

# **Compartment Review Presentation**

**Traverse City Forest Management Unit** 

Compartment 61008

Entry Year 2020

Acreage: 2,777

County Benzie

Management Area: Benzie Moraines

Revision Date: 2018-03-26

Stand Examiner: Tim Webb

**Legal Description:** 

T27N R14W Sections 22, 23, 26, 27, 34, and 35

## **Identified Planning Goals:**

Compartment 8 is part of the Benzie Moraines management area (MA) under the Regional State Forest Management Plan. Vegetative management in the MA will produce various forest products; maintain or enhance biodiversity conservation and wildlife habitat; protect areas of unique character and threatened, endangered and special concern species; provide for forest-based recreational uses; and Native American non-commercial use of forest products. Timber management for this 10-year planning period includes improving the age-class structure of aspen and red pine and continued selection harvesting in high-quality northern hardwoods to achieve an all-age structure. Wildlife management objectives include increasing the structural complexity of northern hardwood communities for interior forest species and perpetuating early-successional communities for species adapted to young forests.

Beyond these general MA plan directions, compartment 8 in particular contains a large acreage of maturing, planted white pine. These plantations offer long-term opportunities for uneven-aged, late successional, mixed pine-hardwood forest. Initial thinnings can begin moving these stands in that direction. Limited parts of these plantations offer opportunities for conversion to early-successional aspen-dominated forest, while some of the lower quality aspen stands with advanced understory regeneration might best be allowed to succeed naturally to white pine or northern hardwood cover.

A large, semi-open area of sparse timber and upland shrubs in sections 23 and 26 will be maintained using fire. A previous uncompleted burn prescription for that area is planned for completion in early 2018, with the potential for rotational periodic maintenance burns in future years.

#### Soil and topography:

The compartment contains primarily Benzonia, Kaleva, and Grattan sands, with inclusions of muck soils in wetlands and drainages. Most of the compartment falls within an outwash plain landscape, with flat to somewhat hilly terrain. A band along the western side of the compartment and parts of the northeast and southeast corners are on moraine landscapes with rolling to hilly terrain.

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

Compartment 8 is part of a fairly large, contiguous block of state forest land in northern Benzie County. The south 1/3 of the compartment and the northwest corner contain some rural residential parcels and private, undeveloped forest lands. There are also some active farmlands and a 150 acre tract of county forest land in the south end. Private parcels in and around the compartment are relatively large, most being 20 acres or more and in forest cover.

# **Unique Natural Features:**

Upper reaches of the North Branch of the Platte River originate within the compartment, although not on state lands. Springs and seeps feeding these tributaries are potential habitat for Michigan monkey flower, an endangered species.

# Archeological, Historical, and Cultural Features:

There are no specifically listed features in this compartment. Numerous pine plantations likely reflect abandoned, early 20th century farms. An old railroad grade runs through the northwest part of the compartment.

### **Special Management Designations or Considerations:**

Stand 125, seed tree harvested in early 2018, is part of a MSU hardwood regeneration research project. Small parts of two other stands (27 & 82) are also being monitored for hardwood regeneration by MSU researchers.

#### **Watershed and Fisheries Considerations:**

This compartment contains a variety of unique and critical Platte River watershed components as described in the Unique, Natural Features section. Therefore, conformance with all the Best Management Practices listed in the publication Water Quality Management Practices on Forest Land is necessary.

#### Wildlife Habitat Considerations:

State land in this compartment is situated predominately on glacial outwash plains of dry sandy soils, which is part of the Benzie Moraines Management Area of the Regional State Forest Management Plan. Featured species associated with habitats found within this MA include marten, woodcock, bear, black throated blue warbler, pileated woodpecker, redshouldered hawk, ruffed grouse, turkey, deer, and wood thrush.

Wildfires were a common phenomenon on these dry soils and represent an important natural disturbance. These fires created and sustained a variety of fire driven communities; however, parts of this landscape were at times shielded from fire to a degree. Consequently, some management for successionally advanced hardwood/white pine stands is fitting to this compartment. Hardwood treatments should maintain age and tree species diversity within the stand and over this landscape, and include the retention of mature mast producing trees and the protection of den, cavity, and downed trees. Many wildlife species, including broad-winged hawks, wild turkeys, southern flying squirrels, eastern gray squirrels, and Baltimore orioles, are associated with these forest types.

This compartment also has a history of aspen cutting. Such early successional management is appropriate and should be continued in this area. Additional aspen harvests scheduled this inventory cycle will increase age class diversity. The incorporation of snags, leave trees and/or clumps of trees including mature mast producing species, and downed logs in these cuts will help to replicate a wildfire-altered forest and increase wildlife use by species like grouse, woodcock, goldenwinged warbler, and deer.

Future management of several pine stands here should consider incorporating small (2-5 acre) islands that are left relatively un-thinned within mature stands to provide winter roosting cover for turkeys.

Openings are an important part of this dry and fire prone landscape. Examples of openings found on this landscape include grasslands and areas of low tree density. Opening maintenance will continue in the compartment to benefit grassland species and species utilizing the edge component of these openings, such as, cedar waxwing, deer, wild turkey, mourning dove, meadow vole, or red fox.

## Mineral Resource and Development Concerns and/or Restrictions

The nearest active sand/gravel pit is located two miles away, but there appears to be good sand & gravel potential within the compartment. There has been sparse oil & gas activity in this area, and hydrocarbon potential is considered low. There is currently no active mineral leasing in the area. There is no metallic mineral potential in this part of the state.

#### **Vehicle Access:**

Access is reasonably good throughout the compartment for management and recreation. More remote parts of sections 22 and 26 might require building of temporary access roads for any prescribed timber harvest. Some stands in sections 34 and 35 would best be accessed from adjacent private land, if allowable. A short, unauthorized spur leading to a wetland in the NE¼ of section 23 should be blocked to prevent erosion or rutting problems.

### **Survey Needs:**

None.

### **Recreational Facilities and Opportunities:**

The Platte River snowmobile trail runs north and south through the length of the compartment. The Shore-to-Shore riding-hiking trail follows Haze Road along much of the compartment's east edge. Other recreational uses include deer and small game hunting, mushrooming, and dispersed camping.

### **Fire Protection:**

This area is protected by the Traverse City DNR field office as well as by the Homestead Volunteer Fire Department. Travel time is acceptable to this compartment. Urban interface is not a problem in this compartment, and cover type does not promote large catastrophic fires.

# **Additional Compartment Information:**

The SENW section 22 would be a desirable acquisition to block in state forest land should it become available for sale or exchange.

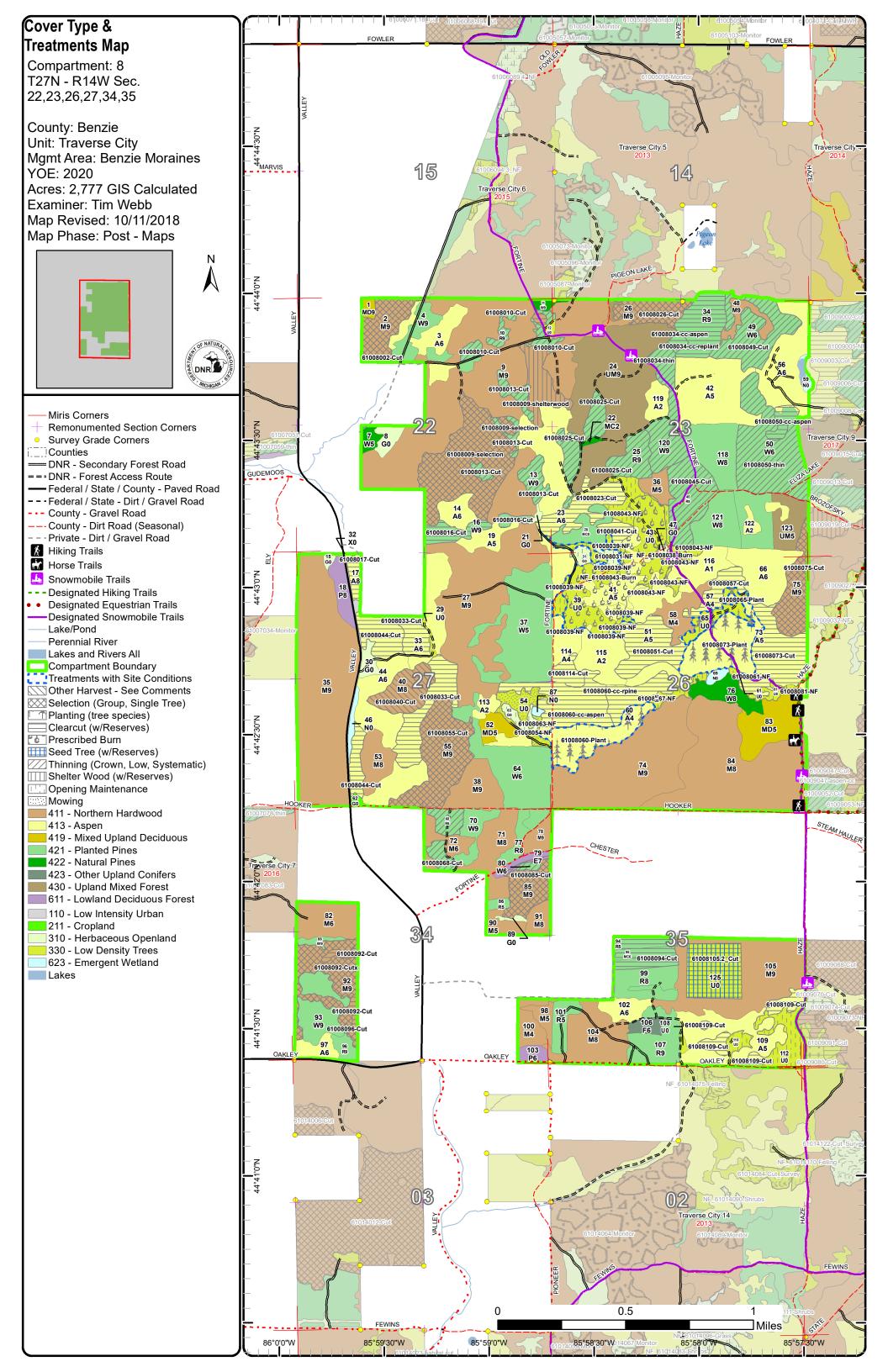
The following reports from the Inventory are attached:

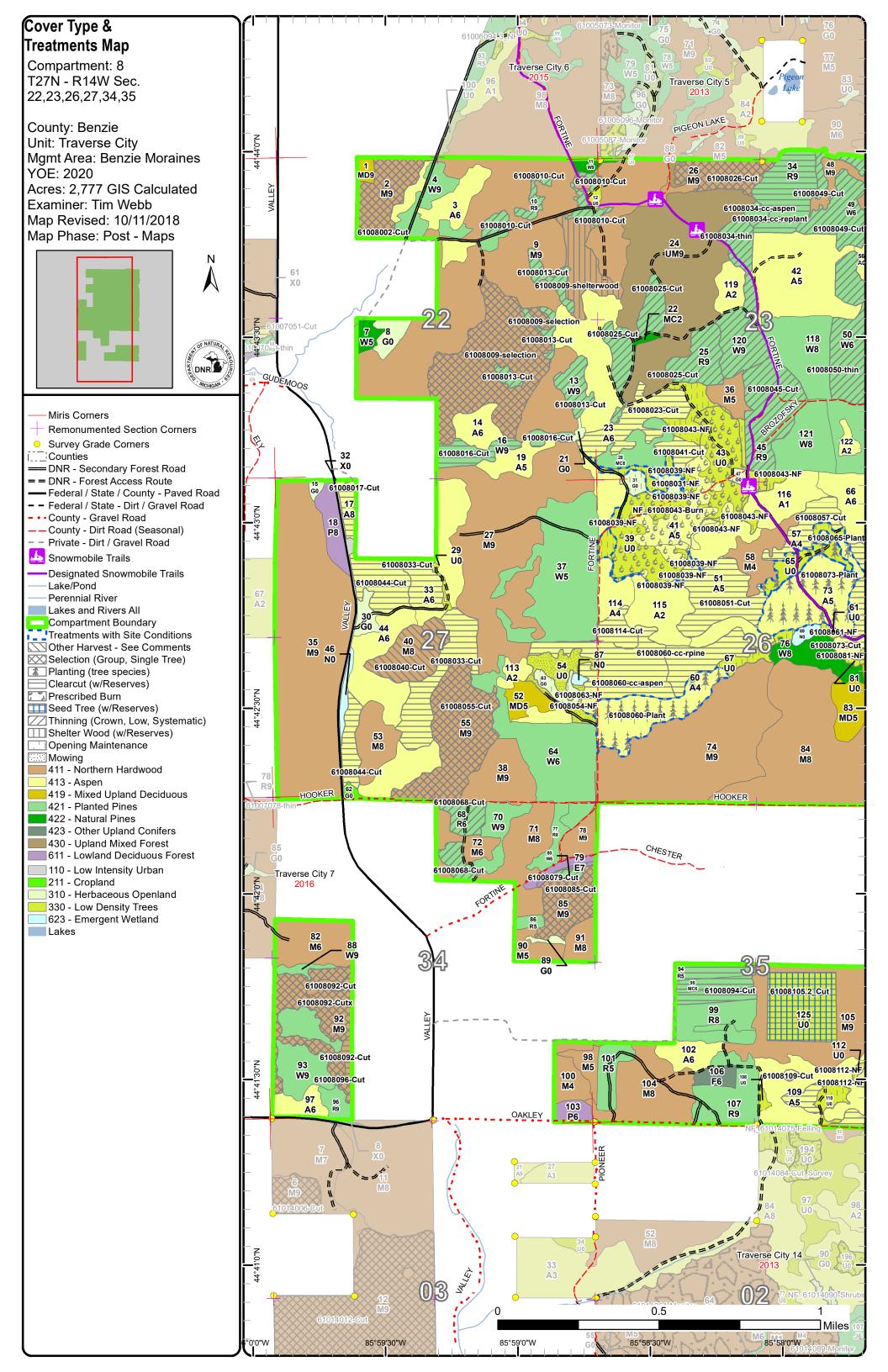
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

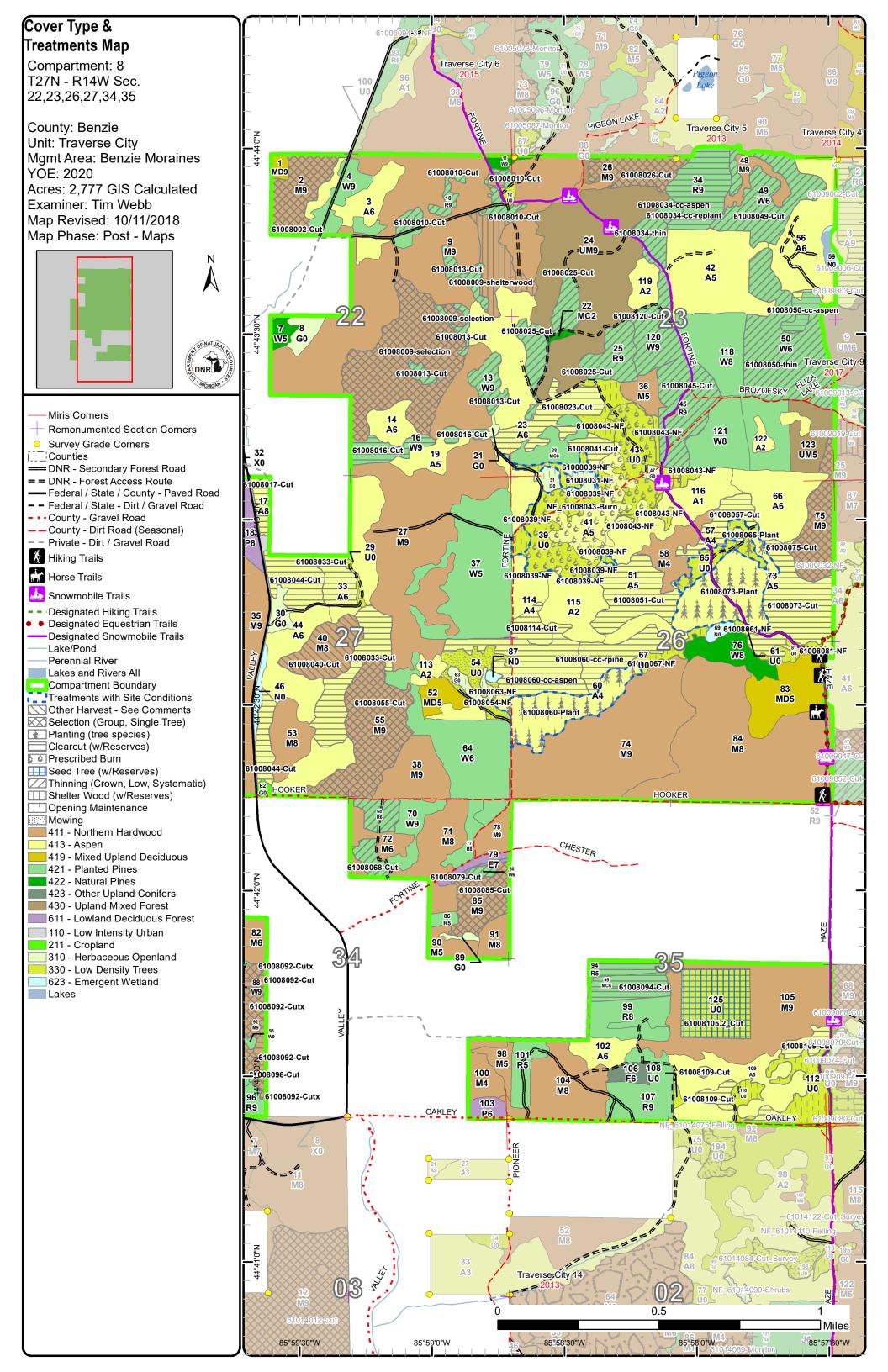
The following information is displayed, where pertinent, on the attached compartment maps:

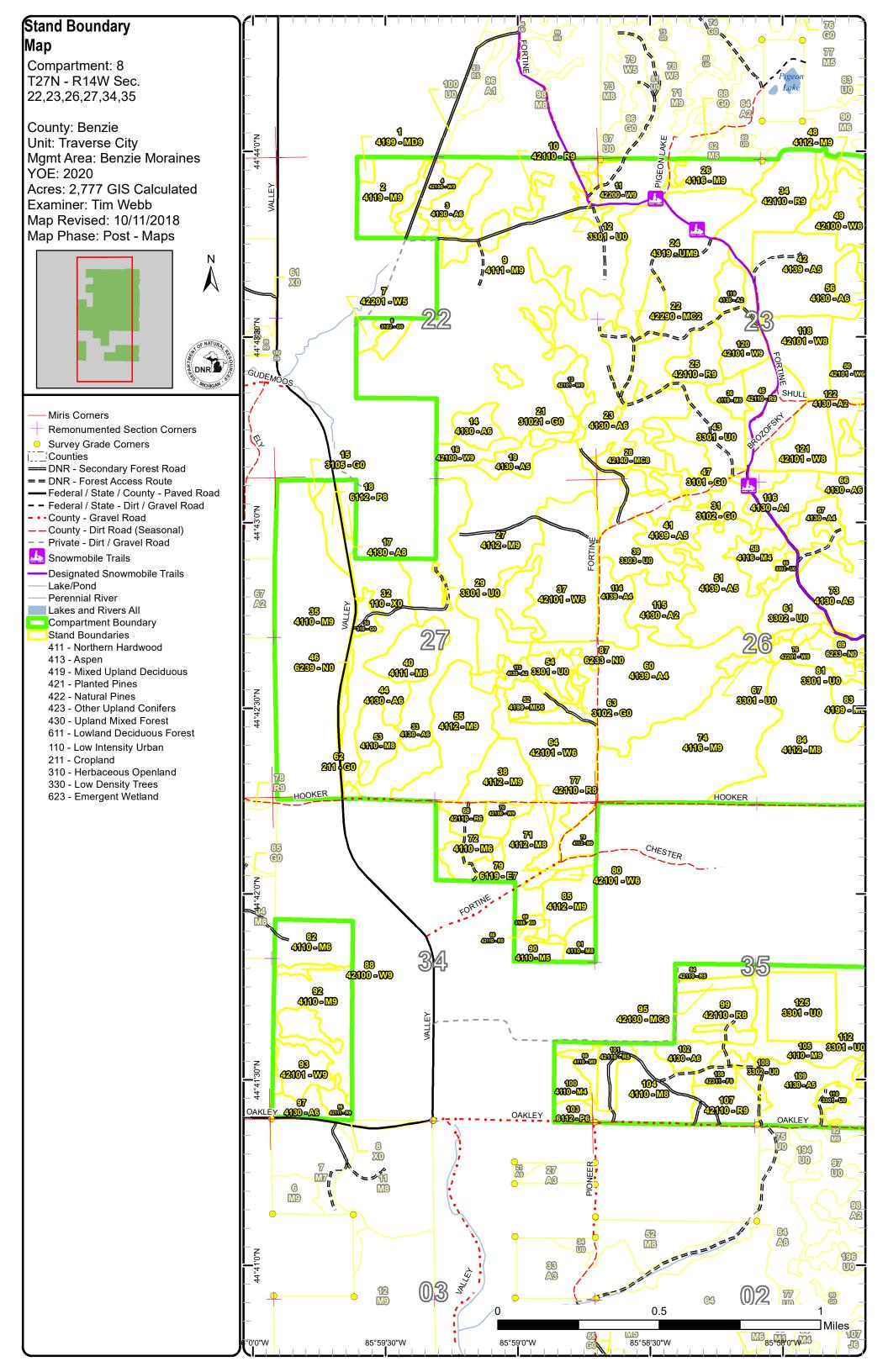
Base feature information, stand boundaries, cover types, and numbers

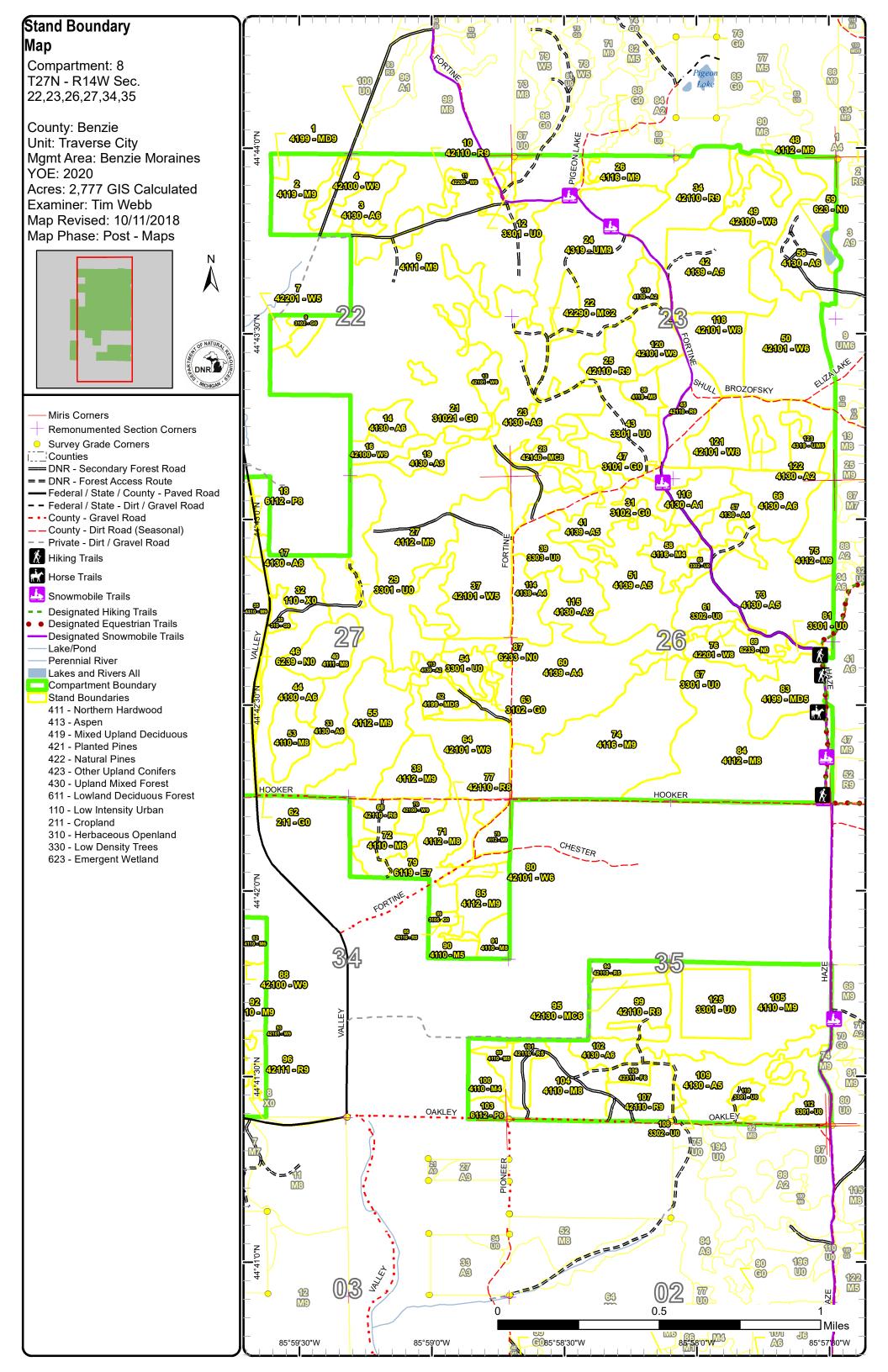
Proposed treatments
Site condition boundaries
Details on the road access system

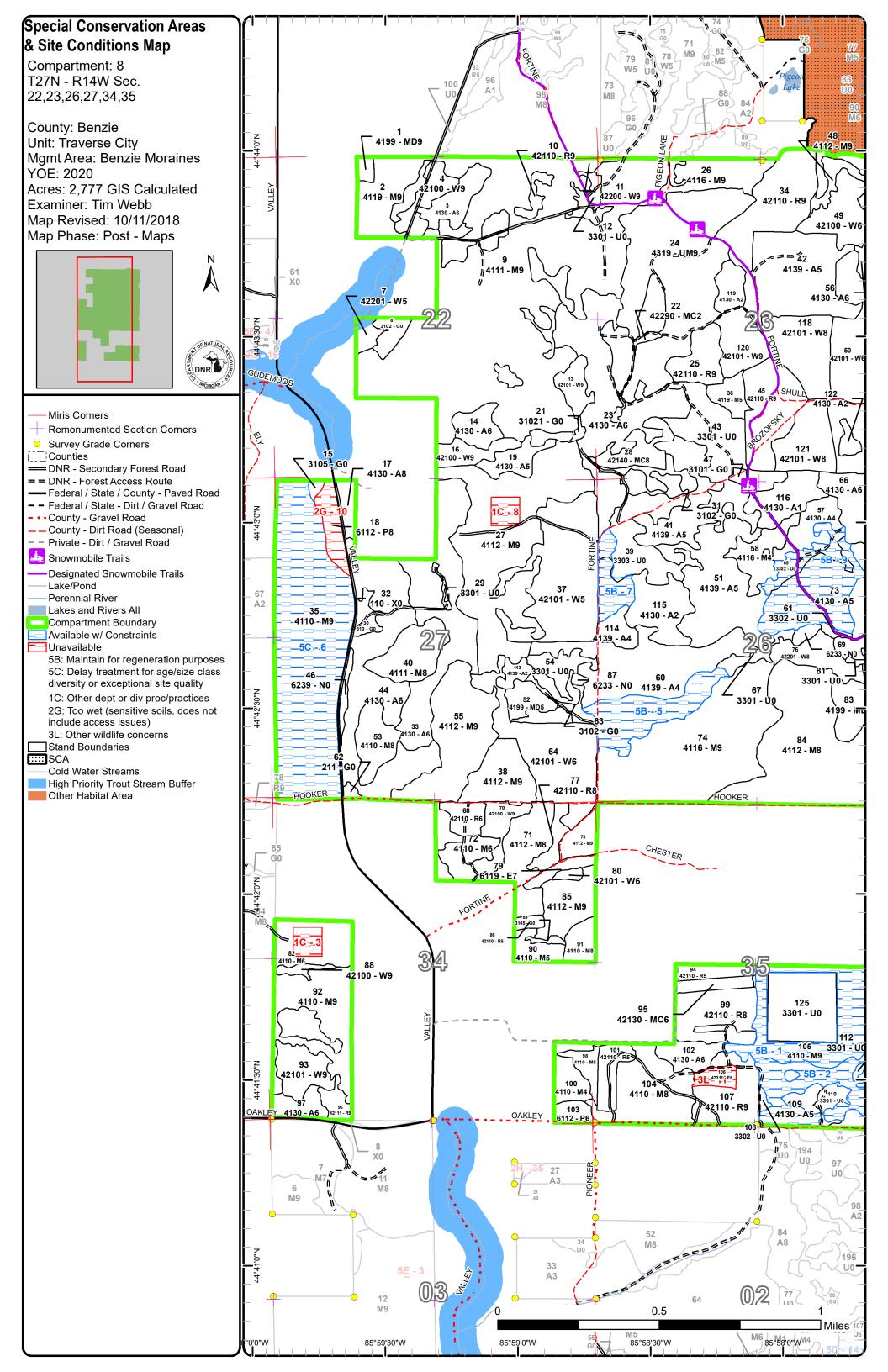


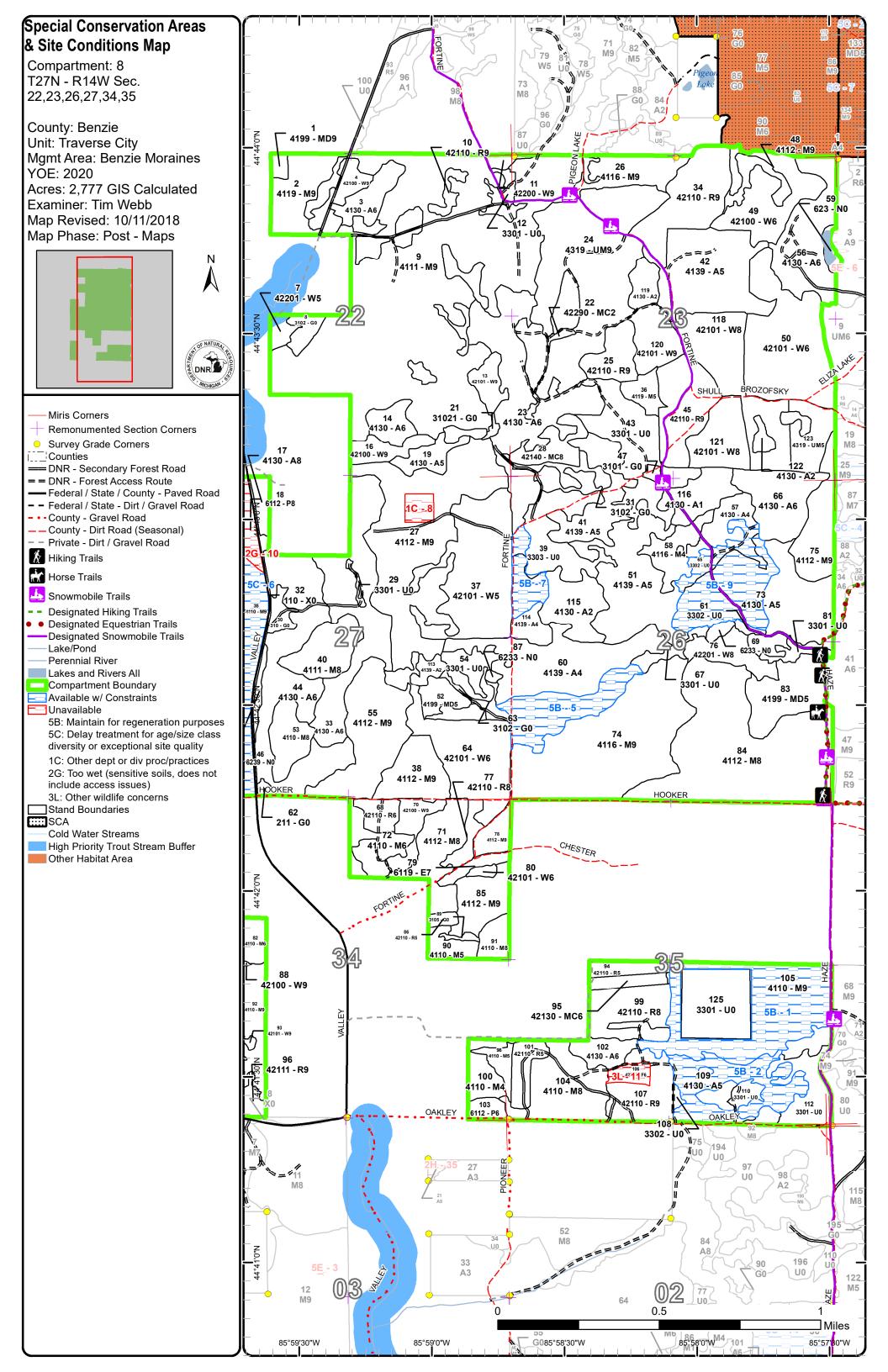












Compartment 8

Year of Entry 2020



Tim Webb : Examiner

Traverse City Mgt. Unit

Age Class

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	No.	A STATE OF THE PROPERTY OF THE	\$ \ <u>\$</u>			3 / 42		) } /&					, Za, Za,				,	St Juli	N. P.
Aspen	0	57	0	65	238	134	155	5	0	0	0	0	0	0	0	0	0	47	700
Cropland	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Herbaceous Openland	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
Low-Density Trees	164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	164
Lowland Aspen/Balsam Poplar	0	0	0	0	5	0	10	0	0	0	0	0	0	0	0	0	0	0	15
Lowland Deciduous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
Marsh	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Mixed Upland Deciduous	0	0	0	0	26	0	11	0	0	0	0	0	0	0	0	0	0	0	37
Natural Mixed Pines	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Northern Hardwood	0	0	0	0	0	7	20	0	73	278	257	442	19	0	0	0	0	10	1103
Planted Mixed Pines	0	0	0	0	0	0	12	10	0	0	0	0	0	0	0	0	0	0	22
Red Pine	0	0	0	0	0	7	167	22	0	0	0	0	0	0	0	0	0	0	196
Upland Mixed Forest	0	0	0	0	0	0	110	0	0	0	0	0	0	0	0	0	0	0	109
Upland Spruce/Fir	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5
Urban	6	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	357	0	0	0	0	0	0	0	0	0	0	21	378
Total	206	57	1	65	269	148	847	37	73	278	257	442	19	0	0	0	0	83	2777



# **Report 2 - Treatment Summary**

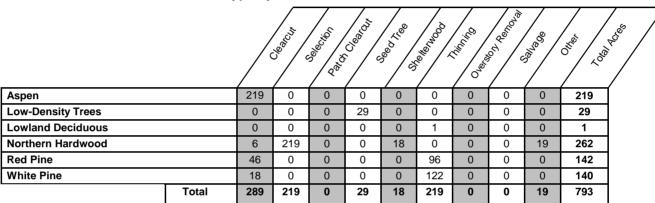
Traverse City Mgt. Unit Year of Entry: 2020

### **Acres of Harvest**

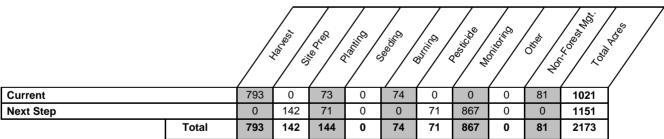
Compartment 8
Total Compartment Acres: 2,777

Commercial Harvest - 793 Harvests with Site Condition - 0 Next Step Harvest - 0 Habitat Cut - 0

# **Cover Type by Harvest Method**



# **Proposed and Next Step Treatments by Method**



Next Step

Acceptable Any mix of northern hardwoods in canopy gaps. Maple/cherry/basswood preferred; beech/ironwood less desirable.

Regen:

Other Comment:

**Proposed Start Date:** 10/1 /2019

9 61008009-17.5 4111 - S.Maple, Sawtimber 106 81-110 Harvest Shelterwood with 4116 - Mixed N. Uneven-Approved Hard Mast Proposal shelterwood Well Retention Hardwood -Aged Association Aspen

**Habitat Cut: No Site Condition:** 

Prescription Shelterwood harvest, marking about 30-60 BA to retain. Cut most of the aspen and beech. Cut heavier around aspen clones, lighter around Specs:

better hardwood patches. Create some CWD during harvest.

Monitoring, Natural Regen (Re-Inventory) Next Step

Treatments:

Acceptable mixed aspen and northern hardwoods

Regen:

Other Comment:

Traverse City Mgt. Unit Report 3 -- Treatments Compartment: 8 s Year of Entry: 2020 t а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type** Age Approval n Method Objective Status Name CoverType Density Age Range Type Structure d 61008010-Cut 42110 - Planted 4211 - Planted 10 12.1 Sawtimber 54 141-Harvest Crown Thinning Even-Aged Approved Red Pine Red Pine Well 170 Proposal **Habitat Cut: No Site Condition:** Prescription Prescribe for a marked thinning, including the hardwoods within the stand. Target residual BA: about 120. Specs: Next Step **Treatments:** Acceptable Regen: Other Comment: **Proposed Start Date:** 10/1 /2019 13 61008013-Cut 42101 - Planted 18.8 42101 - Planted Sawtimber 171-Harvest Low Thinning Uneven-Approved 200 White Pine, Mixed Well White Pine. Aged Proposal Deciduous Mixed Deciduous **Habitat Cut: No Site Condition:** Prescription Mark rows to thin plus some additional low-quality adjacent trees, leaving better quality WP/hardwoods and pushing stand toward WP/NH mix over time. Target residual BA: 90-120 (higher in solid WP, lower in hardwood patches). Next Step Treatments: **Acceptable** Regen: Other Comment: **Proposed Start Date:** 10/1 /2019 16 61008016-Cut 12.0 42100 - Planted Sawtimber 54 201+ Harvest Clearcut 4211 - Planted Even-Aged Approved Red Pine Proposal White Pine Well **Habitat Cut: No** Site Condition: Prescription Clearcut, with minimal residuals; maybe retain a few hardwoods/pines along edges. Specify low stumps. Convert to red pine. Specs: Next Step SitePrep, Roller Chopping; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Pesticide, Aerial; Monitoring, Treatments: Artificial Regen(3yr) Acceptable red pine Regen: Other 10/1 /2019 4.9 4130 - Aspen Sawtimber 66 Harvest Clearcut with 4130 - Aspen Even-Aged Approved

Comment:

**Proposed Start Date:** 

17 61008017-Cut Medium Retention Proposal

**Habitat Cut: No** Site Condition:

Prescription Clearcut to a 2" diameter limit. Retain any hemlock, elm; mark a few mixed-species clumps to retain. Create some CWD/drumming logs during

Specs: harvest (1-2 whole down trees per acre).

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable primarily aspen, plus some mixed hardwoods

Regen:

Difficult access/operability due to terrain and private property. NW corner of the stand may be seasonally wet; leave this corner out of the sale if Other Comment:

inoperable. A private access road probably crosses the NE corner; correct this trespass during the sale operation if possible.

Traverse City Mgt. Unit Report 3 -- Treatments Compartment: 8 s Year of Entry: 2020 t а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type** Age **Approval** n Density Method Objective Status Name CoverType Age Range Type Structure d 61008023-Cut 23 20.9 4130 - Aspen Poletimber 37 Unspec Harvest Clearcut with 4130 - Aspen Even-Aged Approved Well ified Retention Proposal **Habitat Cut: No Site Condition:** Prescription Clearcut to a 2" diameter limit. Retain about 5% cover in scattered islands. Create some CWD/drumming logs during harvest (1-2 whole down Specs: trees per acre). Next Step Monitoring, Natural Regen (Re-Inventory); Monitoring, Natural Regen (Re-Inventory) **Treatments:** Acceptable primarily aspen, with some mixed hardwood seedlings and sprouts Regen: Other Comment: Proposed Start Date: 10/1 /2019 25 61008025-Cut 42110 - Planted 30.9 Sawtimber 141-Harvest Crown Thinning 4211 - Planted Even-Aged Approved Red Pine Well 170 Red Pine Proposal Habitat Cut: No Site Condition: Prescription Mark for thinning, including the deciduous species. Residual BA about 120. Specs: Next Step Treatments: **Acceptable** Regen: Other Comment: Proposed Start Date: 10/1 /2019 61008026-Cut 15.6 4116 - Mixed N. Sawtimber 51-80 Harvest Group Selection 4116 - Mixed N. Uneven-Approved Hardwood - Aspen Well Hardwood -Aged Proposal Aspen **Habitat Cut: No Site Condition:** Prescription Remove some aspen, multi-stemmed maple, and other trees as necessary to create variously-sized regen holes or release promising younger hardwoods; otherwise single-tree marking. Spec to cut most of the aspen, ironwood. Residual BA will vary considerably. Work around existing patches of sapling/pole hardwoods.

Specs:

Monitoring, Natural Regen (Re-Inventory) Next Step

**Treatments:** 

Acceptable aspen and mixed hardwoods in canopy gaps

Regen:

Other

Comment:

10/1 /2019 **Proposed Start Date:** 

61008031-NF 6.2 3102 - Grass 310 -Nonstocked Unspec NonForestMgt Herbaceous/Crop Approved /Grass Planting ified Herbaceous Proposal Openland

**Habitat Cut: No Site Condition:** 

Prescription Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native Specs:

vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover. Eventually burn rotationally

to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.

Next Step Treatments:

Acceptable

Regen:

Other

Comment:

Traverse City Mgt. Unit Report 3 -- Treatments Compartment: 8 s Year of Entry: 2020 t а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type** Age Approval n Method Structure Objective Status Name CoverType Density Age Range Type d 61008033-Cut 33 34.2 4130 - Aspen Poletimber Harvest Clearcut with 4130 - Aspen Even-Aged Approved Proposal Well Retention **Habitat Cut: No Site Condition:** Prescription Clearcut to a 2" diameter limit. Leave scattered mixed-species retention islands and/or patches of young hardwoods. Create some CWD/drumming logs during harvest (1-2 whole down trees per acre). Specs: Next Step Monitoring, Natural Regen (Re-Inventory) **Treatments:** Acceptable primarily aspen, with some hardwood stump sprouts and seedlings Regen: Other Comment: **Proposed Start Date:** 10/1 /2019 61008034-cc-42110 - Planted Sawtimber 171-Harvest Clearcut with 4130 - Aspen Even-Aged Approved aspen Red Pine Well 200 Retention Proposal **Habitat Cut: No** Site Condition: Prescription Clearcut to a 2" diameter limit. Mark a few mixed-species clumps of trees for retention (about 3-4% cover). Create some CWD/drumming logs during harvest (1-2 whole down trees per acre). Specs: Next Step Monitoring, Natural Regen (Re-Inventory) Treatments: Acceptable primarily aspen; pine and mixed hardwoods are also acceptable in the mix Regen: Other Comment: Proposed Start Date: 10/1 /2019 61008034-cc-24.3 42110 - Planted Sawtimber 171-Harvest Clearcut with 42110 - Planted Even-Aged Approved Red Pine 200 Red Pine Proposal replant Well Retention **Habitat Cut:** No **Site Condition:** Prescription Clearcut. Retain 3-5% in islands, centered on hardwood clumps with some pine. Specify low stumps and chipping. Replant to red pine. Specs: Next Step SitePrep, Roller Chopping; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Pesticide, Other - Specify; Treatments: Monitoring, Artificial Regen(3yr)

Other

Comment:

**Proposed Start Date:** 

10/1 /2019

Acceptable planted red pine

61008034-thin 11.0 42110 - Planted Sawtimber 171-Harvest Crown Thinning 42110 - Planted Even-Aged Approved Red Pine Well 200 Red Pine Proposal

#### **Habitat Cut: No Site Condition:**

Prescription Mark for thinning down to a residual BA of about 120. Mark some hardwoods as well. Use appropriate specs to protect the snowmobile trail and Specs: its use.

Next Step

**Treatments:** 

Acceptable Regen:

Other

Comment:

Traverse City Mgt. Unit Report 3 -- Treatments Compartment: 8 s Year of Entry: 2020 t а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type** Age Approva n Method Objective Structure Status Name CoverType Density Age Range Type d 61008039-NF 10.2 3303 - Mixed Low 320 - Upland 39 Nonstocked Unspec NonForestMgt **Brush Cutting** Approved **Density Trees** ified Shrub Proposal **Habitat Cut: No** Site Condition: Shelterwood/Seed Source Prescription These portions of this stand are outside the burn line. 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. Could plant site appropriate native shrubs and/or Specs: mast producing trees for wildlife food and cover. Fertilize plantings and protect with wire cages or tubex. Next Step Treatments: **Acceptable** Regen: Other Comment: **Proposed Start Date:** 10/1 /2019 4110 - Sugar Approved 61008040-Cut 19.2 4111 - S.Maple, 118 81-110 Other - Specify Sawtimber Harvest Even-Aged Hard Mast Medium Maple Proposal Association Association **Habitat Cut: No Site Condition:** Prescription Salvage cut of all but a few beech; mark a small number of other species as needed to facilitate beech harvest or improve spacing of residuals. Specs: Next Step Treatments: **Acceptable** Regen: Other Comment: Proposed Start Date: 10/1 /2019 61008041-Cut 5.2 4139 - Aspen, Poletimber 37 Unspec Harvest Clearcut with 4130 - Aspen Even-Aged Approved Mixed Deciduous Medium Retention ified Proposal **Habitat Cut: No Site Condition:** Prescription Clearcut to a 2" diameter limit. Retain about 5% cover in scattered islands. Create some CWD/drumming logs during harvest (1-2 whole down trees per acre). Specs: Next Step Monitoring, Natural Regen (Re-Inventory) Treatments: Acceptable primarily aspen, with some hardwood stump sprouts and seedlings Regen: **Other** Comment: **Proposed Start Date:** 10/1 /2019 61008043-NF 15.0 3301 - Low Density Nonstocked 320 - Upland Unspec NonForestMgt **Brush Cutting** Approved **Deciduous Trees** Shrub Proposal ified **Habitat Cut: No Site Condition:** Prescription These portions of stand 43 are outside the burn line. 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. Could plant site appropriate native shrubs and/or Specs: mast producing trees for wildlife food and cover. Fertilize plantings and protect with wire cages or tubex. Next Step

10/1 /2019

Acceptable Regen:
Other Comment:

**Proposed Start Date:** 

Traverse City Mgt. Unit Report 3 -- Treatments Compartment: 8 s Year of Entry: 2020 t а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type** Age Approval n Method Objective Structure Status Name CoverType Density Age Range Type d 61008044-Cut 44 23.8 4130 - Aspen Poletimber 37 Harvest Clearcut with 4130 - Aspen Even-Aged Approved Proposal Well Retention **Habitat Cut: No Site Condition:** Prescription Clearcut to a 2" diameter limit. Leave scattered mixed-species retention islands and/or patches of young hardwoods. Create some CWD/drumming logs during harvest (1-2 whole down trees per acre). Specs: Next Step Monitoring, Natural Regen (Re-Inventory) Treatments: Acceptable primarily aspen, with some hardwood stump sprouts and seedlings Regen: Other Comment: Proposed Start Date: 10/1 /2019 45 61008045-Cut 42110 - Planted 29.0 Sawtimber 171-Harvest Crown Thinning 42110 - Planted Even-Aged Approved Proposal Red Pine Well 200 Red Pine **Habitat Cut: No** Site Condition: Prescription Mark for thinning. Target residual BA about 120. Use appropriate specs to protect the snowmobile trail and its use. Specs: Next Step Treatments: **Acceptable** Regen: Other Comment: Proposed Start Date: 10/1 /2019 49 61008049-Cut 32.1 42100 - Planted Poletimber 171-Harvest Low Thinning 42100 - Planted Uneven-Approved White Pine White Pine Well 200 Aged Proposal **Site Condition:** Prescription Stand has not been thinned yet, but terrain and erratic rows will preclude efficient row-thinning. So, mark for thinning, following rows where practical. Focus removal on poor quality or suppressed trees. Mark hardwoods as well as pine. Specs:

**Habitat Cut: No** 

Next Step

**Treatments:** 

**Acceptable** 

Regen:

Other Comment:

10/1 /2019 **Proposed Start Date:** 

61008050-cc-6.2 42101 - Planted Poletimber 59 141-Harvest Clearcut with 4133 - Aspen, Even-Aged Approved White Pine, Mixed Well Retention Mixed Pine Proposal aspen 170

Deciduous

**Habitat Cut:** No **Site Condition:** 

Prescription Clearcut to a 2" diameter limit, retaining some small mixed-species islands. Create some CWD/drumming logs during harvest (1-2 whole down

Specs: trees per acre).

Monitoring, Natural Regen (Re-Inventory) Next Step

**Treatments:** 

Acceptable primarily aspen, with some hardwood stump sprouts and seedlings and white pine seedlings

Regen:

Other Treatment area includes a small part of adjacent aspen stand #56 to improve potential for aspen regeneration throughout.

Comment:

Specs:

**Acceptable** 

Regen:

Other Comment:

Proposed Start Date: 10/1 /2019

61008055-Cut 105 44.2 4112 - Maple, Sawtimber 111-Harvest Single Tree 4110 - Sugar Uneven-Approved Beech, Cherry Well 140 Selection Maple Aged Proposal Association Association

#### **Habitat Cut: No Site Condition:**

Prescription Mark for single tree selection. Remove most of the beech. Create some CWD during harvest operations. Target residual BA about 90. Specs:

Monitoring, Natural Regen (Re-Inventory) Next Step

Treatments:

Acceptable Mixed northern hardwoods. Maple/basswood/cherry preferred; beech/ironwood likely but not preferred.

Regen:

Other Use appropriate specs for potential raptor nesting

Comment:

Proposed Start Date:

61008060-cc-15.8 4139 - Aspen, Poletimber 51 Unspec Harvest Clearcut with 42110 - Planted Even-Aged Approved rpine Retention Red Pine Proposal Mixed Deciduous Poor ified

**Habitat Cut: No** Site Condition:

Prescription Clearcut. Retain 3% in multi-species islands. Plant red pine post-harvest. Specify low stumps and chip harvesting to facilitate planting. Specs:

Next Step SitePrep, Roller Chopping; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Pesticide, Other - Specify;

Treatments: Monitoring, Artificial Regen(3yr)

Acceptable planted red pine

Regen: Other

Comment

**Proposed Start Date:** 10/1 /2019

60 61008060-27.9 4139 - Aspen, Poletimber 51 Unspec **Planting** Underplant 42201 - Natural Uneven-Approved White Pine, **Plant** Mixed Deciduous Poor ified Aged Proposal Mixed Deciduous

**Habitat Cut: No** Site Condition: Shelterwood/Seed Source

Prescription Plant oak sporadically throughout the stand in canopy gaps. May need protection (cages, tubes) from browsing.

Specs:

Next Step Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable planted oak along with natural white pine, red maple, and cherry

Regen:

Other Comment

Traverse City Mgt. Unit Report 3 -- Treatments Compartment: 8 s Year of Entry: 2020 t а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type** Age Approva n Method Objective Status Name CoverType Density Age Range Type Structure d 61 61008061-NF 1.5 3302 - Low Density Nonstocked Unspec NonForestMgt **Brush Cutting** 320 - Upland Approved Conifer Trees ified Shrub 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. Could plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. Specs: Fertilize plantings and protect with wire cages or tubex. Next Step Treatments: Acceptable Regen: Other Comment: 10/1 /2019 **Proposed Start Date:** 61008063-NF Approved 4.1 3102 - Grass Nonstocked Unspec NonForestMgt Herbaceous/Crop 310 ified /Grass Planting Herbaceous Proposal Openland **Habitat Cut: No Site Condition:** Prescription Seed in forage crop appropriate for site location and seasonal (i.e. summer vs. winter forage) wildlife uses. May want/need to work around Specs: existing beneficial vegetation (i.e. blackberry). Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment. Next Step **Treatments:** <u>Acceptable</u> Regen: **Other** Comment: 10/1 /2019 **Proposed Start Date:** 10.8 3302 - Low Density Nonstocked 61008065-Unspec **Planting** 42211 - Natural Interplant Uneven-Approved **Plant** Conifer Trees ified Red Pine. Aged Proposal Mixed Deciduous **Habitat Cut: No** Site Condition: Shelterwood/Seed Source Prescription Plant oak and native fruiting shrubs in openings. May need protection (cages, tubes) from browsing. Specs: Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr) Next Step Treatments: Acceptable planted oak and fruiting shrubs along with natural white pine, red maple, and cherry Regen: <u>Other</u> Comment: **Proposed Start Date:** 10/1 /2019 5.0 3301 - Low Density Nonstocked 61008067-NF Unspec NonForestMgt **Brush Cutting** 320 - Upland Approved **Deciduous Trees** ified Shrub 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. Could plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. Specs: Fertilize plantings and protect with wire cages or tubex.

Next Step **Treatments:** 

<u>Acceptable</u>

Regen:

Other Comment

Traverse City Mgt. Unit Report 3 -- Treatments Compartment: 8 s Year of Entry: 2020 t а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type** Age Approval n Method Objective Structure Status Name CoverType Density Age Range Type d 61008068-Cut 42110 - Planted Poletimber 4211 - Planted 68 12.9 59 141-Harvest Crown Thinning Even-Aged Approved Red Pine Red Pine Proposal Well 170 **Habitat Cut: No Site Condition:** Prescription Mark for thinning. Target residual BA about 120. Specs: Next Step Treatments: Acceptable Regen: Other Comment: Proposed Start Date: 10/1 /2019 73 61008073-Cut 34.7 4130 - Aspen Poletimber 42 Harvest Clearcut with 4131 - Aspen, Even-Aged Approved Medium Retention Oak Proposal **Habitat Cut: No** Site Condition: Prescription Clearcut to a 2" diameter limit. Leave 5-10% scattered mixed-species retention islands. Create some CWD/drumming logs during harvest (1-2 Specs: whole down trees per acre). Use appropriate specs to protect the snowmobile trail and Shore to Shore Trail and their use. Monitoring, Natural Regen (Re-Inventory) Next Step Treatments: Acceptable primarily aspen, with some hardwood stump sprouts and seedlings and some white pine Regen: Other Comment: Proposed Start Date: 10/1 /2019 73 61008073-34.5 4130 - Aspen Poletimber **Planting** Underplant 42201 - Natural Uneven-Approved White Pine, Proposal **Plant** Medium Aged Mixed Deciduous Habitat Cut: No Site Condition: Shelterwood/Seed Source Prescription Plant oak sporadically throughout the stand in canopy gaps. May need protection (cages, tubes) from browsing. Specs: Next Step Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr) Treatments: Acceptable planted oak along with natural white pine, red maple, and cherry Regen: Other Comment: 10/1 /2019 **Proposed Start Date:** 61008075-Cut 4112 - Maple, Sawtimber 81-110 Harvest Single Tree 4112 - Maple, Uneven-Approved Beech, Cherry Well Selection Beech, Cherry Aged Proposal Association Association **Habitat Cut: No Site Condition:** 

Prescription Mark for single tree selection harvest with a residual BA of about 80-90. Create some canopy gaps.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable mixed hardwood seedlings and stump sprouts in canopy gaps

Regen: Other

Comment:

		_	0: 11 : 11 :			4.0		_			OF NATURA
S t		Travers	e City Mgt. Unit		Ke	port 3	Treatmer	its	Compart Year of I	ment: 8 Entry: 2020	DNR
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
79	61008079-Cut	1.2 L	6119 - Mixed Lowland Deciduous Forest	Sawtimber Poor	84		Harvest	Crown Thinning	6119 - Mixed Lowland Deciduous Forest	Uneven- Aged	Approved Proposal
			Site Condition: th edge of this stand those stands, taking	d as practic		with har	vest of adjacent	stands 80 and 85.		nd down the s	lope to cut in
	t Step htments:										
Acce Reg	<u>eptable</u> en:										
Othe Com	<u>er</u> nment:										
Prop	osed Start Date:	<u>:</u> 10/1 /	/2019								
80	61008080-Cut	1.7	42101 - Planted White Pine, Mixed Deciduous	Poletimber Well	59	171- 200	Harvest	Crown Thinning	42101 - Planted White Pine, Mixed Deciduous	Even-Aged	Approved Proposal
			Site Condition: and down the slope, to the south.	•	about 1/3	3. Mark	some of the mat	ure maple as poss	ible. Mark in conc	ert with adjace	ent stand 79 to
	Step stments:										
Acce Reg	eptable en:										
Othe Com	er nment:										
Prop	osed Start Date:	<u>:</u> 10/1 /	/2019								
81	61008081-NF	4.9 3	3301 - Low Density Deciduous Trees	Nonstocke	d	Unspec ified	NonForestMgt	Brush Cutting	320 - Upland Shrub		Approved Proposal
	itat Cut: No	volv romov	Site Condition: we woody encroach		ntain un	land bru	sh/grassland cor	mmunity Loavo se	sattored mast prod	ducina troce a	nd chrubs
Spe	<u>cs:</u> and/or	conifers fo	or wildlife food and common and protect with w	cover. Coul-	d plant s						
	t Step htments:										
Acce Reg	eptable en:										
Othe Com	<u>er</u> nment:										
Prop	osed Start Date:	<u>:</u> 10/1 /	/2019								
85	61008085-Cut	17.4	4112 - Maple, Beech, Cherry Association	Sawtimber Well	98	81-110	Harvest	Single Tree Selection	4112 - Maple, Beech, Cherry Association	Uneven- Aged	Approved Proposal
	itat Cut: No		Site Condition:								
Pres Spe			n. Create some reg ole. Minimize marki								
	t Step Monitor stments:	ring, Natur	al Regen (Re-Inver	ntory)							

Other Comment:

Proposed Start Date:

<u>Acceptable</u> mixed hardwoods in regen gaps <u>Regen:</u>

10/1 /2019

**Proposed Start Date:** 10/1 /2019

61008096-Cut 141-42111 - Planted 0.3 42111 - Planted Sawtimber Harvest Crown Thinning Even-Aged Approved Red Pine. Red Pine, Mixed Well 170 Proposal

Deciduous

Mixed

Deciduous **Site Condition:** 

Prescription Mark about 1/3 of the red pine in this patch in conjunction with the adjacent hardwood sale.

Specs:

Next Step **Treatments:** 

**Habitat Cut: No** 

<u>Acceptable</u>

Regen:

Other

Comment:

Completed -

Pending Edits

Compartment: 8

411 - Northern

Hardwood

Year of Entry: 2020

Two-Aged

s t а

**Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type** Age Approva n Method Name CoverType Density Age Range Type Objective Structure Status d

Harvest

61008105.2 C 125 **Habitat Cut: No** 

**Deciduous Trees Site Condition:** 

29.2 3301 - Low Density Nonstocked

Prescription Seed tree. A residual density of 6-8 trees per acre (~5-7% overstory cover) of seedbearing-sized trees of good form and of diverse, desirable

Unspec

ified

0

Specs:

Monitoring, Natural Regen (Intermediate) Next Step

**Treatments:** 

Acceptable northern hardwood species

Regen: Other

leaving tree tops (<8") to act as physical barriers to deer herbivory of tree regeneration

Comment:

**Proposed Start Date:** 6 /1 /2016

109 61008109-Cut 12.8 4130 - Aspen Poletimber Unspec Harvest Clearcut with 4139 - Aspen. Even-Aged Approved Medium ified Retention Mixed Proposal

Deciduous

Seed Tree

**Habitat Cut: No Site Condition:** 

Prescription Clearcut to a 2" diameter limit. Retain about 5-6% in scattered mixed species islands. Create some CWD/drumming logs during harvest (1-2

whole down trees per acre). Use appropriate specs to protect the snowmobile trail and its use. Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

**Treatments:** 

Acceptable primarily aspen, with some mixed hardwood stump sprouts and seedlings

Regen:

Other Comment:

**Proposed Start Date:** 10/1 /2019

110 61008110-NF 4.7 3301 - Low Density Nonstocked 320 - Upland Unspec NonForestMgt **Brush Cutting** Approved

Deciduous Trees Shrub Proposal

**Habitat Cut: No Site Condition:** 

Specs:

Prescription Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover. Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.

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.

**Habitat Cut: No** 

**Proposed Start Date:** 10/1 /2019

17.0 3301 - Low Density Nonstocked 112 61008112-NF 320 - Upland Unspec NonForestMgt **Brush Cutting** Approved

**Deciduous Trees** 

ified Shrub

**Site Condition:** 

Prescription Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native

vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover. Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.

Next Step Treatments:

Specs:

<u>Acceptable</u> 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:

10/1 /2019 **Proposed Start Date:** 

Proposal

harvest in adjacent stand 60. Create some CWD/drumming logs during harvest (1-2 whole down trees per acre). Specs: Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable primarily aspen, with some hardwood stump sprouts and seedlings and some white pine

Regen:

Other North part of this stand is being left out of the harvest to succeed naturally to white pine/hardwoods.

Comment:

**Proposed Start Date:** 10/1 /2019

120 61008120-Cut 15.7 42101 - Planted Sawtimber 59 171-Harvest Low Thinning 42101 - Planted Uneven-Approved White Pine, White Pine, Mixed Well 200 Aged Proposal Deciduous Mixed

Deciduous

**Habitat Cut: No Site Condition:** 

Prescription Mark for 1st thinning. Follow 3rd rows where possible, marking that row and poor quality or overtopped trees in adjacent rows (both pine and

deciduous trees). Specs:

Next Step **Treatments:** 

Acceptable Regen:

Other Comment:

**Proposed Start Date:** 10/1 /2019

NF 61008038-1.4 3101 - Poverty Nonstocked Unspec Burn Opening 31021 - Cool Draft Field Burn Grass, Cladonia ified Season Grass Boundary

**Habitat Cut: No Site Condition:** 

Prescription Burn with surrounding stands. Goal is to set back woody encroachment, recycle nutrients, and reduce competion from exotics.

Specs:

Monitoring, Natural Regen (Re-Inventory) Next Step

**Treatments:** 

Acceptable

Regen:

Other Old next step comments: Post burn, these three openings are to be planted to warm or cool season grasses for wildlife food and cover.

Comment:

Proposed Start Date: 10/1 /2009

NF 61008043-72.2 3303 - Mixed Low Nonstocked Unspec Burn 3205 - Mixed Draft Field Opening Burn **Density Trees** ified Upland Shrub Boundary

**Habitat Cut: No Site Condition:** 

Prescription Burn on a rotational basis. Goal is to set back woody encroachment, increase species diversity, stimulate native herbaceous vegetation,

promote berry production, and recycle nutrients. Specs:

Next Step Monitoring, Other - Specify

**Treatments:** 

Acceptable Regen:

Other Brush hogging would be a second option if unable to burn. Old next step comments: If necessary, seed in additional native grasses and forbs.

Comment:

Proposed Start Date: 10/1 /2009

**Total Treatment** 1034.0 **Acreage Proposed:** 

Traverse City Mgt. Unit

Tim Webb : Examiner

Compartment: 8
Year of Entry: 2020

Availa	ability for	Managemer	nt						
Total	Acres	Acres Avail	Acres	D	omina	nt Site	Con	dition	S
Acres	Available	With Condition	Not Available		5B	5C	1C	2G	3L
700	595	106	0	Aspen	106				
1	1	0	0	Cropland					
26	26	0	0	Herbaceous Openland					
164	151	14	0	Low-Density Trees	14				
14	5	0	10	Lowland Aspen/Balsam Poplar				10	
5	5	0	0	Lowland Deciduous					
9	9	0	0	Marsh					
36	36	0	0	Mixed Upland Deciduous					
1	1	0	0	Natural Mixed Pines					
1104	806	181	117	Northern Hardwood	59	122	117		
22	22	0	0	Planted Mixed Pines					
196	196	0	0	Red Pine					
109	109	0	0	Upland Mixed Forest					
5	0	0	5	Upland Spruce/Fir					5
6	6	0	0	Urban					
377	377	0	0	White Pine					
2,777	2,345	300	132	Total Forested Acres	178	122	117	10	5
	84%	11%	5%	Relative Percent					

<sup>\*</sup>Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.

5B: Maintain for	59				
regeneration purposes	39	Unspecified	Unspecified	Unspecified	Unspecified
e the harvested area surrou	nded by t	his stand is being monitore	ed in a research project.		
5B: Maintain for regeneration purposes	34	Unspecified	Unspecified	Unspecified	Unspecified
(	e the harvested area surrou 5B: Maintain for	e the harvested area surrounded by the barrounded by the barrounde	e the harvested area surrounded by this stand is being monitore  5B: Maintain for 34 Unspecified	e the harvested area surrounded by this stand is being monitored in a research project.  5B: Maintain for 34 Unspecified Unspecified	e the harvested area surrounded by this stand is being monitored in a research project.  5B: Maintain for 34 Unspecified Unspecified Unspecified

# Report 4 – Site Conditions

Traverse City Mgt. Unit

Tim Webb: Examiner

Compartment: 8
Year of Entry: 2020

	1C: Other dept or div proc/practices	5	Unspecified	Unspecified	Unspecified	Unspecified
omments: SU hardwood reg	generation study area.					
Available	5B: Maintain for regeneration purposes	28	Unspecified	Unspecified	Unspecified	Unspecified
omments: llow aspen and ch	nerry to die off naturally, releasin	g the unc	derstory white pine to tak	e over the site.		
Available	5C: Delay treatment for age/size class diversity or exceptional site quality	122	Unspecified	Unspecified	Unspecified	Unspecified
omments:						
Available	5B: Maintain for regeneration purposes	12	Unspecified	Unspecified	Unspecified	Unspecified
omments: llow succession to	o white pine/hardwoods. Let asp	oen die of	f naturally.			
Unavailable	1C: Other dept or div proc/practices	5	Unspecified	Unspecified	Unspecified	Unspecified
omments: SU hardwood reg	generation study area.					
Available	5B: Maintain for regeneration purposes	45	Unspecified	Unspecified	Unspecified	Unspecified
omments: et the aspen die o	ff naturally and allow this area to	o succeed	d to white pine and mixed	d hardwoods over time.		
	Available  omments: llow aspen and che  Available  omments:  Available  omments: llow succession to  Unavailable  omments: SU hardwood reg  Available  omments:	Available  Available  SB: Maintain for regeneration purposes  comments:  Now aspen and cherry to die off naturally, releasing age/size class diversity or exceptional site quality  comments:  Available  SB: Maintain for regeneration purposes  comments:  Now succession to white pine/hardwoods. Let aspect the comments:  Unavailable  1C: Other dept or div proc/practices  comments:  SU hardwood regeneration study area.  Available  5B: Maintain for regeneration purposes  comments:  SU hardwood regeneration study area.	Available 5B: Maintain for 28 regeneration purposes  comments:  Illow aspen and cherry to die off naturally, releasing the uncomments:  Available 5C: Delay treatment for 122 age/size class diversity or exceptional site quality  comments:  Available 5B: Maintain for 12 regeneration purposes  comments:  Illow succession to white pine/hardwoods. Let aspen die of proc/practices  comments:  SU hardwood regeneration study area.  Available 5B: Maintain for 45 regeneration purposes  comments:	Available 5B: Maintain for 28 Unspecified regeneration purposes  omments:  Illow aspen and cherry to die off naturally, releasing the understory white pine to tak  Available 5C: Delay treatment for 122 Unspecified age/size class diversity or exceptional site quality  omments:  Available 5B: Maintain for 12 Unspecified regeneration purposes  omments:  Unavailable 1C: Other dept or div 5 Unspecified proc/practices  omments:  SU hardwood regeneration study area.  Available 5B: Maintain for 45 Unspecified regeneration purposes  omments:	Available 5B: Maintain for regeneration study area.  Available 5B: Maintain for regeneration purposes  Omments:    Ilow aspen and cherry to die off naturally, releasing the understory white pine to take over the site.  Available 5C: Delay treatment for age/size class diversity or exceptional site quality  Omments:  Available 5B: Maintain for regeneration purposes    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality    Very teatment for age/size class diversity or exceptional site quality   Very teatment for age/size class diversity or exce	Available 5B: Maintain for regeneration study area.  Available 5B: Maintain for regeneration purposes  Illow aspen and cherry to die off naturally, releasing the understory white pine to take over the site.  Available 5C: Delay treatment for age/size class diversity or exceptional site quality  comments:  Available 5B: Maintain for regeneration purposes  Illow succession to white pine/hardwoods. Let aspen die off naturally.  Unavailable 1C: Other dept or div proc/practices  SU hardwood regeneration study area.  Available 5B: Maintain for regeneration study area.  45 Unspecified Unspecifi

# **Report 4 – Site Conditions**

Traverse City Mgt. Unit

Compartment: 8 Year of Entry: 2020 Tim Webb: Examiner

10	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	10	Unspecified	Unspecified	Unspecified	Unspecified
C	comments:						
11	Unavailable	3L: Other wildlife concerns	5	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				

Traverse City Mgt. Unit Compartment: 8
Year of Entry 2020



# 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.

Conservation Area	n Type	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen constocked trout populations and those of other coldwater fish specyear to year. Coldwater streams in Michigan typically provide th contributions of groundwater to their stream flows. Such stream designated as trout resources by Fisheries Order 210.	cies (e.g., slimy sculpin) to persist from ese conditions due to substantial
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems influences the aquatic ecosystem and vice-versa. Because of the streams and open water wetlands, riparian areas harbor a high communities are ecologically and socially significant in their effects as aesthetics, habitat, bank stability, timber production, and the	ne unique conditions adjacent to lakes, diversity of plants and wildlife. Riparian ects on water quality and quantity, as well

S t	Traverse City	Mgt. Unit		Report 7	– Forested	Stands Compartment: 8 Year of Entry: 2020
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4199 - Other Mixed Upland Deciduous	Sawtimber Well	2.6	50	81-110	Austrian pine is poorly formed, limby. Best to let it die out over time and convert naturally to northern hardwoods. Douglas fir: several rows on north end of stand. A few basswood, red pine.
2	4119 - Mixed Northern Hardwoods	Sawtimber Well	21.9	88	141-170	Bigtooth aspen is old, declining. Steep slopes in E 1/2 of stand; possible private access to the SW or NW corners of stand. 2018 BAs: 130, 150, 140, 170; mean 147.
3	4130 - Aspen	Poletimber Well	20.0	26	Unspecified	WP is mostly in one patch. Some poorly-stocked snow damaged patches.
4	42100 - Planted White Pine	Sawtimber Well	13.2	54	141-170	Thinned in 11/02. Heavily deformed by WP weevil. 2018 BAs: 170, 150, 130, 120, 140, 170; mean 146.
7	42201 - Natural White Pine, Mixed Deciduous	Poletimber Medium	4.3	20	1-50	Notes from TLW 3/17/08 - Autumn olive, shrubby black cherry and white pine. There is a private road leading from private property into this non-forested stand. Otherwise access is by foot. 2018: White pine is taking over, seeding in from a few older trees. Changed from non-forested to forested.
9	4111 - S.Maple, Hard Mast Association	Sawtimber Well	257.3	106	81-110	2008 comments: Somewhat heterogeneous. Tends to be more of a RM/BC/AB/A mix in low areas, more SM/BW/AB on ridges. Some patches of pole sized trees, sparse in draws. Bigtooth aspen clones scattered throughout. Small amounts of canopy q. aspen, ironwood, hemlock, yellow birch. Some steep hills.
						Three patches totaling 82 acres were select-cut in 2014; 2018 inventory: regen mostly beech and ironwood in the harvested patches. 2018 BAs: 110, 80, 110, 110, 150, 120, 60, 80, 100, 80, 70; mean 97.
10	42110 - Planted Red Pine	Sawtimber Well	12.1	54	141-170	Previously row-thinned. 2018 BAs: 160, 170, 140, 160, 180, 160, 180; mean 164.
11	42200 - Natural White Pine	Sawtimber Well	2.7	71	111-140	White pine is somewhat limby. Cherry is old, dying out (good snags). May be some white pine older than the cored tree. 2018 BAs: 190, 80, 120; mean 130.
13	42101 - Planted White Pine, Mixed Deciduous	Sawtimber Well	20.6	54	171-200	5 parts. North-most was row thinned in 2002, OK for now. Other parts are unthinned. 2018 BAs: 210, 110, 120, 200, 150, 130; mean 153.
14	4130 - Aspen	Poletimber Well	9.4	24		A couple small open gaps, otherwise pretty dense, vigorous looking. Trace amounts of red maple, witch hazel, juneberry. Stand is mostly on a hillside. White pine is in one patch along the northeast edge of the stand.
16	42100 - Planted White Pine	Sawtimber Well	12.0	54	201+	2008 comments: dense, mostly low quality WP: limby, heavily weeviled. Lots of mixed hardwood seedlings in places (BC, SM, IW, AB). 2018 BAs: 160, 190, 190, 240, 150, 160; mean 182. Some mortality in overtopped pines.

S	Traverse City	Mgt. Unit		Report 7	– Forested	Stands Compartment: 8 Year of Entry: 2020
t a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
17	4130 - Aspen	Sawtimber Medium	5.3	66		2008 comments: Cut if practical and if not designated old growth. Alternating ridges and draws (east-west); north end of stand probably seasonally wet. Some phelinus in aspen. Previously designated as potential old growth. Difficult access/operability due to slopes and private property.
18	6112 - Lowland Aspen	Sawtimber Medium	9.6	58	81-110	2008 comments: Appears to be at least seasonally wet or saturated. Shallow drainage; undefined channel S to N through stand. Clumps of overtopped cedar, hemlock. Some mortality in aspen. A few basswood, elm, ash.
19	4130 - Aspen	Poletimber Medium	8.7	24		A few open gaps. Occasional scruffy hemlock. There are some patches with sparse canopy due to snow storm damage.
22	42290 - Natural Mixed Pine	Sapling Medium	1.3	16	1-50	Red and white pine seedlings and saplings taking over an open area.
23	4130 - Aspen	Poletimber Well	61.1	37	Unspecified	2008 comments: Occasional pole sized maples, otherwise pretty solid, dense aspen poles with a cherry component. Scattered elm.
24	4319 - Mixed Upland Forest	Sawtimber Well	94.5	59	111-140	2008 comments: There is a reasonably high proportion of fairly straight white pine without significant weevil damage, with good potential. Much of the hardwood is stump sprouts. Patchy species distribution. SI trees: 9.9" dbh 53' tall 41 years old, 10.5" 50'. Plantation records show the stand at 49 years old, but many appear younger and a cored tree showed 33 rings (about 41 years total?). 2018 BAs: 130, 140, 140, 140, 120, 120, 100, 120, 90; mean 122. Good maple regeneration, especially under the hardwood patches.
 25	42110 - Planted Red Pine	Sawtimber Well	30.9	59	141-170	Thinned in 11/02. 2018 BAs: 200, 120, 170, 190, 70, 200; mean 158.
26	4116 - Mixed N. Hardwood - Aspen	Sawtimber Well	18.1	78	51-80	2008 comments: Heterogenous mix. Some sapling/pole patches, a couple of regen gaps, particularly an area of pole/sapling timber in the southwest part of the stand. Medium quality. Small amount of beech. 2018 BAs: 100, 50, 150, 90, 160; mean 110.
27	4112 - Maple, Beech, Cherry Association	Sawtimber Well	95.6	93	81-110	Variable quality and stocking. Younger, poorer quality in shallow draws. Some patches of planted white pine. Traces of basswood and ironwood in canopy. Most of the stand was selectively harvested in March 2013. Areas not cut included the steep slopes on the north edge of the stand, an area surrounding a raptor nest on the west side, and the southwest part of the stand. 2018 BAs: 70, 70, 90, 80, 70, 110, 80, 80; mean 81. 2013 cut areas are flush with ironwood and beech seedlings.
28	42140 - Planted Mixed Pine	Sawtimber Medium	11.9	59	81-110	Hardwood seedlings/saplings in understory and thick in gaps.  3rd-row thinned in 1/2014, plus additional low-quality trees in adjacent rows also cut.

S t	Traverse City	Mgt. Unit		Report 7	- Forested	Stands Compartment: 8 Year of Entry: 2020
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
33	4130 - Aspen	Poletimber Well	54.5	44		2008 comments: Not easily distinguishable from stand 44 - just a little larger diameters. Not mature yet, but some patches may have trees large enough to be merchantable (8", 3 stick) if some patch cuts were desired for age class diversity. Strong successional push toward hardwoods. North end mostly quaking aspen, south mostly bigtooth. 2018: some BTA reaching log size.
34	42110 - Planted Red Pine	Sawtimber Well	37.6	59	171-200	2008 comments: Row thinned in 11/02, crowns just starting to close back in from thinning. Decent quality. A few quaking aspen. 2018 BAs: 160, 170, 210, 170, 180, 210, 130, 150, 160; mean 171.
35	4110 - Sugar Maple Association	Sawtimber Well	121.9	85	111-140	2008 comments: Lots of beech seedlings. Aspen is in patches, most on east side of stand. Numerous regen gaps with various amounts of ironwood, aspen, hardwood saplings and poles. Age is from an average size codominant sugar maple; some SM appear to be older. Small amounts of black cherry, yellow birch, hemlock. 2018 BAs: 60, 170, 90, 110, 110, 110, 160, 130, 120, 130; mean 119. Good quality stand. There are a few ash that appear to still be alive. Scattered elm, red maple.
36	4119 - Mixed Northern Hardwoods	Poletimber Medium	7.2	58	51-80	Some open gaps. Aspen is declining.
37	42101 - Planted White Pine, Mixed Deciduous	Poletimber Medium	59.8	59	141-170	2008 comments: Some mortality in SW finger. Moderate stocking of mixed hardwood seedlings (AB, SM, BC). W. pine has some long-term potential despite weevil damage. BA's: 160, 210, 240, 130, 110, 50; 1st three are from unthinned west fingers of stand. Trace of s. maple. 2018 BAs: 130, 150, 100, 130, 170, 180; mean 143.
38	4112 - Maple, Beech, Cherry Association	Sawtimber Well	20.7	87	81-110	Patches of planted white pine. Trace of aspen. Dead ash.  Numerous multi-stemmed maples. 2018 BAs: 100, 100, 80, 120, 130, 100; mean 105. Stand has self-thinned somewhat with mortality in ash, w. pine, cherry.
40	4111 - S.Maple, Hard Mast Association	Sawtimber Medium	19.2	118	81-110	Thinned 10/06. Small amounts of red maple, yellow birch. 2018 BAs: 80, 100, 100, 120; mean 100.
41	4139 - Aspen, Mixed Deciduous	Poletimber Medium	24.7	37	Unspecified	Patchy, brushy stand. Appears to be low quality, small diameter for its age. A little better quality and denser in north lobe of stand, with more bigtooth aspen.
42	4139 - Aspen, Mixed Deciduous	Poletimber Medium	45.8	37		2008 comments: Much of the cherry is stump sprout origin, much is shrubby/open grown. Numerous openings and gaps. Generally poor quality trees. Aspen clones are of variable density and age. Long-term conversion away from aspen should be considered. Scattered white pine and ironwood saplings, autumn olive. 2018: appears to be filling in somewhat compared to previous inventory. Understory is filling in with white pine.
44	4130 - Aspen	Poletimber Well	62.3	37		2008 comments: Hardwood stump sprouts. Quite variable in diameters. Successional push toward northern hardwoods, with numerous hardwood seelings and saplings. Small amounts of overstory red maple, white ash, beech, and elm. 2018: many BTA reaching log size. Scattered paper birch.

S	Traverse City	Mgt. Unit		Report 7	- Forested	Stands Compartment: 8 Year of Entry: 2020
t a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
45	42110 - Planted Red Pine	Sawtimber Well	29.0	59	171-200	Thinned in 11/2002 except portions east of road in potential old growth area; east parts of stand were removed from OG designation in compartment review and 3rd-row thinned in 12/2013. 2018 BAs: 140, 130, 230, 200, 170; mean 174.
48	4112 - Maple, Beech, Cherry Association	Sawtimber Well	7.4	94	81-110	Much of aspen component is old, declining. Let succession to northern hardwoods continue. Much of stand is on a fairly steep hillside. 2018 BAs: 70, 100, 140, 90; mean 100.
49	42100 - Planted White Pine	Poletimber Well	32.1	59	171-200	Curving rows, some slopes might make thinning difficult. 2018 BAs: 190, 190, 170, 170, 160, 200, 210, 200; mean 186.
50	42101 - Planted White Pine, Mixed Deciduous	Poletimber Well	58.6	59	141-170	2008 comments: Old fire lanes brushed in with ironwood, cherry, aspen. Patches of older bigtooth aspen; pole quaking aspen scattered throughout. Heavy weevil damage. A few elm. Numerous suppressed, dead white pine: self thinning. Very little understory. 2018 BAs: 220, 140, 190, 120, 170, 180, 170; mean 170.
51	4139 - Aspen, Mixed Deciduous	Poletimber Medium	48.9	53	Unspecified	2008 comments: Rather sparse. Some remnant mature hardwoods scattered throughout - red maple, black cherry. Small amount of white pine. Scattered clones of the older aged trees, with pole-sized aspen of various ages radiating out from the older clones.
52	4199 - Other Mixed Upland Deciduous	Poletimber Medium	7.7	55	51-80	Variable stand. Q. aspen clones and associated brushy undergrowth along edges of opening.
53	4110 - Sugar Maple Association	Sawtimber Medium	14.6	103	81-110	Stand was select cut in 2015. Good quality stand. Small amounts of overstory yellow birch, beech.
55	4112 - Maple, Beech, Cherry Association	Sawtimber Well	44.2	105	111-140	2008 comments: Some aspen snags and CWD. Some gaps with advanced sapling growth. Some large crowned beech, multi-stemmed maple. Fair to good quality timber. 2018 BAs: 120, 130, 110, 130, 120, 150; mean 127.
56	4130 - Aspen	Poletimber Well	35.8	37		2008 comments: Some open areas (old landings?). Well stocked, fair quality.
57	4130 - Aspen	Poletimber Poor	12.8	55		White pine is filling in much of the understory.
58	4116 - Mixed N. Hardwood - Aspen	Poletimber Poor	13.4	50	1-50	Sparse, low quality. Red pine was inter-planted through most of the stand in 2012.
60	4139 - Aspen, Mixed Deciduous	Poletimber Poor	77.3	51	Unspecified	2008 comments: Sparse, low quality. Could possibly convert to pine, opening, or some of each. White pine is sparse but well distributed throughout most of stand (some Scotch pine too). A few pockets of denser, larger aspen/black cherry: could clearcut such patches to regenerate. Some red maple, juneberry here and there. 2018: both overstory and understory are densest in the west part of the stand.

S t	Traverse City		Report 7	<ul><li>Forested</li></ul>	Stands Compartment: 8 Year of Entry: 2020	
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
64	42101 - Planted White Pine, Mixed Deciduous	Poletimber Well	45.6	59	111-140	2008 comments: Row thinned in 2002, but some remote fingers were not thnned (see notes on field map). Open lane E-W through stand has dense hardwood seedlings & saplings. Some patches of pure hardwoods. Most of the white pine is fairly straight, good quality; fairly low in significant weevil damage. Trace of aspen. 2017 BAs: 170, 130, 100, 90, 190, 130, 170; mean 140.
66	4130 - Aspen	Poletimber Well	26.5	26		trace of red maple
68	42110 - Planted Red Pine	Poletimber Well	12.9	59	141-170	2008 SI tree: 8.5" dbh, 62' tall. 2017 BA 155.
70	42100 - Planted White Pine	Sawtimber Well	10.5	59	141-170	2017 BAs: 180, 130, 140, 140, 120; mean 142.
71	4112 - Maple, Beech, Cherry Association	Sawtimber Medium	24.5	87	81-110	Very dense rings on cored tree. Trace of aspen. Thinned Jan. 2012. 2017 BAs: 100, 120, 140, 70, 80, 110; mean 103.
72	4110 - Sugar Maple Association	Poletimber Well	10.7	79	81-110	Trace of beech. 2017 BAs: 80, 100, 110, 110, 110; mean 102.  Decent quality.
73	4130 - Aspen	Poletimber Medium	70.0	42		2008 comments: Some open patches. Could be harvested, but we may want to just let this convert to red maple-white pine over time. Aspen tends to be denser, a little better quality in the east 1/3 of the stand. Trace of elm.
74	4116 - Mixed N. Hardwood - Aspen	Sawtimber Well	90.5	101	81-110	2008 comments: Two-storied stand of older remnant cherry and maple over aspen and red maple poles/saplings. Much of the RM is multi-stemmed stump sprouts. QA is low quality, BC fair to low quality. 2018 BAs: 80, 110, 120, 80, 130, 80, 70; mean 96. Many small open gaps in the stand.
75	4112 - Maple, Beech, Cherry Association	Sawtimber Well	22.4	83	81-110	Thinned in 2006. Residual trees fair to good quality. Trace of beech. 2018 BAs: 100, 140, 130, 80, 90, 140; mean 113.
76	42201 - Natural White Pine, Mixed Deciduous	Sawtimber Medium	13.4	61	111-140	A few older, larger white pine. Mixed saplings = ironwood, red maple. 2018 BAs: 60, 150, 90, 110, 70; mean 96.
77	42110 - Planted Red Pine	Sawtimber Medium	6.1	59	111-140	North 60% of stand is thinned red pine, south 40% is white pine. Thinned January 2012. 2017 BAs: 130, 120, 90, 150, 60, 200; mean 125.
78	4112 - Maple, Beech, Cherry Association	Sawtimber Well	7.7	79	81-110	Thinned in 2002. Fair to good quality. Some cherry seedlings in canopy gaps. 2017 BA about 90.
79	6119 - Mixed Lowland Deciduous Forest	Sawtimber Poor	4.9	84		Willow, cattail, ferns, rushes above the snow in openings. Wet, open patches surrounded by trees. South edge grades into upland.
80	42101 - Planted White Pine, Mixed Deciduous	Poletimber Well	1.7	59	171-200	Trace of q. aspen. 2017 BAs: 140, 180, 180, 190; mean 172.

S t	Traverse City		Report 7	– Forested	Stands Compartment: 8 Year of Entry: 2020	
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
82	4110 - Sugar Maple Association	Poletimber Well	21.7	98	51-80	Cored tree: very dense rings early in tree's life (1st 20-25 years), then released with good growth. Thinned Dec. 2011. Decent quality sugar maple poles and small logs. 2017 BAs: 80, 80, 100, 80, 50; mean 78. Heavy scale on beech.
83	4199 - Other Mixed Upland Deciduous	Poletimber Medium	26.1	37	51-80	2008 comments: Some open gaps in stand. A few white birch, beech. Mixed hardwood saplings = red maple, beech, sugar maple.
84	4112 - Maple, Beech, Cherry Association	Sawtimber Medium	107.3	91	81-110	Variable quality. SM concentrated toward east end of stand. Scattered basswood, yellow birch, elm, white pine. Some big hollow beech wildlife trees. Marked thinning completed Dec. 2013; scattered regen. gaps with a little cherry regeneration; otherwise just beech and ironwood in the understory. 2018 BAs: 70, 60, 60, 130, 80, 130; mean 88. Stand has one good sized opening along Hooker Rd. on the south edge.
85	4112 - Maple, Beech, Cherry Association	Sawtimber Well	17.4	98	81-110	Many trees multi-stemmed, poor quality. Thinned in 2002. Some regen in patches: AB, SM, IW, BC. 2017 BAs: 190, 90, 40, 50, 170; mean 108. Variable stocking. Low to medium quality.
86	42110 - Planted Red Pine	Poletimber Medium	2.3	59	111-140	3rd row thinned January 2012. Some post-sale mortality. 2017 BA = 120.
88	42100 - Planted White Pine	Sawtimber Well	2.6	59	111-140	Short N-S oriented rows, but a little erratic. Good quality. Thinned 12/2011. 2017 BAs: 100, 170, 130; mean 133.
90	4110 - Sugar Maple Association	Poletimber Medium	7.2	46	1-50	Hardwoods reclaiming an old field. Some older multi-stemmed sugar maple toward the west end of the stand. Denser/more s. maple to west, sparser/more cherry to east.
91	4110 - Sugar Maple Association	Sawtimber Medium	7.4	98	81-110	Fairly steep slope up toward SE, but operable. Good quality timber. Select cut January 2012. 2017 BAs: 130, 120, 70; mean 107.
92	4110 - Sugar Maple Association	Sawtimber Well	36.0	76	111-140	Aspen clones irregularly scattered throughout. Also some semiopen patches with advanced regeneration. Fair to good quality trees. Dead ash. Patches of planted WP/RP. 2017 BAs: 110, 170, 150, 90, 120, 90, 130; mean 123.
93	42101 - Planted White Pine, Mixed Deciduous	Sawtimber Well	22.4	59	111-140	Thinned in 2002. Hardwood regen filling in the understory. WP decent quality. 2017 BAs: 100, 170, 110, 120, 100, 180, 150, 120, 110, 80; mean: 124. Various sized patches of mature

42110 - Planted Red

94

Poletimber

Medium

6.8

43

141-170

hardwoods scattered through the stand. Dead ash.

Many trees have a slight sweep or crook in the first 8 feet (old snow damage?). Poor quality east end. 3rd-row thinned fall 2012. 2017 BAs: 190, 190, 150, 140; mean 167.

S t	Traverse City Mgt. Unit			Report 7	' – Forested	Stands Compartment: 8 Year of Entry: 2020
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
95	42130 - Planted Scotch Pine	Poletimber Well	9.6	61	111-140	Fairly well stocked with an advanced understory of hardwood regeneration. Could clearcut to remove exotic SP and allow hardwoods to take over, if hardwoods can be adequately protected during harvest, otherwise, replant to red pine after harvest. Could also let SP die off and let hardwoods succeed (already advanced in west arm of the south block). SP mostly 2-3 sticks, then limby/wolfy top. Some better stems, a few sawbolts. Some mortality in SP and porcupine damage. 2017 BA = 130.
96	42111 - Planted Red Pine, Mixed Deciduous	Sawtimber Well	5.2	59	141-170	Hardwoods are in patches opened up in 1978 release cut, plus a heavy understory component within RP/WP cover. Should manage long-term for hardwoods. Maybe remove much of RP in a future entry and let hardwoods take over. 2017 BA average of 5 plots = 150. Power line runs through stand E-W.
97	4130 - Aspen	Poletimber Well	7.8	37		Planted WP patches in west end; hardwood saplings and poles in a patch in SE corner of stand. Remainder is pretty solid BT aspen poles with a few hardwoods in canopy. Power line E-W through stand.
98	4110 - Sugar Maple Association	Poletimber Medium	5.4	89	81-110	Old field returning to hardwoods. Low to medium quality, numerous multi-stemmed maple. Little structural diversity, open understory. Thinned 2/2012, residual BA based on 7 pre-sale cruise plots: 86 sq.ft./acre.
99	42110 - Planted Red Pine	Sawtimber Medium	22.2	64	111-140	Occassional Norway spruce, quaking aspen. Some mortality pockets (pine bark beetle?). Hardwood regen thick in some spots. Some younger inclusions: 3 "holes" evident in 1978 photo are mostly filled in with a 2nd RP planting about 39 years old (in 2009). Second thinning was in fall 2012, marked red pine plus all Scotch pine removed. 2017 BAs: 170, 130, 120, 130, 150, 140, 160; mean 143.
100	4110 - Sugar Maple Association	Poletimber Poor	10.3	53	1-50	Old field returning to hardwoods. All sizes/ages of maple, from open-grown multi-stemmed older trees down to seedlings. Patchy and heterogenous, some openings. Red pine windbreak on north edge is on adjacent private property, but has seeded in numerous volunteers at that end of stand. Stand age taken from a pole-sized tree. A few scattered Scotch pine saplings.
101	42110 - Planted Red Pine	Poletimber Medium	9.4	57	111-140	Numerous hardwood seedlings in much of stand: AB, SM, BC. 2nd thinning was in fall 2012. 2017 BAs: 110, 100, 130, 160; mean 125.
102	4130 - Aspen	Poletimber Well	9.3	43	Unspecified	Could be cut this entry period if needed, but stand is healthy and will easily hold for another 10 years or more.
103	6112 - Lowland Aspen	Poletimber Well	4.9	37	Unspecified	Dense pole stand, trace of w. birch. Utility line runs through stand. Lots of fallen QA from self-thinning. Low ground,

seasonally wet.

S t	Traverse City Mgt. Unit			Report 7	- Forested	Stands Compartment: 8 Year of Entry: 2020
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
104	4110 - Sugar Maple Association	Sawtimber Medium	33.9	103	81-110	Good quality timber. Stand has few snags, little CWD. Trace of hemlock, bigtooth aspen. Stand was thinned 2/2012, removing much of the multi-stemmed maple. 2012 residual BA, based on 35 pre-sale cruise plots: 81 sq.ft./acre. 2017 BAs: 80, 80, 90, 70, 120, 100; mean 90. Belt of younger trees along the east edge. Some yellow birch poles in the SW corner.
105	4110 - Sugar Maple Association	Sawtimber Well	60.4	89	81-110	Thinned in 2003. Patches of younger pole timber and aspen. Good quality timber. 2017 BAs: 80, 110, 80, 100, 140, 90; mean 100.
106	42311 - Planted Spruce, Mixed Deciduous	Poletimber Well	4.9	57	111-140	Aspen resulting from 1991 overstory removal cut are in gaps in the spruce plantation. Leave this stand for cover value. 2017 BAs: 170, 180, 110, 90; mean 137
107	42110 - Planted Red Pine	Sawtimber Well	21.2	57	111-140	Some patches of SM saplings in understory. 2nd thinning was in fall 2012. 2017 BAs: 150, 100, 160, 130, 150, 150, mean 140.
109	4130 - Aspen	Poletimber Medium	46.8	43	Unspecified	Generally low quality aspen, but there are patches of BTA that are better and have less hardwood understory. May be best to manage most of the stand for hardwoods over the long run; with the pole hardwoods in the canopy and well stocked maple regeneration, there is good potential for high-quality hardwood here. Some low, wet spots. Much of the pole red maple is from multi-stemmed stump sprouts. Some aspen mortality.
113	4139 - Aspen, Mixed Deciduous	Sapling Medium	8.3	5	1-50	Clearcut in Jan. 2013. Scattered retention: cherry, red maple, elm, ironwood, plus a few white pine.
114	4139 - Aspen, Mixed Deciduous	Poletimber Poor	16.1	53	Unspecified	Rather sparse. White pine is filling in.
115	4130 - Aspen	Sapling Medium	20.0	5	Unspecified	Stand includes three retention islands from Jan. 2013 clearcut plus scattered reserve trees: cherry, red maple, aspen, elm, and a few scattered white pine. Cherry regeneration is predominantly stump sprouts.
116	4130 - Aspen	Sapling Poor	16.3	5	Unspecified	Stand includes three retention islands from Jan. 2013 clearcut plus scattered reserve trees: cherry, red maple, aspen, elm, and a few scattered white pine. Regeneration is sparse. Cherry stump sprouts are doing OK, but most of the maple sprouts have been browsed down. Aspen regen is patchy. White pine seedlings are starting to fill in the gaps.
118	42101 - Planted White Pine, Mixed Deciduous	Sawtimber Medium	41.9	59	81-110	Old fire lanes on edges brushed in with ironwood, cherry, aspen. Pole quaking aspen scattered throughout. A few elm. Very little understory. This part of an original large WP plantation was thinned in winter 2013-2014: more-or-less 3rd-row thinned, plus additional low-quality trees in adjacent rows also cut. 2018 BAs: 130, 110, 90, 100, 130, 60, 90; mean 101. Fair amount of aspen sprouts coming up in canopy gaps.
119	4130 - Aspen	Sapling Medium	7.6	4	1-50	Stand was clearcut in 1/2014, with residual clumps of white pine, maple, etc. Some open patches, but generally filling in with aspen and some cherry. Gaps are filling in with white pine seedlings.

S t a n d	Traverse City Mgt. Unit			Report 7	– Forested	Stands Compartment: 8 Year of Entry: 2020
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
120	42101 - Planted White Pine, Mixed Deciduous	Sawtimber Well	15.7	59	171-200	2018 BAs: 220, 150, 200, 220; mean 197. Good quality white pine.
121	42101 - Planted White Pine, Mixed Deciduous	Sawtimber Medium	20.5	59	51-80	This stand was thinned in 12/2013; residuals were marked, all other trees cut. Residual BA was 71 sqft/ac from sale cruise.  Lot of aspen sprouts in canopy gaps.
122	4130 - Aspen	Sapling Medium	5.4	5	1-50	2 patches clearcut in 12/2013 with residual clumps of white pine, black cherry, and maple. East patch is poorly stocked, heavily browsed. West patch is much better.
123	4319 - Mixed Upland Forest	Poletimber Medium	14.6	59	81-110	This stand was thinned in 12/2013; residuals were marked, all other trees cut. Residual BA was 83 sqft/ac from sale cruise. Scattered sugar maple, elm. 2018: good regeneration in gaps: aspen, cherry stump sprouts, beech, some WP. some red maple too, but it's heavily browsed.

Compartment: 8
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Stand	Cover Type	Acres	Managed Site	General Comments:
8	3102 - Grass	5.7	No	This opening extends onto private property to the north. This opening was maintained at one time, most likely by an adjacent land owner. We have no record (FTP) of any state work here. In 2001 there was rye planted in this opening. There are a few planted oaks (burr?) and a couple of chestnuts.
12	3301 - Low Density Deciduous Tree	1.8	No	Slowly filling in with maple and pine. Single clump of lilac.
15	3105 - Mixed Upland Herbaceous	1.3	No	Low ground.
21	31021 - Cool Season Grass	1.0	No	Ground cover info is from the 2008 inventory.
29	3301 - Low Density Deciduous Tree	1.2	No	2008 comments: Scattered black cherry. Timothy is all in one clump in middle of south lobe of stand. Strawberry and mint. Possibly one clump of switchgrass.  2018 comments: Closing in. Most of the species data are from 2008.
30	310 - Herbaceous Openland	4.8	No	2008 comments: 30-40 red pine saplings present from previous wildlife cover planting. Scattered old apple trees. White spruce was also planted but none were found. FTP W-61-245. Old homestead. Frontage on Valley Road.
31	3102 - Grass	6.3	No	Wildlife food plot. Rye field surrounding uncultivated patches of cherry/w. pine
32	110 - Low Intensity Urban	5.6	Yes	Valley Rd., including a small old borrow pit off the east shoulder.
39	3303 - Mixed Low Density Trees	35.7	No	Ground cover info is from 2008.
43	3301 - Low Density Deciduous Tree	38.9	No	Ground cover info is from 2008 inventory.
46	6239 - Mixed Emergent Wetland	2.9	No	
47	3101 - Poverty Grass, Cladonia	1.4	No	Wildlife food plot.
54	3301 - Low Density Deciduous Tree	12.7	No	2008 comments: Occasional old stump. One clump of leafy spurge. Bracken is nearly ubiquitous with not much underneath it. BC of all sizes. Poverty grass along 2 track. This opening is on its way to becoming a forested stand. Sheep sorrel, moss, sedge, rice grass, rubus, some red maple, golden rod, sjw, autumn olive. Shrubs planted under FTP W-61-245.
59	623 - Emergent Wetland	3.1	No	Vegetation info is from 2008 inventory, but it appears there is a significantly higher water level in 2018 compared to 2008 inventory, so vegetation mix likely changed.
61	3302 - Low Density Conifer Trees	1.5	No	White pine is taking over.

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Stand	Cover Type	Acres	Managed Site	General Comments:
62	211 - Cropland	1.3	No	2008 comments: Some red pine still present from wildlife planting from last entry period. Several honeysuckle.
63	3102 - Grass	4.1	Yes	Wildlife food plot. Formerly part of stand 54; had brush/trees cleared, then planted to annual rye.
65	3302 - Low Density Conifer Trees	10.8	No	2008 comments: Gently rolling topo. NW end being used as a deer camp. Some small aspen clones present. Very similar to stand 58 - M4.
				2018: white pine is filling in. Ground cover info is from 2008.
67	3301 - Low Density Deciduous Tree	5.0	No	Notes from TLW 1/29/08 - Sparse open grown black cherry of all sizes. Some quaking aspen and red maple. White pine saplings. Blackberry.
69	6233 - Wet Meadow	2.2	No	Patches of dead white pines on periphery, probably from elevated water table.
81	3301 - Low Density Deciduous Tree	4.9	No	2008 comments: SJW, scattered cherry, scattered red maple clumps, rubus, cladonia, sugar maple, June berry, sheep sorrel, hawkweed, scattered white pine seedlings, bracken, strawberry, old white pine stumps,
87	6233 - Wet Meadow	0.9	No	
89	3105 - Mixed Upland Herbaceous	1.2	No	
108	3302 - Low Density Conifer Trees	1.1	No	
110	3301 - Low Density Deciduous Tree	4.7	No	
112	3301 - Low Density Deciduous Tree	17.0	No	
125	3301 - Low Density Deciduous Tree	29.1		Thinned in 2003, then seed-tree harvested in Jan./Feb. 2018 as part of a MSU hardwood regeneration project. Residual seed trees are mostly sugar maple, with some basswood, cherry, and beech also left. Top wood under 9" in diameter was left scattered and unlopped throughout the stand to thwart deer browsing of regeneration. The stand will continue to be monitored for many years.