



Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 61102

Entry Year 2017

Acreage: 2,465

County Kalkaska

Management Area: Grayling Outwash

Revision Date: 2015-05-01

Stand Examiner: Steve Crigier

Legal Description:

Kalkaska County
T28N, R5W, Sec. 4, 5, 6, 7, 8, 9

Identified Planning Goals:

Management in the Grayling Outwash management area (MA) will emphasize continuing balancing the age class of aspen on suitable sites and thinning the northern hardwoods, balancing age classes of red pine and jack pine and regenerating the aging swamp hardwood and conifer resource where possible. Management will strive to sustainably produce various timber products, enhance game and non-game wildlife habitat, protect areas of unique character and provide for forest-based recreational uses. Management activities are constrained by poor access in the swampy (16% lowland) portions of this area, some of which fall in the riparian zone of the Manistee River, a dedicated natural river. Expected trends within this 10-year planning period are increased recreational pressure, introduced pests and diseases and the difficulty in regenerating swamp types.

Soil and topography:

The north and west side of the compartment is mostly flat with gently rolling hills. The south and eastern part of the stand is larger rolling hills some of which are present obstacles to harvesting timber. There are scattered vernal ponds across the compartment as well as larger lakes in the central portion of the compartment. Most of the soil is Kalkaska Sand and Blue Lake Loamy sand.

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

Private ownership with high residential & second home development around the lakes. The rest of the area is mostly state ownership.

Unique Natural Features:

This compartment falls within landtype associations (LTAs) 3121, 5211, and 5521 of sub-subsection VII.2.2. LTA 3121, which occurs in the southeastern portion of the compartment, is characterized by large irregular ice-contact ridges, few kettle lakes, and well drained loamy sand. Northern hardwood forests of beech and sugar maple occurred on 73% of this LTA circa 1800. Hemlock and white pine probably occurred in low numbers throughout most of these hardwood forests, and these two conifers also co-dominated forests on the remainder of the LTA. Specifically, hemlock, was co-dominant with either beech or white pine on about 19% of the LTA. In addition to its association with hemlock, white pine also occurred in mixed forests with red pine on about 6% of the LTA. Northern hardwood forests remain the dominant cover type on LTA 3121, covering about 70% of its surface. However, most of these second growth forests lack the structural complexity of mature northern hardwoods and, in addition, the conifer component has been greatly reduced or eliminated. Conifer dominated forests, once common on this LTA, have been essentially eliminated, whereas aspen/white birch forests now cover about 19% of the area. The northwestern two-thirds of the compartment contains LTA 5211, a pitted outwash plain with excessively drained sand. Forests of beech and sugar maple covered 34% of the LTA. One quarter of the landscape was dominated by fire-prone red pine mixed with white or jack pine. Jack pine, occurring in pure stands or in open, savanna-like pine and oak/pine barrens covered approximately 13% of the LTA. The remainder of the LTA supported forests of white pine, beech, and red maple, often including a significant portion of hemlock, and lowland conifer swamps. The upland-conifer forests, which occupied over 50% of the LTA at the time of the General Land Office survey have been drastically reduced and now occur on about 19% of the landscape. Further, much of these remaining conifer forests are red or jack pine plantations, while oak and pine barrens and forests co-dominated by hemlock have been virtually eliminated. In contrast, aspen/white birch forests, which covered about 3% of the LTA at the time of the General Land Office survey, have increased to about 20% cover today. LTA 5521 is found in southeastern corner of the compartment. LTA 5521 is characterized by narrow, north-south trending outwash channels with well-drained sand between large ice-contact ridges. Circa 1800, white pine was co-dominant with hemlock, red pine, or American beech and red maple, in 61% of the original forests of the LTA. Eastern hemlock also occurred with American beech in forests that covered about 8% of the LTA. The remaining upland area supported less extensive forests of American beech and sugar maple, and red pine mixed with oak or jack pine. Wetlands, which covered 13% of the LTA, were predominately cedar, mixed conifer, or mixed hardwood/conifer swamps. The LTA has become quite fragmented and 21% of its area supports cover types with less than

5% individual cover. Aspen/white birch forest, which was not noted by the original land surveyors, has become the predominant cover type and occurs on 25% of the LTA. Pine forest persists on only 20% of the area and forests with hemlock as a co-dominant have been virtually eliminated. Unmanaged herbaceous and shrublands collectively cover about 18% of the LTA, while northern and central hardwoods occur on another 15%. Much of the original conifer-dominated wetlands have been converted to either lowland hardwoods or lowland shrubs.

Archeological, Historical, and Cultural Features:

Big Wheel" roads are located on private to the west of this compartment. Also, a number of old Antrim Iron Company logging camps are located just outside the compartment boundaries.

Special Management Designations or Considerations:

Sections 8 and 9 did have a Potential Old Growth Area but this area does not meet the Old Growth criteria. In addition there is a lot of oil and gas activity and the motorized recreation trails in these sections.

Watershed and Fisheries Considerations:

Starvation Lake, Eagle Lake, Waddell's Pond, and McNeil's Pond all lie within Compartment 102. Starvation Lake is stocked annually with rainbow and brown trout, and also offers good fishing for largemouth bass, smallmouth bass, bluegill, and yellow perch. Eagle Lake offers fishing for largemouth bass, bluegill, pumpkinseed sunfish, and yellow perch. No timber harvests should take place within 100' of these lakes or the two ponds, per MDNR BMPs.

Wildlife Habitat Considerations:

The north half of the compartment consists of a pitted outwash plain (LTA 5211). This type of outwash plain consists of numerous kettle lakes and sandy, excessively drained soils. Within this compartment, numerous aspen and shrub stands are located here. There are also maple and pine stands. Portions of Sec. 08 and Sec. 09 lie on an ice contact ridge (LTA 3121). Topography is steep, broken, and irregular. Soils are well drained, loamy sand. Within this compartment, maple stands dominate. There are also some limited aspen stands, along with a few old well pad sites. A small, narrow outwash channel (LTA 5521) is located in the SE corner of Sec. 09. A red pine plantation and young maple/aspen/tamarack stand are located here. FMFM planted tamarack within the deciduous stand and it is doing well.

Ruffed grouse use different aged aspen throughout their life cycle. Younger stands provide cover while older stands provide catkins (food source) for the winter months. Aspen clearcuts help facilitate different sized trees by mimicking the necessary disturbance vital for regeneration. The creation of CWD trees for drumming logs and maintaining berry-producing shrubs is also desirable. Wildlife considerations for northern hardwood stands involve maintaining tree species diversity, the protection of den/nesting trees & snags, Coarse Woody Debris (CWD), and maintaining a scattering of mast-producing trees/shrubs. This will insure use by many species of wildlife. Examples of species include scarlet tanager, raccoon, broad-winged hawk, wild turkey, and white-tailed deer. Many wildlife species rely on small forest openings and upland shrubland. These openings provide grassy nest sites, plentiful seeds and insects, and cover. Examples of species include northern flicker, eastern chipmunk, and blue racer. Upland shrub stands are important because they contain many berry-producing trees and shrubs. Handfelling with chainsaws may be needed to maintain these habitat types. Any degraded site should be considered for planting of trees, rye, or into a native grass. The tamarack planted within one stand provides an interesting alternative for tree species diversification and does provide some wildlife value.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 600 and 1,000 feet. Beneath the glacial drift is the Mississippian Coldwater Shale. The Coldwater does not have an economic use. The nearest gravel pit is located one mile to the south and potential is considered good on the uplands. This area is located in the Niagaran reef trend with many producing wells. The Antrim Shale gas play may have some limited potential. Most of the Compartment is currently leased for oil and gas development. Parts of two gas storage fields are also in the Compartment.

Vehicle Access:

There is good vehicle access through out the compartment with poor dirt roads and County roads. New temporary roads might need to be made into stand 41 for the hardwood thinning.

Survey Needs:

Some survey work might be needed in section 8 and 9 to establish the treatment boundaries.

Recreational Facilities and Opportunities:

There are a variety of recreational opportunities within this compartment. Motorized trail opportunities include: the Kalkaska ORV route (designed for vehicles 72 inches and wider), the Kalkaska ORV trail (designed for ORV's <50 inches), the Michigan Cross Country Cycle Trail (MCCCT), and the Blue Bear snowmobile and connector trail to the Jordan Valley snowmobile system. Non-motorized trail opportunities include the North Country National Scenic Trail-which runs north/south thru the center of this compartment. There is also a public boating access site located on Starvation Lake. Trail protection specifications should be included in any timber sale potentially impacting these recreational facilities. Specifically, appropriate measures identified in DNR Policy and Procedures document "32.22XX Best Management Practices for Forest and Wildlife Management Adjacent to Recreational Trails" should be taken into consideration. (T.M.N. 12/9/14).

Fire Protection:

Kalkaska DNR and Blue Lake Township Fire Department cover this compartment for fire suppression.

Additional Compartment Information:

The following reports from the Inventory are attached:

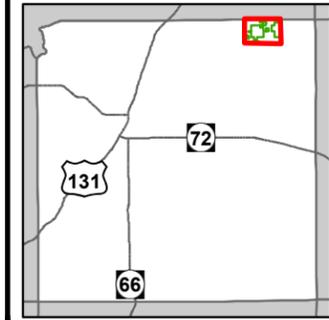
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

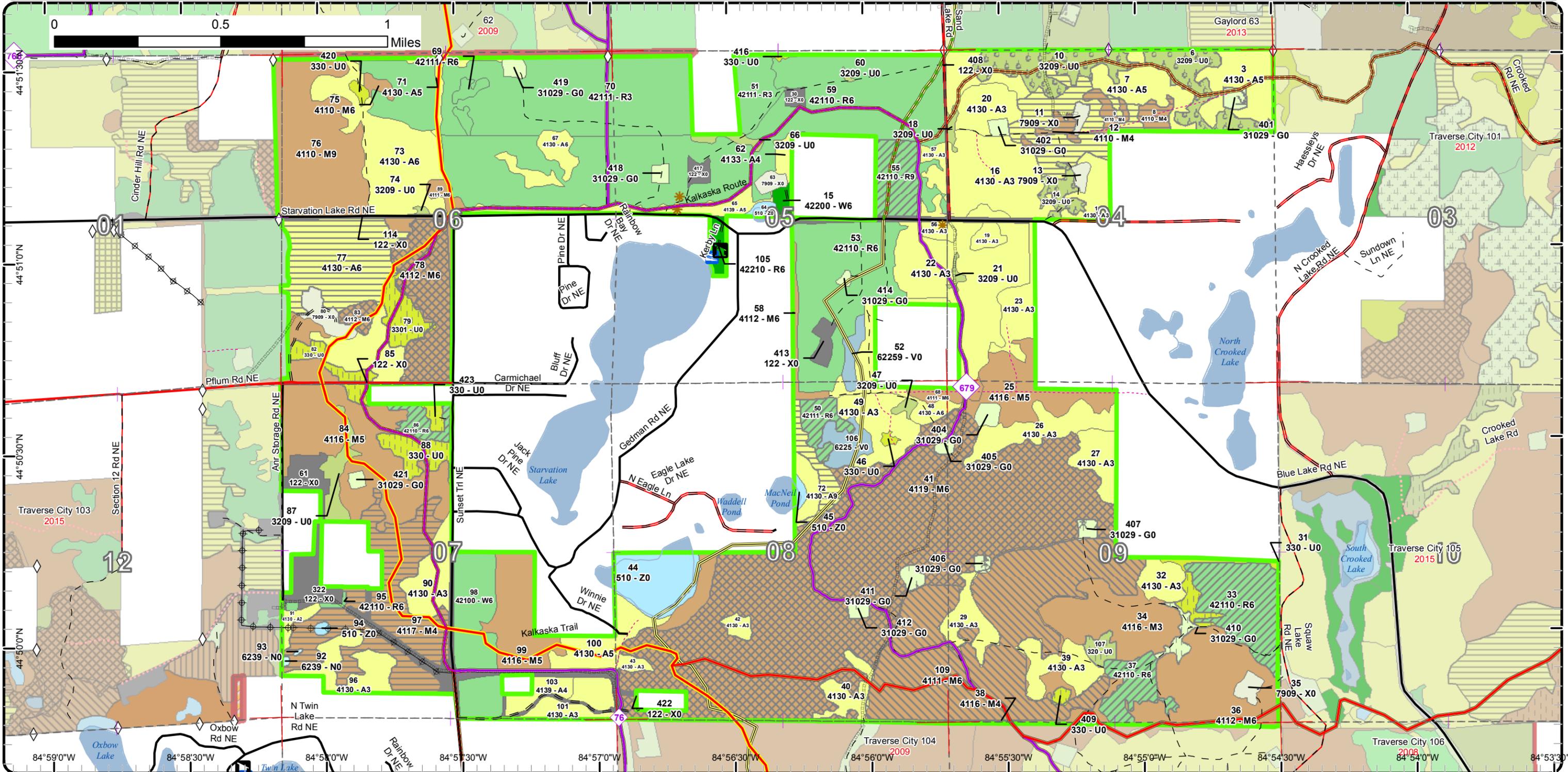
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments

Compartment: 102
 T28N R05W 4-9
 Kalkaska
 Unit: Traverse City
 Mgmt Area: Grayling Outwash
 YOE: 2017
 Acres: 2465 GIS Calculated
 Examiner: Steve Crigier
 Map Revised: 6/18/2015
 Map Phase: Pre-Review

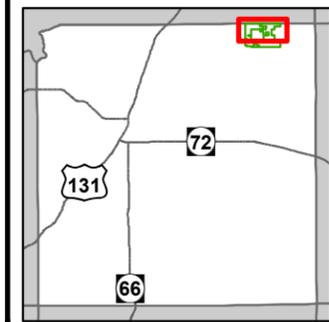


- ✚ Remonumented Section Corners
- ◇ Field Grade GPS Corners
- Miris Corners
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Designated Hiking Pathways
- Designated ATV Trails
- Designated ORV Routes
- Snowmobile
- Designated MCCCT Trails
- Boating Access Site
- Trailhead
- Rivers
- Lakes
- Pipeline
- Powerline
- Selection (Group, Single Tree) Non-Forest Covertype
- Clearcut (w/Reserves)
- Pesticide
- Planting (tree species)
- Prescribed Burn
- Opening Maintenance
- Other Harvest - See Comments
- Thinning (Crown, Low, Systematic)
- Forest Covertype
 - 411 - Northern Hardwood
 - 413 - Aspen Types
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 122 - Roads/Parking Lot
 - 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 790 - Other Bare/Sparingly Vegetated

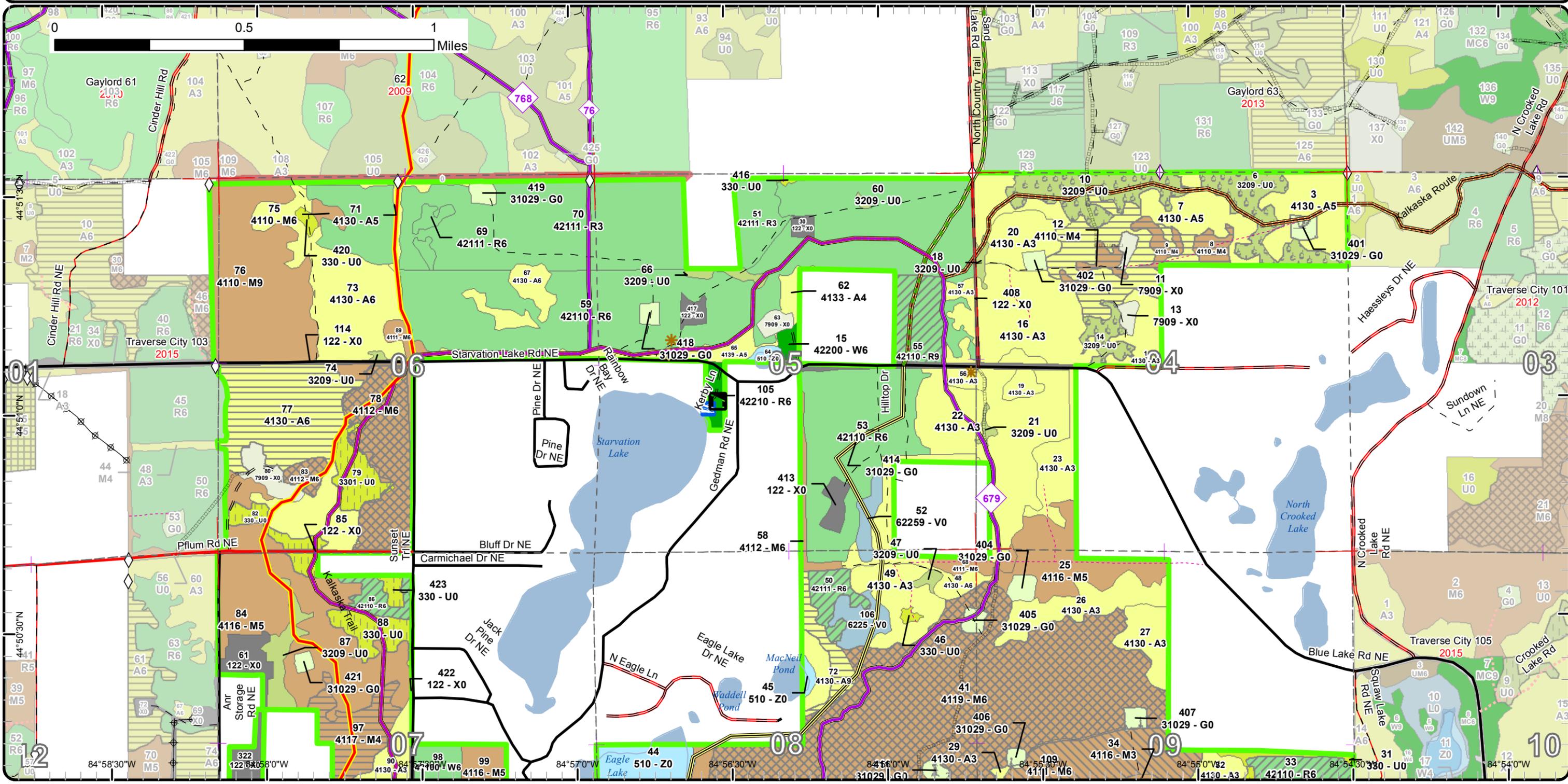


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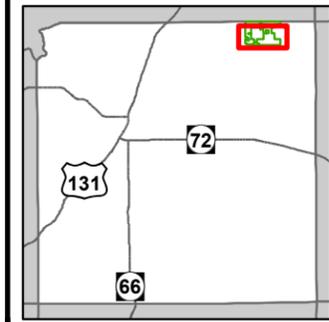


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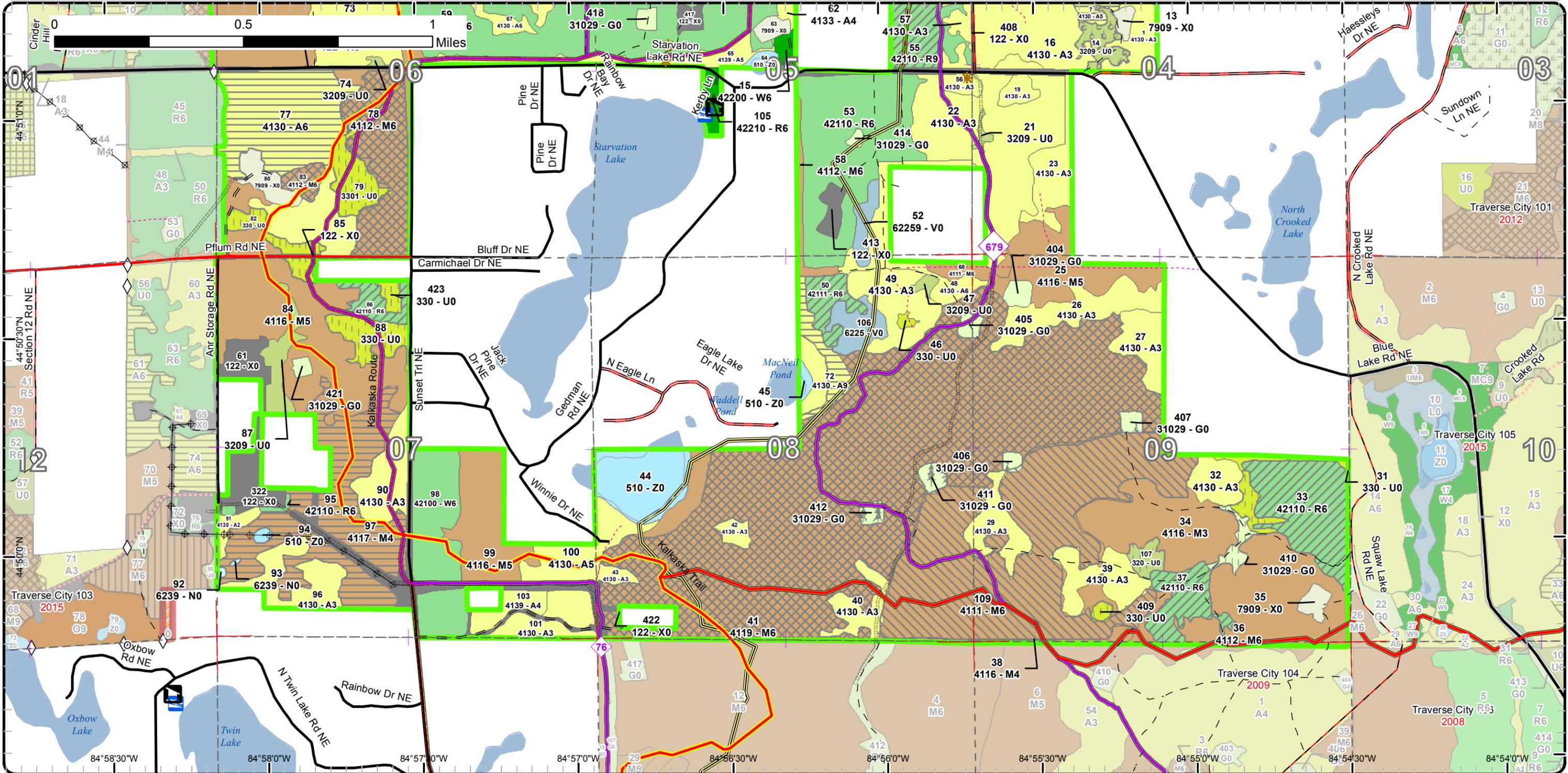


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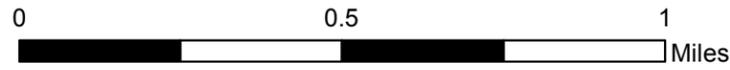
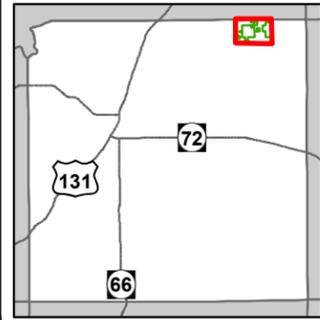


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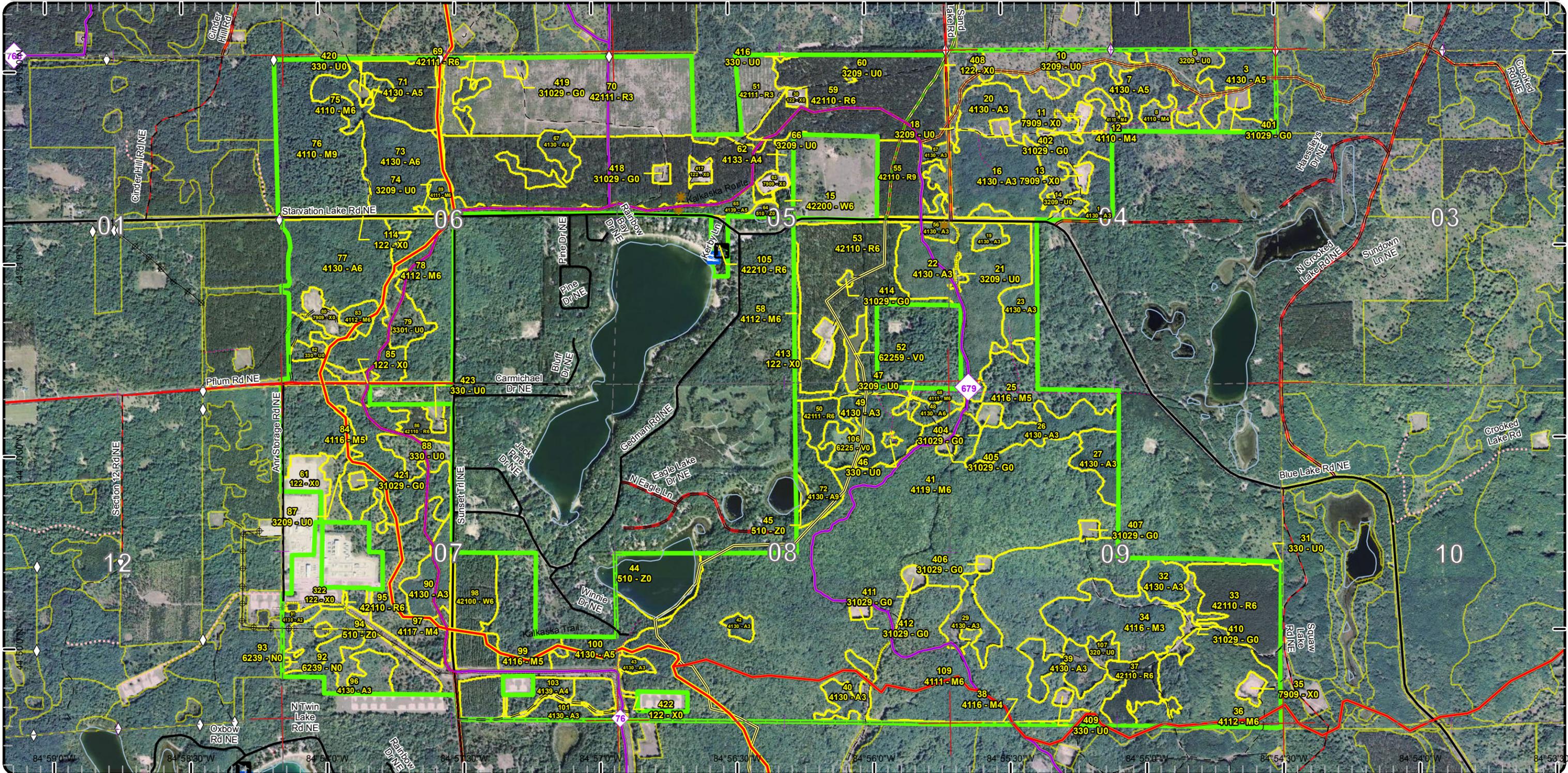


Stand Boundary Map

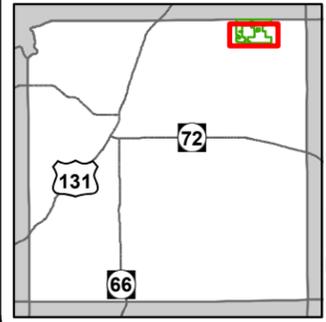
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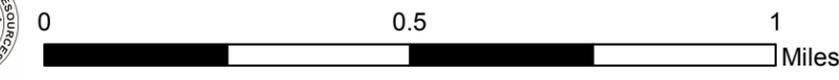
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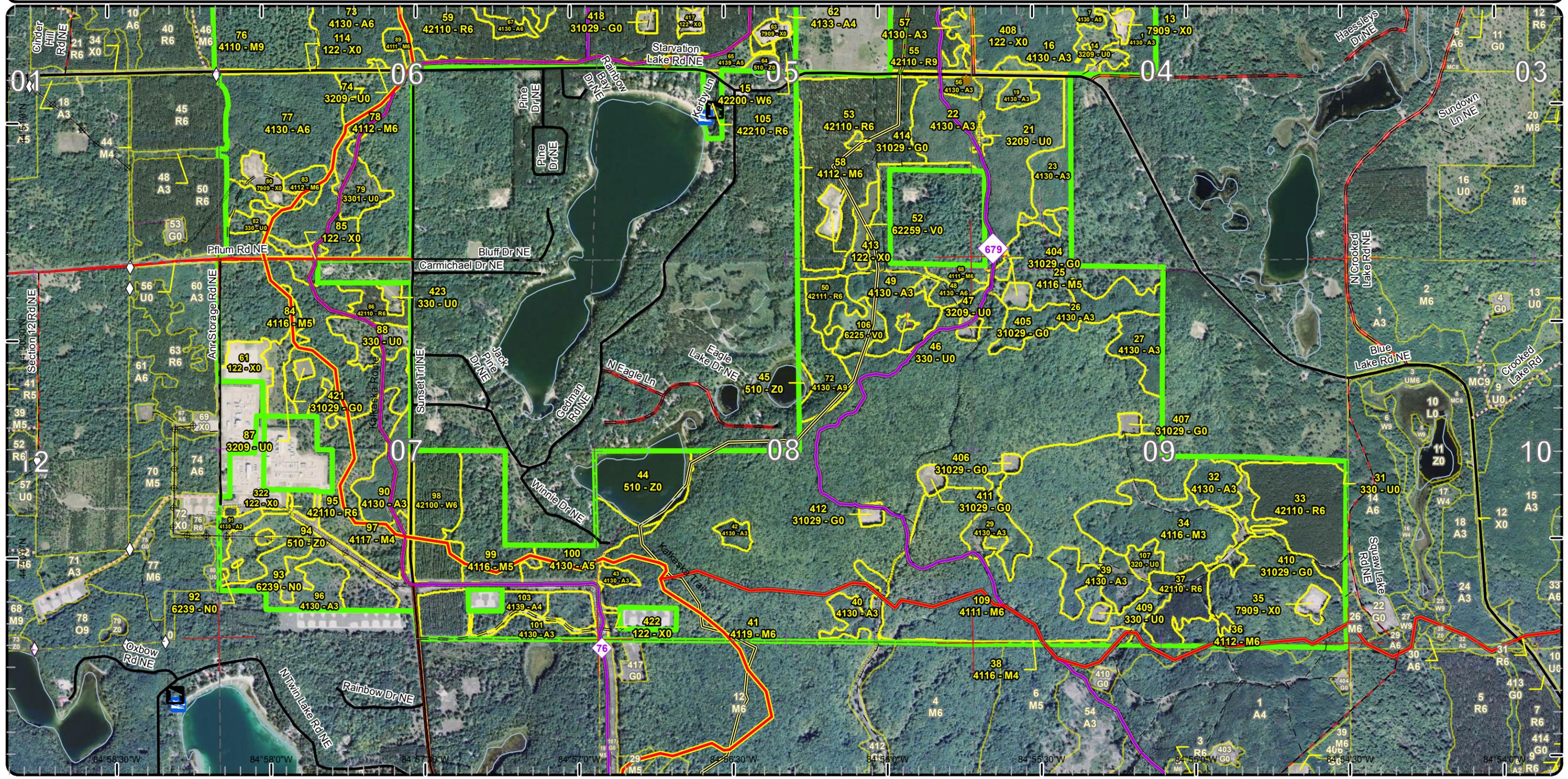
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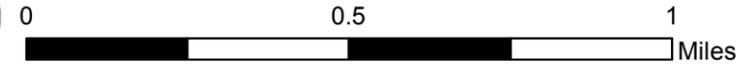
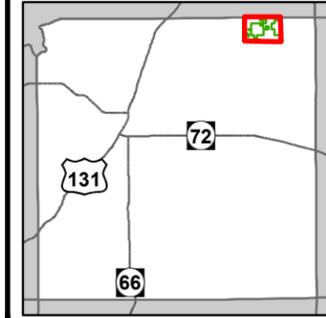


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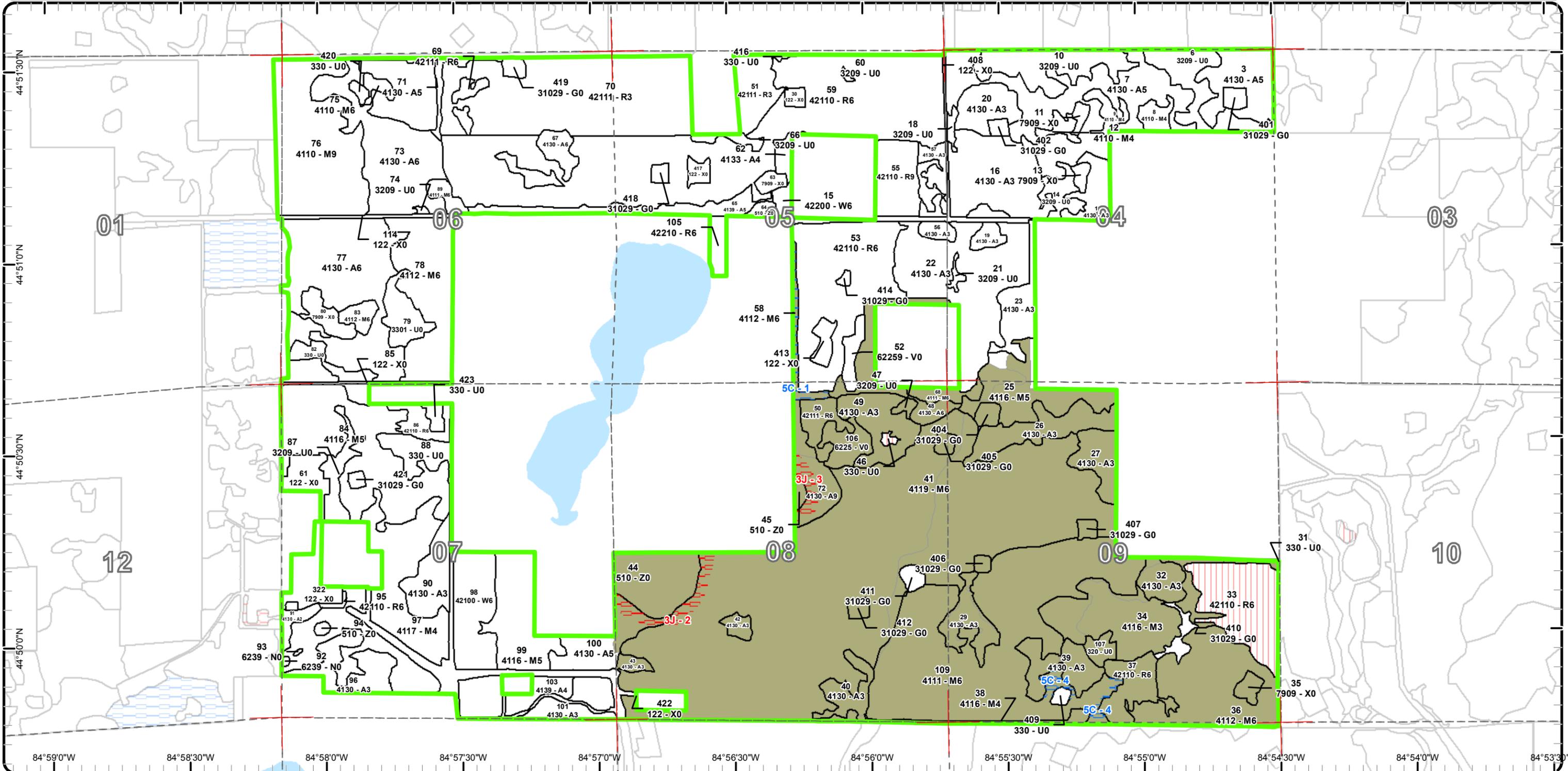


Special Conservation Areas & Site Conditions Map

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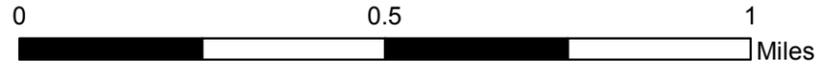
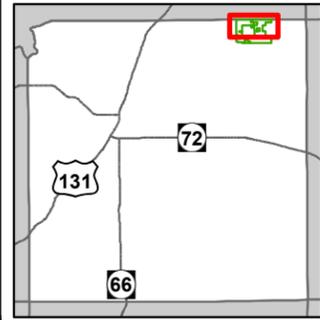


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- Unavailable Factors
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 - Cold Water Lakes
 - Potential Old Growth
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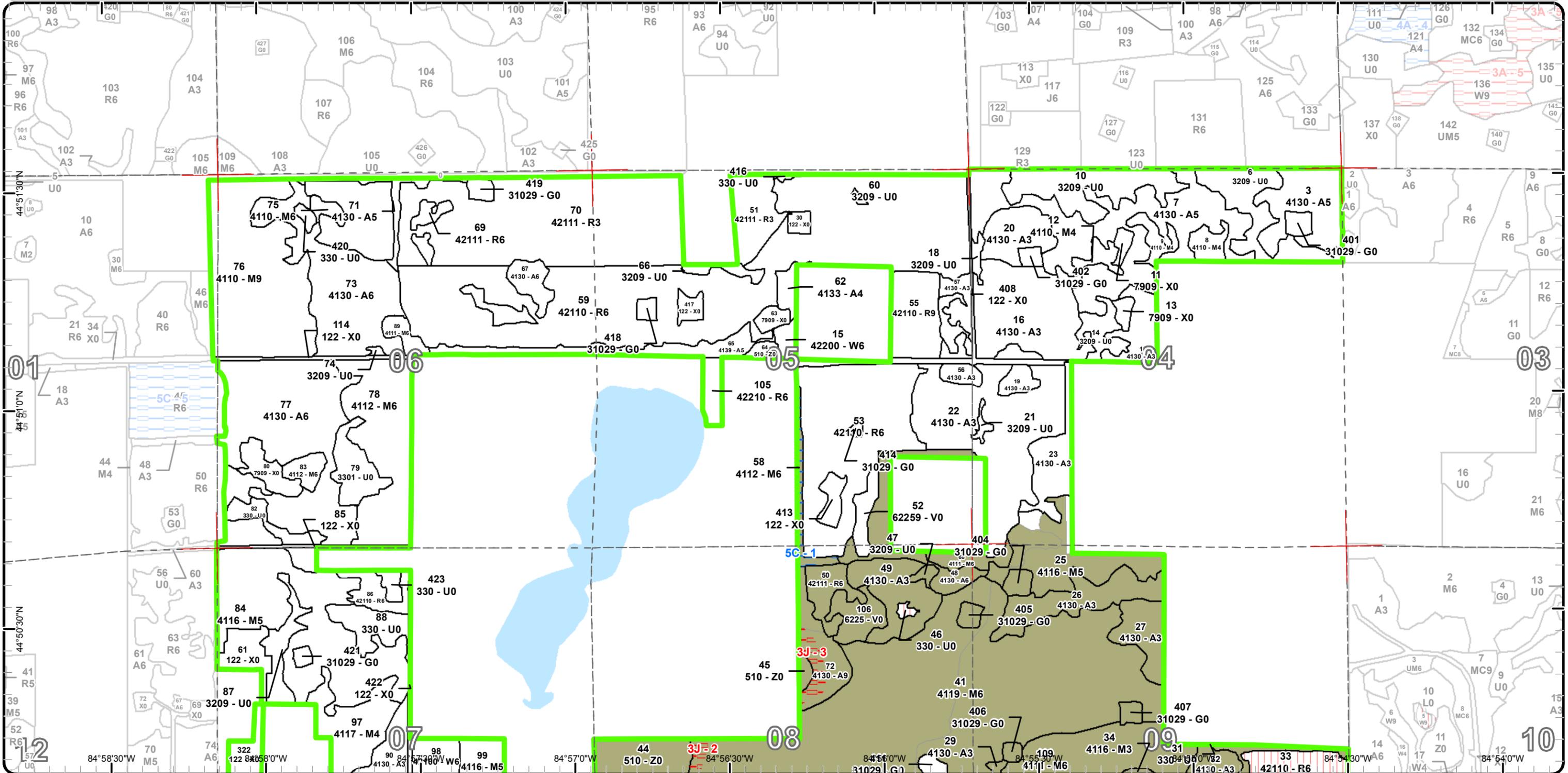


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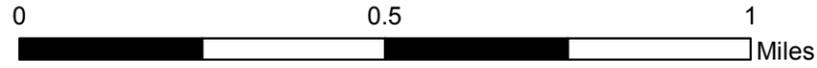
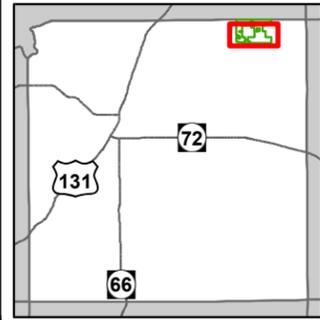


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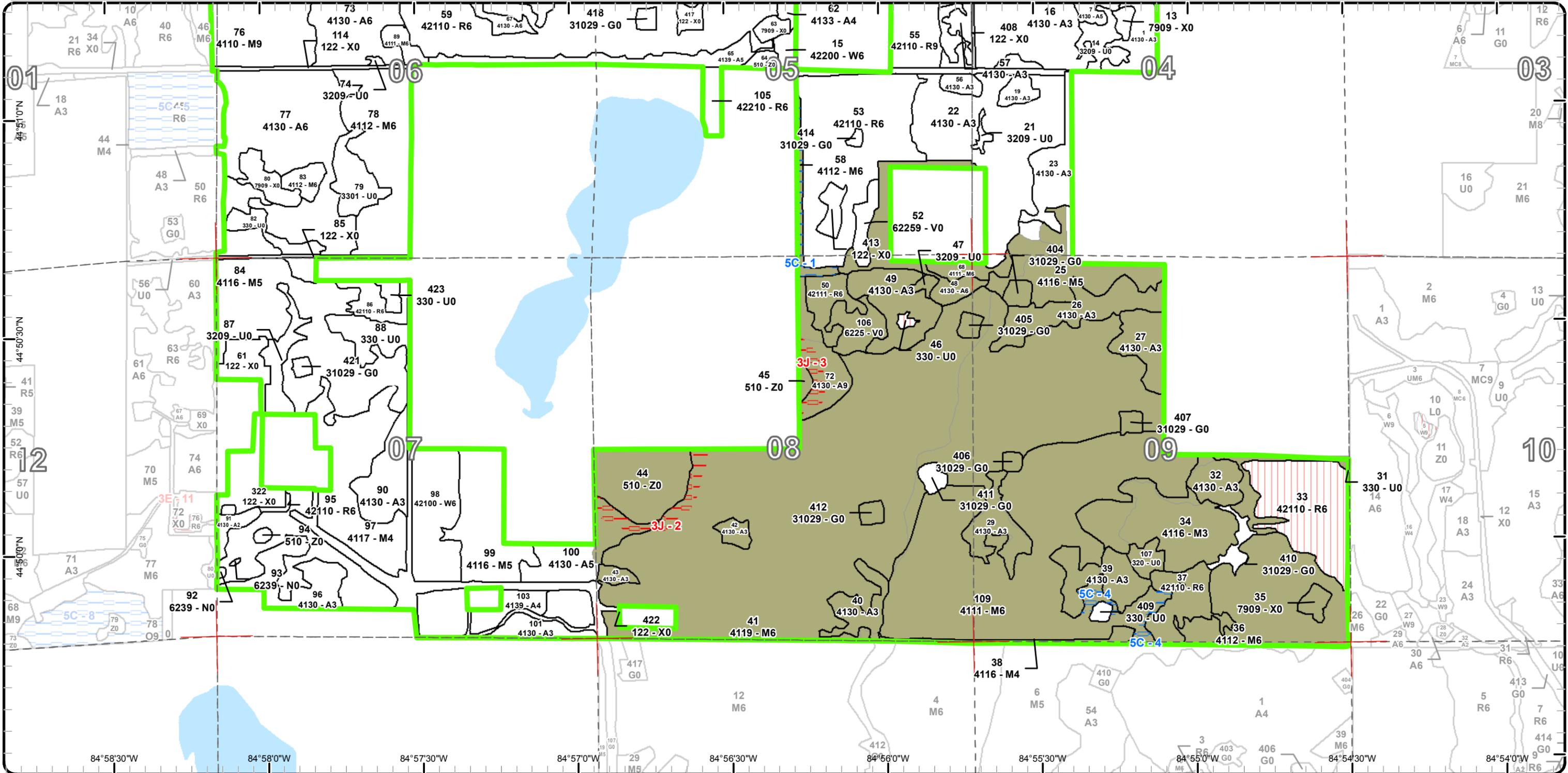


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Report 1 – Total Acres by Cover Type and Age Class



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	69	102	140	38	227	0	16	0	0	0	0	0	0	0	0	0	39	631
Bare/Sparsely Vegetated	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Bog	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Herbaceous Openland	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
Low-Density Trees	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47
Marsh	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Northern Hardwood	0	0	0	39	6	0	31	645	9	0	0	0	0	0	0	0	0	270	1000
Red Pine	0	118	0	0	0	12	354	19	0	0	0	0	0	0	0	0	0	0	503
Upland Shrub	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	76
Urban	72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72
Water	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
White Pine	0	0	0	0	0	0	37	0	0	0	0	0	0	0	0	0	0	3	40
Total	290	187	102	179	44	239	422	680	9	0	312	2464							



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
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79	61102_OutOfY OE_1-Cut	38.6	3301 - Low Density Deciduous Trees	Nonstocked		Unspec ified	Harvest	Group Selection	411 - Northern Hardwood	Uneven- Aged	Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Remove most of the beech within the stand because it is infested with BBD. Mark to leave some scattered beech for mast and wildlife cavity
Specs: trees.

Next Step
Treatments:

Acceptable
Regen:

Other Protect the ORV trail and snowmobile trails during the harvest operation. There is a possible landing off Plum rd in a U0 in the southern portion
Comment: of the stand.

Proposed Start Date: 7 /17/2013

29	61102_OutOfY OE-Cut	150.7	4130 - Aspen	Sapling Well	17	Immatur re	Harvest	Other - Specify	411 - Northern Hardwood	Unspecified	Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Stand is infested with beech bark disease. Remove the majority of the beech, green ring some to leave. Also remove the aspen as it is over 50
Specs: years old. Mark to cut thick areas of maple down to 70sqft/ac.

Next Step
Treatments:

Acceptable
Regen:

Other ORV and snowmobile trail run through the harvest area. These trails will need to be protected during harvest. Best access seems to be off
Comment: Twin Lake road and up Birch road.

Proposed Start Date: 7 /19/2013

6	61102006- Burn	20.9	3209 - Upland Shrub (OI)	Nonstocked		Unspec ified	Burn	Opening	31022 - Warm Season Grass		Proposal
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Habitat Cut: Yes

Site Condition:

Prescription Burn this stand at least once per entry period in order to set back woody encroachment, increase species diversity, stimulate native herbaceous
Specs: vegetation, promote berry production, and recycle nutrients.

Next Step
Treatments:

Acceptable
Regen:

Other Or, Brush hog (or hand fell) around select leave trees and/or patches . Leave scattered mast producing trees and shrubs and/or conifers for
Comment: wildlife food and cover.
Old next step comments:

Proposed Start Date: 10/1 /2016

7	61102007-Cut	33.6	4130 - Aspen	Poletimber Medium	46	51-80	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription I would recommend clear cutting the central portion of the stand and replanting to red pine with stands 12, 9, and 8. This appears to be the
Specs: poorest quality and the least stocked part of the stand. A chip harvest will clean the site up the best and I would imagine we will need to control
sprouting with roller chopping or spraying before we trench and plant.

Next Step
Treatments:

Acceptable red pine, aspen, red maple
Regen:

Other I saw some lathe along the south line making me think that there are survey corners to establish the private boundary. Old next step
Comment: comments:

Proposed Start Date: 10/1 /2016



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
8	61102008-Cut	5.0	4110 - Sugar Maple Association	Poletimber Poor	30	1-50	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Proposal
Habitat Cut: No		Site Condition:									
<u>Prescription</u> clear cut stand with adjacent stand. Chip harvest to get as clean of a site as possible.											
<u>Specs:</u> site will probably need to be roller chopped or herbicided, trenched and then planted to red pine.											
<u>Next Step</u> <u>Treatments:</u>											
<u>Acceptable</u> red pine but will also be seeing some aspen, red maple and cherry competition.											
<u>Regen:</u>											
<u>Other</u> Old next step comments:											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2016											
9	61102009-Cut	4.8	4110 - Sugar Maple Association	Poletimber Poor	30	1-50	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Proposal
Habitat Cut: No		Site Condition:									
<u>Prescription</u> clear cut stand with adjacent stands. Chip harvest to get as clean of a site as possible.											
<u>Specs:</u> site will probably need to be roller chopped or herbicided, trenched and then planted to red pine.											
<u>Next Step</u> <u>Treatments:</u>											
<u>Acceptable</u> red pine, but will also get some aspen, red maple and cherry competition.											
<u>Regen:</u>											
<u>Other</u> Old next step comments:											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2016											
10	61102010-Burn	24.8	3209 - Upland Shrub (OI)	Nonstocked		Unspec ified	Burn	Opening	31022 - Warm Season Grass		Proposal
Habitat Cut: Yes		Site Condition:									
<u>Prescription</u> Burn this stand at least once per entry period in order to set back woody encroachment, increase species diversity, stimulate native herbaceous											
<u>Specs:</u> vegetation, promote berry production, and recycle nutrients.											
<u>Next Step</u> <u>Treatments:</u>											
<u>Acceptable</u> <u>Regen:</u>											
<u>Other</u> Or, Brush hog (or hand fell) around select leave trees and/or patches . Leave scattered mast producing trees and shrubs and/or conifers for											
<u>Comment:</u> wildlife food and cover. Old next step comments:											
<u>Proposed Start Date:</u> 10/1 /2016											
12	61102012-Cut	4.8	4110 - Sugar Maple Association	Poletimber Poor	35	1-50	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Proposal
Habitat Cut: No		Site Condition:									
<u>Prescription</u> clear cut stand with adjacent stands. Chip harvest to get as clean of a site as possible.											
<u>Specs:</u> site will probably need to be roller chopped or herbicided, trenched and then planted to red pine.											
<u>Next Step</u> <u>Treatments:</u>											
<u>Acceptable</u> red pine, but will probably have some red maple and aspen sprouts											
<u>Regen:</u>											
<u>Other</u> Old next step comments:											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2016											



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Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
14	61102014-Burn	7.5	3209 - Upland Shrub (OI)	Nonstocked		Unspecified	Burn	Opening	31022 - Warm Season Grass		Proposal

Habitat Cut: Yes

Site Condition:

Prescription Burn this stand at least once per entry period in order to set back woody encroachment, increase species diversity, stimulate native herbaceous vegetation, promote berry production, and recycle nutrients.

Next Step
Treatments:

Acceptable
Regen:

Other Or, Brush hog (or hand fell) around select leave trees and/or patches . Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover.
Comment: Old next step comments:

Proposed Start Date: 10/1 /2016

31	61102031-NF	4.8	330 - Low-Density Trees	Nonstocked		Unspecified	NonForestMgt	Brush Cutting	3105 - Mixed Upland Herbaceous		Proposal
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Habitat Cut: Yes

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. Plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. May need to fertilize plantings and protect with wire cages or tubex.

Next Step
Treatments:

Acceptable
Regen:

Other Could plant to a portion to low maintenance herbaceous cover suitable for wildlife cover and forage. Non-forest treatments should be timed to occur after any nearby timber in case the opening is needed for a timber landing.
Comment: Old next step comments:

Proposed Start Date: 10/1 /2016

33	61102033-Cut	38.2	42110 - Planted Red Pine	Poletimber Well	55	171-200	Harvest	Systematic Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription Row thin stand by removing every third row.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other Set up with stand 37 for a timber sale. North property line will need to be established. I haven't looked for survey records yet. Old next step comments:

Proposed Start Date: 10/1 /2016

37	61102037-Cut	16.2	42110 - Planted Red Pine	Poletimber Well	55	171-200	Harvest	Systematic Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription Row thin the stand by removing every third row. Row spacing is tight in some places so might have to mark some additional trees to remove.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other Stand is fairly hilly. Put with stand 33 for a timber sale. Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
41 61102041-Cut	368.6	4119 - Mixed Northern Hardwoods	Poletimber Well	68	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Proposal

Habitat Cut: No

Site Condition:

Prescription I think it would be good to thin/select a portion or all of this stand. Some areas may need to be excluded do to steep terrain and buffers for Eagle Lake and MacNeil Pond. The snowmobile and ORV trail also run through the stand and will need to be protected during the harvest. According to the Q curve ran by the QD report we will need to target a lot of trees to cut in the 8-10" size class for removal. Overall Target residual BA should be around 80.

Next Step
Treatments:

Acceptable sugar maple, red maple, aspen, beech, basswood.
Regen:

Other The sale will likely need a more extensive road system which will need to be carefully laid out due to the hilly terrain. Also the private boundary Comment: will need to be established and I haven't checked for corners yet. Old next step comments:

Proposed Start Date: 10/1 /2016

50 61102050-Cut	9.6	42111 - Planted Red Pine, Mixed Deciduous	Poletimber Well	54	171-200	Harvest	Systematic Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription Row thin stand by removing every third row. Think about leaving aspen and red maple to avoid sprouting.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other NCT runs along the north side of the stand. Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

55 61102055-Cut	18.7	42110 - Planted Red Pine	Sawtimber Well	62	141-170	Harvest	Crown Thinning	42110 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription Thin the stand and bring BA down to around 120 or so. West blue line appears to be established. Add appropriate trail protection specs.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

72 61102072-Cut	9.3	4130 - Aspen	Sawtimber Well	68	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription clear cut stand, but provide an adequate buffer for MacNeil Pond.
Specs:

Next Step
Treatments:

Acceptable aspen, red maple, sugar maple, basswood.
Regen:

Other protect the NCT. West property line looks to be established but will need to double check. Stand should likely go with stand 41 for a timber Comment: sale. Old next step comments:

Proposed Start Date: 10/1 /2016



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
77 61102077-Cut	50.6	4130 - Aspen	Poletimber Well	47	51-80	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal

Habitat Cut: No

Site Condition:

Prescription Clear cut the stand. Try to protect the sugar maple regen. Apply appropriate trail protection specs. It looks like best access is from the south
Specs: through stand 80.

Next Step
Treatments:

Acceptable aspen, red maple, cherry, sugar maple.
Regen:

Other Maybe look to move the ORV trail to the sales east boundary. Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

79 61102079-NF	11.2	3301 - Low Density Deciduous Trees	Nonstocked		Unspec ified	NonForestMgt	Brush Cutting	3205 - Mixed Upland Shrub		Proposal
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Habitat Cut: Yes

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.
Specs: Fertilize plantings and protect with wire cages or tubex.

Next Step
Treatments:

Acceptable
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

82 61102082-NF	9.1	330 - Low-Density Trees	Nonstocked		Unspec ified	NonForestMgt	Brush Cutting	3205 - Mixed Upland Shrub		Proposal
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Habitat Cut: Yes

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.
Specs: Fertilize plantings and protect with wire cages or tubex.

Next Step
Treatments:

Acceptable
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

83 61102083-Cut	4.8	4112 - Maple, Beech, Cherry Association	Poletimber Well	72	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription Select harvest stand down to 80ft/ac. Pair stand up with the adjacent treatment in stand 77. Apply ORV trail protection specs.
Specs:

Next Step
Treatments:

Acceptable sugar maple, beech, red maple, cherry, aspen,
Regen:

Other being a first entry on this hardwood I wouldn't expect regen except in large canopy gaps or on the edge of the stand. Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
86 61102086-Cut	7.5	42110 - Planted Red Pine	Poletimber Well	40	171-200	Harvest	Crown Thinning	42110 - Planted Red Pine	Even-Aged	Proposal

Habitat Cut: No

Site Condition:

Prescription Thin stand. Mark the stand down to about 120-130 sqft/ac. Use opening as a landing.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

88 61102088-NF	11.1	330 - Low-Density Trees	Nonstocked		Unspec ified	NonForestMgt	Brush Cutting	3205 - Mixed Upland Shrub		Proposal
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Habitat Cut: Yes

Site Condition:

Prescription Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs

Specs: 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.

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

97 61102097-Cut	73.7	4117 - Mixed N. Hardwood - Pine	Poletimber Poor	40	1-50	Harvest	Clearcut	42110 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription would recommend treating a large portion of the stand with a clear cut with intentions of changing the MO to red pine. This would require a chip

Specs: harvest probably followed by herbicide and/or roller chopped.

If treatment is approved the ORV trail should be reroute to the east stand line, against st 90

Next Step

Treatments:

Acceptable red pine (planted)

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

107 61102107-NF	4.4	320 - Upland Shrub	Nonstocked	0	Unspec ified	NonForestMgt	Brush Cutting	3105 - Mixed Upland Herbaceous		Proposal
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Habitat Cut: Yes

Site Condition:

Prescription Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs

Specs: and/or conifers for wildlife food and cover. Plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. May need to fertilize plantings and protect with wire cages or tubex.

Next Step

Treatments:

Acceptable

Regen:

Other Could plant to a portion to low maintenance herbaceous cover suitable for wildlife cover and forage. Non-forest treatments should be timed to occur after any nearby timber in case the opening is needed for a timber landing.

Old next step comments:

Proposed Start Date: 10/1 /2016



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
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401	61102401-Spray	2.7	31029 - Grass (OI)	Nonstocked		Unspecified	Pesticide	Other - Specify	31022 - Warm Season Grass		Proposal
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Habitat Cut: Yes **Site Condition:**
Prescription Treat site to remove exotics. Then reseed to site appropriate native grasses for wildlife food and cover. Consider also seeding in native forbs.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

406	61102406-Plant	1.4	31029 - Grass (OI)	Nonstocked		Unspecified	Planting	Initial Plant	42310 - Planted Spruce	Even-Aged	Proposal
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Habitat Cut: Yes **Site Condition:**
Prescription Plant old well pad with white spruce after the adjacent hardwood thinnings are complete.
Specs:

Next Step
Treatments:

Acceptable white spruce
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

407	61102407-Plant	2.1	31029 - Grass (OI)	Nonstocked		Unspecified	Planting	Initial Plant	42310 - Planted Spruce	Even-Aged	Proposal
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Habitat Cut: Yes **Site Condition:**
Prescription Plant white spruce after adjacent hardwoods are thinned. This stand might be used for a landing for adjacent harvests.
Specs:

Next Step
Treatments:

Acceptable White spruce.
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

409	61102409-NF	1.4	330 - Low-Density Trees	Nonstocked		Unspecified	NonForestMgt	Brush Cutting	3105 - Mixed Upland Herbaceous		Proposal
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Habitat Cut: Yes **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. Plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. May need to fertilize plantings and protect with wire cages or tubex.
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other Could plant to a portion to low maintenance herbaceous cover suitable for wildlife cover and forage.
Comment: Non-forest treatments should be timed to occur after any nearby timber in case the opening is needed for a timber landing.
 Old next step comments:

Proposed Start Date: 10/1 /2016



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
410	61102410-NF	4.1	31029 - Grass (OI)	Nonstocked		Unspec ified	NonForestMgt	Brush Cutting	3105 - Mixed Upland Herbaceous		Proposal

Habitat Cut: Yes

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. Plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. May need to fertilize plantings and protect with wire cages or tubex.

Next Step
Treatments:

Acceptable
Regen:

Other Could plant to a portion to low maintenance herbaceous cover suitable for wildlife cover and forage. Non-forest treatments should be timed to occur after any nearby timber in case the opening is needed for a timber landing.
Comment: Old next step comments:

Proposed Start Date: 10/1 /2016

411	61102411- Plant	2.7	31029 - Grass (OI)	Nonstocked		Unspec ified	Planting	Initial Plant	42310 - Planted Spruce	Even-Aged	Proposal
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Habitat Cut: Yes

Site Condition:

Prescription Plant old well pad with white spruce after the adjacent hardwood thinnings are complete.
Specs:

Next Step
Treatments:

Acceptable white spruce
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

412	61102412- Plant	2.3	31029 - Grass (OI)	Nonstocked		Unspec ified	Planting	Initial Plant	42310 - Planted Spruce	Even-Aged	Proposal
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Habitat Cut: Yes

Site Condition:

Prescription Plant old well pad with white spruce after the adjacent hardwood thinnings are complete.
Specs:

Next Step
Treatments:

Acceptable white spruce
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

423	61102423-NF	2.6	330 - Low-Density Trees	Nonstocked		Unspec ified	NonForestMgt	Brush Cutting	3205 - Mixed Upland Shrub		Proposal
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Habitat Cut: Yes

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.

Next Step
Treatments:

Acceptable
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

**Total Treatment
Acreage Proposed: 947.8**

Dominant Site Conditions

5C

Aspen	
Herbaceous Openland	
Low-Density Trees	
Lowland Conifers	4
Lowland Mixed Forest	
Lowland Shrub	
Marsh	0
Mixed Upland Deciduous	
Northern Hardwood	15
Oak	17
Red Pine	
Urban	
Water	
Total Forested Acres	36
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	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	10	3A: Potential old growth / biodiversity	Unspecified	Unspecified	Unspecified
Comments: Buffer for Eagle Lake. Is mostly on a bluff. Also contains an access site.							

Report 5 – Site Conditions

Traverse City Mgt. Unit

Steve Crigier : Examiner

Compartment: 102

Year of Entry: 2017

3	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	5	3A: Potential old growth / biodiversity	Unspecified	Unspecified	Unspecified
Comments:							
4	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stocking levels need to be increased before harvest.							

Mgt. Unit

Compartment: #Type!

Year of Entry:



Report 6 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

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

SCA Name	SCA Category	Detail Type	Recommendation	Acres
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Comments



Report 7 – 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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	Sapling Well	11.3	26	1-50	Decent looking aspen stand. It is in between a sapling and a pole stand.
3	4130 - Aspen	Poletimber Medium	23.5	36	51-80	Stand looks like an opening that has filled in over time. Stocking is variable with some nice clones of bigtooth and others are and A4/U0 type with 3 stick aspen that is falling over. Lots of burned stumps. I see flagging and lathe along the south line about where the property line is.
7	4130 - Aspen	Poletimber Medium	65.4	46	51-80	A few decent pockets of aspen but mostly 3-4 stick quaking that is falling over. Trees along the edges of stand appear to be younger, like the stand is expanding outward into the openings.
8	4110 - Sugar Maple Association	Poletimber Poor	5.0	30	1-50	Stand is an opening that is filling in. Poor quality cherry and aspen. Some A5 pockets.
9	4110 - Sugar Maple Association	Poletimber Poor	4.8	30	1-50	Stand is an opening that is filling in. Poor quality cherry and aspen. Some A5 pockets.
12	4110 - Sugar Maple Association	Poletimber Poor	4.8	35	1-50	Stand was a U0 but is filling in with aspen and cherry. Look to clear cut and plant red pine with adjacent stands.
15	42200 - Natural White Pine	Poletimber Well	3.3	68	81-110	Stand is on a bit of a slope heading down toward st 64. Lots of age and size classes. Some nice quality red and white pine log trees.
16	4130 - Aspen	Sapling Well	40.5	17	Immature	Trees are about 25' tall and stand is well stocked.
19	4130 - Aspen	Sapling Well	6.0	7	Immature	
20	4130 - Aspen	Sapling Well	14.0	30	1-50	Stand is a mix of A3 along with some areas there are more pole timber (5" stuff). Stand is converting to a pole stand.
22	4130 - Aspen	Sapling Well	64.3	26	Immature	Stand is starting to convert to a pole stand in spots.
23	4130 - Aspen	Sapling Well	15.2	7	Immature	Stand was harvested in 2008. Trees are 10-15' tall. Lots of TPA.
25	4116 - Mixed N. Hardwood - Aspen	Poletimber Medium	31.2	58	51-80	Stand looks like an opening that has filled in with aspen clones and cherry. Stand also has pockets of clumpy red maple scattered throughout.
26	4130 - Aspen	Sapling Well	21.7	26	Immature	Good looking stand. trees are 25-30' tall.
27	4130 - Aspen	Sapling Well	13.1	25	Immature	Almost a pole stand. Trees are 30' +. Good density.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
29	4130 - Aspen	Sapling Well	13.1	17	Immature	Aspen is about 20' tall. Southwest part of the stand is more open and has a higher component of beech.
32	4130 - Aspen	Sapling Well	9.6	25	Immature	
33	42110 - Planted Red Pine	Poletimber Well	38.2	55	171-200	Decent plantation. Trees are 4-5 sticks tall.
34	4116 - Mixed N. Hardwood - Aspen	Sapling Well	39.4	27	Immature	A good mix of species, with some A3 pockets. Interesting history. OPIC - FMD: 12/13/2005 This is a proposed old growth area. (Grieve) 3/23/05 Old experimental cut. This was first a clear cut of marginal hardwoods to see if European larch could be planted and out grow the sprout hardwoods. (Two larches were planted. One of Polish extraction & a hybrid between European & Japanese larch) About a week after the larch was planted a late killer frost killed almost all of the planting. With the experiment a failure before it even started, the next year oak acorns were planted. (Grieve) 1994 PLANTED TO UNRCH,OAK& HYBREDASPEN (Byres)
36	4112 - Maple, Beech, Cherry Association	Poletimber Well	54.6	62	81-110	BBD is present, stand is in some rolling terrain. Poorer quality timber and has more aspen along its edges. Stands seems a bit immature to thin.
37	42110 - Planted Red Pine	Poletimber Well	16.2	55	171-200	Tall and skinny trees, mostly 6 stick trees. Row spacing looks tight in areas. Stand is on some rolling terrain.
38	4116 - Mixed N. Hardwood - Aspen	Poletimber Poor	5.7	38	1-50	Stand is in a depression, and is an opening that has filled in.
39	4130 - Aspen	Sapling Well	15.9	17	Immature	
40	4130 - Aspen	Sapling Well	10.0	17	Immature	
41	4119 - Mixed Northern Hardwoods	Poletimber Well	374.8	68	111-140	QD plots were taken on this stand in 2013 for recon on beech and ash volumes. Average BA is 117sqft/ac, 12 cords/ac & 3.5 mbf/ac = total of 19 cords per/ac. Stand has some hilly terrain and was previously in a proposed old growth area.
42	4130 - Aspen	Sapling Well	3.3	17	Immature	
43	4130 - Aspen	Sapling Well	2.7	17	Immature	Well stocked aspen pocket. Trees are about 25' tall.
48	4130 - Aspen	Poletimber Well	18.8	58	81-110	Starting to see some mortality in the quaking aspen.
49	4130 - Aspen	Sapling Well	20.4	27	Immature	Stand is starting to convert to a pole stand



Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
42111 - Planted Red Pine, Mixed Deciduous	Poletimber Well	9.6	54	171-200	quite a bit of aspen and red maple mixed into overstory. NCT runs along the northern boundary. Tall and skinny red pine.
42111 - Planted Red Pine, Mixed Deciduous	Sapling Well	15.0	5	Immature	Stand was planted in 2012. The stand then had herbicide treatments in 2013 and 2014 to control aspen and cherry competition. At the time of visiting the stand it was too hard to tell how effective the treatment was. Try to revisit stand this spring.
42110 - Planted Red Pine	Poletimber Well	66.4	54	111-140	Stand was harvested row thinned with sale #085-07 Starvation lake Pine 7-14-2010. Canopy is relatively open, trees have room to grow. 5-6 stick timber. Light hardwood understory which is a big contrast from stand 59 that was thinned at the same time??
42110 - Planted Red Pine	Sawtimber Well	18.7	62	141-170	Stand was thinned in 2010 for a second time. Lots of 6-7 stick pie. Canopy is pretty tight.
4130 - Aspen	Sapling Well	5.3	7	Immature	Trees are about 10' tall. Also note that on the south side of starvation lake road there is a new ORV route/Snowmobile trail parking lot.
4130 - Aspen	Sapling Well	5.7	7	Immature	Stem density is ok. Trees are about 10' tall.
4112 - Maple, Beech, Cherry Association	Poletimber Well	5.4	68	111-140	clumpy red maple.
42110 - Planted Red Pine	Poletimber Well	216.2	54	111-140	Stand was harvested on 7-14-10 Starvation Lake Pine 085-07. A lot of hardwood in the understory.
4133 - Aspen, Mixed Pine	Poletimber Poor	4.1	30	1-50	Opening that is filling in with aspen and cherry.
4139 - Aspen, Mixed Deciduous	Poletimber Medium	16.3	58	51-80	Stand is between snow trail and Starvation Lk Rd. Some scattered log sized trees. Stocking is variable. A clone of big tooth on the east end of stand. Stand is on a slight slope, poor quality timber.
4130 - Aspen	Poletimber Well	11.2	42	51-80	Some areas look younger than others. but others are 5-6 stick quaking. Heavy hardwood understory.
4111 - S.Maple, Hard Mast Association	Poletimber Well	5.4	68	81-110	Has an old railroad grade running through it.
42111 - Planted Red Pine, Mixed Deciduous	Poletimber Well	4.5	40	81-110	Retention pockets from the large clearcut. Red pine is short and limby. Stand is in a bit of a depression.
42111 - Planted Red Pine, Mixed Deciduous	Sapling Well	103.1	3	Immature	Stand was planted in 2012. The stand then had herbicide treatments in 2013 and 2014 to control aspen and cherry competition. At the time of visiting the stand it was too hard to tell how effective the treatment was. Try to revisit stand this spring.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
71	4130 - Aspen	Poletimber Medium	5.2	42	1-50	aspen between the pine plantation. Poor quality stand with variable stocking. Harvest when the pine, stand 59 is thinned again.
72	4130 - Aspen	Sawtimber Well	15.8	68	81-110	Nice aspen! North country trail runs through stand. West private line looks to be established.
73	4130 - Aspen	Poletimber Well	48.5	46	51-80	Nice quality aspen, except the southeast corner is more quaking aspen and shorter timber. Most of the Bigtooth is around 6-7 sticks tall. Lots of sugarmaple in the understory.
75	4110 - Sugar Maple Association	Poletimber Well	2.6	78	81-110	Stand was thinned in 1998. Medium to poor quality trees. A little sugar maple regen!
76	4110 - Sugar Maple Association	Sawtimber Well	68.9	78	81-110	Stand was thinned in 2008 and is a decent quality stand. Canopies on the south end of the stand appear to be open and trees have room to grow. North end is quite a bit more closed in, smaller diameter trees, with a lot less beech and ironwood understory. BA : 110, 110, 60, 110, 110.
77	4130 - Aspen	Poletimber Well	69.8	47	51-80	Nice stand of aspen. Lots of 6-7 stick trees. Has sugar maple in the understory!
78	4112 - Maple, Beech, Cherry Association	Poletimber Well	45.2	68	81-110	Stand is infested with BBD. Remove the majority of the beech. Mark to leave a few beech trees/ac for mast and cavity trees. Mark the thicker maple areas down to 80sqft/ac. Also, remove all aspen and ironwood. (Crigier 7/13). Stand is currently under contract 'SunBeech Hardwoods'. (61- 050-13-01
83	4112 - Maple, Beech, Cherry Association	Poletimber Well	4.8	72	111-140	A small pocket of nice hardwoods amongst the large aspen stand
84	4116 - Mixed N. Hardwood - Aspen	Poletimber Medium	79.3	52	51-80	Some scattered log sized trees. The maple is a bit on the young side, some nice red maple pole timber, but the aspen is mature. Stand has a lot of advanced regen in the understory mostly red but some hard maple. Log trees are rough, limby and open grown.
86	42110 - Planted Red Pine	Poletimber Well	7.5	40	171-200	Stand was row thinned in 2005. Canopies are closed up and BA is around 170 or so. Nice quality plantation! Trees are 5-6 sticks. A few scattered dead trees, some are in a small pocket.
89	4111 - S.Maple, Hard Mast Association	Poletimber Well	4.4	76	111-140	Medium quality stand. Lots of trail interface. M3 pocket at the north end of the stand.
90	4130 - Aspen	Sapling Well	16.6	18	Immature	Stand is well stocked and is about 20-25' tall.
91	4130 - Aspen	Sapling Medium	4.0	4	Immature	Stand was clearcut, Comp 102 09 Aspen in 2011. Quite a bit of scattered cherry pole timber. Stocking is Variable.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
95	42110 - Planted Red Pine	Poletimber Well	1.5	55	81-110	Most of this stand is within the TransCanada fence. Most of the timber is open grown timber. Leave for visual and sound buffer.
96	4130 - Aspen	Sapling Well	19.1	4	Immature	OPIC - FMD: 3/17/2011 Stand was clearcut, Comp 102 09 Aspen (sc). Trees are about 10' tall and stem density is good for the most part although some areas are moderately stocked.
97	4117 - Mixed N. Hardwood - Pine	Poletimber Poor	73.7	40	1-50	Some A5 pockets scattered throughout. Stand is an opening that is filling in, previously typed as a U0. Poor quality cherry and aspen. A few vernal ponds scattered in the southwestern portion of the stand.
98	42100 - Planted White Pine	Poletimber Well	37.3	55	141-170	Stand was thinned in 1998 cut 2 rows leave 2 rows. Almost a log sized stand. Timber is very limby and has a lot of forked tops. Stand has lots of hardwood regeneration in the understory.
99	4116 - Mixed N. Hardwood - Aspen	Poletimber Medium	31.4	45	51-80	The overstory stocking is very clumpy and variable. The aspen and cherry are aged out and starting to fall out of the stand. Age on the maple is more like in the 60s. Stand appears to be uneven aged with lots of sized classes. Understory is mostly maple!.
100	4130 - Aspen	Poletimber Medium	19.1	40	51-80	Aspen is of pretty poor quality and is about 4 sticks tall. Some clones of bigtooth in the stand. The western part of stand has some M3 pockets, overall stocking is variable. Stand also has a small boat launch on Eagle Lake.
101	4130 - Aspen	Sapling Well	14.2	4	Immature	3/17/2011 Stand was clearcut, Comp 102 09 Aspen. Regen is about 8' tall and has quite a bit of pole sized oak scattered throughout the stand. Stocking is not as thick in areas where there is a lot of the pole sized oak.
103	4139 - Aspen, Mixed Deciduous	Poletimber Poor	7.2	44	1-50	Very poor quality stand. Clumpy red maple. A few white pine seeding in. Stand is surrounded by pipelines and storage facilities.
105	42210 - Natural Red Pine	Poletimber Well	5.7	55	111-140	Access site for Starvation lake. Stand is a mix of red and white pine.
109	4111 - S.Maple, Hard Mast Association	Poletimber Well	159.9	68	111-140	This stand had QD data taken on it in 2013. Avg BA: 117sqft/ac, 12 cords/ac and 3.2 mbf/ac. Average diameter is 8.7. Stand is on mostly level ground with subtle rolling hills.



Stand	Cover Type	Acres	Managed Site	General Comments:
6	3209 - Upland Shrub (OI)	20.9	Yes	OPIC - FMD: 11/9/2005 Wildlife does not want this area planted. 3/25/2005 Scattered cherry. Plant to red pine. (Grieve) 12/1995 POSSIBLE PRESCRIBED BURN (byres)
10	3209 - Upland Shrub (OI)	24.8	Yes	OPIC - FMD: 11/9/2005 Wildlife does not want this area planted. 3/25/2005 Scattered cherry. Plant to red pine. (Grieve) 12/1995 POSSIBLE PRESCRIBED BURN (byres)
11	7909 - Nonstocked (OI)	2.1	No	OPIC - FMD: 3/25/2005 Still is (Grieve) 12/1995 OIL & GAS FACILITIES (Byers)
13	7909 - Nonstocked (OI)	2.2	No	OPIC - FMD: 3/25/2005 Still is (Grieve) 12/1995 OIL & GAS FACILITIES (Byers)
14	3209 - Upland Shrub (OI)	7.5	Yes	OPIC - FMD: 3/25/2005 Scattered cherry. (Grieve) 12/1995 POSSIBLE PRESCRIBED BURN (byres)
18	3209 - Upland Shrub (OI)	1.8	Yes	OPIC - FMD: 11/9/2005 Wildlife does not want this area planted. 3/25/2005 Scattered cherry. Plant to red pine. (Grieve) 12/1995 POSSIBLE PRESCRIBED BURN (byres)
21	3209 - Upland Shrub (OI)	1.3	Yes	OPIC - FMD: 3/25/2005 Old landing. (Grieve)
30	122 - Road/Parking Lot	2.2	No	OPIC - FMD: 12/14/2005 From compartment review, clearcut the northern part of this stand. Will make two new stand out of stand 59. (Grieve) 3/25/2005 3rd row thinning needed. (Grieve) Harvest completed 7-14-10 Starvation Lake Pine 085-07 dkj
31	330 - Low-Density Trees	7.8	No	OPIC - FMD: 12/14/2005 From compartment review, Do not treat this stand until or unless clarification on old growth has been made. (Grieve) 12/13/2005 This is a proposed old growth area. (Grieve) 3/23/05 Standard mixed U-type. (Grieve)
35	7909 - Nonstocked (OI)	3.4	No	OPIC - FMD: 12/13/2005 This is a proposed old growth area. (Grieve) 3/24/2005 Active oil well (Grieve)
44	510- Water (OI)	26.2	No	Eagle Lake.
45	510- Water (OI)	1.8	No	McNeil's Pond
46	330 - Low-Density Trees	0.9	No	Scattered cherry
47	3209 - Upland Shrub (OI)	1.6	No	Scattered cherry
52	62259 - Bog (OI)	5.6	No	Leatherleaf bog.



Stand	Cover Type	Acres	Managed Site	General Comments:
60	3209 - Upland Shrub (OI)	0.5	Yes	Scattered Cherry
61	122 - Road/Parking Lot	9.2	Yes	OPIC - FMD: 3/28/2005 Scattered cherry. (Grieve)
63	7909 - Nonstocked (OI)	2.9	No	Well & facility.
64	510- Water (OI)	2.2	No	Some years this has year round water, other years not. This was a not years but most of the time it has water.
66	3209 - Upland Shrub (OI)	3.0	Yes	
74	3209 - Upland Shrub (OI)	0.6	Yes	U-type next to road.
79	3301 - Low Density Deciduous Tree	11.7	Yes	Scattered aspen clones & cherry
80	7909 - Nonstocked (OI)	7.4	No	Well site & remediation site.
82	330 - Low-Density Trees	9.1	Yes	Scattered aspen clones & cherry
85	122 - Road/Parking Lot	2.7	Yes	OPIC - FMD: 3/28/2005 Scattered aspen clones & cherry (Grieve)
87	3209 - Upland Shrub (OI)	9.8	Yes	Scattered cherry
88	330 - Low-Density Trees	11.1	Yes	Scattered cherry.
92	6239 - Mixed Emergent Wetland	0.4	No	Pot hole ponds or bogs, depending on the years. Most of the time I think they have water in them.
93	6239 - Mixed Emergent Wetland	0.2	No	Pot hole ponds or bogs, depending on the years. Most of the time I think they have water in them.
94	510- Water (OI)	1.0	No	Pot hole ponds or bogs, depending on the years. Most of the time I think they have water in them.
106	6225 - Bog	9.5	No	OPIC - FMD: 12/13/2005 This is a proposed old growth area. (Grieve) 3/23/05 10 years old. (Grieve)



Stand	Cover Type	Acres	Managed Site	General Comments:
107	320 - Upland Shrub	4.4	No	OPIC - FMD: 12/13/2005 This is a proposed old growth area. (Grieve) 3/23/05 Old experimental cut. This was first a clear cut of marginal hardwoods to see if European larch could be planted and out grow the sprout hardwoods. (Two larches were planted. One of Polish extraction & a hybrid between European & Japanese larch) About a week after the larch was planted a late killer frost killed almost all of the planting. With the experiment a failure before it even started, the next year oak acorns were planted. (Grieve) 1994 PLANTED TO UNRCH,OAK& HYBREDASPEN (Byres)
114	122 - Road/Parking Lot	3.1	No	OPIC - FMD: 3/25/2005 Nice looking stand. Logs at east side of stand. Selection cut. (Grieve)
322	122 - Road/Parking Lot	12.9	No	
401	31029 - Grass (OI)	2.7	No	Abandon well site. Knapweed.
402	31029 - Grass (OI)	1.9	No	Abandon well site.
404	31029 - Grass (OI)	3.0	No	Abandon well site.
405	31029 - Grass (OI)	2.4	No	Abandon well site. Knapweed.
406	31029 - Grass (OI)	1.6	No	Abandon well site. Knapweed. Plant to spruce or oak??
407	31029 - Grass (OI)	2.1	No	Abandon well site. Knapweed. Plant to spruce or oak??
408	122 - Road/Parking Lot	8.4	No	Road side & pipelines.
409	330 - Low-Density Trees	1.6	No	
410	31029 - Grass (OI)	4.1	No	OPIC - FMD: 3/23/2005 Grass (Grieve)
411	31029 - Grass (OI)	2.8	No	Abandon well site. Knapweed. Plant to spruce or oak?
412	31029 - Grass (OI)	2.3	No	Abandon well site. Knapweed. Plant to spruce or oak.
413	122 - Road/Parking Lot	4.4	No	
414	31029 - Grass (OI)	0.9	No	OPIC - FMD: 3/24/2005 Started as a well site but was never completed. See trespass notes. Almost a U-type. (Grieve)



Stand	Cover Type	Acres	Managed Site	General Comments:
416	330 - Low-Density Trees	0.5	No	OPIC - FMD: 3/25/2005 Aspen moving in. (Grieve)
417	122 - Road/Parking Lot	3.0	No	
418	31029 - Grass (OI)	1.9	No	
419	31029 - Grass (OI)	2.5	No	Abandon well site. Knapweed.
420	330 - Low-Density Trees	1.5	No	
421	31029 - Grass (OI)	1.5	No	OPIC - FMD: 3/28/2005 ANR well site. (Grieve)
422	122 - Road/Parking Lot	26.5	No	Pipe lines & road
423	330 - Low-Density Trees	2.6	No	Abandon well site. Plant to red pine when it is time to replant 86