



Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 61108

Entry Year 2020

Acreage: 1,933

County Kalkaska

Management Area: Grayling Ice Contact

Revision Date: 2018-10-05

Stand Examiner: Katie Armstrong

Legal Description:

T28N R5W Sections 28, 29 and 30

Identified Planning Goals:

Management in the Grayling Ice Contact management area (MA) will continue to balance the age class of aspen on suitable sites, thin northern hardwoods, balance age classes of red pine and jack pine, and attempt to regenerate the aging oak resource. Management will strive to sustainably produce various forest products; enhance game and non-game wildlife habitat; protect areas of unique character; and provide for forest-based recreational uses. With about 3% of the management area being lowland, management activities will be minimally constrained. Expected challenges within this 10-year planning period include increased recreational pressure, managing oil and gas development, introduced pests and diseases and the difficulty in regenerating oak and sugar maple.

Soil and topography:

Most of the compartment has sandy soils, especially Island Lake sand with lesser amounts of Croswell-Au Gres, Finch, Rubicon, and Kalkaska sands. There are also areas of Dawson-Loxley peats and unnamed Histosols. The topography is flat to gently rolling hills. All slopes are manageable.

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

The compartment is mostly surrounded by State land but there are some seasonal and permanent residences to the north near Squaw and Indian lakes and west around Pickerel Lake. The Grand Traverse Regional Land Conservancy owns 46 acres in two parcels adjacent to State land, which are managed as the Papoose Lake Nature Preserve.

Unique Natural Features:

Part of an MNFI EO polygon extends into the northeast part of the compartment.

Archeological, Historical, and Cultural Features:

None known at this time.

Special Management Designations or Considerations:

None identified at this time.

Watershed and Fisheries Considerations:

Wildlife Habitat Considerations:

Most of this compartment is underlain by steep, broken ice contact ridges (LTA 3121) and is within the Grayling Ice Contact Management Area of the Northern Lower Peninsula Regional State Forest Management Plan. Key wildlife species of this MA are woodcock, beaver, Eastern massasauga rattlesnake, pileated woodpecker, red-headed woodpecker, ruffed grouse, turkey, and deer. The sandy soils found on these ridges have moderately low fertility and low available moisture. Even though much of this area was probably once covered with various northern hardwood communities, the dry soils did allow occasional wildfires on this landscape. Northern hardwood is still the dominant cover type with some aspen, pine, wetlands, and non-forested communities scattered throughout.

A small inclusion of a narrow outwash channel (LTA 5521) is located in the central and northeast portions of the compartment. This formation consists of sandy, dry soils, but does have occasional patches of poorly drained muck, which in this compartment support small wet meadows, bogs, and ponds.

Aspen harvests should be designed to mimic wildfires of various intensities, when possible. This creates a mosaic of age classes and increases structural diversity within an area. The creation of dead and downed logs should be incorporated into timber prescriptions within to provide habitat for various wildlife including ruffed grouse, white-footed mice, and redbelly snakes. Standing dead timber is usually left during harvest operations unless deemed a safety hazard. Other

species benefiting from continued management and age class diversification of aspen include deer, yellow-billed cuckoos, and snowshoe hares. Considerations for northern hardwood stands include 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 ensure 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 shrub communities. These openings provide grassy nest sites, plentiful seeds and insects, and cover. Examples of species include wild turkeys, northern flicker, eastern chipmunk, and blue racer. Upland shrub stands are important because they contain many berry-producing trees and shrubs. Degraded sites (i.e. abandoned well sites) should be considered for revegetating to herbaceous cover. Other opening maintenance proposed for this compartment includes hand felling and mowing.

Mineral Resource and Development Concerns and/or Restrictions

Sand/gravel pits are not located in the area, but there is good sand and gravel potential within the compartment. The compartment is located in the Niagaran reef trend with several producing wells. The Antrim Shale gas play may be too deep to produce in this area. Active Antrim production is occurring several miles to the east. There is one active lease within the compartment that covers portions of sections 28 and 30. There is no known metallic mineral potential in this part of the state. The state does not own the mineral rights beneath a significant percentage of the compartment.

Vehicle Access:

There is sufficient vehicle access throughout the compartment.

Survey Needs:

There are no survey needs at this time.

Recreational Facilities and Opportunities:

Blue Bear Snowmobile Trail #76, Kalkaska Route and 50" ORV - MCCCT Trail and non-motorized North Country National Scenic Hiking Trail; Iron Belle Trail - hiking route occur in Section 30 and west half of Section 29. These trails are frequently used due to the proximity of Pickerel Lake State Forest Campground, managed by Parks and Recreation Division, just west of this compartment. The mixed upland tree cover type provide ample forage for small game and deer. The county and state forest roads provide access to hunters, and mushroom berry pickers.

Fire Protection:

DNR fire protection is from the Kalkaska Field Office and the volunteer department is Blue Lake Fire Department. The cover types within this compartment suggest a low risk for wildfires, but the heavy motorized recreational use may increase the likelihood of fire starts.

Additional Compartment Information:

The following reports from the Inventory are attached:

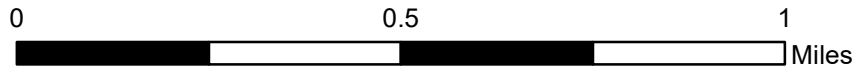
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

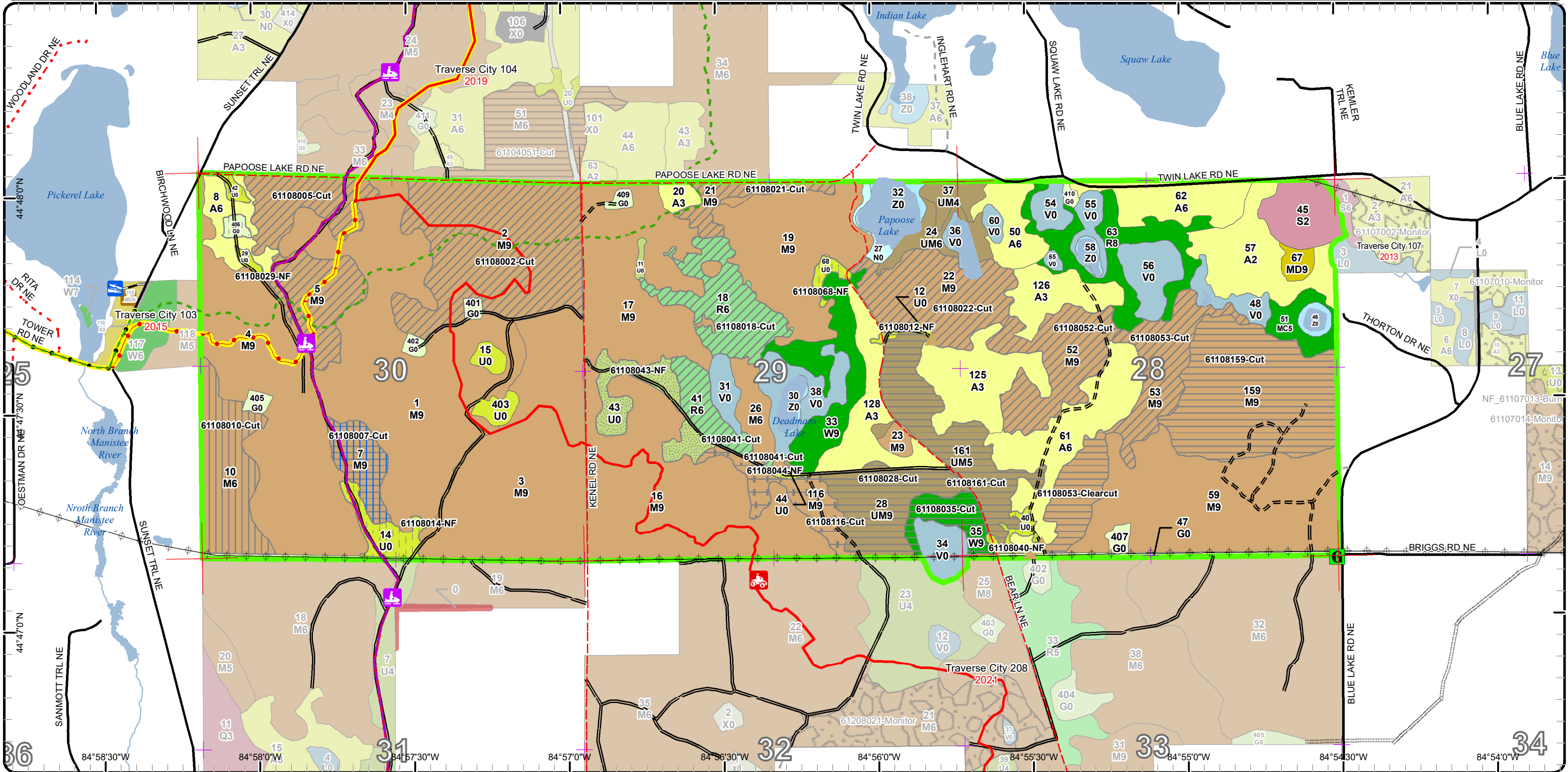
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 108
 T28N - 05W Sec. 29,30
 County: Kalkaska
 Unit: Traverse City
 Mgmt Area: Grayling Ice Contact
 YOE: 2020
 Acres: 1,933 GIS Calculated
 Examiner: Katie Armstrong
 Map Revised: 10/11/2018
 Map Phase: Post - Maps

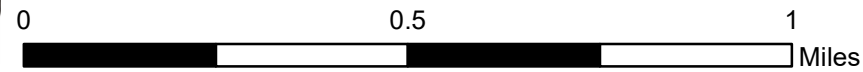


- Miris Corners
- + Remonumented Section Corners
- Counties
- DNR - Primary Forest Road
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
- ORV Trails
- Snowmobile Trails
- Designated Hiking Trails
- ORV License
- ORV License & Trail Permit
- Designated ATV Trails
- - - Designated ORV Route
- Designated Snowmobile Trails
- Michigan Cross Country Cycle Trail (MCCCT)
- ▲ Berms
- G Gate
- B Boating Access Site
- ▲ Campground
- Lake/Pond
- Perennial River
- Lakes and Rivers All
- Pipeline
- + Powerline
- Compartment Boundary
- Clearcut (w/Reserves)
- Harvest, Overstory Removal
- Seed Tree (w/Reserves)
- Thinning (Crown, Low, Systematic)
- Shelter Wood (w/Reserves)
- Opening Maintenance
- Mowing
- 411 - Northern Hardwood
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 430 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- Lakes

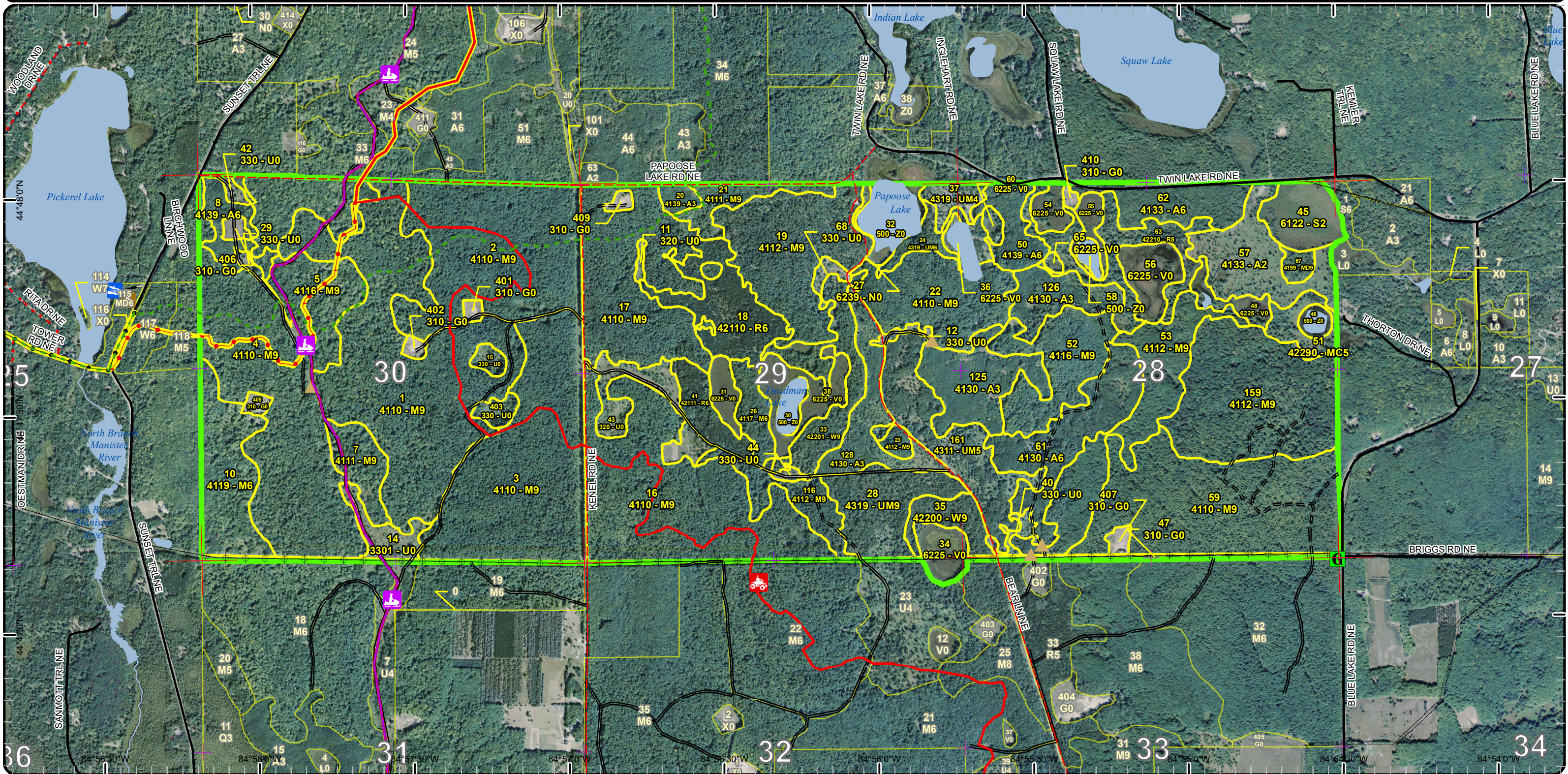


Stand Boundary Map

Compartment: 108
 T28N - 05W Sec. 29,30
 County: Kalkaska
 Unit: Traverse City
 Mgmt Area: Grayling Ice Contact
 YOE: 2020
 Acres: 1,933 GIS Calculated
 Examiner: Katie Armstrong
 Map Revised: 10/11/2018
 Map Phase: Post - Maps

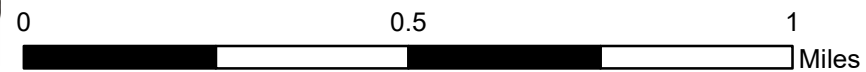


- Miris Corners
- + Remonumented Section Corners
- Counties
- DNR - Primary Forest Road
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
- ORV Trails
- Snowmobile Trails
- Designated Hiking Trails
- ORV License
- ORV License & Trail Permit
- Designated ATV Trails
- - - Designated ORV Route
- Designated Snowmobile Trails
- Michigan Cross Country Cycle Trail (MCCCT)
- ▲ Berms
- G Gate
- B Boating Access Site
- ▲ Campground
- Lake/Pond
- Perennial River
- Lakes and Rivers All
- Pipeline
- + Powerline
- Compartment Boundary
- Stand Boundaries
- 411 - Northern Hardwood
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 430 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland

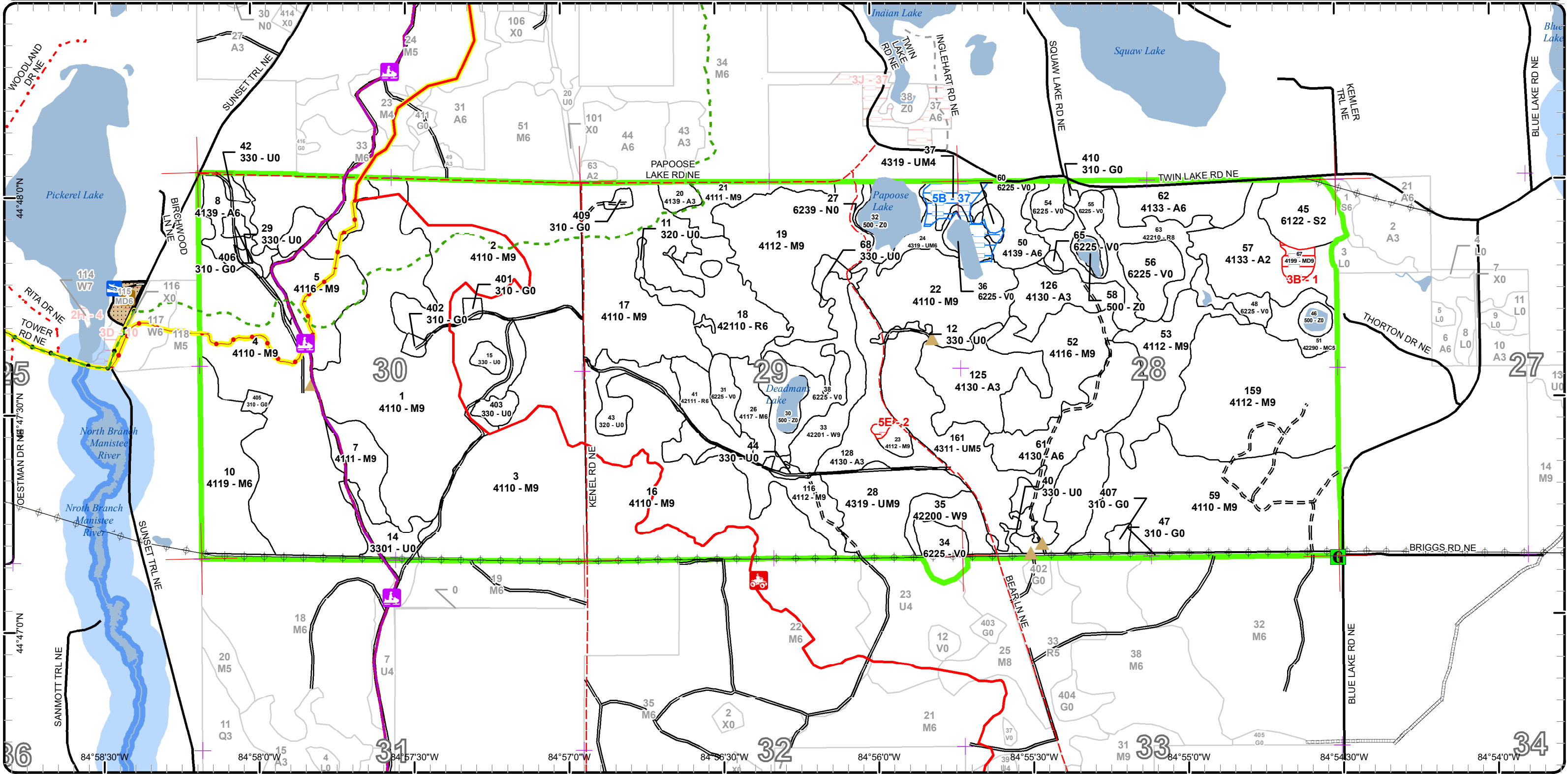


Special Conservation Areas & Site Conditions Map

Compartment: 108
 T28N - 05W Sec. 29,30
 County: Kalkaska
 Unit: Traverse City
 Mgmt Area: Grayling Ice Contact
 YOE: 2020
 Acres: 1,933 GIS Calculated
 Examiner: Katie Armstrong
 Map Revised: 10/11/2018
 Map Phase: Post - Maps



- Miris Corners
- + Remonumented Section Corners
- - - Counties
- == DNR - Primary Forest Road
- == DNR - Secondary Forest Road
- == DNR - Forest Access Route
- Federal / State / County - Paved Road
- . - . County - Gravel Road
- - - County - Dirt Road (Seasonal)
- - - Private - Dirt / Gravel Road
- 🚗 ORV Trails
- 🏂 Snowmobile Trails
- Designated Hiking Trails
- ORV License
- ORV License & Trail Permit
- Designated ATV Trails
- Designated ORV Route
- Designated Snowmobile Trails
- Michigan Cross Country Cycle Trail (MCCCT)
- ▲ Berms
- 🚪 Gate
- 🚤 Boating Access Site
- 🏕 Campground
- Lake/Pond
- Perennial River
- Lakes and Rivers All
- Pipeline
- ⚡ Powerline
- 🟩 Compartment Boundary
- 🟦 Available w/ Constraints
- 🔴 Unavailable
- 5B: Maintain for regeneration purposes
- 5E: Long-Term Retention
- 🟩 SCA
- 🟦 Natural Rivers Vegetative Buffer
- 🟦 Natural Rivers Zoning District
- 🟦 Cold Water Streams
- 🟦 Cold Water Lakes
- 🟦 State Forest Campground



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	37	87	0	87	16	0	0	0	0	0	0	0	0	0	0	0	0	226
Bog	82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	82
Herbaceous Openland	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29
Low-Density Trees	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34
Lowland Spruce/Fir	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	20
Marsh	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Mixed Upland Deciduous	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
Natural Mixed Pines	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	11
Northern Hardwood	0	0	0	0	0	13	0	52	654	375	0	0	0	0	0	0	0	156	1249
Red Pine	0	0	0	0	50	0	0	32	0	0	0	0	0	0	0	0	0	0	82
Upland Mixed Forest	0	0	0	0	45	0	0	8	0	34	12	0	0	0	0	0	0	0	99
Upland Shrub	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
Water	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
White Pine	0	0	0	0	0	0	0	0	0	0	31	0	13	0	0	0	0	0	44
Total	196	37	87	0	202	29	15	40	52	688	418	0	13	0	0	0	0	156	1931



Report 2 – Treatment Summary

Traverse City Mgt. Unit
Year of Entry: 2020

Acres of Harvest

Compartment 108
Total Compartment Acres: 1,933

Commercial Harvest - 618
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
Northern Hardwood	107	0	0	17	40	295	19	0	0	477
Red Pine	0	0	0	0	0	50	0	0	0	50
Upland Mixed Forest	78	0	0	0	0	0	0	0	0	78
White Pine	13	0	0	0	0	0	0	0	0	13
Total	198	0	0	17	40	344	19	0	0	618

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	618	0	0	0	0	0	0	48	0	666
Next Step	0	397	198	0	0	397	453	0	0	1445
Total	618	397	198	0	0	397	453	0	48	2111



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
2	61108002-Cut	102.5	4110 - Sugar Maple Association	Sawtimber Well	89	111-140	Harvest	Crown Thinning	411 - Northern Hardwood	Uneven-Aged	Approved Proposal

Habitat Cut: No

Site Condition:

Prescription Thin stand to 70-80 sf/acre. Create regen gaps where appropriate. Protect recreational trails with appropriate specs.

Specs:

Next Step
Treatments:

Acceptable Maple, cherry, basswood, oak, aspen.

Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

5	61108005-Cut	59.3	4116 - Mixed N. Hardwood - Aspen	Sawtimber Well	86	111-140	Harvest	Crown Thinning	4116 - Mixed N. Hardwood - Aspen	Uneven-Aged	Approved Proposal
---	--------------	------	----------------------------------	----------------	----	---------	---------	----------------	----------------------------------	-------------	-------------------

Habitat Cut: No

Site Condition:

Prescription Treatment will be variable. Remove all aspen, beech and ironwood. Thin hardwood areas. Residual BA will be lower than normal thinning in

Specs: some hardwood pockets. Create large regen gaps. Protect recreational trails with appropriate specs.

Next Step
Treatments:

Acceptable Sugar maple, red maple, aspen, basswood, cherry, oak.

Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

7	61108007-Cut	16.5	4111 - S.Maple, Hard Mast Association	Sawtimber Well	90	81-110	Harvest	Seed Tree	4199 - Other Mixed Upland Deciduous	Even-Aged	Approved Proposal
---	--------------	------	---------------------------------------	----------------	----	--------	---------	-----------	-------------------------------------	-----------	-------------------

Habitat Cut: No

Site Condition:

Prescription Stand quality does not warrant thinning but there is some desirable regen that should be released. Residual BA will be variable depending on

Specs: canopy, ranging from 0-30 sf/acre. Probably mark to leave, cutting merchantable saplings, except cut all beech and ironwood. Include appropriate protection specs for snowmobile trail.

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

Acceptable Hard maple, basswood, aspen, red oak, cherry.

Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

10	61108010-Cut	40.1	4119 - Mixed Northern Hardwoods	Poletimber Well	90	81-110	Harvest	Shelterwood	4199 - Other Mixed Upland Deciduous	Uneven-Aged	Approved Proposal
----	--------------	------	---------------------------------	-----------------	----	--------	---------	-------------	-------------------------------------	-------------	-------------------

Habitat Cut: No

Site Condition:

Prescription Treatment will be variable depending on canopy. The general goal is to remove trees that have reached merchantable value and release

Specs: desirable understory where present. Residual BA will be variable, 0-50 sf/acre.

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

Acceptable Maple, basswood, cherry, yellow birch, oak, aspen, white pine, red pine.

Regen:

Other North Country Trail was moved out of this stand but the old trail paint was not removed. No need to protect the trail.
Comment:

Proposed Start Date: 10/1 /2019



Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
12	61108012-NF	1.7	330 - Low-Density Trees	Nonstocked	0	Unspecified	NonForestMgt	Brush Cutting	320 - Upland Shrub		Approved Proposal

Habitat Cut: No

Site Condition:

Prescription Remove exotics as needed by herbiciding, or other methods. Seed in herbaceous vegetation appropriate for site location and seasonal (i.e. summer vs. winter forage) wildlife uses. May want/need to work around existing beneficial vegetation (i.e. blackberry, LBS). Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

14	61108014-NF	11.3	3301 - Low Density Deciduous Trees	Nonstocked		Unspecified	NonForestMgt	Brush Cutting	320 - Upland Shrub		Approved Proposal
----	-------------	------	------------------------------------	------------	--	-------------	--------------	---------------	--------------------	--	-------------------

Habitat Cut: No

Site Condition:

Prescription Selectively remove woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover.

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

Next Step
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

18	61108018-Cut	34.8	42110 - Planted Red Pine	Poetimber Well	39	201+	Harvest	Systematic Thinning	4211 - Planted Red Pine	Even-Aged	Approved Proposal
----	--------------	------	--------------------------	----------------	----	------	---------	---------------------	-------------------------	-----------	-------------------

Habitat Cut: No

Site Condition:

Prescription Third row thin red pine + trees < 4" in other rows. Cut cherry > 8" dbh.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

21	61108021-Cut	12.4	4111 - S.Maple, Hard Mast Association	Sawtimber Well	78	141-170	Harvest	Crown Thinning	411 - Northern Hardwood	Uneven-Aged	Approved Proposal
----	--------------	------	---------------------------------------	----------------	----	---------	---------	----------------	-------------------------	-------------	-------------------

Habitat Cut: No

Site Condition:

Prescription Thin stand to average residual of 70-80 sf/acre, removing all beech except wildlife trees and/or potentially resistant trees. Treatment area may be larger in south-central part of stand to follow edge of old sale, which is currently mapped incorrectly in mifi but not editable.

Next Step
Treatments:

Acceptable
Regen:

Other Protect recreational trail along west edge.

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
22	61108022-Cut	47.8	4110 - Sugar Maple Association	Sawtimber Well	90	111-140	Harvest	Crown Thinning	411 - Northern Hardwood	Uneven-Aged	Approved Proposal

Habitat Cut: No

Site Condition:

Prescription Thin stand to 70-80 sf/acre, removing all aspen, beech and ironwood. Remove most oak, depending on vigor. Create large gaps over desirable regen. Leave a heavier screen along lake and bogs.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

28	61108028-Cut	34.0	4319 - Mixed Upland Forest	Sawtimber Well	80	111-140	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Approved Proposal
----	--------------	------	----------------------------	----------------	----	---------	---------	-------------------------	-------------------------	-----------	-------------------

Habitat Cut: No

Site Condition:

Prescription Clearcut, leaving retention as clump of white pine at edge where it will not interfere with cultivation work and/or the part north of road.

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

Acceptable Fully stocked red pine stand with scattered white pine volunteers.
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

29	61108029-NF	1.6	330 - Low-Density Trees	Nonstocked	0	Unspecified	NonForestMgt	Herbaceous/Crop /Grass Planting	320 - Upland Shrub		Approved Proposal
----	-------------	-----	-------------------------	------------	---	-------------	--------------	---------------------------------	--------------------	--	-------------------

Habitat Cut: No

Site Condition:

Prescription Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment.

Next Step
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.
Comment:

Proposed Start Date: 10/1 /2019

35	61108035-Cut	13.4	42200 - Natural White Pine	Sawtimber Well	114	111-140	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Approved Proposal
----	--------------	------	----------------------------	----------------	-----	---------	---------	-------------------------	-------------------------	-----------	-------------------

Habitat Cut: No

Site Condition:

Prescription Clearcut leaving retention around bog or clumps of white pine at edge. Leave a minimum of one chain buffer around bog but also try to preserve some of the healthier white pine clumps near the edge.

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

Acceptable Fully stocked red pine stand with scattered white pine volunteers.
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
40	61108040-NF	3.9	330 - Low-Density Trees	Nonstocked	40	1-50	NonForestMgt	Brush Cutting	320 - Upland Shrub		Approved Proposal

Habitat Cut: No

Site Condition:

Prescription Remove exotics as needed by herbiciding, or other methods. Seed in herbaceous vegetation appropriate for site location and seasonal (i.e. summer vs. winter forage) wildlife uses. May want/need to work around existing beneficial vegetation (i.e. blackberry, LBS). Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

41	61108041-Cut	14.9	42111 - Planted Red Pine, Mixed Deciduous	Poletimber Well	39	201+	Harvest	Systematic Thinning	4211 - Planted Red Pine	Even-Aged	Approved Proposal
----	--------------	------	-------------------------------------------	-----------------	----	------	---------	---------------------	-------------------------	-----------	-------------------

Habitat Cut: No

Site Condition:

Prescription Third row thin red pine + trees < 4" in other rows. Cut cherry > 8" dbh. Exclude hardwood/aspen areas.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

42	61108042-NF	2.3	330 - Low-Density Trees	Nonstocked	0	Unspec ified	NonForestMgt	Herbaceous/Crop /Grass Planting	310 - Herbaceous Openland		Approved Proposal
----	-------------	-----	-------------------------	------------	---	--------------	--------------	---------------------------------	---------------------------	--	-------------------

Habitat Cut: No

Site Condition:

Prescription Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment.

Next Step
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

43	61108043-NF	20.1	320 - Upland Shrub	Nonstocked		Unspec ified	NonForestMgt	Mowing	320 - Upland Shrub		Approved Proposal
----	-------------	------	--------------------	------------	--	--------------	--------------	--------	--------------------	--	-------------------

Habitat Cut: No

Site Condition:

Prescription Selectively remove woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover.
Specs: Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment.

Next Step
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



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
44	61108044-NF	1.6	330 - Low-Density Trees	Nonstocked		Unspecified	NonForestMgt	Mowing	320 - Upland Shrub		Approved Proposal

Habitat Cut: No

Site Condition:

Prescription Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment.

Specs:

Next Step
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

52	61108052-Cut	40.1	4116 - Mixed N. Hardwood - Aspen	Sawtimber Well	80	111-140	Harvest	Crown Thinning	4116 - Mixed N. Hardwood - Aspen	Uneven-Aged	Approved Proposal
----	--------------	------	----------------------------------	----------------	----	---------	---------	----------------	----------------------------------	-------------	-------------------

Habitat Cut: No

Site Condition:

Prescription Thin maple areas that would benefit from it, focusing on removing high risk trees and opening up around crop trees. Remove all aspen, ironwood and beech (except for potentially BBD-resistant trees). Target residual BA is 70-80 but will be lower in areas with higher aspen. Create some large canopy gaps to encourage recruitment of desirable species. May be able to extend boundary into hardwood pockets within adjacent stand to the south and east.

Next Step
Treatments:

Acceptable Sugar maple, red maple, black cherry, basswood, aspen.
Regen:

Other Treatment boundary may need to be adjusted on north side for stick nest in Stand 126.
Comment:

Proposed Start Date: 10/1 /2019

53	61108053-Clearcut	19.9	4112 - Maple, Beech, Cherry Association	Sawtimber Well	75	111-140	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Approved Proposal
----	-------------------	------	-----------------------------------------	----------------	----	---------	---------	----------	-------------------------	-----------	-------------------

Habitat Cut: No

Site Condition:

Prescription This is approximately the part of the stand with poor quality timber and beech/ironwood regeneration issues. Consider planting red pine.
Specs: Treatment boundary may need to be adjusted based on terrain and/or canopy composition.

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

Acceptable Planted red pine.
Regen:

Other No retention in this part since other part of stand will be partial cut.
Comment:

Proposed Start Date: 10/1 /2019

53	61108053-Cut	32.4	4112 - Maple, Beech, Cherry Association	Sawtimber Well	75	111-140	Harvest	Crown Thinning	4116 - Mixed N. Hardwood - Aspen	Uneven-Aged	Approved Proposal
----	--------------	------	-----------------------------------------	----------------	----	---------	---------	----------------	----------------------------------	-------------	-------------------

Habitat Cut: No

Site Condition:

Prescription This is the part of the stand with better quality sugar maple and more potential for crop tree development. Remove all aspen, beech, and ironwood and thin maple areas. Residual BA will be variable. Treatment boundary/Cover Type Objective may need to be adjusted depending on terrain and/or canopy composition.

Next Step
Treatments:

Acceptable Maple, basswood, cherry, birch, aspen.
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
68 61108068-NF	3.2	330 - Low-Density Trees	Nonstocked		1-50	NonForestMgt	Brush Cutting	320 - Upland Shrub		Approved Proposal

Habitat Cut: No

Site Condition:

Prescription Remove exotics as needed by herbiciding, or other methods. Seed in herbaceous vegetation appropriate for site location and seasonal (i.e. summer vs. winter forage) wildlife uses. May want/need to work around existing beneficial vegetation (i.e. blackberry, LBS). Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

116 61108116-Cut	18.8	4112 - Maple, Beech, Cherry Association	Sawtimber Well	89	81-110	Harvest	Overstory Removal	411 - Northern Hardwood	Uneven-Aged	Approved Proposal
------------------	------	-----------------------------------------	----------------	----	--------	---------	-------------------	-------------------------	-------------	-------------------

Habitat Cut: No

Site Condition:

Prescription Remove overstory, especially declining cherry and poor form white pine, to release available advanced regeneration. Leave scattered trees as seed. Treatment in western part of stand may have higher residual and/or be marked to cut.

Next Step
Treatments:

Acceptable Mix of hardwood species plus scattered white pine.
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

159 61108159-Cut	86.8	4112 - Maple, Beech, Cherry Association	Sawtimber Well	91	81-110	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Approved Proposal
------------------	------	-----------------------------------------	----------------	----	--------	---------	-------------------------	-------------------------	-----------	-------------------

Habitat Cut: No

Site Condition:

Prescription This is the part of the stand with more mortality, lesser tree quality and significantly more undesirable advanced regeneration. Per 2017 red pine guidance, consider planting red pine here with understanding that it will eventually return to a hardwood site. Leave retention in areas of higher quality canopy and/or at edges of lakes/bogs if it will not interfere with cultivation work. Terrain may present challenges. Treatment boundary will need to be adjusted in the field.

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

Acceptable FTG red pine.
Regen:

Other
Comment:

Proposed Start Date: 10/1 /2019

161 61108161-Cut	44.2	4311 - Pine, Aspen Mix	Poletimber Medium	37	1-50	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Approved Proposal
------------------	------	------------------------	-------------------	----	------	---------	-------------------------	-------------------------	-----------	-------------------

Habitat Cut: No

Site Condition:

Prescription Clearcut, leaving retention as white pine on west side of road (already removed from treatment shape). Plant red pine, including full suite of cultivation options.

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

Acceptable Fully stocked red pine stand.
Regen:

Other Island Lake Sand. Kotar PARVVb/AFO.
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
406	61108406-NF	2.4	310 - Herbaceous Openland	Nonstocked		Unspec ified	NonForestMgt	Herbaceous/Crop /Grass Planting	310 - Herbaceous Openland		Approved Proposal

Habitat Cut: No

Site Condition:

Prescription Degraded old well site. Treat site to remove exotics. Then reseed to site appropriate native grasses for wildlife food and cover. Consider also
Specs: seeding in native forbs.

Next Step
Treatments:

Acceptable
Regen:

Other Probably start by seeding heavy with rye to help remove SKW.

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

**Total Treatment
Acreage Proposed: 666.0**

Report 4 – Site Conditions

Traverse City Mgt. Unit
Katie Armstrong : Examiner

Compartment: 108
Year of Entry: 2020

Availability for Management

Total Acres	Acres Available	Acres Available With Condition	Acres Not Available	Dominant Site Conditions		
Acres	Available	With Condition	Not Available	5B	3B	5E
227	211	16	0	Aspen	16	
81	75	6	0	Bog	6	
29	29	0	0	Herbaceous Openland		
34	34	0	0	Low-Density Trees		
20	20	0	0	Lowland Spruce/Fir		
3	3	0	0	Marsh		
4	0	0	4	Mixed Upland Deciduous		4
11	11	0	0	Natural Mixed Pines		
1250	1249	1	0	Northern Hardwood	1	
82	82	0	0	Red Pine		
99	85	14	1	Upland Mixed Forest	14	1
21	21	0	0	Upland Shrub		
27	12	15	0	Water	15	
44	44	0	0	White Pine		
1,933	1,877	51	5	Total Forested Acres	51	4 1
	97%	3%	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	Unavailable	3B: Threatened, endangered, and special concern species	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Traverse City Mgt. Unit
Katie Armstrong : Examiner

Compartment: 108
Year of Entry: 2020

37	Available	5B: Maintain for regeneration purposes	14	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Mgt. Unit

Compartment: #Type!

Year of Entry:



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

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

SCA Name	SCA Category	Detail Type	Recommendation	Acres
----------	--------------	-------------	----------------	-------

Comments



Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

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

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

Conservation Area	Type	Description
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4110 - Sugar Maple Association	Sawtimber Well	155.3	89	81-110	Thinned in 2012 as Last Flush Hardwoods, 61-003-10-01. Variable stand. Mostly good quality hard maple, with some areas of relatively large logs. Other areas are mostly poles. Average residual is 84 sf/acre. Regen is mostly beech and ironwood with some raspberry. Scattered ash saplings.
2	4110 - Sugar Maple Association	Sawtimber Well	102.5	89	111-140	Good quality sugar maple. Some areas are all logs but others are mostly small poles. TSI done in 1979. Part of Papoose Hardwoods, 61-046-03-01, completed July 2004. Average BA 134 sf/acre. North Country Trail and the Kalkaska ORV trail go through stand.
3	4110 - Sugar Maple Association	Sawtimber Well	115.7	90	81-110	Some very nice maple. Some areas have all large logs with no poles or larger saplings. Other areas are mostly poles or borderline sap/poles. Mostly open understory but there are areas where beech and ironwood are heavy. Would have regen concerns. Current average BA is 103 sf/acre, but there is a wide spread between plots. Some are 110-140 and others are 70-90. Contains some dead ash and a few pockets of ash regen. Stand was thinned in 2005 as Kenel Road West Hardwoods, timber sale #61-010-03-01. Stand was marked, tallied and cruised under contract by consultant forester Hilton Muntz. Residual BA determined by the cruise of 63 points prior to harvest, averaged 67 square feet. Cut by Timberline. TSI done in 1966 & 1979. Kalkaska ORV Trail goes through stand.
4	4110 - Sugar Maple Association	Sawtimber Well	116.2	88	81-110	Thinned fall 2011 to winter 2012, Hikers and Bikers Hardwoods, 61-002-10-01. Average residual 85 sf/acre. Mediocre to good quality hardwoods, still a fair number of clumpy trees. Surprising amount of ash regen. Heavy beech regen in gaps and medium beech/ironwood throughout. Lesser quality at SW corner. Rolling hills.
5	4116 - Mixed N. Hardwood - Aspen	Sawtimber Well	59.3	86	111-140	Variable stand. Some nice quality maple but not much opportunity to improve by marking. Understory is heavy to ironwood and beech but there are some pockets of nice maple. Average BA is 134 sf/acre. Some pockets of large aspen.
7	4111 - S.Maple, Hard Mast Association	Sawtimber Well	16.5	90	81-110	Variable stand but generally fair to poor quality hardwoods. Most canopy trees are relatively large diameter with many clumpy trees. Moderate beech and ironwood in the understory. There are some areas with decent maple regen, 1-3" diameter and 20'+ tall. Some quaking aspen at the south end and decent regen along edges.
8	4139 - Aspen, Mixed Deciduous	Poletimber Well	14.1	37	51-80	Habitat cut in 1981. Stand is variable but generally mediocre aspen with heavy understory of ironwood and some maple. Good canopy diversity with some decent maple and oak. Some areas are not merchantable but aspen is falling/dying out and may not regenerate well if not cut soon. Average BA is 80 sf/acre.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
10	4119 - Mixed Northern Hardwoods	Poletimber Well	40.1	90	81-110	Variable stand. Previous stand examiner did not look at it. Mediocre hardwoods with lots of clumps. Some areas of decent maple or aspen. Average BA is 97 sf/acre but lower to the north. Regen is patchy. Some areas of heavy beech/ironwood but there are a few pockets of maple 6-10' tall. Northern part of stand is more open with a random clump of red pine SW of old well pad. Rolling hills.
16	4110 - Sugar Maple Association	Sawtimber Well	114.3	89	81-110	Good quality hard maple. Scattered individual tree mortality. Heavy blackberry in some areas. At least one large canopy gap in SE corner with decent cherry and some maple. Some fringes may have been omitted from sale or not marked, will need TSI next time. Average BA 95 sf/acre, or 80 (when a few outliers are included). TSI done in 1979. Kenel Road East Hardwoods, 61-012-03-01. Marked and cruised by contract. Cut by Timberline, 2007-08. Average residual 80 sf/acre (details in sale file). ORV trail runs through stand and is poorly signed.
17	4110 - Sugar Maple Association	Sawtimber Well	80.5	89	81-110	Thinned in 2010-11 as Early Spring Hardwoods, 61-033-10-01. Average residual 78 sf/acre. Current average BA is 81 sf/acre. Some areas are lower. Fair amount of blowdown. Overall some nice quality sugar maple. Some areas are just logs but others have a fair amount of 2-4" maple. Beech and ironwood regeneration issues. Some areas are full of raspberry in the understory. North Country Trail runs through the stand. A sour gas pipeline is located in the stand.
18	42110 - Planted Red Pine	Poletimber Well	35.0	39	201+	Red pine planted 7x10 in fall of 1981. Cherry removed to release pine in 1982. Scattered large cherry and open pockets. Pine is mediocre quality, some defect and very limby. DBH 5-12", 3-4 sticks. Still worth thinning. Average BA 207 sf/acre. Rows are definitely wide enough and relatively easy to follow except where they skip across gaps.
19	4112 - Maple, Beech, Cherry Association	Sawtimber Well	65.5	83	51-80	Thinned 2/2012-12/2012 as Lakeside Hardwoods, 61-016-10-01. Average BA after sale was 80 sf acre. Later damaged by windstorm in August 2015. Salvaged some wood in Lakeside Hardwoods Salvage, 61-161-15-01 but contract was not completed. Salvage specs were to cut trees leaning > 30 degrees and marked, damaged trees. Did not spend much time in this stand, but there is not enough value to chase again at this time. Heavy browse on maple stump sprouts. Roads opened for salvage sale will need to be closed.
20	4139 - Aspen, Mixed Deciduous	Sapling Well	4.6	12	Immature	Part of North Country Sale, 074-04-01. Stand converted to aspen. North Country Trail along south and east sides.
21	4111 - S.Maple, Hard Mast Association	Sawtimber Well	13.5	78	141-170	Aspen was removed commercially during spring 2006 as part of North Country timber sale 61-074-04-01. Previous comments suggested stand would convert to aspen but I think that only applies to part west of NCT. Decent hardwood on this side including a fair amount of beech and very large red maple that should come out. Average BA ~150 sf/acre. Southern end of stand is lesser quality with more open areas. There is a ridge between two depressions, one of which might hold water at certain times of the year. Had old, burned pine stumps. Stand will have beech and ironwood regeneration issues.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
22	4110 - Sugar Maple Association	Sawtimber Well	47.8	90	111-140	Stand was thinned as part of sale Papoose Lake Hardwoods, 61-006-04-01, cut fall 2005. Some areas marked but not cut. Scattered blowdown. More oak than typical and much of it is large-crowned and/or dying (especially eastern part of stand). Hemlock in understory along lake edge. Fairly good quality hard maple. Some pockets of cherry regen 5-10' tall. Average BA 135 sf/acre. Could use a thinning.
23	4112 - Maple, Beech, Cherry Association	Sawtimber Well	3.6	83	111-140	Thinned as part of Papoose Lake Hardwood sale, 61-006-04-01, cut fall 2005. Small hardwood stand on elevated knob. Fair amount of blowdown along northwest edge. Trace of elm in canopy. Could use a thinning if we are treating something nearby. Average BA 125 sf/acre.
24	4319 - Mixed Upland Forest	Poletimber Well	12.2	93	81-110	Slope at southeast end of Papoose Lake and conifer cover between 2 wet areas. Unusual amount of hemlock, especially a relatively dense midstory (2-5" dbh and 20-50' tall), in western part. Variable stand with more pine in eastern lobe. Some deciduous species were removed from part of eastern lobe as part of Pothole Aspen.
26	4117 - Mixed N. Hardwood - Pine	Poletimber Well	13.3	48	111-140	Poor to mediocre quality hardwoods. Mostly multi-stem red maple with scattered smaller diameter hard maple. More white pine along western/northern edges. Average BA is 117 sf/acre. Little to no understory. There might be an ephemeral drain between the two bogs in northern third of stand.
28	4319 - Mixed Upland Forest	Sawtimber Well	34.0	80	111-140	White pine of various diameters, including some very large trees. Some large diameter cherry. White pine was hit by weevil so most have multiple tops. White pine and cherry seem to be dying out. Average BA is 120 sf/acre. Understory is sapling to small pole size. Variable stand with slightly more deciduous at the western end. Semi-open area in south central part. At least one seasonally wet depression.
33	42201 - Natural White Pine, Mixed Deciduous	Sawtimber Well	30.6	90	81-110	Variable stand. Clumps of supercanopy white pine, with scattered mortality and weeviled tops. Understory alternates between smaller white pine and more deciduous clumps. Hardwood removed ~1981. Average BA is 96 sf/acre. Used to have more hemlock but a lot has died or is in decline. Significant porcupine activity. Scattered seasonal wet areas or pothole depressions. Old, cut white pine stumps.
35	42200 - Natural White Pine	Sawtimber Well	13.4	114	111-140	More clumps of older, larger white pines and less deciduous but otherwise not much different from stand 28. Most white pine has multiple tops and much is dying out. Not much for desirable understory. Wetter around bog and may have other isolated, wet areas.
37	4319 - Mixed Upland Forest	Poletimber Poor	8.1	60	1-50	Pothole Aspen, 61-031-10-01, harvested in 2013, leaving about 10-20 sf/ac of birch, white pine and hemlock were left as residual. Also left all oak, beech, red pine and white pine < 6" dbh. Did not see much regen other than scattered red maple stump sprouts, a few aspen clumps and beech. Might need more time.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
41	42111 - Planted Red Pine, Mixed Deciduous	Poletimber Well	14.9	39	201+	Red pine planted 7x10 in fall of 1981. Cherry removed to release pine in 1982. Now 2-3 stick trees with some log size. Moderate quality but minimal defect. Try thinning. Scattered areas of failed plantation with pole to log sized hardwoods.
45	6122 - Black Spruce	Sapling Medium	20.4	38	Unspecified	Stand is forested in places and more of a treed bog in others. Tag alder in places. Some larger trees dead in the middle.
50	4139 - Aspen, Mixed Deciduous	Poletimber Well	15.8	45	111-140	Clearcut 1973. Originally more hardwood than aspen so it has more diversity than typical aspen stand. Could probably hold 10 years.
51	42290 - Natural Mixed Pine	Poletimber Medium	10.7	51	1-50	Open grown white pine. Clump of jack pine north of pond.
52	4116 - Mixed N. Hardwood - Aspen	Sawtimber Well	40.1	80	111-140	Fair to good quality hardwoods with a fair amount of aspen scattered throughout. Technically a log stand but the north end is mostly poles that could be thinned. Southern end has more aspen and more high risk, large diameter trees. Some gaps are full of ironwood, > 20' tall. Understory is variable but beech and ironwood is heavy in places. Average BA is 132 sf/acre.
53	4112 - Maple, Beech, Cherry Association	Sawtimber Well	52.3	75	111-140	Variable stand. Quality generally improves from south to north. Southern part is small hard maple, beech and clumpy red maple. More, larger hard maple in the north. Some parts have relatively tall red maple sub canopy. Aspen should be removed, but not worth marking the rest. Average BA is 111 sf/acre. Small depression/opening in northern third.
57	4133 - Aspen, Mixed Pine	Sapling Medium	37.1	5	Immature	Stand was cut as Pothole Aspen, 61-031-13-01, cut everything except for green trees, oak, beech, red pine, and white pine < 6" dbh. Stand definitely has all 3 size classes in canopy. Mostly aspen (1-6' tall) and maple regen with a decent amount of white pine and birch in overstory. Heavy browse on regen. Regen is patchy; the whole stand has not filled in yet. Wet at edges. Scattered wet areas/depressions.
59	4110 - Sugar Maple Association	Sawtimber Well	107.9	91	51-80	TSI 1979. This stand and stand to the north were both thinned as part of Poplar Lake Hardwood, 61-11-03-01, cut 2008. Marked and cruised by contract, residual BA 73.5 sf/acre. This part is almost pure maple of very nice quality. Understory is almost all blackberry/raspberry with a few pockets of maple or cherry. Current average BA is 76 sf/acre. Dividing line is approximate and western side is lesser quality. Cruised and marked by contract. Residual BA 73.5 sf/ac. residual BA in sale file.
61	4130 - Aspen	Poletimber Well	45.9	37	81-110	Split from stand 161 since there is more aspen regeneration on this part, following a hydroaxe habitat cut that was done in 1981. Stand is variable but regeneration was generally acceptable. Aspen quality varies from poor quaking to nicer bigtooth. Some semi-open areas exist. Average BA is 98 sf/acre. Scattered white pine (especially at south end) and hardwood species. Continue to manage as aspen stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
62	4133 - Aspen, Mixed Pine	Poletimber Well	26.5	38	51-80	Clearcut in 1981. Variable stand. Aspen seems larger along the road edge. A few clumps of nicer big tooth. Most aspen too small to cut. Hold at least 10 years. Some large, old white pine stumps. Might have a few wet spots.
63	42210 - Natural Red Pine	Sawtimber Medium	31.7	61	111-140	Variable stand. Some areas of dense pine gradually fade into more open areas. Some large, old pine stumps. BAs within dense areas: RP 130, PB 20, WP 10, RO 10 (170); RP 110, WP 10, RO 20 (140). Small wet area at south end, which was too small to map.
67	4199 - Other Mixed Upland Deciduous	Sawtimber Well	4.3	51	81-110	Retention left for rare species.
116	4112 - Maple, Beech, Cherry Association	Sawtimber Well	18.9	89	81-110	Variable stand. East half is declining cherry of relatively large size and scattered white pine, many with weeviled tops. Surprising amount of hard maple regeneration in places. Stand used to have hemlock. Western half is more of a traditional hardwood stand with broader species mix, but was not treated with adjacent sale. More open-grown trees.
125	4130 - Aspen	Sapling Well	34.5	14	Immature	Papoose Aspen, 61-066-03-01, cut Summer 2004. Left scattered overstory beech, white pine and other species. Good stem density.
126	4130 - Aspen	Sapling Well	20.4	14	Immature	Papoose Aspen, 61-066-03-01, cut Summer 2004. Left scattered overstory beech, white pine and other species, heavier at east end and south central parts of stand. Good stem density.
128	4130 - Aspen	Sapling Well	27.8	14	Immature	Clearcut as part of Papoose Aspen, 61-066-03-01, completed summer 2004. Regen seems variable: dense in western and northern parts of stand, more open in central and eastern corner. Some residual white pine and cherry.
159	4112 - Maple, Beech, Cherry Association	Sawtimber Well	86.8	91	81-110	This stand and stand to the south were both thinned as part of Poplar Lake Hardwood, 61-11-03-01, cut 2008. Marked and cruised by contract, residual BA 73.5 sf/acre. This part is much more variable and lesser quality. Clumpy red maple and beech. Heavy scale on the beech. Average BA is 108 sf/acre. Understory is variable but generally heavy to beech and/or ironwood. Scattered mortality/blowdown including a relatively large gap in south central part of stand. Southern boundary is estimated since it does not show up on photo. Same approximate line shows up on 1980 comp map. Part was thinned in 1980.
161	4311 - Pine, Aspen Mix	Poletimber Medium	45.2	37	1-50	Split from stand 61. Both were treated with hydroaxe habitat cut in 1981, but there is less aspen on this side. Mostly open-grown, limby white pine with some aspen and north end. Both species are poor quality and significant open areas exist. Stand does not show much potential. West of road is a small pocket of larger, older white pine around a depression. This will be excluded from treatment.



Stand	Cover Type	Acres	Managed Site	General Comments:
11	320 - Upland Shrub	1.3	No	
12	330 - Low-Density Trees	2.1	No	
14	3301 - Low Density Deciduous Tree	11.3	No	Mostly cherry (4-6" dbh) with scattered other species. Almost more than 25% canopy cover. Rolling hills with a depression at the south end.
15	330 - Low-Density Trees	3.6	No	Small depression with scattered cherry and a few white pine at south edge. WLD-Frost pocket. Should be self maintaining.
27	6239 - Mixed Emergent Wetland	3.2	No	
29	330 - Low-Density Trees	1.6	No	Appears to have been cleared and flattened for oil/gas activity but I did not see any. Filling in with scattered trees and a clump of aspen.
30	500 - Water	5.0	No	Deadman's Lake
31	6225 - Bog	7.3	No	Wet bog area that holds water during most years. Leatherleaf and scattered trees.
32	500 - Water	14.6	No	Papoose Lake.
34	6225 - Bog	11.3	No	Leatherleaf bog.
36	6225 - Bog	4.0	No	Pothole area with steep banks around perimeter.
38	6225 - Bog	18.3	No	Leatherleaf bog that wraps around the perimeter of the Deadman's Lake.
40	330 - Low-Density Trees	3.9	No	Scattered cherry, aspen and white pine.
42	330 - Low-Density Trees	2.3	No	Small opening with scattered cherry and white pine.
43	320 - Upland Shrub	20.1	No	Open area with shrubby and other shrubs. Sour gas pipeline runs through the stand. Depression and old well site in southern end.
44	330 - Low-Density Trees	1.6	No	Open area with Cherry and other shrubs.
46	500 - Water	4.0	No	Poplar Lake



Stand	Cover Type	Acres	Managed Site	General Comments:
47	310 - Herbaceous Openland	15.3	No	Overhead powerline.
48	6225 - Bog	8.1	No	
54	6225 - Bog	6.6	No	Bog. Treed peninsula in south end.
55	6225 - Bog	6.6	No	Leatherleaf bog pothole with some marsh grass. Steep banks around the perimeter of the pothole lake.
56	6225 - Bog	15.4	No	Small island of pine in the middle of a lowland area.
58	500 - Water	3.0	No	Small pothole lake surrounded by leatherleaf bog with steep banks. Has had beaver activity in the past.
60	6225 - Bog	2.6	No	Small depression with steep banks. Marsh or bog.
65	6225 - Bog	1.3	No	
68	330 - Low-Density Trees	3.2	No	Open area with scattered cherry and limby white pine.
401	310 - Herbaceous Openland	1.7	No	Active site. Some equipment, valves and a sour gas pipeline lead to/from this site.
402	310 - Herbaceous Openland	1.9	No	Active site. Some equipment, valves and a sour gas pipeline lead to/from this site.
403	330 - Low-Density Trees	4.6	No	Small depression with scattered cherry. WLD-Frost pocket. Should be self maintaining.
405	310 - Herbaceous Openland	2.3	No	Abandoned well site.
406	310 - Herbaceous Openland	2.4	No	Abandoned well site.
407	310 - Herbaceous Openland	2.6	No	Abandoned well site?
409	310 - Herbaceous Openland	1.9	No	Active site with valves and pipelines. Old powerline at south side. Merit Energy. Knapweed.
410	310 - Herbaceous Openland	1.3	No	Well site equipment and activity. Possibly some contamination since monitoring or test wells appear to be scattered about the perimeter. Site is gated but gate is open and needs to be closed/locked.