated over the years throughout stand 43. Some beaver activity along edges.
80	4133 - Aspen, Mixed Pine	Poletimber Well	16.2	59	Unspecified	Similar to stand 71 to the west however there is less high water table/lowland influence within this stand resulting in a higher percentage of bta in the overstory. White pine is concentrated in the northern areas of the stand while aspen is more dominant throughout remainder, most notably in treatment area. White pine is dense in places and understory is thick in spots. Trace hemlock in eastern edge of stand. Saw eagles flying in this area during inventory, potential nesting site on large white in this area, near lemon lake. Did not see any nests during inventory but if stand is treated, adjustments will need to be made if a nesting site is found nearby. Could treat with aspen to the north of the powerline row.
84	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	4.9	68	111-140	Red maple and white pine dominated with scattered aspen. Wp more dominant on upland portion of stand while red maple occupy majority of southern portion where water table is higher. Stand is in the process of converting to white pine with dense understory of wp present along with significant beech component. Some large white pine present in the 30-35" range.
85	4319 - Mixed Upland Forest	Sawtimber Well	34.9	82	111-140	Mixed stand, dominated by rm and wp with aspen and birch scattered throughout. Wp regenerating along edges of stand wherever open ground is present. Some lowland pockets included in stand, majority is upland with water table near surface. Some large wp present, scattered large wp standing snags.
87	6118 - Lowland Deciduous with Cedar	Poletimber Well	17.4	85	Unspecified	
88	6113 - Lowland Maple	Poletimber Well	11.7	65		Wet/saturated soil throughout, stand dominated overall by red maple, majority of black ash are dead standing. Trace birch. Standing water during much of the year.
89	6119 - Mixed Lowland Deciduous Forest	Sawtimber Well	240.6	80		Very wet stand, variable in terms of species composition and with stocking in places. Minimal options if any for access and operability. Lemon creek flows along se edge of stand. Standing water throughout much of stand.
91	4139 - Aspen, Mixed Deciduous	Poletimber Well	4.9	84	Unspecified	Stand is a small upland area as indicated by NWI. Appears to be aspen with a red maple component. Stand age estimate based on other stands in this area.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
92	6120 - Lowland Cedar	Poletimber Well	114.4	91	Unspecified	Significant red maple component in northern portion of stand, more consistently stocked to cedar/fir throughout. Some open areas, other portions very dense, deadfalls common, great deal of cwd throughout. Lots of game trails. Black ash declining rapidly.
94	4133 - Aspen, Mixed Pine	Poletimber Well	8.2	42		Mixed stand with aspen, red maple and white pine along with scattered birch and trace black cherry.
95	6119 - Mixed Lowland Deciduous Forest	Poletimber Well	128.8	106	Unspecified	OI data indicates red maple 30%, quaking aspen 30%, and mx hardwood 40%.
96	4139 - Aspen, Mixed Deciduous	Poletimber Well	38.7	40		Difficult access through swamp, variable size aspen, majority in pole size class. Red maple, cherry and birch all common throughout as well. Trace white pine. Stand is a mix of up and lowland with some areas of standing water and other portions more hummocky and dry. Lots of deadfall throughout as stand has transitioned from sap to pole and stocking has naturally lessened, otherwise aspen is of decent quality.
97	4131 - Aspen, Oak	Sawtimber Well	49.9	67	Unspecified	Aspen/oak stand with scattered red maple and occasional white pine and hemlock. Understory is quite developed in places but not overly dense. Aspen is good quality, not much mortality. Oak species are in good shape, decent quality. Topography on western edge of stand is significant, consider delineating this area out of original stand - also contains much more hemlock and occasional cedar. Consider treating all or portion of stand 97 by removing aspen and some oak, focus on leaving well formed oak in pockets, some of which can provide shade for hemlock present in stand. Residual ba should be in the 20-50 range.
99	4130 - Aspen	Sapling Well	44.4	16		Aspen regeneration with other deciduous species represented throughout. Oak, red maple and white pine overstory retention throughout, in good condition. Does not constitute greater than 2% of canopy.
100	4199 - Other Mixed Upland Deciduous	Sawtimber Well	52.2	89	111-140	Mixed stand dominated by oak and aspen with white and red pine a significant component as well. Some aspen clones where aspen dominates canopy. Hemlock a significant component in understory throughout much of stand. Topography is very pronounced along western edge of stand leading towards river. Numerous springs and seeps originate on slope and flow towards river. Portion of stand on top of bluff is rolling. Canopy also contains trace amounts of beech and paper birch. Several "non-designated" dispersed recreational camp sites along bluff to river in this stand.
101	6117 - Lowland Deciduous, Mixed Coniferous	Sawtimber Well	74.0	84	Unspecified	Steep slopes and terraces with springs leading down to river. Stand also includes floodplains and remnant oxbows down near river.
102	4199 - Other Mixed Upland Deciduous	Sawtimber Well	46.6	86	171-200	Nice quality oak/hdwd stand with red oak dominant on higher ridges, sugar maple more common as you head north/east and the stand drops in elevation towards Bear Creek. Hemlock also become a much more significant component of the stand as elevation drops towards river. Red oak and much of the hardwood component are very good quality, some defect present and white ash mortality but overall stand is very nice. High elevation above the river with steep slopes. Northeast aspect.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
104	42110 - Planted Red Pine	Sapling Well	29.9	22	Immature	Red pine plantation with jack pine almost equally present. Pockets where red pine is doing well and dominant in canopy, other areas where jp dominates and red pine if present is significantly suppressed. Red maple and black cherry in understory throughout much of stand, suppressed and appears to be dying off. Traces of red oak present. Distribution of red and jack pine can be clearly seen on ESRI best aerial zoomed in to closest extent.
105	6113 - Lowland Maple	Sawtimber Well	18.3	92	Unspecified	Lowland stand, large red maple present. Some large tip ups from fallen red maple. Conifers scattered throughout, cedar concentrated around more wet areas of stand and in pockets.
106	4112 - Maple, Beech, Cherry Association	Poletimber Well	4.1	78	141-170	Good quality red maple poles with a few scattered black cherry and red maple log sized trees of lesser quality. Trace of sugar maple in canopy.
107	4139 - Aspen, Mixed Deciduous	Sapling Poor	0.7	6	Immature	Narrow stand, very lowly stocked but falls into the 25-50% cover, with aspen, red maple and scattered cherry throughout. Trace balsam fir seedlings in spots. Some significant browse on sapling layer.
108	4113 - R.Maple, Conifer	Sawtimber Medium	2.7	67	81-110	Small stand south of plantation that was not previously included in compartment/state ownership, area was surveyed since last inventory cycle so compartment was expanded slightly to the south and this stand results from that. Mixed stand of red maple, and some aspen with remnant rows of red and white pine from adjacent plantations.
112	6113 - Lowland Maple	Sawtimber Well	0.0	90		Lowland stand with standing water throughout most of stand for much of the year. Red maple dominates with other species, mostly deciduous making up remainder of stocking.
113	42110 - Planted Red Pine	Sawtimber Well	29.8	67	141-170	Very nice quality stand, minimal understory of red pine and beech with scattered wp and rm. Ba averages 140 sq ft/ac with slightly higher stocking in places - ~150 sq ft/ac, very uniform stocking throughout.
115	6112 - Lowland Aspen	Poletimber Medium	2.3	44	Unspecified	Lowland aspen stand, standing water in places, other pockets are hummocky with small ridges along Beaver creek. Aspen is of poor quality and relatively low density, red maple concentrated along Bear Creek.
118	6129 - Mixed Coniferous Lowland Forest	Sawtimber Well	5.3	87	Unspecified	Dense coniferous stand dominated by hemlock of varying sizes and placement in overall vertical canopy structure. Some upland small ridges within stand, many old hummocks. Some white pine present within stand are very large. Ash snags present in places, a decent amount of ash regen in understory, in spots.
120	4112 - Maple, Beech, Cherry Association	Poletimber Medium	2.7	67	51-80	transition from up to low in NW part of stand and along Bear creek. Lots of dead ash, understory brambles thick in places, scattered oak and beech throughout remainder of understory.



Stand	Cover Type	Acres	Managed Site	General Comments:
1	110 - Low Intensity Urban	1.8	No	
5	3105 - Mixed Upland Herbaceous	13.2	No	Stand includes road ROW's with above referenced species present and in places includes roads as well.
9	3104 - Degraded	2.5	No	Not bad for an abandoned oil well pad. cause some reconditioning but consider location (road and red pine). Maybe just leave as timber landing. Bushy red pine poles along edge of adjoining red pine log plantation.
11	3105 - Mixed Upland Herbaceous	1.5	No	
16	3302 - Low Density Conifer Trees	18.7	No	
17	3104 - Degraded	1.0	No	
23	110 - Low Intensity Urban	1.3	No	
26	3104 - Degraded	1.0	No	
30	3303 - Mixed Low Density Trees	2.1	No	lycopodium
32	110 - Low Intensity Urban	1.7	No	
35	6225 - Bog	8.7	No	Scattered white pine, concentrated in southern portion of stand, small, slightly more upland portion included which contains a more concentrated pocket of white pine.
39	790 - Other Bare/Sparsely Vegetate	18.7	No	
43	6229 - Mixed lowland shrub	48.3	No	
52	790 - Other Bare/Sparsely Vegetate	15.3	No	
56	6229 - Mixed lowland shrub	16.6	No	
74	500 - Water	36.9	No	
76	310 - Herbaceous Openland	42.0	No	Occassional small wetland inclusions: willow shrubs, leatherleaf, cattail, and open water. Phragmites patches throughout powerline row, quite extensive in places.



Stand	Cover Type	Acres	Managed Site	General Comments:
81	110 - Low Intensity Urban	4.2	No	
82	110 - Low Intensity Urban	7.8	No	
83	710 - Sand, Soil	1.9	No	Mostly sand (beach like) and bracken with small/shallow pond on west side. Turkey, deer, and raccoon tracks. Some mud running.
86	623 - Emergent Wetland	1.3	No	Pockets of lowland vernal ponds within stand 45. High water table, consisting mainly of low density tag alder and other lowland shrubs. Scattered standing snags along with cedar and concentrations of balsam fir along edges.
90	110 - Low Intensity Urban	3.4	No	
93	110 - Low Intensity Urban	3.3	No	
98	3105 - Mixed Upland Herbaceous	12.0	No	
103	6239 - Mixed Emergent Wetland	1.5	No	
109	3105 - Mixed Upland Herbaceous	2.4	No	
110	790 - Other Bare/Sparsely Vegetate	2.5	No	Well site.
111	122 - Road/Parking Lot	0.3	No	
114	3105 - Mixed Upland Herbaceous	0.7	No	
116	330 - Low-Density Trees	5.1	No	Creek runs through extreme southern edge of stand. Low density trees throughout stand, some minimal topography generally facing westerly.
117	330 - Low-Density Trees	1.3	No	Upland opening with scattered trees throughout, mainly concentrated along edges of stand.
119	500 - Water	0.6	No	Bear creek lying within compartment.
121	6229 - Mixed lowland shrub	1.0	No	Lowland tag alder with standing water