



Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 61143

Entry Year 2020

Acreage: 2,319

County Kalkaska

Management Area: Manistee River Valley

Revision Date: 2018-04-16

Stand Examiner: Steve Crigier

Legal Description:

T25N R5W Sections 19, 20, 21, 29, 30 and 31

Identified Planning Goals:

Vegetation management in the Manistee River Valley management area will provide timber products; maintain or enhance wildlife habitat; protect areas of unique character including the Manistee River and its tributaries, a designated natural river; protect threatened, endangered and special concern species; and provide for forest-based recreational uses. Timber management for this 10-year planning period includes continuing aspen management to maintain early successional habitat for hunting and other wildlife-related recreational opportunities; increasing regeneration of oak; focusing on balancing the red pine age class structure through final harvests and re-planting; and on improving red pine quality through partial harvests. Expected trends within this 10-year planning period are increased recreational pressure, especially on the established trails and along the Manistee River and its tributaries; an increased wildland/urban interface and a need to restore barrens communities through prescribed fire; and invasive plant control.

Soil and topography:

Topography is flat to rolling hills.

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

There are some private parcels including several year round residences around the intersection of Fletcher and Moorestown roads but the rest of the compartment is surrounded by State land.

Unique Natural Features:

The Michigan Natural Features Inventory has identified 1 threatened and 1 special concern plant and/or animal in this compartment.

Archeological, Historical, and Cultural Features:

There are archaeological concerns in Section 21.

Special Management Designations or Considerations:

State land north of Fletcher Road (Sections 19, 20 and 21) are leased to Camp Grayling for military training.

Watershed and Fisheries Considerations:

There are no water bodies in this compartment.

Wildlife Habitat Considerations:

The landscape within compartment 143 undulates between flat sandy outwash plains and low, sandy ice-contact ridges, and falls in the Manistee River Valley of the Regional State Forest Management Plan. Featured wildlife species and their associated habitat niches for the MA include, bear, golden-winged warbler, pileated woodpecker, ruffed grouse, snowshoe hare, and deer. The well drained soils of this compartment support communities of aspen, hardwoods, oak, open barrens, with several red pine plantations, as well as minor occurrences of several other cover types. Forest treatments should maintain a variety of successional stages of pine-oak-aspen forest and grass-shrub openings, with some mid to late successional forest in places, which is typical of a fire driven landscape.

The barrens communities will be treated with prescribed fire. Burning will benefit these communities by setting back woody encroachment, stimulating native herbaceous vegetation and berry production, and recycling nutrients. Many rare species of plants and animals depend on these fire-prone grasslands, such as Hill's thistle, dusted skipper, and Kirtland's warbler.

Aspen harvests should be designed to mimic wildfires of various intensities. This creates a mosaic of age classes and increases structural diversity within the area. Timber operations should be utilized to create some (approximately 1-2 trees per acre) coarse woody debris (CWD), preferably via sale specs. CWD trees should be log sized or bigger, the more

decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet its stump. Standing dead timber is usually left during harvest operations unless deemed a safety hazard. Wildlife considerations regarding oak types include leaving mature mast-producing trees, protection of den/nest trees, maintaining oak as a component of the future stand, and maintaining the diversity of tree species within the stand. Hardwood treatments should retain a component of mature mast producing trees and protect/create snags, den, cavity, and downed trees.

Species associated with pine, oak and aspen mixed upland forests and openland habitats, such as deer, badger, wild turkey, scarlet tanager, hog-nosed snake, ruffed grouse, Cooper's hawk, red-backed salamander, and gray squirrel will benefit from management here.

Mineral Resource and Development Concerns and/or Restrictions

A state-owned sand/gravel pit (Naples Road Pit, DNR Pit #454) is located three miles to the west, and there appears to be sand & gravel potential within the compartment. Most of the oil & gas production in the area has been from the Richfield, and two large fields, the Norwich and Beaver Creek, are within a few miles of the compartment. The Garfield 30 Field is located in the compartment. The field produces from the Ordovician Prairie du Chien/St. Peter Sandstone (640-ac drilling unit). Encana also showed interest in the Utica-Collingwood near the compartment (permitted well location). In addition to the active leases associated with the Garfield 30 Field, Marathon still holds some active leases in the compartment from their interest in the Richfield. However, they are in the process of releasing their remaining leases in the state. There is no known metallic mineral potential in this part of the state.

Vehicle Access:

There is good vehicular access throughout the compartment. Continual berming will be needed to keep ORVs out of sensitive wet areas and sandy areas prone to erosion.

Survey Needs:

Recreational Facilities and Opportunities:

Four miles of the Cranberry Lake snowmobile trail #76 and ORV Route run through the northern sections of the compartment. There is also an 50" ORV trail in the south end of the compartment near the County Line.

Fire Protection:

Initial fire response will be from the DNR Kalkaska Field Office with VFD support from the Garfield Fire Department. Sections 19, 20 and 21 are part of the Zone 5 dispatch area and may receive additional equipment from Grayling, Houghton Lake, and Manton. Wildland urban interface issues may be a concern since there are multiple private residences in the area. There is good access throughout the compartment.

Additional Compartment Information:

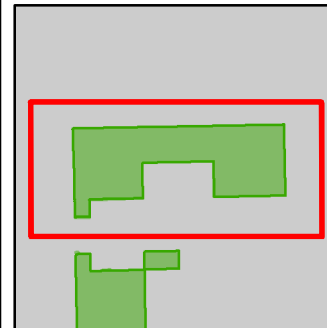
The following reports from the Inventory are attached:

- 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**

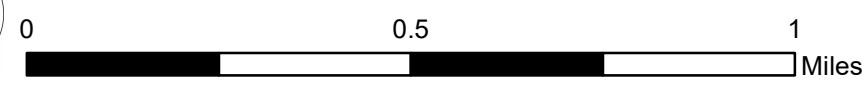
The following information is displayed, where pertinent, on the attached compartment maps:

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

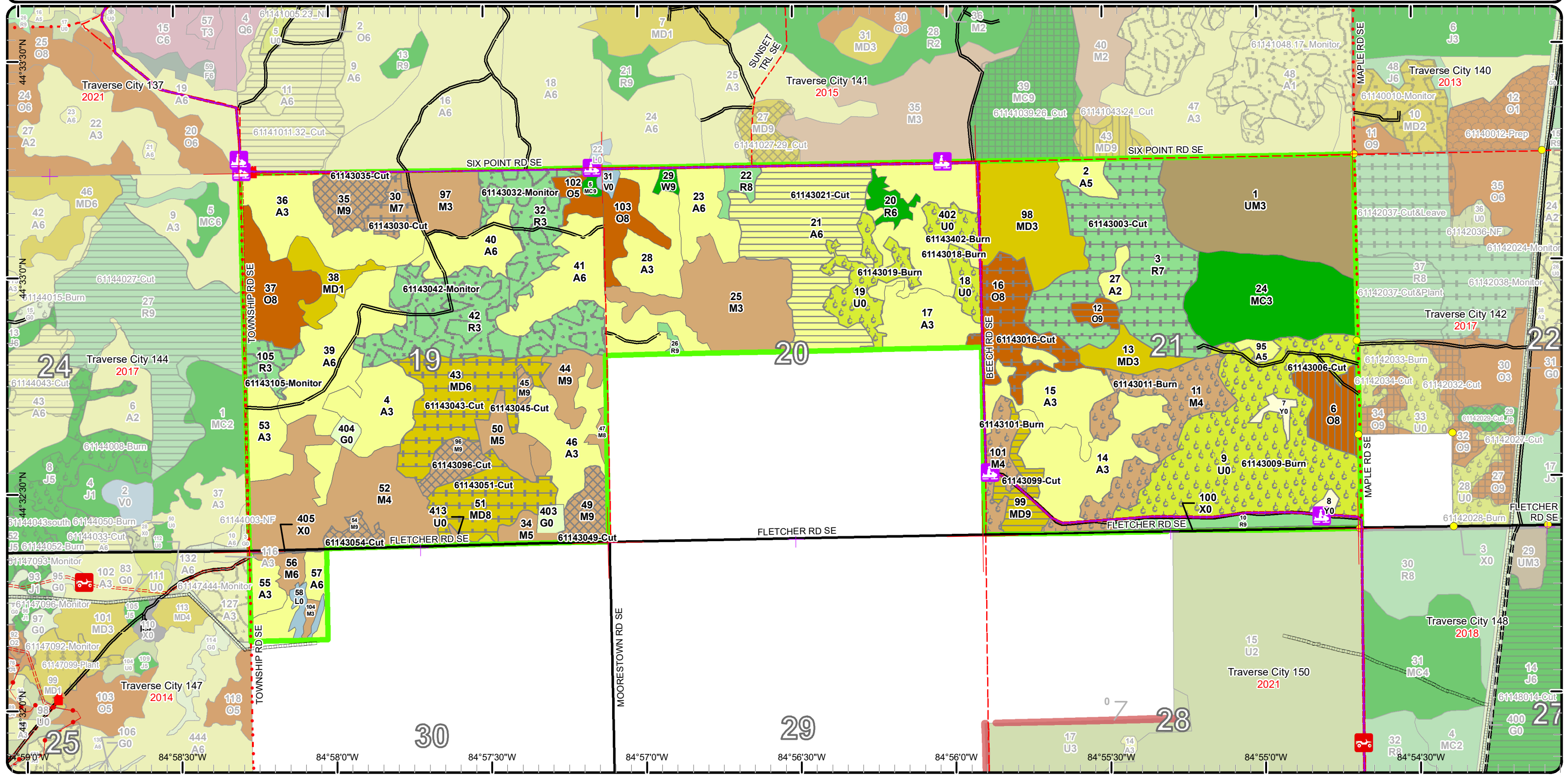
Cover Type & Treatments Map



Compartment: 143
 County: Kalkaska
 Unit: Traverse City
 Mgmt Area: Manistee River Valley
 YOE: 2020
 Acres: 2,319 GIS Calculated
 Examiner: Steve Crigier
 Map Revised: 10/11/2018
 Map Phase: Post - Maps



- Miris Corners
- ⊕ Remonumented Section Corners
- Survey Grade Corners
- Counties
- == DNR - Secondary Forest Road
- == DNR - Forest Access Route
- Federal / State / County - Paved Road
- - - County - Gravel Road
- - - County - Dirt Road (Seasonal)
- ORV Routes
- ⚡ Snowmobile Trails
- ORV License & Trail Permit
- Designated ORV Route
- Designated Snowmobile Trails
- ▲ Berms
- 🏠 Structures
- Pipeline
- ▭ Compartment Boundary
- ▭ Selection (Group, Single Tree)
- ▭ Clearcut (w/Reserves)
- ▭ Harvest, Overstory Removal
- 🔥 Prescribed Burn
- ▭ Thinning (Crown, Low, Systematic)
- ▭ Regeneration Survey
- ▭ Shelter Wood (w/Reserves)
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 430 - Upland Mixed Forest
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 622 - Lowland Shrub
- 710 - Sand/Soil



Stand Boundary Map

Compartment: 143

County: Kalkaska

Unit: Traverse City

Mgmt Area: Manistee River Valley

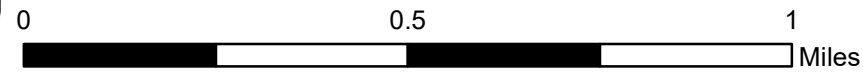
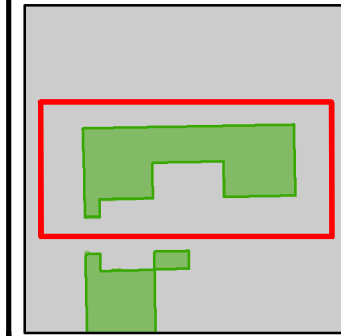
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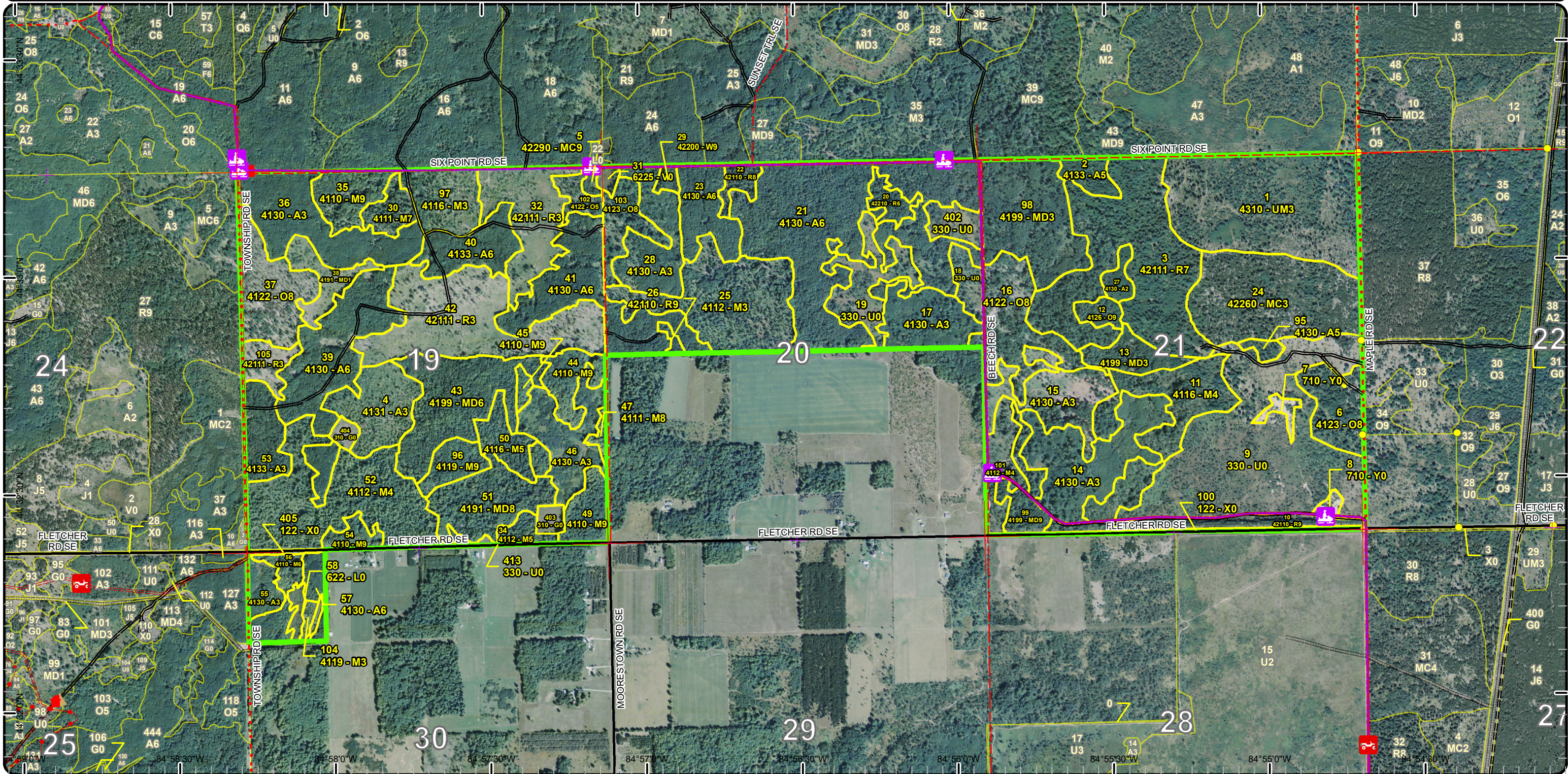
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Map Revised: 10/11/2018

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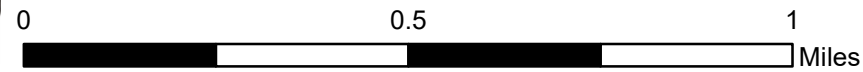
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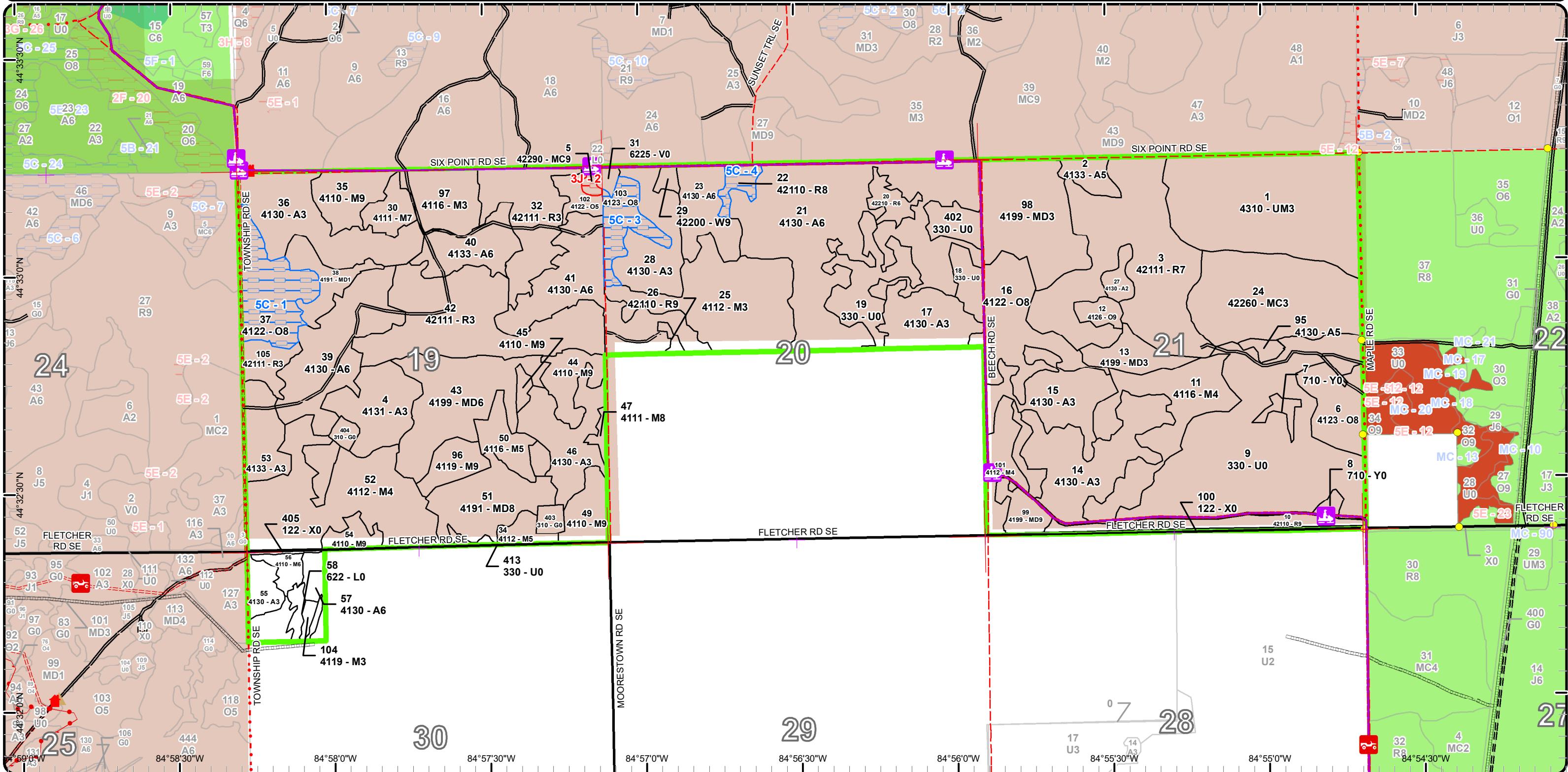
Special Conservation Areas & Site Conditions Map

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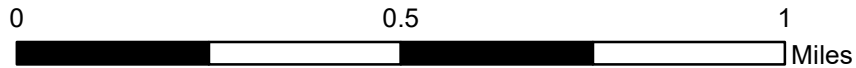
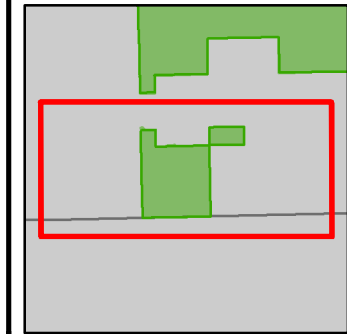
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- Available w/ Constraints
- Unavailable
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 3J: Water quality / BMPs (stream, river, or lake)
- Stand Boundaries
- Ecological Reference Areas
- Kirtland Warbler Habitat
- Research, Development, and Military Lands



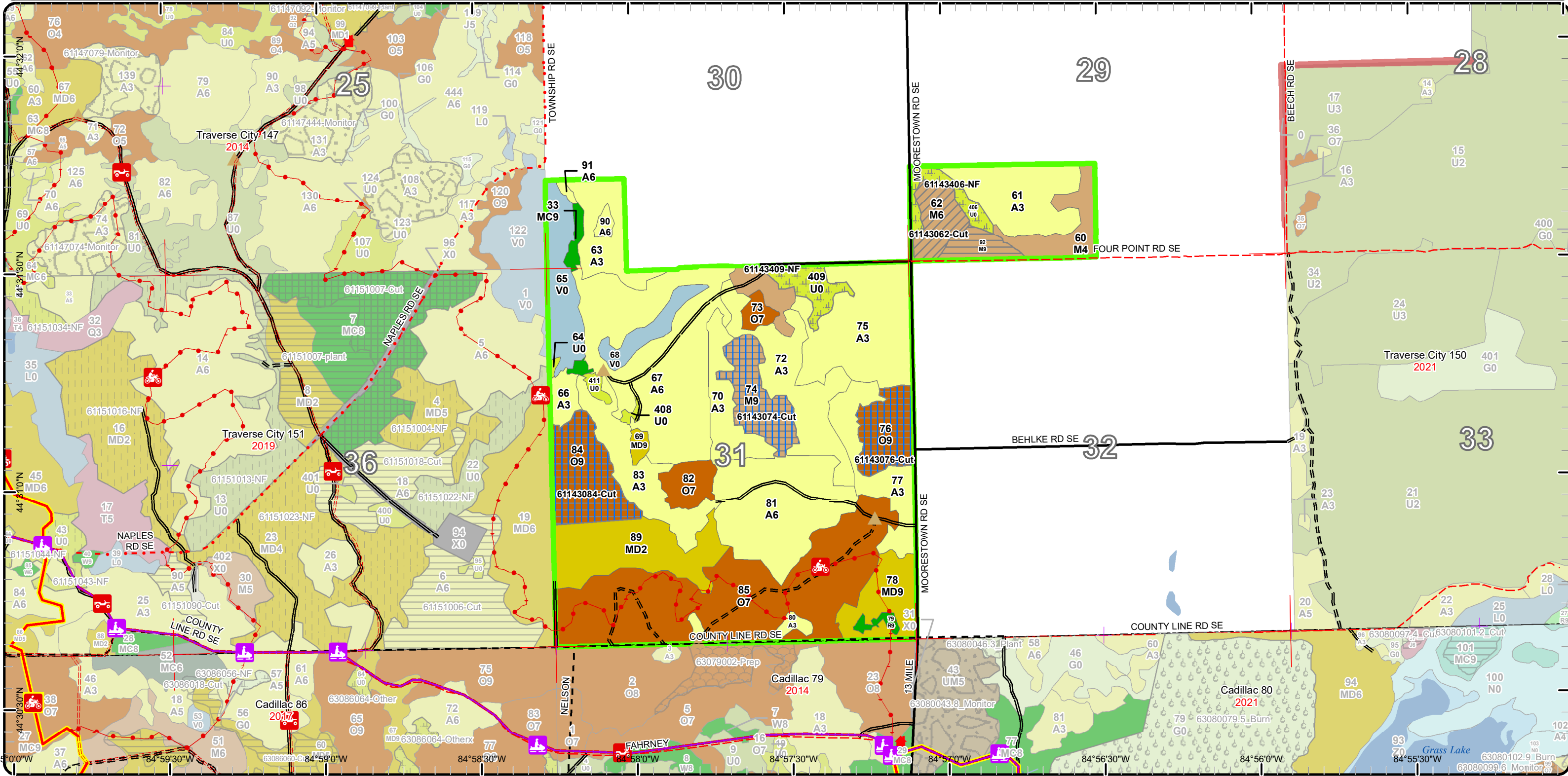
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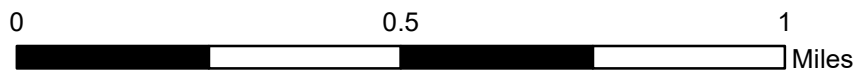
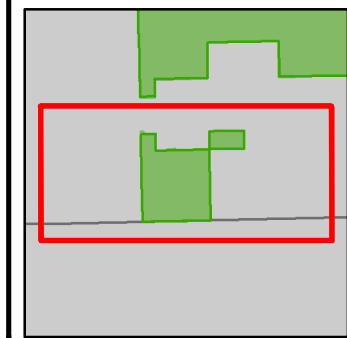
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- Other Treatment - See Comments
- Clearcut (w/Reserves)
- Seed Tree (w/Reserves)
- Thinning (Crown, Low, Systematic)
- 411 - Northern Hardwood
- 412 - Oak Types
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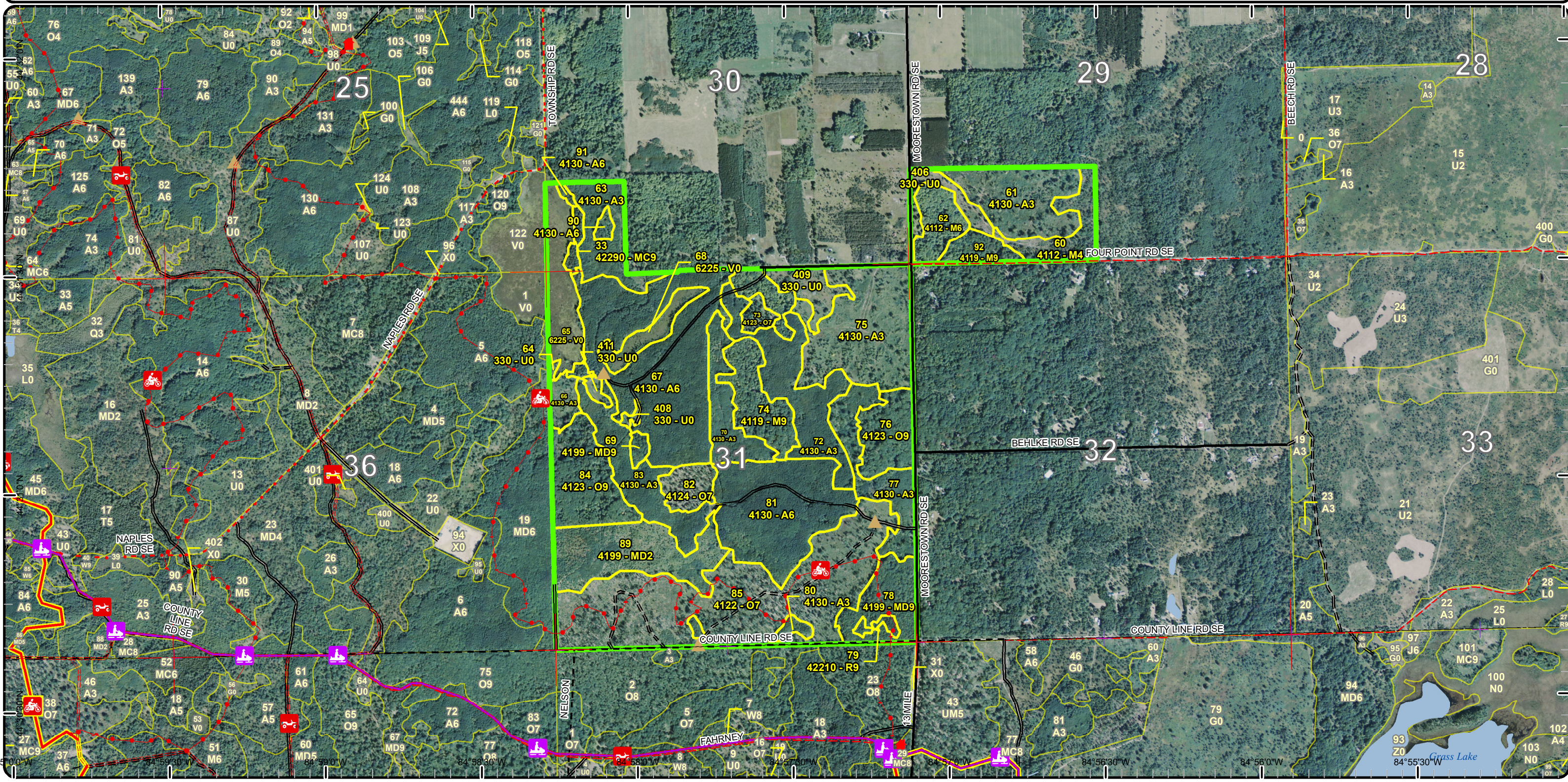
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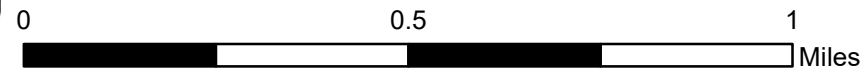
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Special Conservation Areas & Site Conditions Map

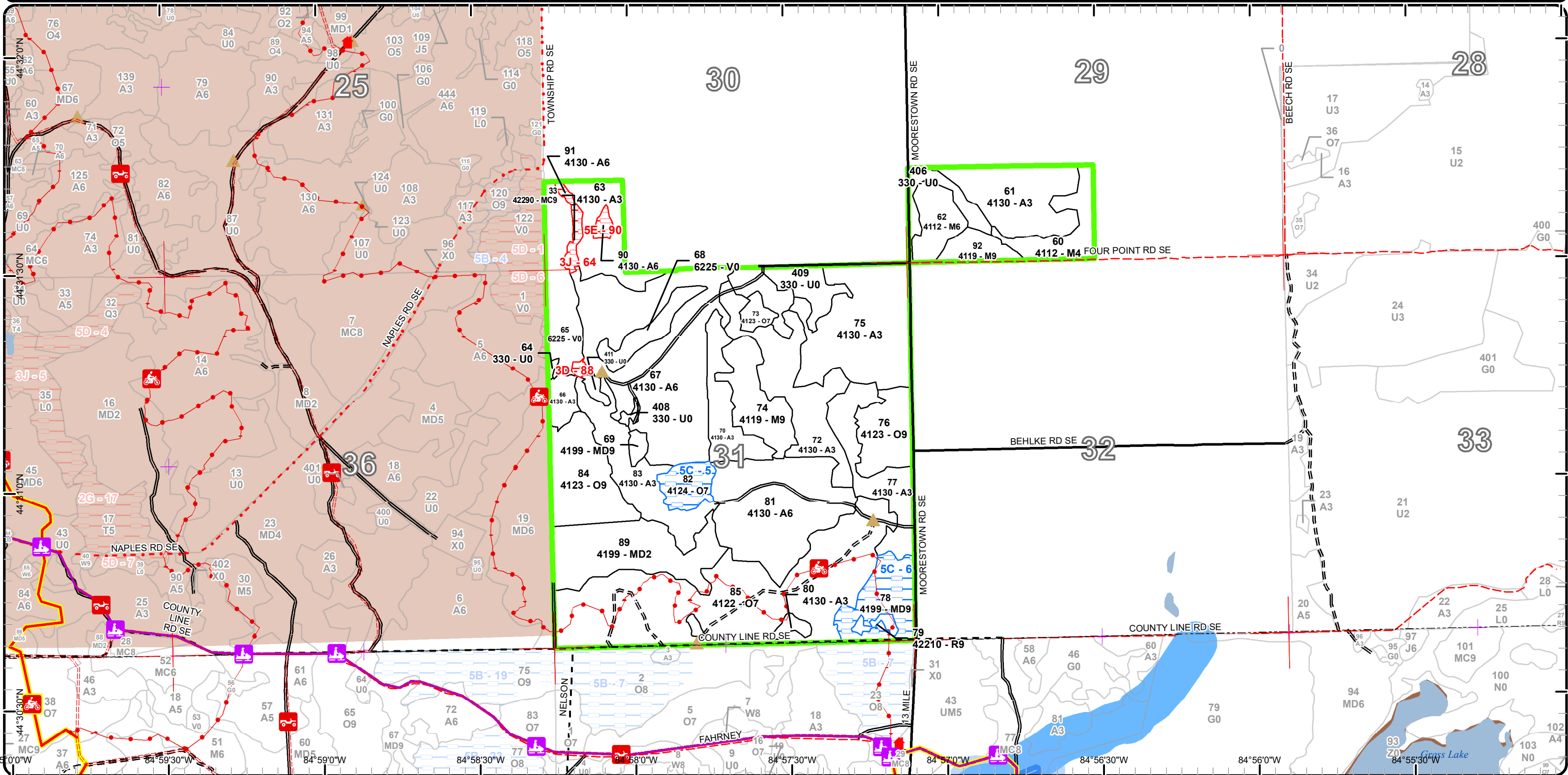
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- Available w/ Constraints
- Unavailable

- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 3D: Recreational / Scenic values
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- Natural Rivers Zoning District
- High Priority Trout Stream Buffer
- Wildlife Management Areas
- Research, Development, and Military Lands



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	117	210	128	261	140	3	1	0	2	0	0	0	0	0	0	0	0	860
Bog	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35
Herbaceous Openland	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Low-Density Trees	174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	174
Lowland Shrub	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Mixed Upland Deciduous	0	12	39	45	12	0	0	0	0	79	0	0	0	0	0	0	0	29	216
Natural Mixed Pines	0	0	0	60	0	0	0	0	4	2	0	0	0	0	0	0	0	0	66
Northern Hardwood	0	71	0	11	2	20	43	82	0	77	0	15	0	0	0	0	0	36	357
Oak	0	0	0	0	0	6	0	0	56	145	57	14	0	0	0	0	0	0	277
Red Pine	0	105	0	0	0	0	0	13	13	89	2	0	0	0	0	0	0	0	220
Sand, Soil	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Upland Mixed Forest	0	0	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86
Urban	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
White Pine	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Total	231	305	335	244	275	166	46	96	75	394	59	29	0	0	0	0	0	65	2314



Report 2 – Treatment Summary

Traverse City Mgt. Unit
Year of Entry: 2020

Acres of Harvest

Compartment 143
Total Compartment Acres: 2,319

Commercial Harvest - 448
Harvests with Site Condition - 0
Next Step Harvest - 0
Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	74	0	0	0	0	0	0	0	0	74
Mixed Upland Deciduous	13	0	0	0	0	72	0	0	0	85
Northern Hardwood	8	44	0	21	0	16	9	0	0	97
Oak	5	0	0	47	19	0	33	0	0	105
Red Pine	0	0	0	0	0	0	87	0	0	87
Total	100	44	0	68	19	16	201	0	0	448

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	448	0	0	0	207	0	105	0	19	780
Next Step	0	0	97	0	19	97	212	0	207	632
Total	448	0	97	0	227	97	317	0	227	1411



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
3	61143003-Cut	87.0	42111 - Planted Red Pine, Mixed Deciduous	Sawtimber Poor	80	1-50	Harvest	Overstory Removal	4199 - Other Mixed Upland Deciduous	Uneven-Aged	Approved Proposal

Habitat Cut: No

Site Condition:

Prescription Remove the overstory red pine and oak. Try to protected the advanced regen as much as possible. Only cut stuff that is needed to get to the
Specs: merchantable timber. Will need oak wilt spec on this.

Next Step
Treatments:

Acceptable aspen, oak, and red maple are already there.
Regen:

Other Sale #10-91. Scattering of red pine left.

Comment: Scattered red pine and oak over a mix of oak, maple and aspen regen. Overstory stocking is very patchy but the advanced regen pretty thick throughout.

Proposed Start Date: 10/1 /2019

6	61143006-Cut	19.3	4123 - Red Oak	Sawtimber Medium	79	51-80	Harvest	Shelterwood	412 - Oak Types	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription WLD treatment to reduce the BA in this stand to manage as oak barrens (Commercial sale). Mark to leave with a target residual 10-40.
Specs:

Next Step Burn, Understory
Treatments:

Acceptable grass
Regen:

Other Follow up with a burn on the same rotation as stand 9.

Comment:

Proposed Start Date: 10/1 /2019

9	61143009-Burn	111.6	330 - Low-Density Trees	Nonstocked		Unspec ified	Burn	Opening	3303 - Mixed Low Density Trees		Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription The goal of prescribed burning is to restore and/or maintain a grassland/barrens ecosystem. The timing and frequency of the burns will be
Specs: based on currents needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods. Maintain as needed with mowing, seeding of native grasses and forbs, burning, or removal of woody encroachment.

Next Step NonForestMgt, Brush Cutting
Treatments:

Acceptable
Regen:

Other Could plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. Fertilize plantings and protect with wire cages
Comment: or tubex.

Proposed Start Date: 10/1 /2019



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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
11 61143011-Burn	43.1	4116 - Mixed N. Hardwood - Aspen	Poletimber Poor	55	1-50	Burn	Opening	3303 - Mixed Low Density Trees		Approved Proposal

Habitat Cut: No

Site Condition:

Prescription The goal of prescribed burning is to restore and/or maintain a grassland/barrens ecosystem. The timing and frequency of the burns will be based on current needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods. Maintain as needed with mowing, seeding of native grasses and forbs, burning, or removal of woody encroachment.

Next Step NonForestMgt, Brush Cutting
Treatments:

Acceptable Regen:

Other Comment: 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.

Proposed Start Date: 10/1 /2019

12 61143012-Cut	4.9	4126 - White, Black, N. Pin Oak	Sawtimber Well	82	81-110	Harvest	Clearcut	412 - Oak Types	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Clearcut stand with adjacent harvests. Leave pine that is less than 4" in diameter.

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

Acceptable Regen: Oak, red maple, pine, aspen.

Other Comment:

Proposed Start Date: 10/1 /2019

16 61143016-Cut	33.1	4122 - Oak, Pine	Sawtimber Medium	78	51-80	Harvest	Overstory Removal	412 - Oak Types	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription overstory removal/clearcut. Protect the advanced regen where present. Could leave some of the white pine for seed trees.

Specs:
Next Step
Treatments:
Acceptable Regen: oak, red maple, white pine, aspen, etc...

Other Comment: Stand was cut in 2011. Removed the aspen, red maple and marked the oak to be cut. The north end, where the overstory is less dense, is regenerating pretty well. South end has more of a canopy and is pretty bare in the understory.

Proposed Start Date: 10/1 /2019

18 61143018-Burn	7.6	330 - Low-Density Trees	Nonstocked	Unspecified		Burn	Opening	3204 - Mast Producing Shrub		Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription The goal of prescribed burning is to restore and/or maintain a grassland/barrens ecosystem. The timing and frequency of the burns will be based on current needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods. Maintain as needed with mowing, seeding of native grasses and forbs, burning, or removal of woody encroachment.

Next Step NonForestMgt, Brush Cutting
Treatments:

Acceptable Regen:

Other Comment: 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.

Proposed Start Date: 10/1 /2019



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
19	61143019-Burn	22.2	330 - Low-Density Trees	Nonstocked		Unspecified	Burn	Opening	3105 - Mixed Upland Herbaceous		Approved Proposal

Habitat Cut: No

Site Condition:

Prescription The goal of prescribed burning is to restore and/or maintain a grassland/barrens ecosystem. The timing and frequency of the burns will be based on current needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods. Maintain as needed with mowing, seeding of native grasses and forbs, burning, or removal of woody encroachment.

Next Step NonForestMgt, Brush Cutting

Treatments:

Acceptable

Regen:

Other Comment: 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.

Proposed Start Date: 10/1 /2019

21	61143021-Cut	74.2	4130 - Aspen	Poetimber Well	42	51-80	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Clearcut western portion of stand 21. Maybe mark to leave some oak to leave for mast. Also, north end of treatment has a good amount of sugar maple in the understory, try to protect that during the harvest.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable aspen, oak, maple cherry.

Regen:

Other Comment: Talk with wildlife and see if they would like to take the merchantable timber out of st 19 (some pockets of aspen and jack pine). MNFI shows Hill's Thistle in stand 19.

Proposed Start Date: 10/1 /2019

30	61143030-Cut	8.9	4111 - S.Maple, Hard Mast Association	Sawtimber Poor	81	1-50	Harvest	Overstory Removal	411 - Northern Hardwood	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Remove the remaining hardwood overstory. Try to protect the advanced regen during the harvest.

Specs:

Next Step

Treatments:

Acceptable maple, aspen, cherry, basswood.

Regen:

Other Comment: Treated Fall 2013 as 61-017-10-01 143 Hypo Pine. Cut all RP & JP. This left some Medium quality scattered hardwood. Most areas are regenerating well to mixed hardwoods, mostly red maple. BAs (70, 20)

Proposed Start Date: 10/1 /2019

32	61143032-Monitor	32.0	42111 - Planted Red Pine, Mixed Deciduous	Sapling Well	4	Immature	Monitoring	Artificial Regen(3yr)	4211 - Planted Red Pine	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription monitor plantation (3yr). herbicide if needed.

Specs:

Next Step Pesticide, Skidder/Mechanical; Planting, Replant

Treatments:

Acceptable red pine

Regen:

Other

Comment:

Proposed Start Date: 3 /9 /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
35	61143035-Cut	15.5	4110 - Sugar Maple Association	Sawtimber Well	81	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Approved Proposal

Habitat Cut: No

Site Condition:

Prescription Thin stand down to ~ 80sqft. Remove the remaining red pine and cut the aspen. Create some regen gaps.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable aspen, maple, basswood, cherry.

Regen:

Other Medium quality Hardwoods. Good diameters. There is a sliver of 'M3' through the middle of the stand where some pine was removed in 2013.

Comment: Some scattered red pine in the west end.

Ironwood and beech regen issue.

Proposed Start Date: 10/1 /2019

42	61143042-Monitor	64.5	42111 - Planted Red Pine, Mixed Deciduous	Sapling Well	3	Immature	Monitoring	Artificial Regen(3yr)	4211 - Planted Red Pine	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Monitor planting (3yr). Herbicide if needed.

Specs:

Next Step Pesticide, Skidder/Mechanical; Planting, Replant

Treatments:

Acceptable red pine.

Regen:

Other

Comment:

Proposed Start Date: 3 /9 /2018

43	61143043-Cut	43.6	4199 - Other Mixed Upland Deciduous	Poetimber Well	80	111-140	Harvest	Overstory Removal	411 - Northern Hardwood	Uneven-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Remove the overstory, but mark some sugar maple and white pine to leave for seed trees (~1/ac or so). Also try to protect as much of the

Specs: advance sugar maple as possible during the harvest. (bark slip??)

Next Step

Treatments:

Acceptable maple, aspen, basswood, aspen, white pine.

Regen:

Other

Stand is a mix of aspen and hardwoods with scattered large red and white pine. Stand is has a nice sugar maple understory.

Comment:

Proposed Start Date: 10/1 /2019

45	61143045-Cut	2.4	4110 - Sugar Maple Association	Sawtimber Well	89	111-140	Harvest	Crown Thinning	411 - Northern Hardwood	Uneven-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Thin stand down to about 80sqft.

Specs:

Next Step

Treatments:

Acceptable hardwoods.

Regen:

Other

Nice quality hardwoods.

Comment:

Proposed Start Date: 10/1 /2019



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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
49 61143049-Cut	12.2	4110 - Sugar Maple Association	Sawtimber Well	89	81-110	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Approved Proposal

Habitat Cut: No

Site Condition:

Prescription Thin stand down about 80 sqft/ac. Create some regen gaps (clean up the ironwood and beech regen in these gaps).

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Maple, basswood, cherry, aspen.

Regen:

Other Ironwood and beech regen issue : (

Comment:

Proposed Start Date: 10/1 /2019

51 61143051-Cut	28.7	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Medium	80	51-80	Harvest	Overstory Removal	411 - Northern Hardwood	Uneven-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Remove the patchy overstory. Try to protect as much of the advanced regen as possible. Don't cut sugar maple that is less than 4-6" and

Specs: maybe line out some of the M3 areas where there is no overstory.

Next Step

Treatments:

Acceptable maple, white pine, aspen, cherry, basswood.

Regen:

Other This used to be a R9 stand but the red pine was removed in Sale #41-03-1. Lots of different size classes. A good amount of sugar maple in the understory. Some M3/M5 pockets. Overstory stocking is patchy. North end is more of a mixed aspen/pine mix, south end is more of a hardwood stand. Nice pocket of M8/M9 by Fletcher

Proposed Start Date: 10/1 /2019

54 61143054-Cut	6.1	4110 - Sugar Maple Association	Sawtimber Well	81	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Thin stand down to a BA of around 80sqft/ac. Removed most of the beech and aspen. Create a few regen gaps.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable maple, basswood, aspen, cherry.

Regen:

Other Ironwood and beech regen issue : (

Comment:

Proposed Start Date: 10/1 /2019

62 61143062-Cut	13.1	4112 - Maple, Beech, Cherry Association	Poletimber Well	81	81-110	Harvest	Crown Thinning	411 - Northern Hardwood	Uneven-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Thin stand down to 80sqft/ac. Remove high risk trees. Also, create a few regeneration gaps.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019



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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
74 61143074-Cut	20.7	4119 - Mixed Northern Hardwoods	Sawtimber Well	85	81-110	Harvest	Seed Tree	411 - Northern Hardwood	Even-Aged	Approved Proposal

Habitat Cut: No

Site Condition:

Prescription mark to leave some sugar maple and oak for a seed source probably less than 10sqft/ac. Also try to get the ground scarified (summer cut?)
Specs:

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

Acceptable oak, aspen, birch, basswood, maple.
Regen:

Other Access will be to the north, there is an old skid trail through st 72 that can be used.
Comment:

Proposed Start Date: 10/1 /2019

76 61143076-Cut	18.4	4123 - Red Oak	Sawtimber Well	95	81-110	Harvest	Seed Tree	412 - Oak Types	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Mark scattered trees to leave or maybe mark in clumps. Try to make sure that the canopy is opened up enough to help the oak to regenerate.
Specs:

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

Acceptable oak, aspen, maple, cherry.
Regen:

Other Stand has been thinned through before and has some advanced regen in spots that would be good to work around with the harvesting
Comment: equipment.

Proposed Start Date: 10/1 /2019

84 61143084-Cut	29.0	4123 - Red Oak	Sawtimber Well	88	81-110	Harvest	Seed Tree	4199 - Other Mixed Upland Deciduous	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Mark some scattered sugar maple and oak to leave for a seed source (~1-2 trees/ac). Try to protect aspen in the understory during harvest.
Specs:

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

Acceptable oak, maple, cherry, aspen, basswood
Regen:

Other Stand has been thinned before and has pockets of A3 in the understory. Regen concerns with deer browse being heavy in the area.
Comment:

Proposed Start Date: 10/1 /2019

92 61143092-Cut	8.2	4119 - Mixed Northern Hardwoods	Sawtimber Well	81	81-110	Harvest	Clearcut	411 - Northern Hardwood	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Clear cut stand. May want to mark a few trees to leave for a seed source.
Specs:

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

Acceptable maple, aspen, oak, basswood.
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019



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
96	61143096-Cut	10.0	4119 - Mixed Northern Hardwoods	Sawtimber Well	89	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Approved Proposal

Habitat Cut: No

Site Condition:

Prescription Thin stand down to ~ 80sqft. Remove the remaining red pine and aspen. Create some regen gaps.

Specs:

Next Step ; Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable maple, cherry, basswood, aspen.

Regen:

Other Nice quality sugar maple, with some pockets of aspen. Scattered red pine, BBD present.

Comment: Ironwood and beech regen concern.

Proposed Start Date: 10/1 /2019

99	61143099-Cut	12.7	4199 - Other Mixed Upland Deciduous	Sawtimber Well	82	51-80	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Clear cut stand, mark a few white oak to leave.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable oak, maple, aspen.

Regen:

Other Stand is mostly clumpy red maple with pockets of aspen and oak throughout. Stocking is variable. Red maple is fairly poor quality.

Comment:

Proposed Start Date: 10/1 /2019

101	61143101-Burn	14.3	4112 - Maple, Beech, Cherry Association	Poletimber Poor	40	1-50	Burn	Opening	3303 - Mixed Low Density Trees		Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription The goal of prescribed burning is to restore and/or maintain a grassland/barrens ecosystem. The timing and frequency of the burns will be based on current needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods. Maintain as needed with mowing, seeding of native grasses and forbs, burning, or removal of woody encroachment.

Next Step NonForestMgt, Brush Cutting

Treatments:

Acceptable

Regen:

Other 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.

Proposed Start Date: 10/1 /2019

105	61143105-Monitor	8.8	42111 - Planted Red Pine, Mixed Deciduous	Sapling Well	4	Immature	Monitoring	Artificial Regen(3yr)	4211 - Planted Red Pine	Two-Aged	Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription Monitor the planted red pine underneath the oak.

Specs:

Next Step

Treatments:

Acceptable red pine, oak.

Regen:

Other scattered oak overstory.

Comment:

Proposed Start Date: 3 /9 /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
402	61143402-Burn	8.5	330 - Low-Density Trees	Nonstocked		Unspecified	Burn	Opening	3105 - Mixed Upland Herbaceous		Approved Proposal

Habitat Cut: No

Site Condition:

Prescription The goal of prescribed burning is to restore and/or maintain a grassland/barrens ecosystem. The timing and frequency of the burns will be based on current needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods. Maintain as needed with mowing, seeding of native grasses and forbs, burning, or removal of woody encroachment.

Next Step NonForestMgt, Brush Cutting
Treatments:

Acceptable Regen:

Other Comment: 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.

Proposed Start Date: 10/1 /2019

406	61143406-NF	8.9	330 - Low-Density Trees	Nonstocked		Unspecified	NonForestMgt	Fruit Tree/Shrub Planting	3205 - Mixed Upland Shrub		Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription 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. Would be a good site for a volunteer project.

Next Step
Treatments:

Acceptable Regen:

Other Comment: Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment and/or invasives.

Proposed Start Date: 10/1 /2019

409	61143409-NF	10.4	330 - Low-Density Trees	Nonstocked		Unspecified	NonForestMgt	Fruit Tree/Shrub Planting	3205 - Mixed Upland Shrub		Approved Proposal
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Habitat Cut: No

Site Condition:

Prescription 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. Would be a good location for a volunteer project.

Next Step
Treatments:

Acceptable Regen:

Other Comment: Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment and/or invasives.

Proposed Start Date: 10/1 /2019

Total Treatment Acreage Proposed: 779.9

Report 4 – Site Conditions

Traverse City Mgt. Unit

Steve Crigier : Examiner

Compartment: 143

Year of Entry: 2020

Availability for Management

Total Acres	Acres Available	Acres Available With Condition	Acres Not Available
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Dominant Site Conditions

5B 5C 3D 3J 5E

Total Acres	Acres Available	Acres Available With Condition	Acres Not Available	Dominant Site Condition	5B	5C	3D	3J	5E
862	859	0	3	Aspen				1	2
35	35	0	0	Bog					
6	6	0	0	Herbaceous Openland					
174	174	0	0	Low-Density Trees					
4	4	0	0	Lowland Shrub					
216	195	21	0	Mixed Upland Deciduous		21			
66	60	0	6	Natural Mixed Pines			1	5	
357	357	0	0	Northern Hardwood					
278	115	163	0	Oak	110	53			
221	215	6	0	Red Pine		6			
5	5	0	0	Sand, Soil					
86	86	0	0	Upland Mixed Forest					
7	7	0	0	Urban					
2	2	0	0	White Pine					
2,319	2,121	189	9	Total Forested Acres	110	79	1	6	2
	91%	8%	0%	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	29	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	2	2F: Too steep	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Traverse City Mgt. Unit

Compartment: 143

Steve Crigier : Examiner

Year of Entry: 2020

3	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	14	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	21	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
64	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	4	4A: No Markets Available for these Forest Products	Unspecified	Unspecified	Unspecified
Comments: buffer for bog.							

Report 4 – Site Conditions

Traverse City Mgt. Unit
Steve Crigier : Examiner

Compartment: 143
Year of Entry: 2020

88	Unavailable	3D: Recreational / Scenic values	1	4A: No Markets Available for these Forest Products	Unspecified	Unspecified	Unspecified
Comments:							
90	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments: retention for stand 63							

Mgt. Unit

Compartment: #Type!

Year of Entry:



Report 5 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

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

SCA Name	SCA Category	Detail Type	Recommendation	Acres
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Comments



Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

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

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

Conservation Area	Type	Description
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
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	Traverse City Mgt. Unit		Report 7 – Forested Stands			Compartment: 143 Year of Entry: 2020
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4310 - Pine, Oak Mix	Sapling Well	86.4	13	Immature	Mainly M3,O2 with 10ft2 of residual red pine logs left. Some oak and red pine residual left also. 2007 - Site planted to red pine in 2006 plus a few acres to the southeast. Sale #050-02-01 "6 Point Jack" timber sale, 91 acre clearcut.
2	4133 - Aspen, Mixed Pine	Poletimber Medium	7.4	41	51-80	OPIC - FMD: Sale #16-76. Patchy stocking, quite a bit of oak mixed in. Scattered log sized red pine.
3	42111 - Planted Red Pine, Mixed Deciduous	Sawtimber Poor	87.0	80	1-50	Sale #10-91. Scattering of red pine left. Scattered red pine and oak over a mix of oak, maple and aspen regen. Overstory stocking is very patchy but the advanced regen pretty thick throughout.
4	4131 - Aspen, Oak	Sapling Well	24.6	14	Immature	Red Pine overstory removed to release the M3 understory in 3 Stooage Pine Sale 61-018-10-01. Aspen and oak are about 10-15' tall. there is scattered red maple pole timber.
5	42290 - Natural Mixed Pine	Sawtimber Well	2.0	80	111-140	Mixed pine and oak. Stand is on a slope down to the vernal pond.
6	4123 - Red Oak	Sawtimber Medium	19.3	79	51-80	Stocking is variable, some U0 pockets. Stand has been burned through, last time was in 2017. Med-poor quality timber. Some nice advanced regen on the south end of the stand.
10	42110 - Planted Red Pine	Sawtimber Well	12.5	68	141-170	Stand was thinned in 2003 as part of the "6 Point Jack" timber sale # 050-02-1. Hawthorn was planted along the edge of the stand to establish a replacement windbreak for the day when the remainder of the red pine is removed. 2000 - Hagan - 5 rows of pine - 3 red and 2 white, with some jack. Planted for wind break.
11	4116 - Mixed N. Hardwood - Aspen	Poletimber Poor	43.1	55	1-50	Mostly scattered cherry but there are pockets of aspen and oak as well. Open grown poor quality timbers. It looks like some cultivation work has been done, WLD??? but no records
12	4126 - White, Black, N. Pin Oak	Sawtimber Well	4.9	82	81-110	Nice pocket of oak, there is some scattered pine.
13	4199 - Other Mixed Upland Deciduous	Sapling Well	11.8	36	1-50	OPIC - FMD: Sale #54-81A. Military Lease Area. Some scattered pine and older oaks. Mostly 4-5" trees, aspen is a bit larger. Stand is heavier to aspen on the east end.
14	4130 - Aspen	Sapling Well	41.8	14	Immature	Stand was clearcut as unit #2 on sale #079-02-1, Beech Road Aspen. All dead trees and all Oak and White Pine were left uncut according to the contract. Military Lease Area. Aspen is 20-30' tall and is well stocked. Scattered oak log trees in the southwest portion of the stand.
15	4130 - Aspen	Sapling Well	27.6	7	Immature	cut with 143 hodgepodge sale. Left scattered oak log trees. Regen is about 5-10' tall and is a bit variable.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
16	4122 - Oak, Pine	Sawtimber Medium	33.1	78	51-80	Stand was cut in 2011. Removed the aspen, red maple and marked the oak to be cut. The north end, where the overstory is less dense, is regenerating pretty well. South end has more of a canopy and is pretty bare in the understory.
17	4130 - Aspen	Sapling Well	22.1	14	Immature	Stand was clearcut as part of sale # 079-02-1, Beech Road Aspen, Unit #1, 23 acres. All dead trees and all Oak was left according to contract - Residual BA 10ft2. Military Lease Area. Stand has regenerated well, trees are about 30' tall. Scattered large oak.
20	42210 - Natural Red Pine	Poletimber Well	6.5	70	81-110	Sale #47-02. Thinning. North end has larger diameter trees and overstory is not as dense. South part is thick with pole size trees.
21	4130 - Aspen	Poletimber Well	112.8	42	51-80	Nice quality aspen with oak and maple in the understory and mixed in the overstory. The northwest corner has more of a hardwood component. Quite a bit of sugar maple in the understory in the north end of the stand.
22	42110 - Planted Red Pine	Sawtimber Medium	5.5	78	51-80	cut with 143 Isthmus sale 19-10-01. Red maple and aspen cut out, pine was thinned. Decent cherry regen in the north part of the stand, south finger is pretty barren.
23	4130 - Aspen	Poletimber Well	19.7	40	51-80	Nice aspen 4-5 sticks tall with a maple understory.
24	42260 - Natural Pine, Mixed Deciduous	Sapling Well	60.0	24	Immature	Hagan - Sale #10-91. This side of the old sale is coming back to more of a jack pine mix with oak and aspen. Scattered red pine logs
25	4112 - Maple, Beech, Cherry Association	Sapling Well	51.6	7	Immature	stand cut with 143 isthmus pine sale (19-10-01) Hardwoods were left. Stand is an M3/M5 mix. A few different age classes of regen ranging from 6" to 1" hardwoods.
26	42110 - Planted Red Pine	Sawtimber Well	1.6	80	141-170	Large red pine with a sugar maple understory.
27	4130 - Aspen	Sapling Medium	4.8	24	Immature	Small A3 pocket
28	4130 - Aspen	Sapling Well	25.3	15	Immature	Trees are about 20-30' tall. Some scattered red pine and oak logs size trees.
29	42200 - Natural White Pine	Sawtimber Well	2.4	72	81-110	
30	4111 - S.Maple, Hard Mast Association	Sawtimber Poor	8.9	81	1-50	Treated Fall 2013 as 61-017-10-01 143 Hypo Pine. Cut all RP & JP. This left some Medium quality scattered hardwood. Most areas are regenerating well to mixed hardwoods, mostly red maple. BAs (70, 20)



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
32	42111 - Planted Red Pine, Mixed Deciduous	Sapling Well	32.0	4	Immature	planted and then replanted to red pine, scattered oak left... 1 year regen survey done and 3 year regen which prompted the replant. will keep an eye on during regular inventory now OPIC - FMD: 3/27/14 KKA: Treated Fall 2013 as 61-017-10-01 143 Hypo Pine. Cut all RP, JP, RM, and aspen. To be planted FTP C62-807. 2008 - Hagan - Also an Influence Zone of 9 - Military Lease Area. 2004 - Rouston - Treatment Update comments: This stand was thinned in the summer of 2004 (Sale # 032-03-01 - "Red Snow" sale). This stand was part of a large scale area planted with pine in the mid 1930's. Women's Groups in Michigan sponsored the planting through the Detroit News. 1989 - DEAD JACKPINE INTERPLANT.
33	42290 - Natural Mixed Pine	Sawtimber Well	4.2	77	111-140	
34	4112 - Maple, Beech, Cherry Association	Poletimber Medium	5.5	40	1-50	This used to be a R9 stand but the red pine was removed in Sale #41-03-1. Stand has been converted over to hardwoods. A mix of age and size classes but is mostly maple.
35	4110 - Sugar Maple Association	Sawtimber Well	15.5	81	111-140	Medium quality Hardwoods. Good diameters. There is a sliver of 'M3' through the middle of the stand where some pine was removed in 2013. Some scattered red pine in the west end.
36	4130 - Aspen	Sapling Well	40.2	26	Immature	Stand was cut in 1992, Sale #7-91. Trees are now 30-40' tall and starting to convert to pole timber. Good stem density.
37	4122 - Oak, Pine	Sawtimber Medium	29.2	96	1-50	Treated Fall 2013 as 61-017-10-01 143 Hypo Pine. Clearcut except white oak & pine. Left 1 red oak > 12"dbh every 50 ft, ~20 sf). Regen is getting browsed heavily. Regen is patchy. More of a red pine component in the south end.
38	4191 - Mixed Upland Deciduous with Conifer	Sapling Poor	12.4	4	Immature	Treated Fall 2013 as 61-017-10-01 143 Hypo Pine. Cut all RP, JP, RM, and aspen. Stand is slowly filling in with a mix of species. Some of the Deciduous trees are getting browsed pretty heavy.
39	4130 - Aspen	Poletimber Well	48.4	37	81-110	Nice quality aspen, mostly bigtooth, with a mix of oak pine and red maple. 4-6 stick aspen.
40	4133 - Aspen, Mixed Pine	Poletimber Well	19.6	37	81-110	nice quality aspen. Scattered red pine log sized trees. Thick red maple understory.
41	4130 - Aspen	Poletimber Well	44.6	35	51-80	Sale #55-81. Nice aspen, with some scattered red pine. Quite a bit of red maple in the understory. Stuff at the northern part of stand seems larger/older. The east end of the stand has sugar maple and ash in the understory.
42	42111 - Planted Red Pine, Mixed Deciduous	Sapling Well	64.5	3	Immature	Treated Fall 2013 as 61-017-10-01 143 Hypo Pine. Cut all RP, JP, RM, and aspen. To be planted FTP C62-807. Scattered oak in the west end of the stand. Patches of hwd competition. Red pine is looking good 2-3' tall.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
43	4199 - Other Mixed Upland Deciduous	Poletimber Well	43.6	80	111-140	Stand is a mix of aspen and hardwoods with scattered large red and white pine. Stand is has a nice sugar maple understory.
44	4110 - Sugar Maple Association	Sawtimber Well	15.2	106	81-110	Thinned with 143 hodgepodge in 2015 for the first time. nice quality hardwoods. BAs 80, 70
45	4110 - Sugar Maple Association	Sawtimber Well	2.4	89	111-140	Nice quality hardwoods. Lots of sawtimber.
46	4130 - Aspen	Sapling Well	26.1	12	Immature	Sale #077-02-1. Unit was harvested in November/December 2005. Trees are 20-30' tall, lots of TPA.
47	4111 - S.Maple, Hard Mast Association	Sawtimber Medium	2.4	89	51-80	
49	4110 - Sugar Maple Association	Sawtimber Well	12.2	89	81-110	This 12 acre stand was thinned during winter of 2003-04 by a shortwood operation. Sale #045-02-1. Nice quality maple, white ash and ironwood understory. Scattered red and white pine. BA 100, 120, 100.
50	4116 - Mixed N. Hardwood - Aspen	Poletimber Medium	11.2	27	1-50	Overstory aspen is dying out, converting to hardwoods. Nice sugar maple recruitment. Scattered white pine on the west end.
51	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Medium	28.7	80	51-80	This used to be a R9 stand but the red pine was removed in Sale #41-03-1. Lots of different size classes. A good amount of sugar maple in the understory. Some M3/M5 pockets. Overstory stocking is patchy. North end is more of a mixed aspen/pine mix, south end is more of a hardwood stand. Nice pocket of M8/M9 by Fletcher.
52	4112 - Maple, Beech, Cherry Association	Poletimber Poor	65.8	65	1-50	Red Pine overstory removed to release the M3 understory in 3 Stooage Pine Sale 61-018-10-01. Stocking of hardwoods is patchy but is low to medium stocking. Lots of M3 pockets. Stand has more red maple at the north end and more sugar maple in the south.
53	4133 - Aspen, Mixed Pine	Sapling Well	16.4	25	Immature	Sale #8-91. Left red pine. Mostly an aspen stand with scattered red pine.
54	4110 - Sugar Maple Association	Sawtimber Well	6.1	81	111-140	Good quality hardwoods thinned 15-20 years ago. Understory is filling in with beech and ironwood.
55	4130 - Aspen	Sapling Well	7.5	13	Immature	OPIC - FMD: 2006 kgr post-harvest update comments: Sale # 077-02-1 cut in summer of 2004. Clearcut. Retained Site Index of record. Regeneration is excellent. Trees are 20-30' tall and stand is well stocked.
56	4110 - Sugar Maple Association	Poletimber Well	5.0	81	51-80	Rolling terrain with some potholes. Stocking is patchy, open grown timber pretty poor quality.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
57	4130 - Aspen	Poletimber Well	12.2	36	51-80	OPIC - FMD: Sale #53-81A. Nice quality aspen ~ 4-5 sticks tall. Some immature pockets. Hardwoods in the understory. A lot of ironwood.
60	4112 - Maple, Beech, Cherry Association	Poletimber Poor	15.9	60	1-50	OPIC - FMD: 2008 - Hagan - Oak/hardwood island in southeast corner along 4 Point Road. GRASS + UPLAND BRUSH. Variable stocking.
61	4130 - Aspen	Sapling Well	32.2	7	Immature	Stand was cut in 2011. Left some scattered oak and pine. Regen is 10-20' tall and is well stocked.
62	4112 - Maple, Beech, Cherry Association	Poletimber Well	13.1	81	81-110	Medium quality stand. Doesn't look like it has been thinned before. Ironwood in the understory.
63	4130 - Aspen	Sapling Well	20.5	15	Immature	trees are ~30' tall, nice quality and well stocked. OPIC - FMD: 2004 - Rouston - Stand was clearcut in 2003 as part of Sale #069-02-1 Four Point Aspen.
66	4130 - Aspen	Sapling Well	6.0	7	Immature	Stand has a frost pocket in the middle of it. East side is filling in with scattered cherry and the west side is well stocked aspen.
67	4130 - Aspen	Poletimber Well	81.3	35	51-80	Lots of TPA, 3-4 sticks tall. More quaking aspen in the northwest along the bog. Nice looking stand.
69	4199 - Other Mixed Upland Deciduous	Sawtimber Well	2.4	88	51-80	some nice young oak poles on the edge of the stand. med-poor quality. OPIC - FMD: Stand was treated in 2003 as part of Sale #069-02-1 Four Point Aspen. 2000 - Hagan - Leave oak.
70	4130 - Aspen	Sapling Well	18.2	15	Immature	Trees are 30' tall and is well stocked. Stand is on some rolling terrain. OPIC - FMD: Stand was clearcut as part of Sale #069-02-1 Four Point Aspen.
72	4130 - Aspen	Sapling Well	35.4	26	Immature	Well stocked stand. Stand is converting to pole sized trees, a lot of the bigtooth areas are already there. Trees are 30-40' tall. OPIC - FMD: Sale #44-91.
73	4123 - Red Oak	Sawtimber Poor	3.9	77	1-50	Stand cut in 2011 left the oak and pine. Stand not regenerating well. Lots of snow on the ground now but I would blame it on the deer. Stand M town and 4 Point, oak and pine left, looks good, should regenerate nicely.
74	4119 - Mixed Northern Hardwoods	Sawtimber Well	29.2	85	81-110	Medium to poor quality hardwoods, clumpy red maple and basswood. BBD is present. Beech and ironwood understory. OPIC - FMD: Sale # 71-02 , 4 Point Hdwd, completed in 9/06 dkj.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
75	4130 - Aspen	Sapling Well	51.3	7	Immature	Stand was cut in 2011, left oak, birch and some scattered cherry. Regeneration is about 10' tall.
76	4123 - Red Oak	Sawtimber Well	18.4	95	81-110	Nice quality oak. West side of the stand has more advanced regen. OPIC - FMD: Stand was cut in 2003 as part of Sale #069-02-1 Four Point Aspen Sale.
77	4130 - Aspen	Sapling Well	24.0	15	Immature	Some scattered log size oak but stand is mostly 20-30' tall aspen. patchy stocking where oak overstory is dense. OPIC - FMD: Stand was clearcut in 2003 as part of Sale #069-02-1 Four Point Sale.
78	4199 - Other Mixed Upland Deciduous	Sawtimber Well	20.7	80	81-110	Some clones of bigtooth aspen but is mostly a mix of oak, red maple and aspen with some scattered pine. quite a bit of white pine and oak in the understory.
79	42210 - Natural Red Pine	Sawtimber Well	2.2	90	141-170	Tall grove of pine. Understory has a good amount of white pine.
80	4130 - Aspen	Sapling Well	3.7	26	Immature	trees are about 30' tall. OPIC - FMD: Sale #15-91
81	4130 - Aspen	Poletimber Well	55.0	35	81-110	Nice Stand. Well stocked and pretty uniform. Lots of 5 stick trees. Some areas of small diameter trees. OPIC - FMD: Sale #52-81
82	4124 - Red with White Oak	Sawtimber Poor	9.5	98	1-50	Most of the oak regen has been browsed heavily. Quite a bit of white pine getting started in the understory though. OPIC - FMD: 2013 - Nameless Oak #014-10.
83	4130 - Aspen	Sapling Well	27.2	26	Immature	Stand is starting to convert to pole sized timber. OPIC - FMD: Sale #15-91.
84	4123 - Red Oak	Sawtimber Well	29.0	88	81-110	Good quality oak, with some A3 pockets. slightly rolling terrain. N1/2 of stand is more dense stocking and more of a mix of species. OPIC - FMD: Sale # 68-02 Oak Ridge, removed all aspen and red maple- oak remains dkj 3-8-06.
85	4122 - Oak, Pine	Sawtimber Poor	110.5	89	1-50	Stand was cut in 2013, left all the white oak, white pine and red pine. Overstory stocking is patchy but the understory is full of a mix of species. O7 over UM3. Some areas are understory are more aspen and maple (NE) and other parts are more white pine and white oak mix. OPIC - FMD: 2013 - Nameless Oak #014-10.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
89	4199 - Other Mixed Upland Deciduous	Sapling Medium	38.7	12	Immature	Stand is on some rolling terrain. Heavy deer browse, they really hammered the central portion of this stand. There is a few nice clones of aspen. Lots of witch hazel. OPIC - FMD: Sale # 68-02 Oak Ridge, final harvested stand should regen to mix asp.-oak.
90	4130 - Aspen	Poletimber Well	1.9	89	81-110	OPIC - FMD: 2008 - Hagan - Retention area left within sale # 69-02.
91	4130 - Aspen	Poletimber Well	0.9	69	81-110	OPIC - FMD: 2008 - Hagan - Leave area along V type, left from sale # 69-02.
92	4119 - Mixed Northern Hardwoods	Sawtimber Well	8.2	81	81-110	OPIC - FMD: 2008 - Hagan - Understory heavier & more variety of speices in this stand. Timber is a bit rough/open grown. Some nice logs and pole. Red maple is clumpy.
95	4130 - Aspen	Poletimber Medium	2.8	50	51-80	Med stocked quaking, starting to decline, over red maple and oak understory.
96	4119 - Mixed Northern Hardwoods	Sawtimber Well	10.0	89	111-140	Nice quality sugar maple, with some pockets of aspen. Scattered red pine, BBD present.
97	4116 - Mixed N. Hardwood - Aspen	Sapling Well	19.4	4	Immature	Stand had the red pine cut out of it in 2013. Coming back to a mix of hardwoods. Some scattered pole size hardwoods. Most of the regen is about 15-20' tall. Treated Fall 2013 as 61-017-10-01 143 Hypo Pine. Cut all RP, JP, RM, and aspen. 2008 - Hagan - Also an Influence Zone of 9 - Military Lease Area. This stand was thinned in the summer of 2004 (Sale # 032-03-01 - "Red Snow" sale). This stand was part of a large scale area planted with pine in the mid 1930's. Women's Groups in Michigan sponsored the planting through the Detroit News.
98	4199 - Other Mixed Upland Deciduous	Sapling Well	45.2	24	Immature	Hagan - Sale #10-91. Scattering of red pine left. Stand is a mix of aspen and oak sapling with some scattered red pine logs. Stand is well stocked.
99	4199 - Other Mixed Upland Deciduous	Sawtimber Well	12.7	82	51-80	Stand is mostly clumpy red maple with pockets of aspen and oak throughout. Stocking is variable. Red maple is fairly poor quality.
101	4112 - Maple, Beech, Cherry Association	Poletimber Poor	14.3	40	1-50	stand is filling in with scrubby cherry and red maple. poor quality trees. Stand was burned in 2017 to set back woody encroachment and encourage warm season grass. Doesn't look like it has been very successful.
102	4122 - Oak, Pine	Poletimber Medium	6.1	40	1-50	Treated Fall 2013 as 61-017-10-01 143 Hypo Pine. Cut all RP, JP, RM, and aspen. There are a few rows of red pine planted. Stand is a mix of immature oak and pine.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
103	4123 - Red Oak	Sawtimber Medium	14.0	106	1-50	2003 - Hagan - Sale # 17-02 leaving 20ft of residual oak left and some pine. Scattered oak and pine. Decent regen on the west side but the east part has been browsed heavily. Southern finger of this stand had the red pine and aspen cut out of it in 2013, regen is much younger.
104	4119 - Mixed Northern Hardwoods	Sapling Well	1.7	36	1-50	OPIC - FMD: Sale #53-81A. Nice mix of hardwoods.
105	42111 - Planted Red Pine, Mixed Deciduous	Sapling Well	8.8	4	Immature	Treated Fall 2013 as 61-017-10-01 143 Hypo Pine. Cut all RP, JP, RM, and aspen. To be planted FTP C62-807. Red pine is planted under scattered oak. Red pine is looking good so far ~ 2' tall.



Stand	Cover Type	Acres	Managed Site	General Comments:
7	710 - Sand, Soil	3.2	No	Rogue ORV scramble area
8	710 - Sand, Soil	2.2	No	
9	330 - Low-Density Trees	111.6	Yes	Mostly scrub cherry but there are some pockets of aspen and pine. Stand was burned for WLD in 2017.
18	330 - Low-Density Trees	7.6	No	Opening that is filling in. Was burned recently for WLD.
19	330 - Low-Density Trees	22.2	Yes	Stand has clumps of aspen and jack pine but mostly is scrub cherry. Stand was burned in ?? but didn't seem to set back woody encroachment.
31	6225 - Bog	2.2	No	LEATHERLEAF BOG.
58	622 - Lowland Shrub	4.1	No	recent beaver activity
64	330 - Low-Density Trees	0.6	No	
65	6225 - Bog	22.9	No	OPIC - FMD: HUMMOCKY LEATHERLEAF BOG
68	6225 - Bog	9.9	No	
100	122 - Road/Parking Lot	5.1	No	
402	330 - Low-Density Trees	8.5	Yes	Stand was burned recently for WLD.
403	310 - Herbaceous Openland	3.3	No	OPIC - FMD: Military Lease Area. Old well pad. Still has monitor wells on it. Waiting for company to pull pipe.
404	310 - Herbaceous Openland	2.8	No	OPIC - FMD: Military Lease Area. Old well pad.
405	122 - Road/Parking Lot	1.4	No	
406	330 - Low-Density Trees	8.9	No	
408	330 - Low-Density Trees	1.1	Yes	OPIC - FMD: Blackberry, sweetfern, grass, bracken. OK for now. 2008 - Remote call. As needed, 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. OI Stand Year Origin was



Stand	Cover Type	Acres	Managed Site	General Comments:
409	330 - Low-Density Trees	10.4	Yes	
411	330 - Low-Density Trees	2.0	Yes	
413	330 - Low-Density Trees	1.2	No	OPIC - FMD: Also an Influence Zone of 9 - Military Lease Area.