



Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 61060

Entry Year 2019

Acreage: 3,815

County Grand Traverse

Management Area: Benzie Moraines

Revision Date: 2017-05-16

Stand Examiner: Craig Allen

Legal Description:

Grand Traverse County; T25N, R12W, sections 3-10, 16-20 and T26N, R12W, sections 15-22, 27-34.

Identified Planning Goals:

This compartment is part of the Benzie Moraines management area (MA). Vegetative management in the MA will produce various forest products; maintain or enhance biodiversity conservation and wildlife habitat; protect areas of unique character and threatened, endangered and special concern species; provide for forest-based recreational uses; and Native American non-commercial use of forest products. Timber management for this 10-year planning period includes improving the age-class structure of aspen and red pine and continued selection harvesting in high-quality northern hardwoods to achieve an all-age structure. Wildlife management objectives include increasing the structural complexity of northern hardwood communities for interior forest species and perpetuating early-successional communities for species adapted to young forests. Expected trends within this 10-year planning period are forest pest issues, particularly beech bark disease and emerald ash borer and an increase in recreational trail use.

Soil and topography:

The southern and eastern parts of the compartment falls into Land Type Association 1111 characterized as steep, broken ridges with a few kettle lakes and excessively drained sand. The northern and western parts of the compartment fall into LTA 5211, a pitted outwash plain with many kettle lakes and well drained sand or loamy sand. The topography in south part of the compartment is quite hilly with rolling to steep slopes which limit land management opportunities.

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

The compartment consists of one large block of land just south of the village of Karlin and several scattered smaller blocks of land around the village of Interlochen. Interlochen State Park and the Interlochen Arts Academy are located within the compartment. This is an area of high recreational use and continuing development. Several new subdivisions have been constructed and increased development continues in and around this compartment.

Unique Natural Features:

The Betsie River, a designated Natural River, originates in the compartment. Duck Lake and Green Lake, two of the larger lakes in the area are located within the compartment along with several smaller lakes.

Archeological, Historical, and Cultural Features:

There are several prehistoric and woodland period archaeological sites in the area that have been identified by the State Office of Historical Preservation. There are also several old homesteads, foundations and old railroad grades that still remain within the compartment.

Special Management Designations or Considerations:

The old Interlochen State Park dump is located in the NENE of section 3 and is still used by the State park for natural materials.

Watershed and Fisheries Considerations:

This compartment contains parts of the Betsie River, its associated wetlands, and Bass Lake. Appropriate buffers (as outlined in Water Quality Management Practices on Forest Land) and restrictions should be adhered to around all streams in this compartment. These streams are all naturally reproducing coolwater/coldwater streams; existing buffers appear to be appropriate for the proposed treatments. (Heather Hettinger, 2017)

Wildlife Habitat Considerations:

Due to its sprawling and fragmented nature, this compartment encompasses a variety of glacial landforms. Flat sandy outwash plains dominate to the north in comparison to steep moraine ridges in the south. And flat outwash plains of poorly drained soils are associated with the Betsie River and Horton Creek drainages.

A mixture of oak, aspen, pine, and hardwood communities are found on the hills in sections 9, 10, and 16-20, which is

consistent with the dry sandy soils that form these ridges. Occasionally, wildfire would make its way onto these ridges from the adjacent outwash plains. Therefore, managing this moraine complex for a variety of successional stages and age classes of pine-oak-aspen forest and grass-shrub openings, with some mid to late successional forest in places, is appropriate. Wildlife species typically found here include: deer, black bear, wild turkey, downy woodpecker, red bat, and eastern box turtle. The same forest communities are found on the outwash plain, again consistent with the dry and fire-related dynamics of these sandy soils. Consequently, management should again focus on maintaining a variety of age classes and successional stages appropriate to this landscape. Timber treatments should focus on mimicking fires or wind throws by protecting and creating snags and coarse woody debris, incorporating residuals of mast bearing and other species, and utilizing features like topography and water bodies in their design.

The saturated soils along the Betsie and Horton Creek support a variety of lowland communities, including deciduous and coniferous woods, thickets of lowland shrubs, and marshes. Future harvests or habitat cuts are appropriate and should be carefully designed to optimize regeneration and to mimic naturally occurring blowdown pockets. Treatments such as these will benefit species like snowshoe hare, woodcock, bobcats, and chestnut-sided warblers. Care should also be taken to maintain the important winter cover provided by lowland conifer stands. Glossy Buckthorn, an aggressive invasive shrub has been found within these communities. Work has begun with MNFI to develop a strategy to monitor, contain, and hopefully eradicate it.

Openings, brushy areas, and semi-forested habitats are an integral part of this mosaic of upland and lowland communities. They provide grasses and forbs for foraging, nesting, and “bugging” areas; thickets provide nesting, bedding, and escape cover; fruiting shrubs and open-grown mast producing trees provide food and cover. The edge, or transition zone between openings and their adjacent woods is another important habitat component. Where possible, fire should be used to maintain the upland openings. In the lowland communities and where burning is not possible, selective hand felling should be used. Several abandoned oil well pads exist in this compartment and need to be re-vegetated. These sites are comprised of mostly of sterile sandy soils and should be reconditioned and planted to suitable herbaceous cover (Steve Griffith, 2017).

Mineral Resource and Development Concerns and/or Restrictions

There is no known metallic mineral potential in this region. Active sand/gravel pits are located several miles to the east of the compartment. There is sand & gravel potential within the compartment, mostly in the southern portion. The south part of the compartment is located in the prolific Niagaran reef trend. Most of this area is currently leased and has seen production in the past or has current production. There has been some Antrim Shale production several miles to the west. There may be Antrim potential within the compartment. At least one dry Niagaran test well in the area reported high gas content in the Antrim. It is unlikely the Antrim will be developed here in the near future as natural gas prices remain low. (Peter Rose, Geologist, Minerals Div. DNR)

Vehicle Access:

There are many gravel, paved and seasonal county roads throughout the compartment within this area offering good access to State lands. There are also many State forest “2-track” roads in various areas of the compartment that are in good condition and are used for public and DNR land management access.

Survey Needs:

There will be a few survey needs for timber sale treatments.

Recreational Facilities and Opportunities:

There are no designated recreational trails within this compartment (T.M. Neiss 10/10/16).

Fire Protection:

This area has wildfire protection by local Rural Fire Department in Interlochen and the DNR Platte River and Traverse City Field Offices. Due to hilly terrain in some areas access may be an issue. Although there are scattered pine in some areas, a majority of the compartment is in hardwood timber types in which the potential for large catastrophic fires are low.

Additional Compartment Information:

The following reports from the Inventory are attached:

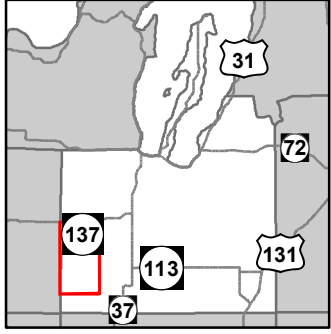
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

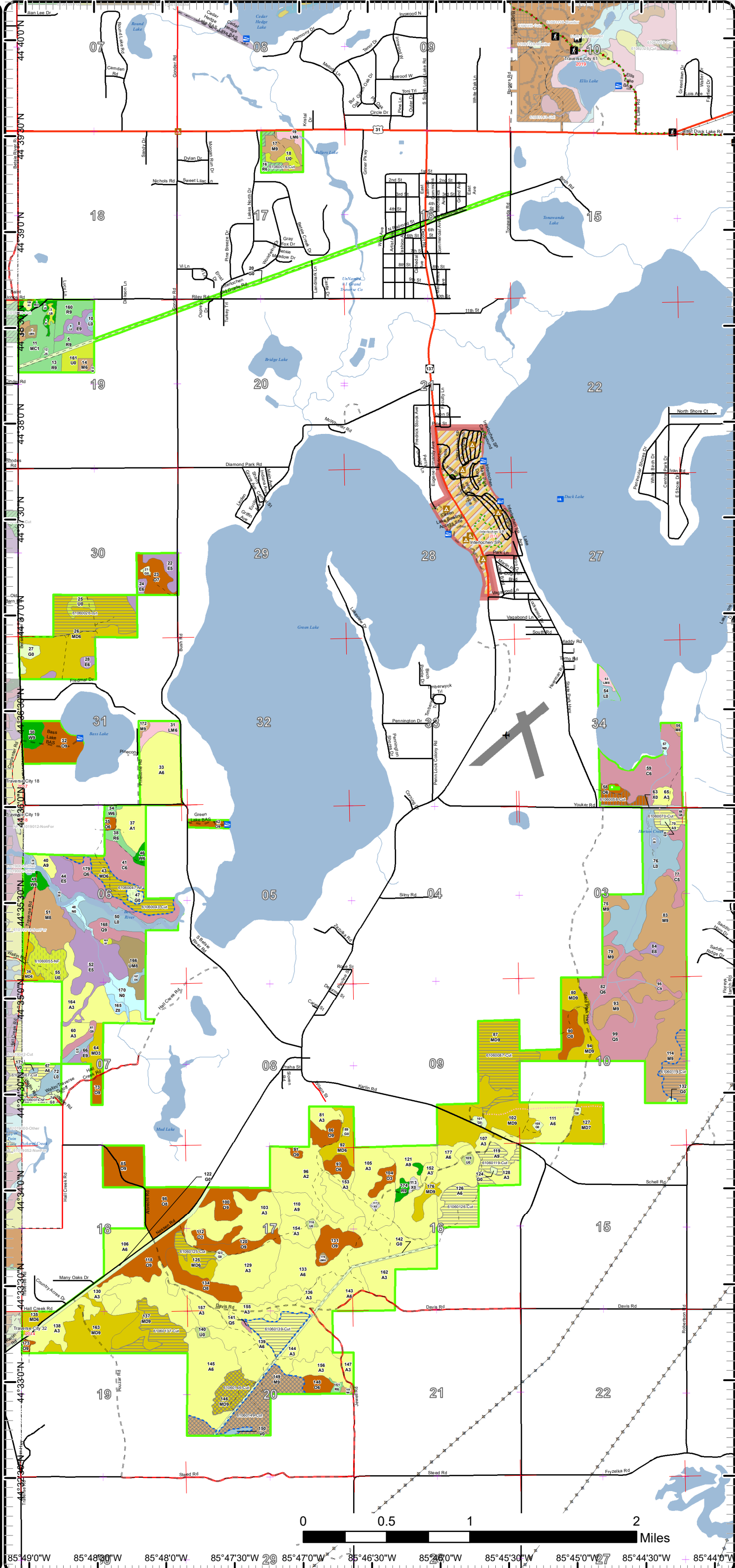
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 60
 T26NR12W Sec. 17,19,30,31-34
 County: Grand Traverse
 Unit: Traverse City
 Mgmt Area: Benzie Moraines
 YOE: 2019
 Acres: 3815.5 GIS Calculated
 Examiner: Craig Allen
 Map Revised: 8/7/2017
 Map Phase: Post-Review



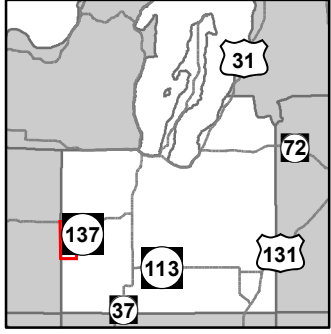
- Miris Corners
- + Remonumented Section Corners
- ▭ Counties
- ⊕ Dams
- ✈ Airport
- ⚓ Boating Access Site
- ⛴ Campground
- 🚶 Hiking Trails
- 🐎 Horse Trails
- ⋯ Designated Hiking Trails
- ⋯ Designated Equestrian Trails
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- - - Gravel Roads
- - - County Poor Dirt Roads
- - - Poor Dirt Roads
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- Active Railroads
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- Lakes and Rivers All
- Powerline
- Airports
- ▭ Compartment Boundary
- ▭ Treatments with Site Conditions
- ▭ Selection (Group, Single Tree)
- ▭ Clearcut (w/Reserves)
- ▭ Other Treatment - See Comments
- ▭ Opening Maintenance
- ▭ Thinning (Crown, Low, Systematic)
- ▭ Shelter Wood (w/Reserves)
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
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- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
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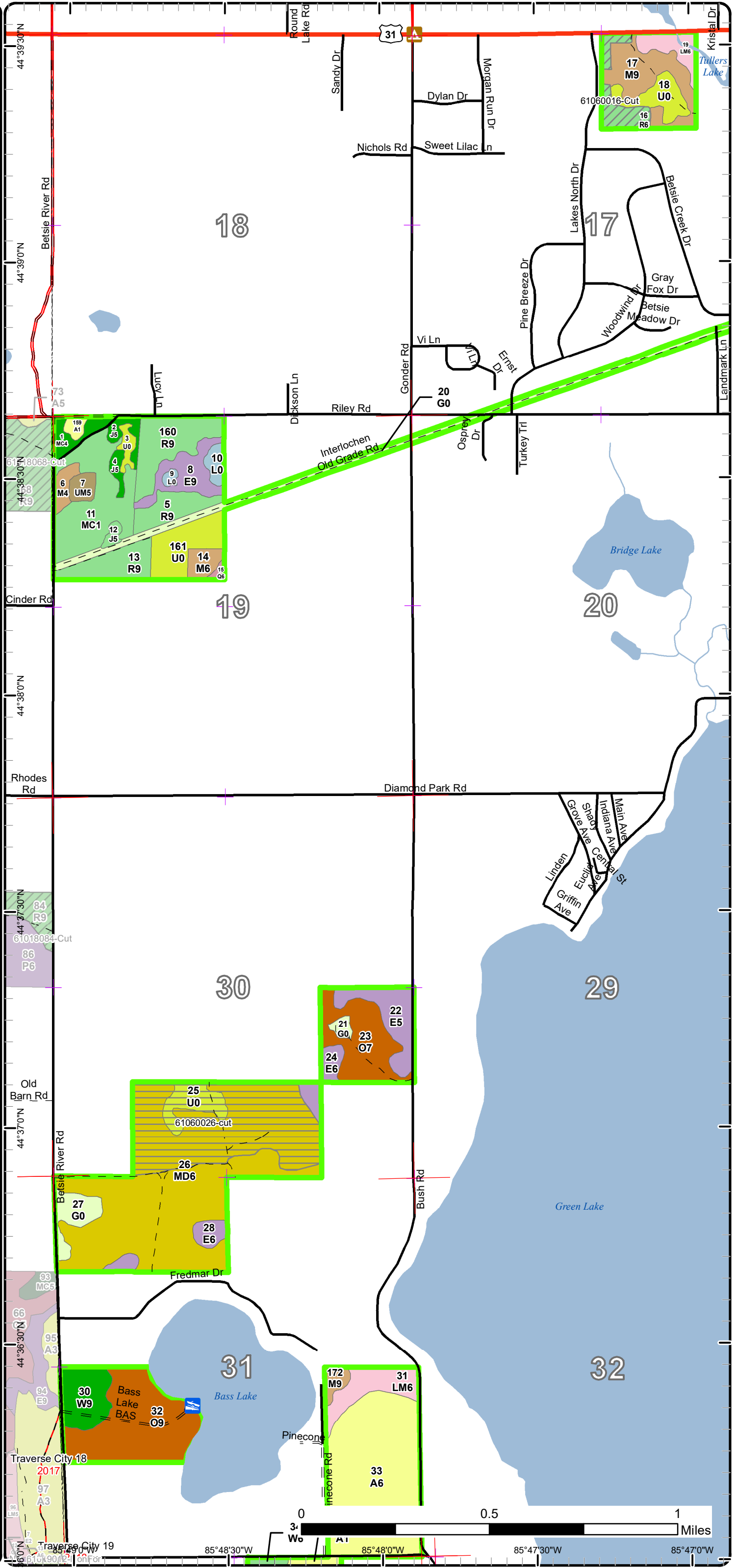
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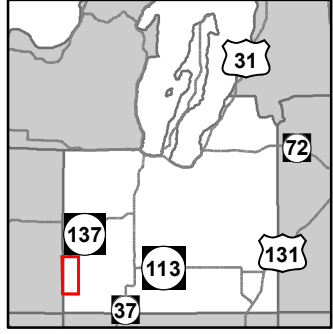


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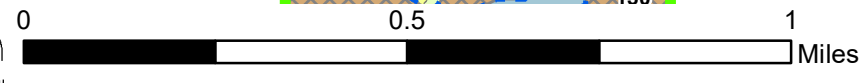
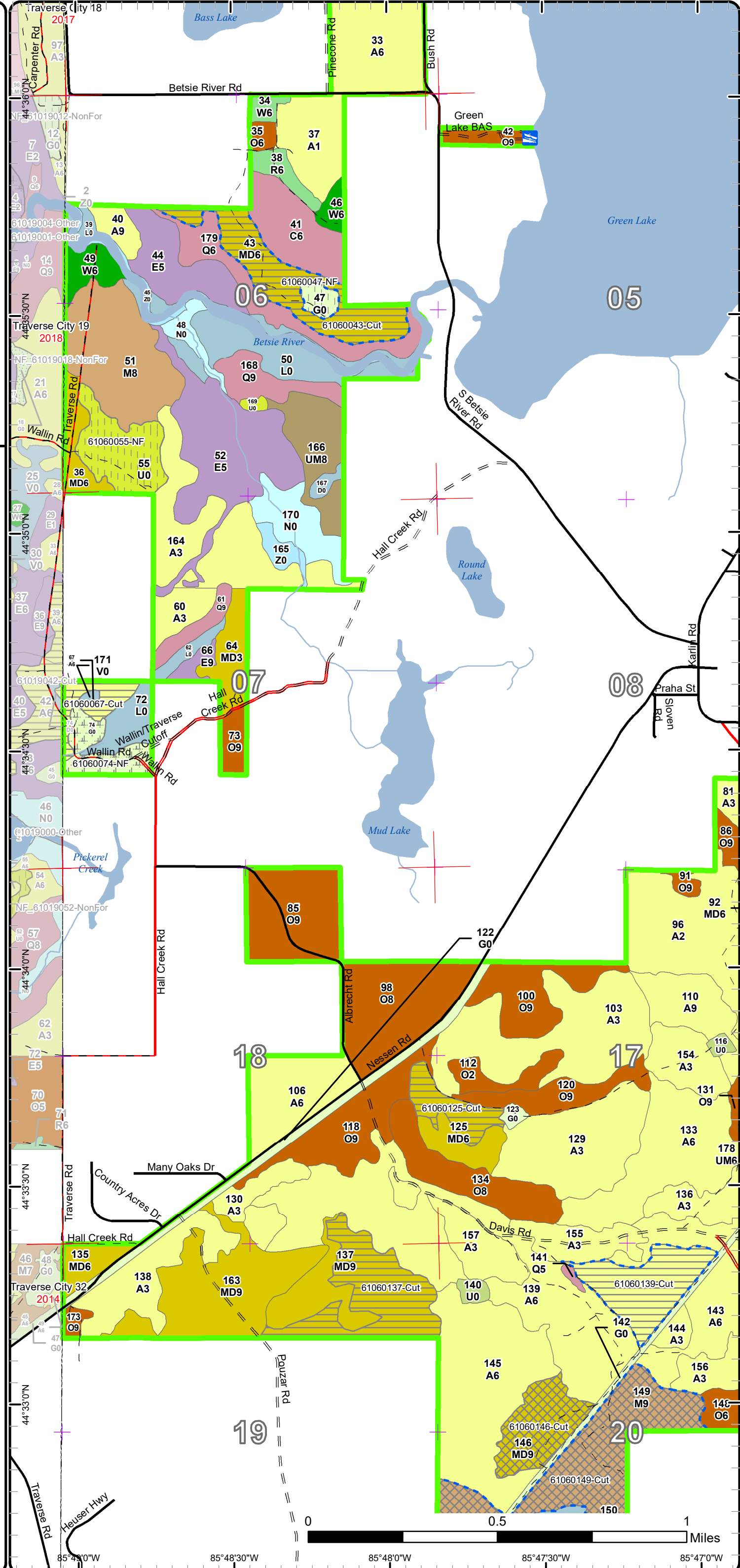
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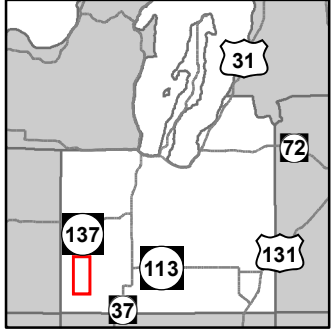
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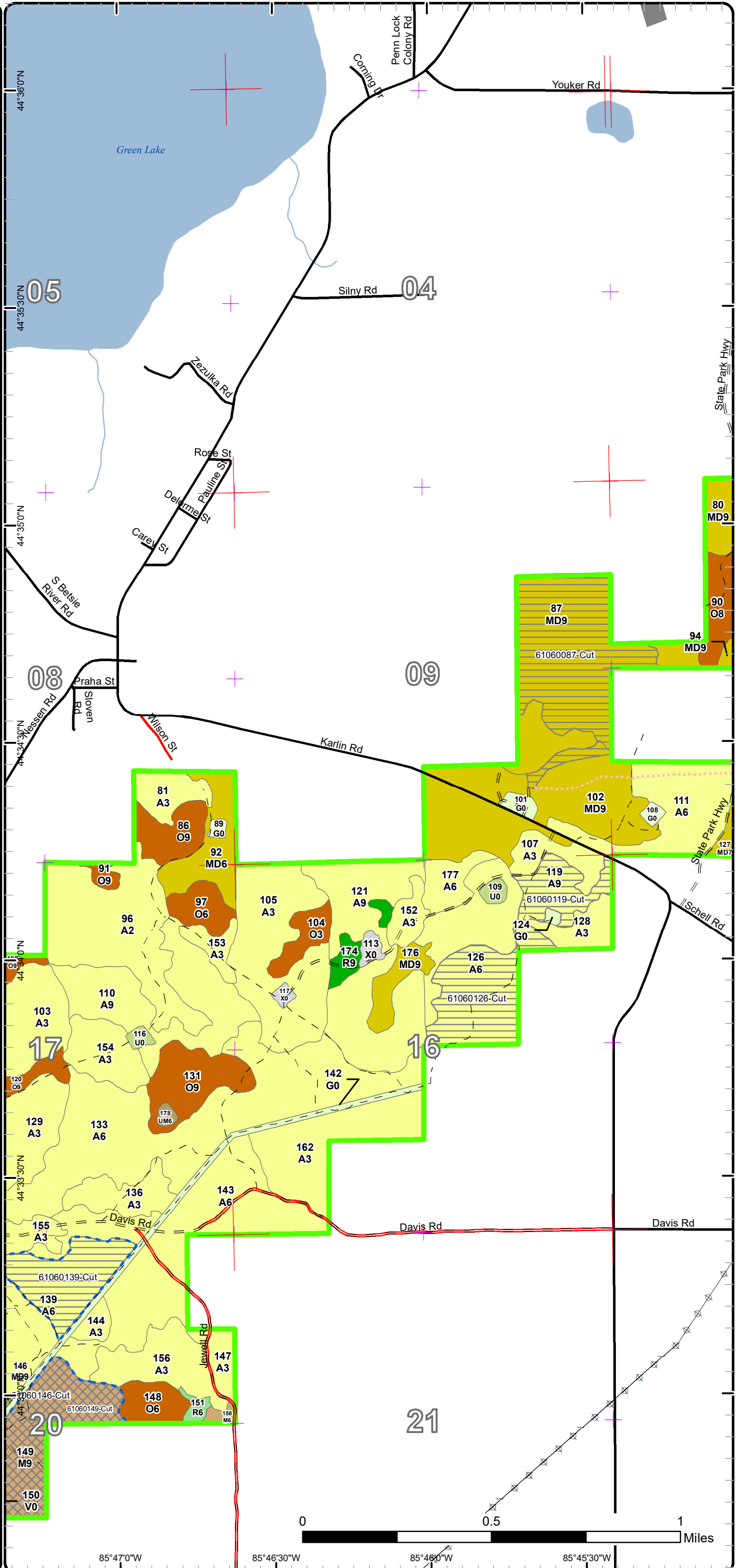
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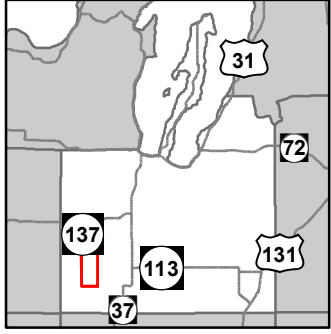


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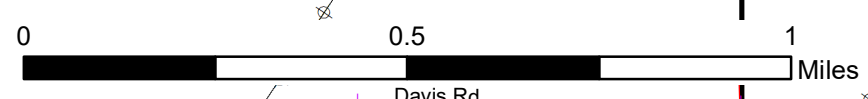
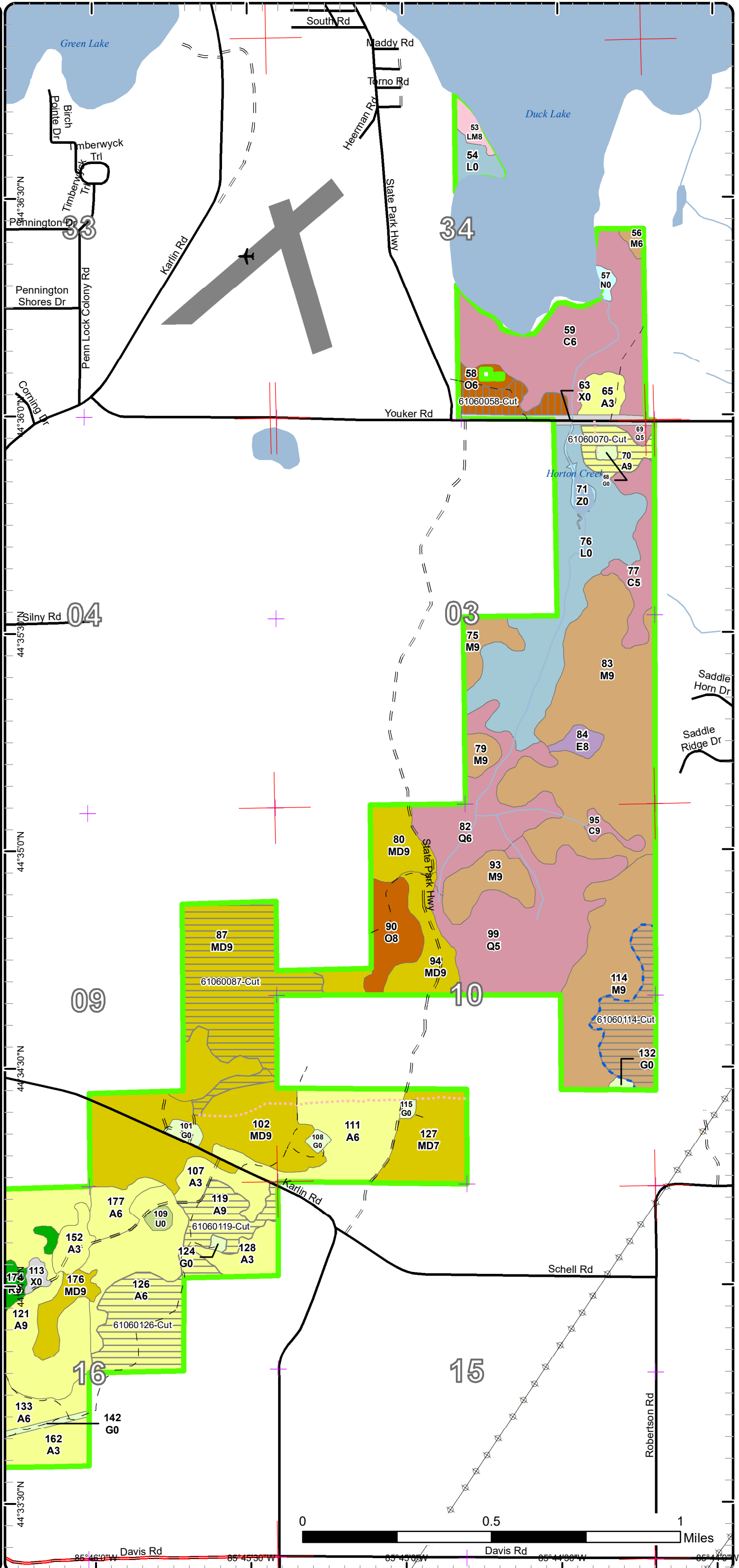


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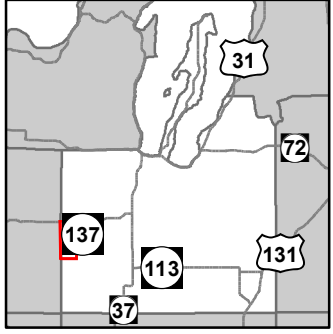
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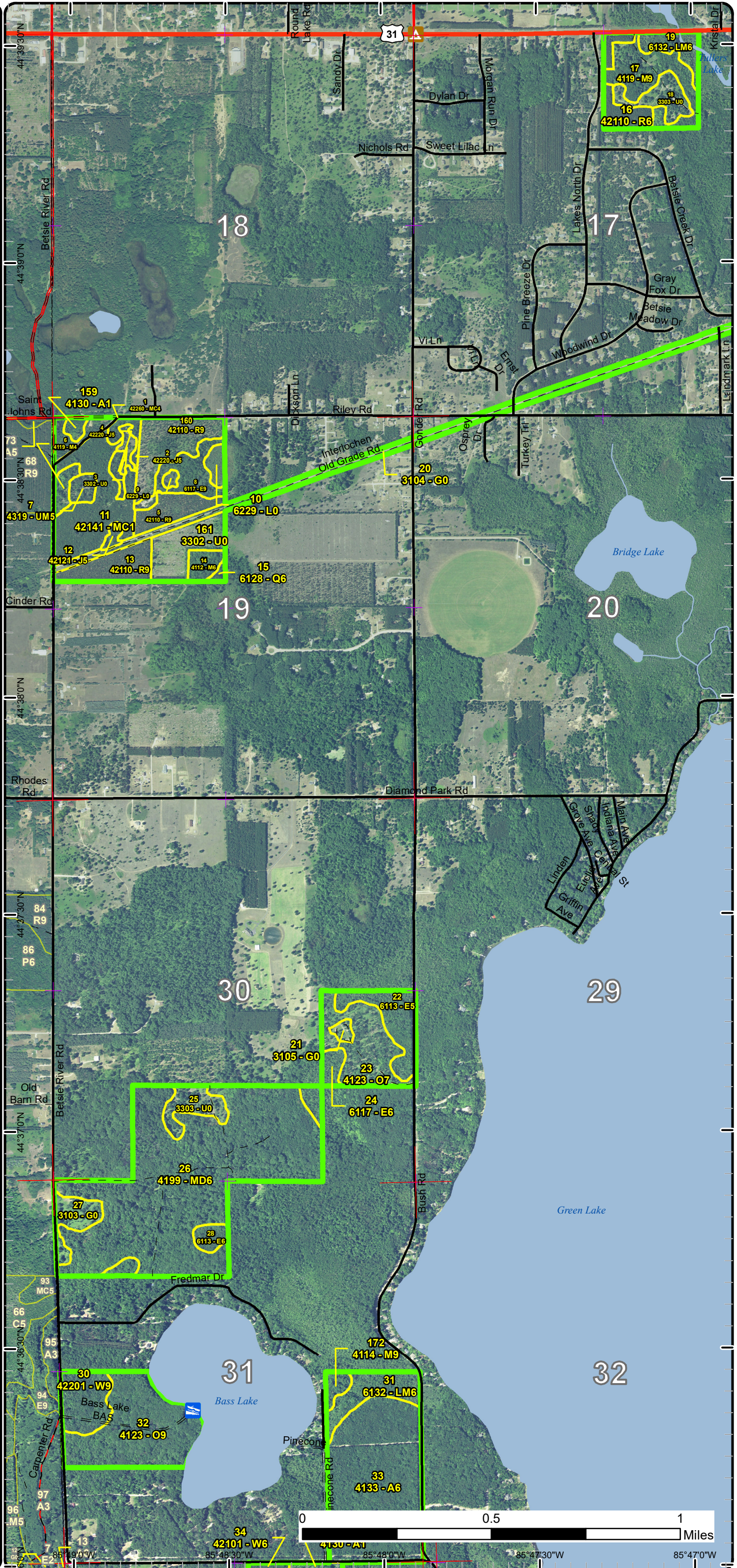
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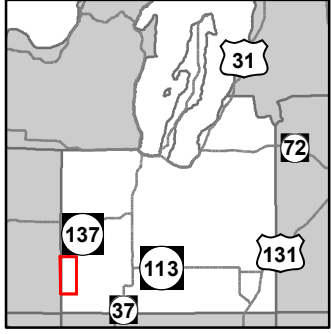


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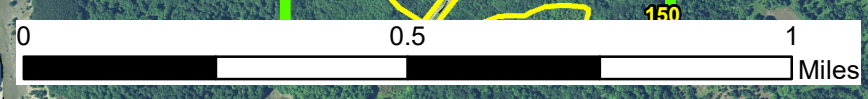
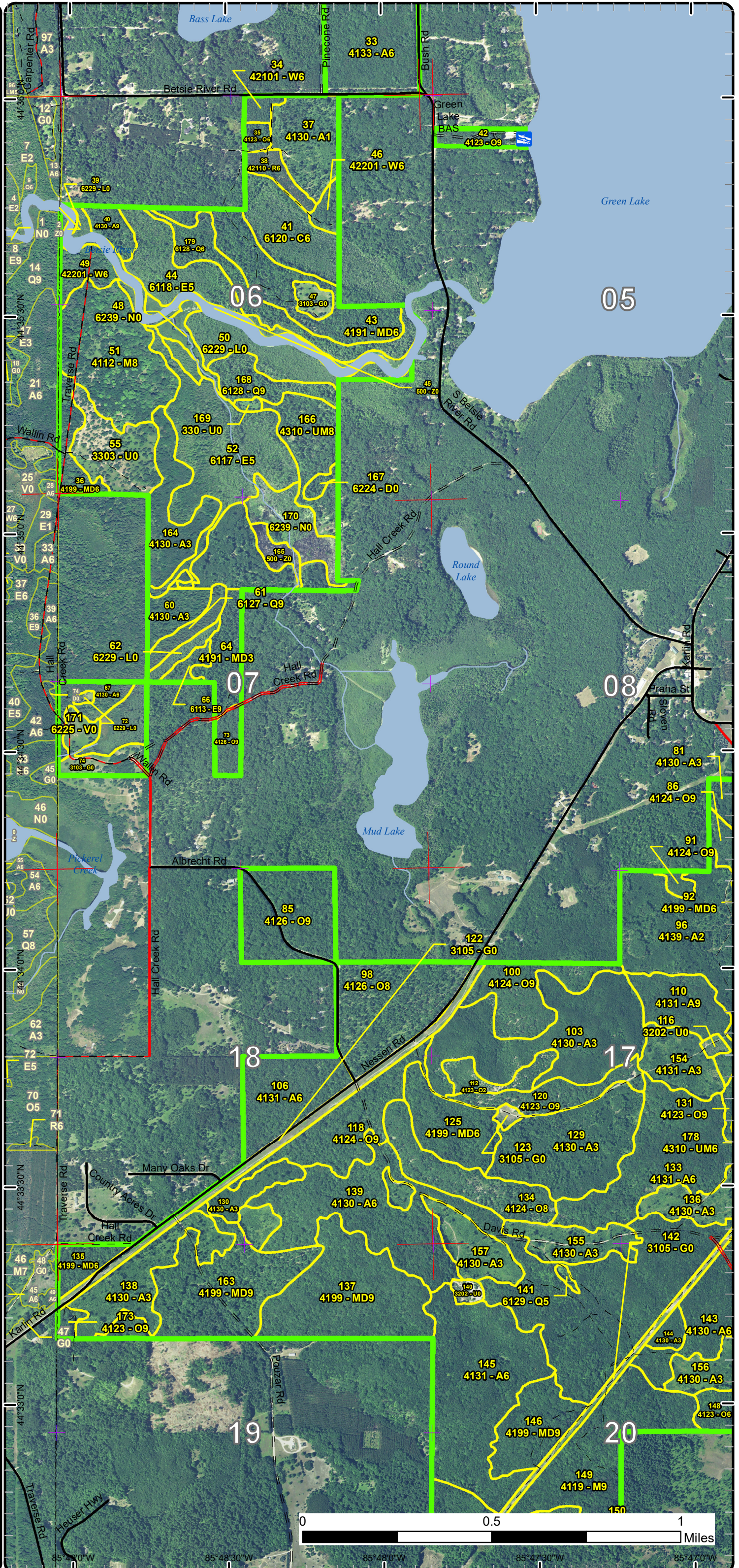


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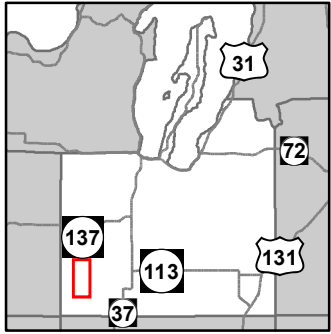
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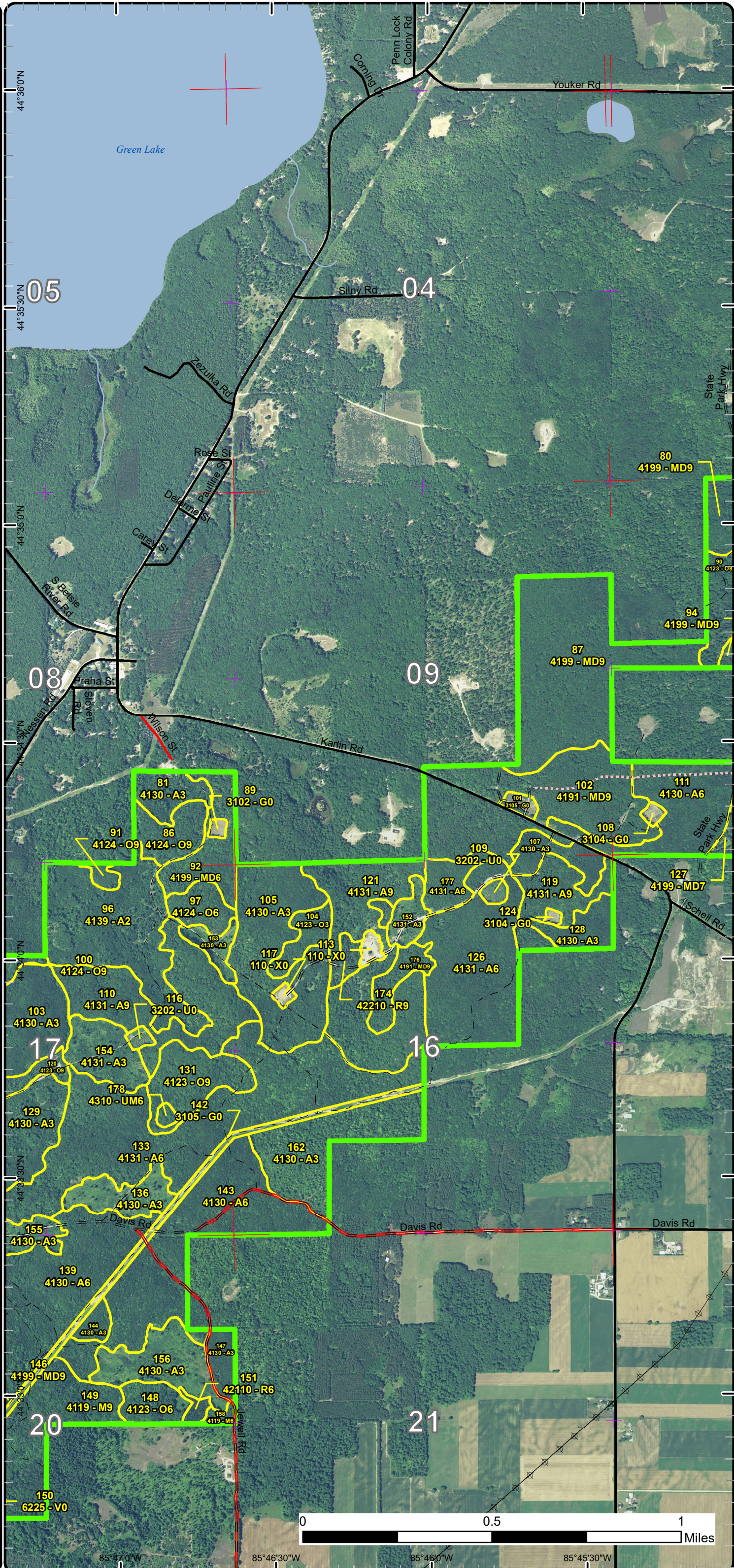
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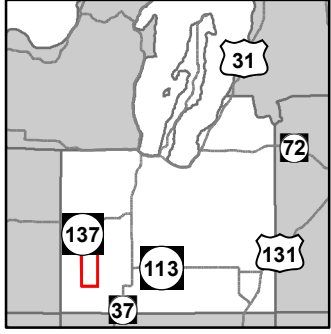


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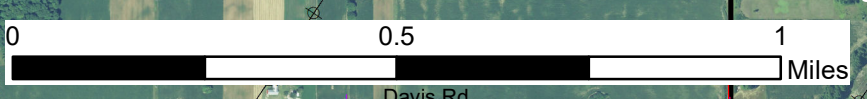
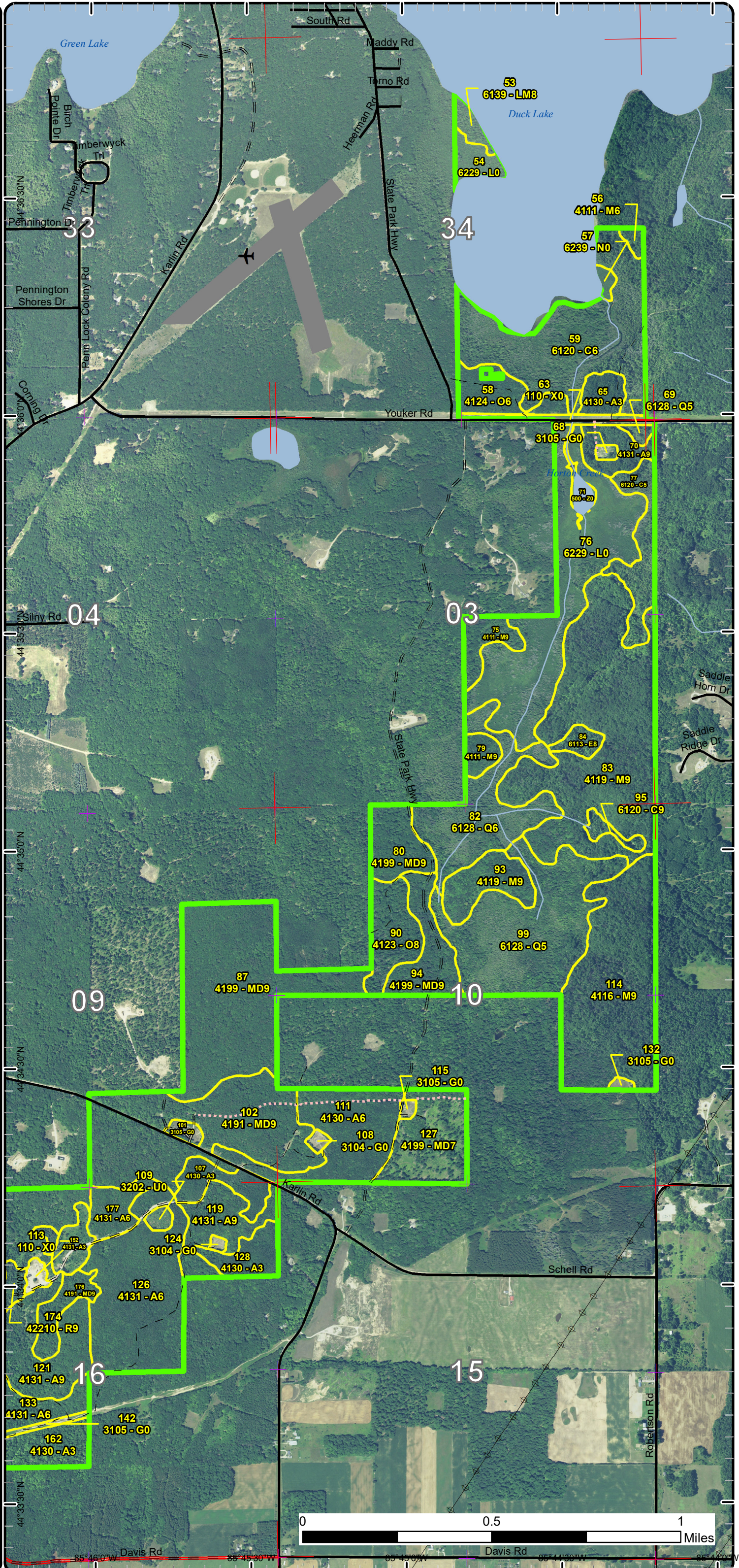


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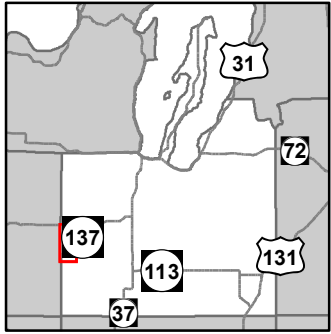
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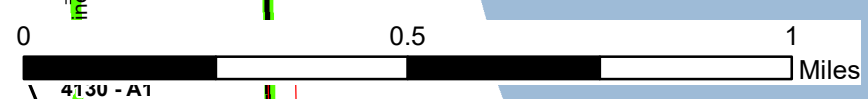
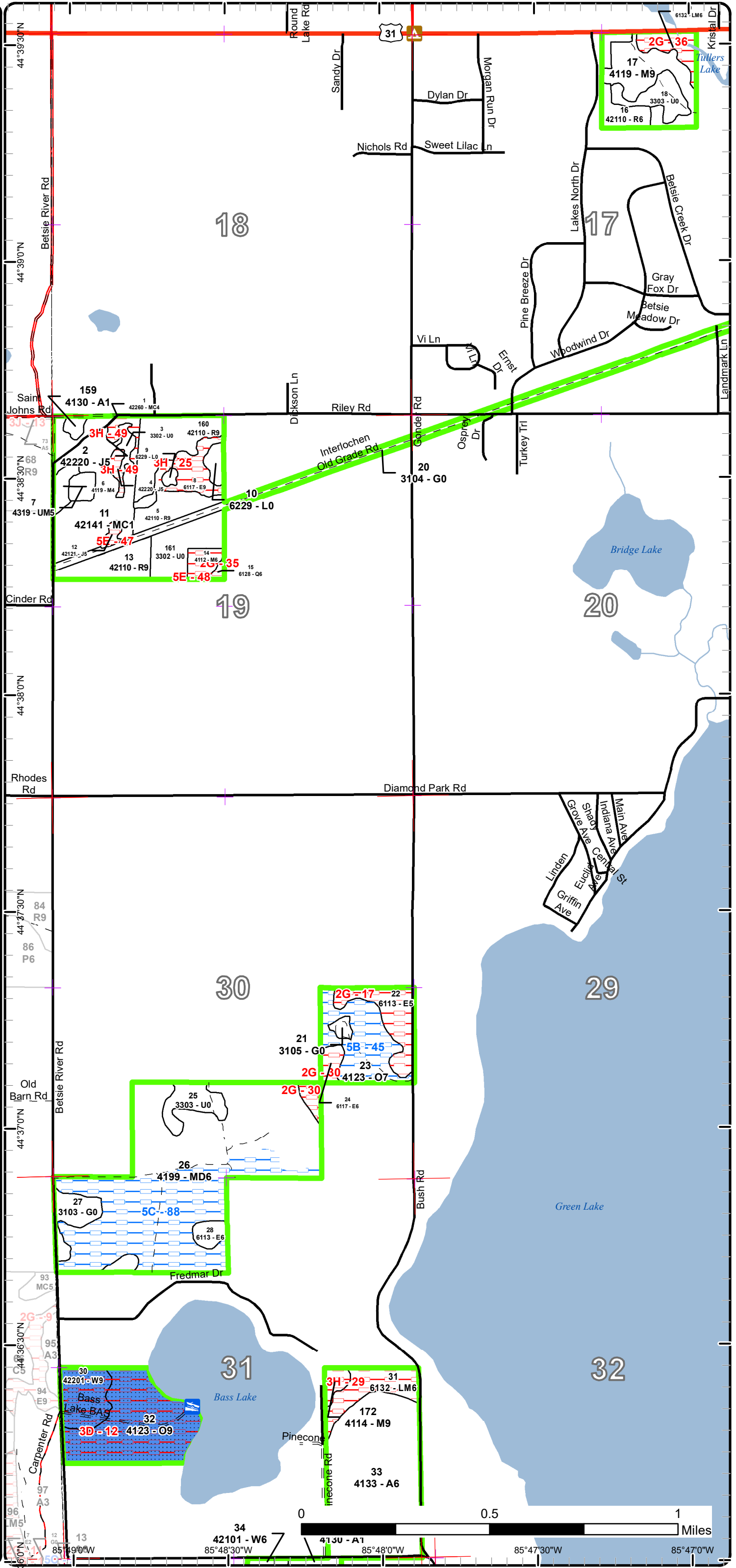
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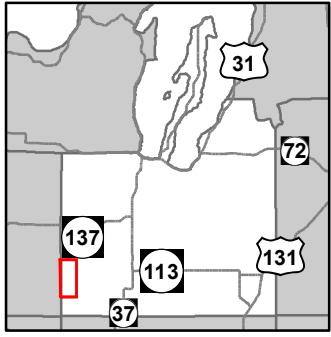
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- SCA Proposed
- Available w/ Constraints
- Unavailable
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2G: Too wet (sensitive soils, does not include access issues)
- 3D: Recreational / Scenic values
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- Boat Access Site



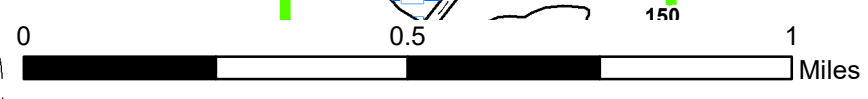
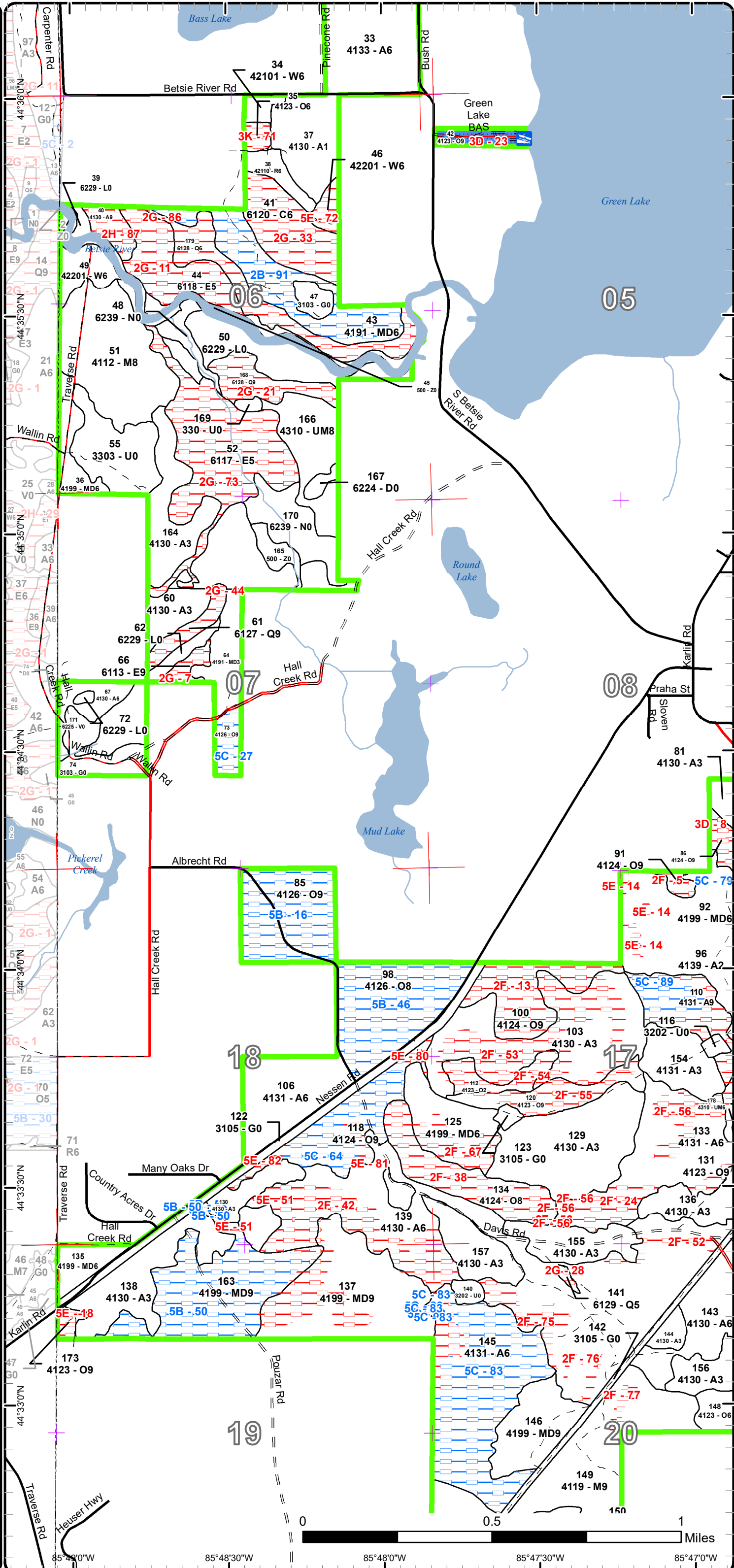
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Special Conservation Areas & Site Conditions Map

Compartment: 60
 T26NR12W Sec. 17,19,30,31-34
 County: Grand Traverse
 Unit: Traverse City
 Mgmt Area: Benzie Moraines
 YOE: 2019
 Acres: 3815.5 GIS Calculated
 Examiner: Craig Allen
 Map Revised: 8/7/2017
 Map Phase: Post-Review



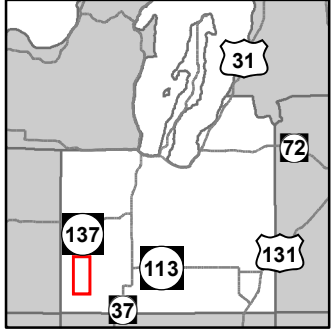
- Miris Corners
- + Remonumented Section Corners
- Counties
- Boating Access Site
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Streams
- Lakes and Rivers All
- Compartment Boundary
- SCA Proposed
- Available w/ Constraints
- Unavailable
- 5B: Maintain for regeneration purposes
- 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)
- 3D: Recreational / Scenic values
- 3K: Rare or unique landforms
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- Boat Access Site



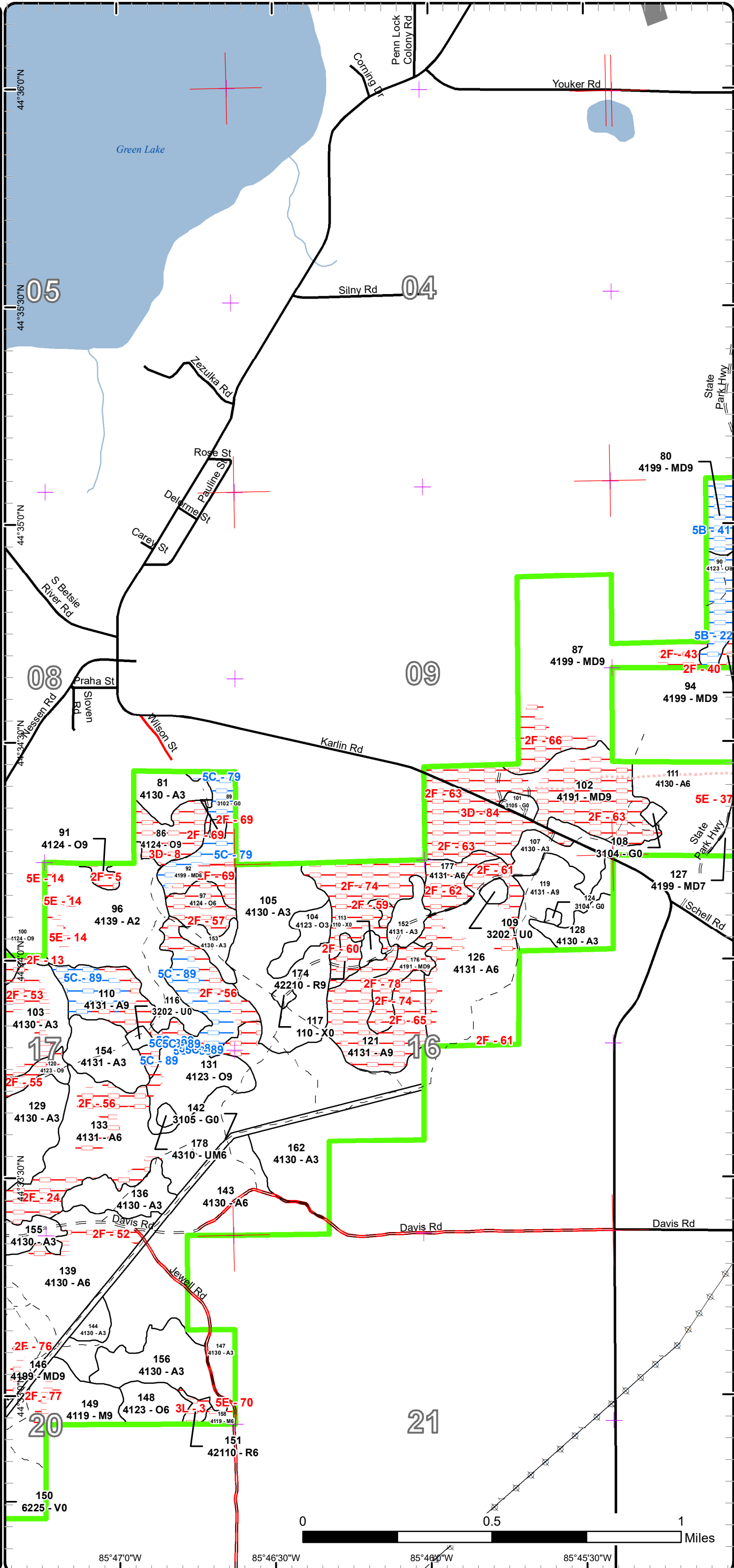
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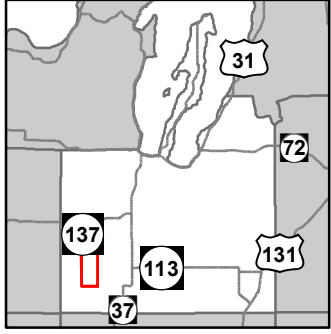


- Miris Corners
- + Remonumented Section Corners
- Counties
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- Closed
- Streams
- Lakes and Rivers All
- ⊕ Powerline
- Airports
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2F: Too steep
- 3D: Recreational / Scenic values
- 3L: Other wildlife concerns
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes

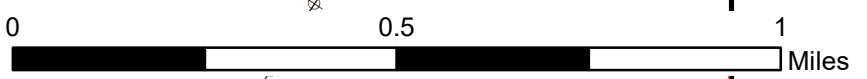
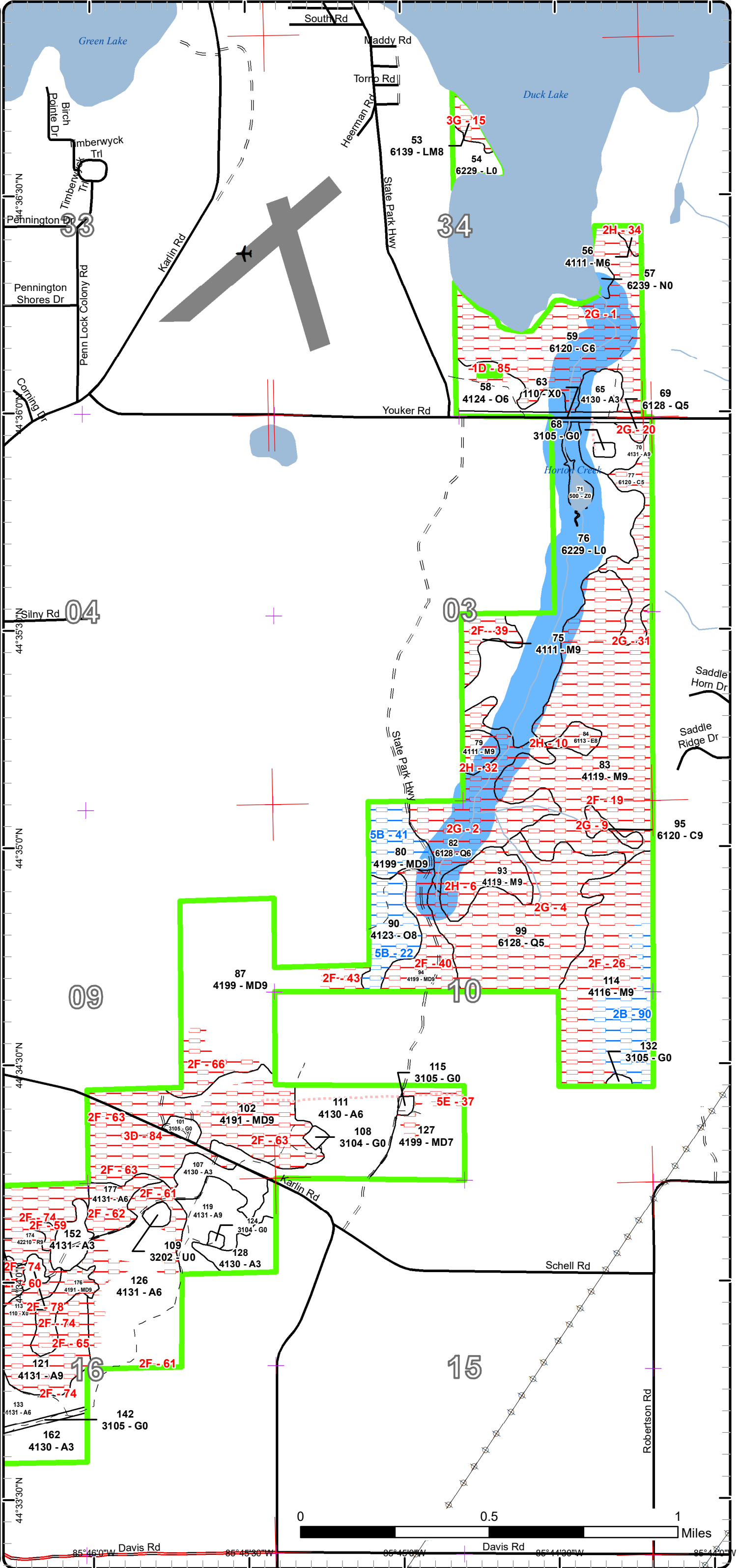


Special Conservation Areas & Site Conditions Map

Compartment: 60
 T26NR12W Sec. 17,19,30,31-34
 County: Grand Traverse
 Unit: Traverse City
 Mgmt Area: Benzie Moraines
 YOE: 2019
 Acres: 3815.5 GIS Calculated
 Examiner: Craig Allen
 Map Revised: 8/7/2017
 Map Phase: Post-Review



- Miris Corners
- + Remonumented Section Corners
- Counties
- Airport
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- Closed
- Streams
- Lakes and Rivers All
- Powerline
- Airports
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5B: Maintain for regeneration purposes
- 1D: Interest Group / Neighbor
- 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)
- 3D: Recreational / Scenic values
- 3G: Other Influence zones - See comments
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer



0 0.5 1 Miles

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	220	148	164	69	569	76	0	91	62	0	0	0	0	0	0	0	0	1399
Bog	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Cedar	0	0	0	0	0	0	0	0	0	27	19	4	75	0	0	0	0	0	125
Herbaceous Openland	117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	117
Jack Pine	0	0	0	0	0	5	0	2	0	0	0	0	0	0	0	0	0	0	7
Low-Density Trees	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59
Lowland Conifers	0	0	0	0	0	0	0	0	2	9	100	15	44	0	0	0	0	0	169
Lowland Deciduous	0	0	0	0	0	6	0	0	58	4	36	26	0	0	0	0	0	0	128
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	24
Lowland Shrub	145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	145
Marsh	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
Mixed Upland Deciduous	0	0	15	0	0	10	0	0	34	134	318	79	0	17	0	0	0	30	636
Natural Mixed Pines	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Northern Hardwood	0	0	0	0	0	0	0	0	0	55	288	33	0	0	0	0	0	4	380
Oak	0	0	0	10	9	0	11	3	11	71	147	3	128	0	0	0	0	0	393
Planted Mixed Pines	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
Red Pine	0	0	0	0	0	3	15	37	0	7	0	0	0	0	0	0	0	0	62
Treed Bog	3	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	5	25	0	0	0	0	0	0	0	0	0	30
Upland Shrub	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Urban	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Water	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
White Pine	0	0	0	0	0	0	4	5	0	10	0	13	0	0	0	0	0	0	32
Total	401	220	191	174	83	593	106	52	221	379	920	173	247	29	0	0	0	34	3818



Report 2 – Treatment Summary

Traverse City Mgt. Unit
Year of Entry: 2019

Acres of Harvest

Compartment 60
Total Compartment Acres: 3,815

Commercial Harvest - 319
Harvests with Site Condition - 160
Next Step Harvest - 14
Habitat Cut - 14

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	108	0	0	0	0	0	0	0	0	108
Mixed Upland Deciduous	233	25	0	0	0	0	0	0	0	257
Northern Hardwood	27	66	0	0	0	0	0	0	0	92
Oak	0	0	0	0	13	0	0	0	0	13
Red Pine	0	0	0	0	0	8	0	0	0	8
Total	368	90	0	0	13	8	0	0	0	479

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	479	0	0	0	0	0	0	45	0	524
Next Step	14	0	0	0	0	456	0	0	0	470
Total	493	0	0	0	0	456	0	45	0	994



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
16	61060016-Cut	8.3	42110 - Planted Red Pine	Poletimber Well	54	171-200	Harvest	Systematic Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No **Site Condition:**

Prescription Thin plantation by harvesting every third row.

Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

26	61060026-cut	67.4	4199 - Other Mixed Upland Deciduous	Poletimber Well	99	81-110	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Draft Field Boundary
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Habitat Cut: No **Site Condition:**

Prescription Harvest all oak, aspen and red maple. mark leave trees (or retention islands) of oak, maple. Leave all conifers. Note: Oak wilt and possibly decline in this stand.

Specs:

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

Acceptable aspen, oak, maple, white pine, birch, basswood
Regen:

Other
Comment:

Proposed Start Date: 02/10/2017

43	61060043-Cut	37.3	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	80	51-80	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Draft Field Boundary
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Habitat Cut: No **Site Condition:** Unknown Access

Prescription Harvest all aspen, red maple, jack pine, balsam fir, beech, and select mark some white pine and possibly some oak in areas to open up canopy for aspen regeneration. Leave all cedar, red pine, hemlock. Goal is regen of various species. Most retention will be in form of scattered leave trees of undesigntated harvest species which will be scattered and in groups. Possibly mark some retention islands if needed.

Specs:

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

Acceptable aspen, maple, oak, white pine, red pine, cedar, hemlock, birch, fir,
Regen:

Other Access will be by existing road that goes through edge of private property then back on to State land...if allowed by private landowner. If not allowed
Comment: then we will have to build a new road along edge of private property which is also along edge of lowland area to connect road system so it is all on State land and will give the public better access to this land as well.

Proposed Start Date: 10/01/2018

47	61060047-NF	5.0	3103 - Rubus-Fern	Nonstocked		Unspec ified	NonForestMgt	Herbaceous/Crop/ Grass Planting	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No **Site Condition:**

Prescription This opening is dominated by bracken fern due to lack of natural disturbances. Mechanically treat bracken to reduce its extent, plant to annual rye for several years and then convert to an appropriate perennial pasture mix (i.e. clover/alfalfa) or native mix if soils will allow. Periodic maintenance such as mowing, fertilization, reseeding, burning, and/or removal of woody encroachment.

Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
55	61060055-NF	25.7	3303 - Mixed Low Density Trees	Nonstocked		Unspecified	NonForestMgt	Brush Cutting	320 - Upland Shrub		Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Selectively hand fell woody encroachment to maintain upland brush/grassland community. 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.
Specs: Mechanically treat bracken to reduce its extent, plant to annual rye for several years and then convert to an appropriate perennial pasture mix (i.e. clover/alfalfa) or native mix if soils will allow. Periodic maintenance such as mowing, fertilization, reseeding, burning, and/or removal of woody encroachment.

Next Step
Treatments:

Acceptable
Regen:

Other The access road into this area is along an old railroad grade and is rough. The same road is used to access WLD treatments in adjacent
Comment: compartment. Treatments in this stand (#55) could be coordinated with treatments in 61019 to increase efficiency.

Proposed Start Date: 10/01/2018

58	61060058-Cut	12.6	4124 - Red with White Oak	Poletimber Well	115	111-140	Harvest	Shelterwood	4122 - Oak, Pine	Two-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Select mark approximately 50% of oak and maple to open up the stand for sunlight allowing white pine to continue to seed-in and nurse under the
Specs: oak over story. Hopefully, some of the oak will stump sprout as well. White pine will eventually over time take over this site.

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

Acceptable Oak, pine, maple
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

67	61060067-Cut	10.3	4130 - Aspen	Poletimber Well	39	Unspecified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Harvest all hardwoods to regenerate and expand aspen component. Leave all oak and conifers. Mark scattered retention trees of maple. Leave
Specs: retention islands around bog areas. Include stand 42 in adjacent compartment 19 in this treatment.

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

Acceptable aspen, maple, oak, pine
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

70	61060070-Cut	10.9	4131 - Aspen, Oak	Sawtimber Well	70	Unspecified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Harvest to regenerate and expand aspen component.
Specs: Cut all aspen, cherry and red maple. Leave most sugar maple and oak but select mark a few to cut that are of poor health or form or needed to open a particular area up to sunlight for aspen regrowth. Leave any conifers on site for diversity. Leave some retention areas and or trees along north edge near road.

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

Acceptable aspen, maple, oak, cherry
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
74	61060074-NF	14.4	3103 - Rubus-Fern	Nonstocked		Unspecified	NonForestMgt	Fruit Tree/Shrub Planting	3105 - Mixed Upland Herbaceous		Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. May want to fertilize plantings and protect with wire cages or tubex.
Specs: Prune remnant apple trees.

Next Step
Treatments:

Acceptable Regen:

Other Comment: Could install and maintain bird houses. Borders private to SW and south. Should keep plantings to the north lobe and well onto State property in south lobe.

Proposed Start Date: 10/01/2018

87	61060087-Cut	72.7	4199 - Other Mixed Upland Deciduous	Sawtimber Well	87	81-110	Harvest	Clearcut with Retention	4131 - Aspen, Oak	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Harvest all aspen, maple and oak. Leave some healthier large oak for retention either in island or scattered trees or combo. Leave all red and white pine, and hemlock for stand diversity. Make retention "no cut" areas on steep ridges and hilltops...especially those areas without aspen.
Specs:

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

Acceptable Regen: aspen, oak, maple, pine, hemlock,

Other Comment: Will need survey corners.

Proposed Start Date: 10/01/2018

114	61060114-Cut	26.6	4116 - Mixed N. Hardwood - Aspen	Sawtimber Well	90	81-110	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition: Unknown Access

Prescription Harvest all trees to restart this stand due to oak decline that has killed all the oak trees here. Clearcut to regenerate and expand aspen. No retention in cut area as there will be retention on uncut steep hills that cannot be harvested.
Specs:

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

Acceptable Regen: aspen, maple, oak, basswood

Other Comment:

Proposed Start Date: 04/24/2017

119	61060119-Cut	21.5	4131 - Aspen, Oak	Sawtimber Well	77	Unspecified	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Harvest all aspen, maple, and beech to open up stand for aspen regeneration and expansion. Possibly, mark a few red oak to cut for stump sprouting. Leave all conifers for species diversity. Much of the stand will be left out of the cut area due to steep terrain. so cut acres will be much less then the current stand acres...these steep areas will serve as long term retention for the stand.
Specs:

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

Acceptable Regen: aspen, oak, maple, white pine, red pine.

Other Comment: Survey needs for private property corners.

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
125	61060125-Cut	14.0	4199 - Other Mixed Upland Deciduous	Poletimber Well	95	81-110	Harvest	Clearcut with Retention	4131 - Aspen, Oak	Even-Aged	Draft Field Boundary

Habitat Cut: No **Site Condition:**

Prescription Harvest all aspen, oak, and maple to regenerate and expand aspen and oak. Leave areas of steep slopes uncut and use these areas (mostly south part of stand as long term retention and to prevent possible orv hill climbing.

Next Step Harvest, Clearcut with Retention
Treatments:

Acceptable aspen, oak, maple, pine
Regen:

Other this treatment start date delayed by 5 years (to 2023) at request of Scott Lint due to MSU oak wilt study occurring in this area.
Comment:

Proposed Start Date: 10/01/2023

126	61060126-Cut	35.3	4131 - Aspen, Oak	Poletimber Well	44	Unspecified	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	Draft Field Boundary
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Habitat Cut: No **Site Condition:**

Prescription Harvest all aspen, maple, beech to regenerate stand. Possibly mark a few red oak to cut for stump sprouting. Leave all pine. Retention will be in uncut portions of the stand that are left uncut due to steep terrain (site condition).

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

Acceptable aspen, oak, maple, red pine, white pine.
Regen:

Other Survey needs for private property corners.
Comment:

Proposed Start Date: 10/01/2018

137	61060137-Cut	41.3	4199 - Other Mixed Upland Deciduous	Sawtimber Well	95	81-110	Harvest	Clearcut with Retention	4131 - Aspen, Oak	Even-Aged	Draft Field Boundary
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Habitat Cut: No **Site Condition:**

Prescription Harvest all aspen, maple, beech, and ash to open up area for regeneration and expansion primarily of aspen. Also, select mark some of the oak to try to get stump sprouts...but leave most oak. Leave any pine. This is the top of steep hill so be mindful of location of boundary line so not to expose too much of area to distant view. Also keep out of steep areas and ridge lines that do not contain aspen as they likely wont regenerate well based on past results.

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

Acceptable aspen, oak, maple, pine
Regen:

Other This treatment start date delayed by 5 years (to 2023) at request of Scott Lint due to MSU oak wilt study occurring in this area.
Comment:

Proposed Start Date: 10/01/2023

139	61060139-Cut	30.3	4130 - Aspen	Poletimber Well	44	Unspecified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No **Site Condition:** Too Steep

Prescription Harvest all aspen and red maple to regenerate and expand aspen in order to continue staggering of aspen age class in the area. Leave Retention islands on steep topographic features and possibly along west edge near stand that was harvested last entry. Leave most oak unless in poor health.

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

Acceptable aspen, maple, oak
Regen:

Other This treatment start date delayed by 5 years (to 2023) at request of Scott Lint due to MSU oak wilt study occurring in this area.
Comment:

Proposed Start Date: 10/01/2023



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
146	61060146-Cut	24.6	4199 - Other Mixed Upland Deciduous	Sawtimber Well	95	81-110	Harvest	Single Tree Selection	4119 - Mixed Northern Hardwoods	Uneven-Aged	Draft Field Boundary

Habitat Cut: No **Site Condition:**

Prescription Lightly select mark some mature oak trees to harvest. Also, possibly mark other species as needed to remove poor health or form trees to open stand up slightly. Keep residual BA up to 70- 80

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable oak, maple, aspen, basswood

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

149	61060149-Cut	65.5	4119 - Mixed Northern Hardwoods	Sawtimber Well	95	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Draft Field Boundary
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Habitat Cut: No **Site Condition: Too Steep**

Prescription Select mark all species. Remove poor health and/or poor form following complete marker guidelines leaving best tree in place. Mark with consideration for equipment operation on hillsides and felling and skidding paths in residual timber. Leave approximately 80 SF residual BA overall...BA can vary throughout and can open up stand for regen holes in some places where applicable especially in valley towards south east corner of the stand.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable maple, basswood, oak, ash, beech, aspen.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

Total Treatment
Acres Proposed: 523.7

Report 4 – Site Conditions

Traverse City Mgt. Unit

Craig Allen : Examiner

Compartment: 60

Year of Entry: 2019

Availability for Management

Total Acres	Acres Available	Acres Available With Condition	Acres Not Available
822	470	12%	484

Dominant Site Conditions

	Total Acres	Acres Available	Acres Available With Condition	Acres Not Available	Dominant Site Conditions												
					2B	5B	5C	1D	2F	2G	2H	3D	3G	3H	3K	3L	5E
1398	822	93	484	Aspen			93		465		7						11
4	4	0	0	Bog													
125	0	0	125	Cedar					125								
117	117	0	0	Herbaceous Openland													
7	0	0	7	Jack Pine									5				1
59	59	0	0	Low-Density Trees													
169	0	0	168	Lowland Conifers					168								
129	7	0	121	Lowland Deciduous					108	5			9				
24	0	0	24	Lowland Mixed Forest					7			5	12				
145	145	0	0	Lowland Shrub													
28	28	0	0	Marsh													
636	271	191	174	Mixed Upland Deciduous	37	69	85		137			28					9
5	5	0	0	Natural Mixed Pines													
379	134	27	218	Northern Hardwood	27				184		25			3			6
392	36	160	196	Oak		128	32	3	117			62			3		11
28	28	0	0	Planted Mixed Pines													
62	53	0	9	Red Pine					7							3	
3	3	0	0	Treed Bog													
30	30	0	0	Upland Mixed Forest													
7	7	0	0	Upland Shrub													
11	11	0	0	Urban													
27	27	0	0	Water													
31	14	0	18	White Pine								13					5
3,815	1,801	470	1,544	Total Forested Acres	64	197	209	3	910	408	37	103	5	29	3	3	43
	47%	12%	40%	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)	75	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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2	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	44	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
3	Unavailable	3L: Other wildlife concerns	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Retain for possible turkey roosting habitat and or other winter thermal cover. This is the only small patch of conifer in the entire south half of the compartment.							
4	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	72	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Unavailable	2F: Too steep	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	17	2F: Too steep	Unspecified	Unspecified	Unspecified
Comments:							

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7	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	4	3H: Deer Wintering Area - habitat is incompatible with harvest at this time	Unspecified	Unspecified	Unspecified
Comments:							
8	Unavailable	3D: Recreational / Scenic values	15	2F: Too steep	Unspecified	Unspecified	Unspecified
Comments:							
9	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
10	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
11	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	26	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
12	Unavailable	3D: Recreational / Scenic values	52	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Bass Lake access site							

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13	Unavailable	2F: Too steep	26	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
14	Unavailable	5E: Long-Term Retention	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments: areas left for retention in surrounding harvest							
15	Unavailable	3G: Other Influence zones - See comments	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
16	Available	5B: Maintain for regeneration purposes	40	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Allow white pine to continue to seed into understory. Oak trees providing shelter and overhead protection from weevil issues.							
17	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	14	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
18	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
19	Unavailable	2F: Too steep	118	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	Unspecified	Unspecified	Unspecified
Comments:							

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20	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
21	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	15	2B: Unknown if access through adjacent landowner(s) is possible	Unspecified	Unspecified	Unspecified
Comments:							
22	Available	5B: Maintain for regeneration purposes	20	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
23	Unavailable	3D: Recreational / Scenic values	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments: This is the DNR public access boat launch site administered by Parks and Recreation Division.							
24	Unavailable	2F: Too steep	18	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
25	Unavailable	3H: Deer Wintering Area - habitat is incompatible with harvest at this time	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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26	Unavailable	2F: Too steep	53	2B: Unknown if access through adjacent landowner(s) is possible	Unspecified	Unspecified	Unspecified
Comments:							
27	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Due to small size and private boundary involved....manage with stand to the north when it is treated in the future.							
28	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	1	1C: Other dept or div proc/practices	Unspecified	Unspecified	Unspecified
Comments:							
29	Unavailable	3H: Deer Wintering Area - habitat is incompatible with harvest at this time	15	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
30	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	6	3H: Deer Wintering Area - habitat is incompatible with harvest at this time	Unspecified	Unspecified	Unspecified
Comments:							

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31	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	19	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
32	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
33	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	27	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
34	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
35	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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36	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	7	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							
37	Unavailable	5E: Long-Term Retention	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
38	Unavailable	2F: Too steep	29	5A: Not able to obtain desirable regeneration	Unspecified	Unspecified	Unspecified
Comments:							
39	Unavailable	2F: Too steep	10	2B: Unknown if access through adjacent landowner(s) is possible	Unspecified	Unspecified	Unspecified
Comments:							
40	Unavailable	2F: Too steep	20	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
41	Available	5B: Maintain for regeneration purposes	17	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
42	Unavailable	2F: Too steep	62	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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43	Unavailable	2F: Too steep	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
44	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
45	Available	5B: Maintain for regeneration purposes	22	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Regen/release harvest was done in 2013.							
46	Available	5B: Maintain for regeneration purposes	47	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
47	Unavailable	5E: Long-Term Retention	2	3L: Other wildlife concerns	Unspecified	Unspecified	Unspecified
Comments:							
48	Unavailable	5E: Long-Term Retention	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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49	Unavailable	3H: Deer Wintering Area - habitat is incompatible with harvest at this time	5	5E: Long-Term Retention	Unspecified	Unspecified	Unspecified
Comments:							
50	Available	5B: Maintain for regeneration purposes	52	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
51	Unavailable	5E: Long-Term Retention	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
52	Unavailable	2F: Too steep	7	5E: Long-Term Retention	Unspecified	Unspecified	Unspecified
Comments:							
53	Unavailable	2F: Too steep	39	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
54	Unavailable	2F: Too steep	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
55	Unavailable	2F: Too steep	14	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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56	Unavailable	2F: Too steep	43	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
57	Unavailable	2F: Too steep	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
59	Unavailable	2F: Too steep	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
60	Unavailable	2F: Too steep	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
61	Unavailable	2F: Too steep	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
62	Unavailable	2F: Too steep	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
63	Unavailable	2F: Too steep	47	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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64	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	25	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments: delay treatment due to other age classes and recent harvests along this travel corridor</p>							
65	Unavailable	2F: Too steep	32	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments:</p>							
66	Unavailable	2F: Too steep	13	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments:</p>							
67	Unavailable	2F: Too steep	12	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments:</p>							
69	Unavailable	2F: Too steep	9	Unspecified	Unspecified	Unspecified	Unspecified
<p>Comments:</p>							
70	Unavailable	5E: Long-Term Retention	2	3G: Other Influence zones - See comments	Unspecified	Unspecified	Unspecified
<p>Comments:</p>							
71	Unavailable	3K: Rare or unique landforms	3	3G: Other Influence zones - See comments	Unspecified	Unspecified	Unspecified
<p>Comments:</p>							

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72	Unavailable	5E: Long-Term Retention	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
73	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	58	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
74	Unavailable	2F: Too steep	43	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
75	Unavailable	2F: Too steep	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
76	Unavailable	2F: Too steep	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
77	Unavailable	2F: Too steep	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
78	Unavailable	2F: Too steep	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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79	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Delay treatment 10 years to increase age/ size class diversity in the area.							
80	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
81	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
82	Unavailable	5E: Long-Term Retention	2	3D: Recreational / Scenic values	Unspecified	Unspecified	Unspecified
Comments:							
83	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	67	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Delay harvest 10 or 20 years to stagger age class of aspen in the area due to recent cuts nearby.							
84	Unavailable	3D: Recreational / Scenic values	28	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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85	Unavailable	1D: Interest Group / Neighbor	3	2I: Survey needed	Unspecified	Unspecified	Unspecified
Comments:							
86	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	26	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
87	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
88	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	72	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
89	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	26	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
90	Available	2B: Unknown if access through adjacent landowner(s) is possible	27	2B: Unknown if access through adjacent landowner(s) is possible	Unspecified	Unspecified	Unspecified
Comments:							

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91	Available	2B: Unknown if access through adjacent landowner(s) is possible	37	Unspecified	Unspecified	Unspecified	Unspecified
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Comments:



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
	Concentrated Recreation Area	Boat Access Site	Proposed SCA	53
Comments				
Bass Lake access site				
	Concentrated Recreation Area	Boat Access Site	Proposed SCA	8
Comments				
This is the DNR public access boat launch site administered by Parks and Recreation Division.				



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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42260 - Natural Pine, Mixed Deciduous	Poletimber Poor	5.0	30	Immature	
2	42220 - Natural Jack Pine	Poletimber Medium	3.2	40	Unspecified	
4	42220 - Natural Jack Pine	Poletimber Medium	2.0	40	Unspecified	
5	42110 - Planted Red Pine	Sawtimber Well	9.0	67	111-140	
6	4119 - Mixed Northern Hardwoods	Poletimber Poor	3.5	67	1-50	
7	4319 - Mixed Upland Forest	Poletimber Medium	3.2	67	51-80	
8	6117 - Lowland Deciduous, Mixed Coniferous	Sawtimber Well	10.5	90	Unspecified	Good winter thermal cover, many snags, good coarse woody, many red maple saps/regen.
11	42141 - Planted Mixed Pine, Mixed Deciduous	Sapling Poor	27.5	17	1-50	Good natural jack pine regeneration and planted red pine. Not all areas were planted to red pine because some areas were fully stocked with jack pine.
12	42121 - Planted Jack Pine, Mixed Deciduous	Poletimber Medium	1.5	67	Unspecified	
13	42110 - Planted Red Pine	Sawtimber Well	11.4	67	111-140	
14	4112 - Maple, Beech, Cherry Association	Poletimber Well	4.2	80	111-140	
15	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	1.0	80	Unspecified	
16	42110 - Planted Red Pine	Poletimber Well	8.3	54	171-200	
17	4119 - Mixed Northern Hardwoods	Sawtimber Well	17.6	92	51-80	Variable canopy level and mix species stand. Also includes some large old open grown multi-stem maple and some super canopy white pine. Stand is semi-open and "park like".
19	6132 - Mixed Lowland Forest with Cedar	Poletimber Well	6.9	90	81-110	
22	6113 - Lowland Maple	Poletimber Medium	13.8	99	Unspecified	
23	4123 - Red Oak	Sawtimber Poor	21.7	97	1-50	



Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	6.0	99	Unspecified	
4199 - Other Mixed Upland Deciduous	Poletimber Well	130.8	99	81-110	Also contains some basswood, cherry and paper birch.
6113 - Lowland Maple	Poletimber Well	5.6	41	Unspecified	
42201 - Natural White Pine, Mixed Deciduous	Sawtimber Well	13.0	107	171-200	
6132 - Mixed Lowland Forest with Cedar	Poletimber Well	11.9	122	51-80	
4123 - Red Oak	Sawtimber Well	39.4	110	111-140	
4133 - Aspen, Mixed Pine	Poletimber Well	65.6	42	Unspecified	
42101 - Planted White Pine, Mixed Deciduous	Poletimber Well	3.8	57	141-170	
4123 - Red Oak	Poletimber Well	3.4	69	81-110	
4199 - Other Mixed Upland Deciduous	Poletimber Well	11.8	77	51-80	
4130 - Aspen	Sapling Poor	25.5	7	Unspecified	
42110 - Planted Red Pine	Poletimber Well	6.9	55	111-140	
4130 - Aspen	Sawtimber Well	7.3	77	Unspecified	
6120 - Lowland Cedar	Poletimber Well	26.8	89	Unspecified	
4123 - Red Oak	Sawtimber Well	7.5	95	81-110	Green Lake boating access site. Maintained by DNR Parks and Recreation Division.
4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	37.3	80	51-80	Also contains some scattered mature red pine, jack pine and beech. Some hemlock regen along wet/lowland edges.
6118 - Lowland Deciduous with Cedar	Poletimber Medium	25.5	105	51-80	
42201 - Natural White Pine, Mixed Deciduous	Poletimber Well	4.8	60	81-110	



Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
42201 - Natural White Pine, Mixed Deciduous	Poletimber Well	9.9	81	81-110	
4112 - Maple, Beech, Cherry Association	Sawtimber Medium	51.2	81	51-80	
6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Medium	58.4	75	51-80	
6139 - Mixed Lowland Forest	Sawtimber Medium	5.0	90	Unspecified	
4111 - S.Maple, Hard Mast Association	Poletimber Well	2.3	90	81-110	
4124 - Red with White Oak	Poletimber Well	15.5	115	111-140	Good white pine regeneration present in subcanopy. Numerous old white pine stumps within stand.
6120 - Lowland Cedar	Poletimber Well	74.8	110	111-140	
4130 - Aspen	Sapling Well	10.8	16	Unspecified	
6127 - Lowland Pine	Sawtimber Well	7.5	85	81-110	
4191 - Mixed Upland Deciduous with Conifer	Sapling Well	15.4	16	51-80	
4130 - Aspen	Sapling Well	7.5	27	Unspecified	
6113 - Lowland Maple	Sawtimber Well	4.2	85	Unspecified	
4130 - Aspen	Poletimber Well	10.3	39	Unspecified	Due to location and access, this stand will be managed with the adjacent stand to the west in compartment 19. Both are scheduled for harvest in YOE 2018.
6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Medium	2.0	74	Unspecified	
4131 - Aspen, Oak	Sawtimber Well	10.9	70	Unspecified	Non-forested stand in center of this stand is the site of the old Interlochen State Park Dump.
4126 - White, Black, N. Pin Oak	Sawtimber Well	7.6	95	81-110	
4111 - S.Maple, Hard Mast Association	Sawtimber Well	10.1	105	81-110	



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
77	6120 - Lowland Cedar	Poletimber Medium	19.4	95	81-110	openings in canopy have marsh grass and alder
79	4111 - S.Maple, Hard Mast Association	Sawtimber Well	5.6	105	111-140	
80	4199 - Other Mixed Upland Deciduous	Sawtimber Well	16.8	127	51-80	
81	4130 - Aspen	Sapling Well	12.5	16	Unspecified	Some good red oak regen in spots. Marked leave tree residuals of oak, red pine, and white pine scattered throughout stand.
82	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	44.0	116	141-170	
83	4119 - Mixed Northern Hardwoods	Sawtimber Well	117.6	90	111-140	
84	6113 - Lowland Maple	Sawtimber Medium	4.7	95	51-80	
85	4126 - White, Black, N. Pin Oak	Sawtimber Well	39.7	97	111-140	
86	4124 - Red with White Oak	Sawtimber Well	14.8	95	81-110	
87	4199 - Other Mixed Upland Deciduous	Sawtimber Well	86.7	87	81-110	I
90	4123 - Red Oak	Sawtimber Medium	19.5	96	81-110	
91	4124 - Red with White Oak	Sawtimber Well	2.9	95	81-110	
92	4199 - Other Mixed Upland Deciduous	Poletimber Well	21.9	79	51-80	
93	4119 - Mixed Northern Hardwoods	Sawtimber Well	17.0	103	141-170	
94	4199 - Other Mixed Upland Deciduous	Sawtimber Well	20.3	96	111-140	
95	6120 - Lowland Cedar	Sawtimber Well	3.8	100	51-80	
96	4139 - Aspen, Mixed Deciduous	Sapling Medium	63.9	16	Unspecified	Scattered residual log sized red oak, white oak, and red pine. More red maple in places with aspen being somewhat sparse in spots. There are however some areas of good oak regeneration. Regen. is somewhat spotty in distribution.



Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
4124 - Red with White Oak	Poletimber Well	10.8	79	81-110	Traces of beech and white pine saplings in subcanopy.
4126 - White, Black, N. Pin Oak	Sawtimber Medium	46.8	82	81-110	
6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Medium	72.4	94	51-80	
4124 - Red with White Oak	Sawtimber Well	26.3	110	51-80	
4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	78.5	100	81-110	Natural red pine a prominent and unique feature in this stand.
4130 - Aspen	Sapling Well	67.3	25	Unspecified	
4123 - Red Oak	Sapling Well	9.3	38	1-50	
4130 - Aspen	Sapling Well	58.3	38	Unspecified	
4131 - Aspen, Oak	Poletimber Well	32.7	44	81-110	
4130 - Aspen	Sapling Well	12.4	27	Unspecified	
4131 - Aspen, Oak	Sawtimber Well	51.3	70	81-110	
4130 - Aspen	Poletimber Well	39.8	42	Unspecified	
4123 - Red Oak	Sapling Medium	9.9	25	Immature	sparse regeneration relative to the rest of the area that was treated in 1991-92. Poorer soils and southern aspect no aspen regen in this area.
4116 - Mixed N. Hardwood - Aspen	Sawtimber Well	79.6	90	81-110	
4124 - Red with White Oak	Sawtimber Well	32.3	90	51-80	
4131 - Aspen, Oak	Sawtimber Well	21.5	77	Unspecified	Also contains a few hemlock in understory in the north end of stand.
4123 - Red Oak	Sawtimber Well	17.5	110	81-110	
4131 - Aspen, Oak	Sawtimber Well	61.8	81	Unspecified	



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
125	4199 - Other Mixed Upland Deciduous	Poletimber Well	26.0	95	81-110	
126	4131 - Aspen, Oak	Poletimber Well	63.9	44	Unspecified	
127	4199 - Other Mixed Upland Deciduous	Sawtimber Poor	29.9	121	1-50	
128	4130 - Aspen	Sapling Well	11.5	27	Unspecified	
129	4130 - Aspen	Sapling Well	50.4	17	Unspecified	Lots of scattered residual Log sized white pine and oaks, along with a few retention islands.
130	4130 - Aspen	Sapling Well	10.0	17	Unspecified	
131	4123 - Red Oak	Sawtimber Well	23.8	85	51-80	
133	4131 - Aspen, Oak	Poletimber Well	120.5	42	Unspecified	
134	4124 - Red with White Oak	Sawtimber Medium	29.3	110	51-80	
135	4199 - Other Mixed Upland Deciduous	Poletimber Well	9.5	44	51-80	
136	4130 - Aspen	Sapling Well	15.7	5	Immature	Aspen clearcut summer of 2011.
137	4199 - Other Mixed Upland Deciduous	Sawtimber Well	59.7	95	81-110	
138	4130 - Aspen	Sapling Well	37.0	6	Unspecified	Harvested January 2011
139	4130 - Aspen	Poletimber Well	159.1	44	Unspecified	
141	6129 - Mixed Coniferous Lowland Forest	Poletimber Medium	1.2	95	Unspecified	Small spring/seep surrounded by hemlock in an area otherwise dominated by upland aspen/oak. This is a small, but unique feature in this part of the compartment. Some cattails in open spots.
143	4130 - Aspen	Poletimber Well	76.7	44	Unspecified	
144	4130 - Aspen	Sapling Well	4.6	25	Unspecified	
145	4131 - Aspen, Oak	Poletimber Well	75.9	51	Unspecified	



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
146	4199 - Other Mixed Upland Deciduous	Sawtimber Well	24.6	95	81-110	
147	4130 - Aspen	Sapling Well	7.8	25	1-50	
148	4123 - Red Oak	Poletimber Well	11.2	56	51-80	Nice young oak pole stand with a few larger, older red oaks in the stand. Also contains a few basswood.
149	4119 - Mixed Northern Hardwoods	Sawtimber Well	65.5	95	111-140	
151	42110 - Planted Red Pine	Poletimber Well	2.6	46	171-200	
152	4131 - Aspen, Oak	Sapling Well	8.0	6	Unspecified	
153	4130 - Aspen	Sapling Well	7.0	6	Unspecified	clearcut under contract #61-014-09-01, cut in summer of 2010.
154	4131 - Aspen, Oak	Sapling Well	18.7	6	Unspecified	clearcut under contract #61-014-09-01 in summer of 2010
155	4130 - Aspen	Sapling Well	17.8	5	Unspecified	Aspen clearcut summer of 2011.
156	4130 - Aspen	Sapling Well	25.8	5	Unspecified	Was clearcut regen in summer of 2011. Also contains scattered retention trees.
157	4130 - Aspen	Sapling Well	20.7	5	Immature	Aspen clearcut summer of 2011.
158	4119 - Mixed Northern Hardwoods	Poletimber Well	2.2	90	51-80	Large frost pocket depression with surrounding hills.
159	4130 - Aspen	Sapling Poor	1.8	4	Immature	
160	42110 - Planted Red Pine	Sawtimber Well	17.0	67	51-80	
162	4130 - Aspen	Sapling Well	41.6	4	Unspecified	
163	4199 - Other Mixed Upland Deciduous	Sawtimber Well	56.2	95	51-80	
164	4130 - Aspen	Sapling Well	53.2	21	Immature	Stand was harvested prior to becoming State land.
166	4310 - Pine, Oak Mix	Sawtimber Medium	25.2	76	81-110	Aspen was cut out of the stand when adjacent stand 164 had harvest....when was with previous owner before State owned.

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Traverse City Mgt. Unit

Report 7 – Forested Stands

Compartment: 60
Year of Entry: 2019

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
168	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Well	14.8	106	81-110	Has small grove of super-canopy white pine. A little over half of stand is lowland. Park-like
172	4114 - Beech, Hemlock	Sawtimber Well	2.9	95	81-110	contains small vernal pond.
173	4123 - Red Oak	Sawtimber Well	2.9	105	81-110	
174	42210 - Natural Red Pine	Sawtimber Well	6.6	81	111-140	
176	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	10.4	81	81-110	
177	4131 - Aspen, Oak	Poletimber Well	11.0	44	Unspecified	
178	4310 - Pine, Oak Mix	Poletimber Well	1.6	60	51-80	
179	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	25.9	95	81-110	



Stand	Cover Type	Acres	Managed Site	General Comments:
3	3302 - Low Density Conifer Trees	2.3	No	.
9	6229 - Mixed lowland shrub	1.0	No	2007 wildlife div comments: Buckthorn? dogwood sp, willow shrub, iris, ferns, grass spp.
10	6229 - Mixed lowland shrub	3.0	No	
18	3303 - Mixed Low Density Trees	8.0	No	
20	3104 - Degraded	37.6	No	Old Railroad grade going through the village of Interlochen.
21	3105 - Mixed Upland Herbaceous	1.6	No	
25	3303 - Mixed Low Density Trees	8.2	No	Possible oak wilt and/or oak decline in stand.
27	3103 - Rubus-Fern	7.9	No	
39	6229 - Mixed lowland shrub	3.3	No	Lowland shrub stand along Betsie River.
45	500 - Water	18.0	No	Betsie River
47	3103 - Rubus-Fern	5.0	No	
48	6239 - Mixed Emergent Wetland	6.3	No	Along the Betsie River
50	6229 - Mixed lowland shrub	34.7	No	Along the Betsie River
54	6229 - Mixed lowland shrub	7.8	No	
55	3303 - Mixed Low Density Trees	25.7	No	
57	6239 - Mixed Emergent Wetland	2.4	No	On Duck Lake.
62	6229 - Mixed lowland shrub	4.6	No	Extension of stand 72.
63	110 - Low Intensity Urban	6.4	Yes	Youker Rd and utility ROW.



Stand	Cover Type	Acres	Managed Site	General Comments:
68	3105 - Mixed Upland Herbaceous	1.4	No	
71	500 - Water	3.8	No	
72	6229 - Mixed lowland shrub	11.6	No	Also found leatherleaf, rushes, alder, vib. sp., willow shrubs, tamarack, rm, and wp.
74	3103 - Rubus-Fern	14.4	No	Two apple trees. Shallow depression on west side. Scattered pine saps and
76	6229 - Mixed lowland shrub	79.1	No	Part of Duck Lake system.
89	3102 - Grass	1.3	No	
101	3105 - Mixed Upland Herbaceous	2.9	Yes	Well pad access road through stand.
108	3104 - Degraded	1.6	No	Some hawkweed.
109	3202 - Autumn Olive/Honeysuckle	2.4	No	
113	110 - Low Intensity Urban	2.7	Yes	Active well site.
115	3105 - Mixed Upland Herbaceous	1.2	No	
116	3202 - Autumn Olive/Honeysuckle	1.9	No	
117	110 - Low Intensity Urban	1.6	Yes	Active well site.
122	3105 - Mixed Upland Herbaceous	20.5	Yes	Utility ROW along side of Nessen City Rd.
123	3105 - Mixed Upland Herbaceous	2.0	No	
124	3104 - Degraded	1.0	No	
132	3105 - Mixed Upland Herbaceous	1.1	No	
140	3202 - Autumn Olive/Honeysuckle	3.0	No	



Stand	Cover Type	Acres	Managed Site	General Comments:
142	3105 - Mixed Upland Herbaceous	17.9	Yes	This is a long and wide power line corridor on hilly terrain. There is a 2-track road going all the way through it. Vehicular access is difficult in places due to terrain.
150	6225 - Bog	3.1	No	
161	3302 - Low Density Conifer Trees	13.7		
165	500 - Water	5.4	No	Flooded area due to active beaver dam.
167	6224 - Treed Bog	2.5	No	White pine, cedar,
169	330 - Low-Density Trees	1.4	No	
170	6239 - Mixed Emergent Wetland	19.2	No	Flooded beaver pond area. Contains flooded timber.
171	6225 - Bog	0.9	No	small bog