

Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 61009 Entry Year 2017 Acreage: 1,770

Management Area: Benzie Moraines

County Benzie

Revision Date: 2015-06-12

Stand Examiner: Tim Webb

Legal Description:

T27N R14W sections 24, 25, 36

Identified Planning Goals:

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

There are several mature aspen stands within the compartment with deteriorating, low-quality quaking aspen overstories and well-developed northern hardwood understories. Although the MA plan steers toward harvest and regeneration of such stands to aspen, some stands will be better managed by allowing natural succession to hardwoods.

A multi-compartment Special Conservation Area, which includes hardwood stands in the north part of this compartment, is being proposed. Because of recent changes in biodiversity management direction, previously proposed parts of this SCA in compartments 4, 5, 8, and 10 have been adjusted, including elimination of SCA acreage in compartment 8. Emphasis of the revised SCA proposal is on interior hardwood forest. A description of intended management for the entire proposed SCA follows:

This proposal is for a multi-compartment SCA, to be managed as core habitat for species requiring mature, interior northern hardwood forest. Stands will continue to be managed using timber harvest, but with emphasis on habitat rather than timber production. Post-harvest basal areas should be higher than normal (e.g. 90-110), therefore maintaining a higher canopy closure. Harvests should include creation of multiple down logs per acre, greater attention to retention of large-diameter, mast and cavity trees, conifers, and vertical structure, and emphasis on maintaining or improving tree species diversity.

Soil and topography:

Most of the compartment has Benzonia, Kaleva, and Nessen-Kaleva sands. Limited areas with Fogg-Benzonia sand or Marlette sandy loam harbor high-quality northern hardwoods. Most of section 24 and the northwest 2/3 of section 25 falls on a moraine ridge with level to rolling topography, including some steeper hills and a couple of shallow ponds. The southeastern 1/3 of section 25 and the north half of section 36 are on a pitted outwash plain with gently rolling topography and occasional kettle depressions. The south half of section 36 is on outwash plain, being flat to gently rolling with a couple of kettle depressions.

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

This compartment is almost completely surrounded by state forest land. There are two 80-acre private parcels within the compartment, apparently used for recreation and timber production. Some farms and rural residential properties lie within a mile or two of the compartment.

Unique Natural Features:

None.

Archeological, Historical, and Cultural Features:

The private east half of the northwest quarter of section 25 has evidence of an old homestead; previously cleared farm fields extend northeast onto state lands.

Special Management Designations or Considerations:

A large block of hardwood forest in section 24 is being proposed as part of a multi-compartment special conservation area, as described under "Identified Planning Goals" above.

Watershed and Fisheries Considerations:

This compartment is within the Platte River watershed, however with the exception of some fringe wetlands along section 24, there is no water to speak of in this compartment.

Wildlife Habitat Considerations:

The moraine ridge within Compartment 9 harbors northern hardwoods, mixed forest, and aspen associations. There are also a few small red pine plantations and forest openings. On pitted outwash plain within this compartment, there are northern hardwoods and aspen associations. There is also a red pine stand and several openings.

Wildlife considerations for northern hardwood stands involve maintaining tree species diversity, the protection of den/nesting trees & snags, coarse woody debris (CWD), and maintaining a scattering of any mast-producing trees/shrubs. This will insure use by many species of wildlife. Examples of species found include downy woodpecker, porcupine, sharp-shinned hawk, spotted salamander, wild turkey, and white-tailed deer. Ruffed grouse use different aged aspen throughout their life cycle. Younger stands provide cover while older stands provide buds and catkins (food source) for the winter months. Within each compartment, clearcutting helps facilitate different sized aspen trees by mimicking the necessary disturbance vital for regeneration. The inclusion of CWD trees for drumming logs and maintaining berry-producing shrubs is also desirable. Woodcock prefer areas that are similar to grouse, but with a higher water table. The moist soils allow woodcock to forage. Openings are evaluated for wildlife value and may require hand-felling to maintain this habitat type. Many wildlife species rely on small forest openings. These openings provide grassy nest sites, plentiful seeds and insects, and cover. Non-forest treatments should be timed to occur after any nearby timber in case the opening is needed for a timber landing. Examples of species include northern flicker, cottontail rabbit, and garter snake.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium and coarse-textured till. The glacial drift thickness varies between 600 and 800 feet. Beneath the glacial drift is the Devonian Antrim Shale. The Antrim is quarried for cement products. The nearest gravel pit is located two miles to the east and potential should be good on the uplands. This area is located northwest of the Antrim Shale gas play and there are no leases in this Compartment. The Antrim Shale appears to be pinching out and may have limited potential.

Vehicle Access:

Access is reasonably good throughout the compartment. There are some mud holes along Eliza Lake Road through section 24, making for difficult passage. Road berms on logging access trails in the south half of section 25 have been compromised and need to be restored.

Survey Needs:

None needed.

Recreational Facilities and Opportunities:

Three miles of the designated Shore to Shore Riding and Hiking trail are located within this compartment. One mile runs East/West along Hooker Rd, while the other 2 miles run NE/SW along Haze Rd. Snowmobile trail #3 (aka Platte RIver Trail) runs along the western edge of this compartment along Haze Rd. Trail protection specifications should be taken into consideration if treatments potentially impact these facilities. Specifically, appropriate measures identified in DNR Policy & Procedures "32.22xx Best Management Practices for Forest and Wildlife Management Adjacent to Recreational Trails" should be utilized. Furthermore, guidance provided by the DNR written "Logging Operations & Horse Events on State Lands" should be followed for sales impacting the Shore-To-Shore riding & hiking trail.

Fire Protection:

This area is protected by the Platte River DNR field office as well as Homestead Fire Department. Cover type here does not allow for very large fires. Pine plantations could pose a hazard for that fuel type. Access is OK in most of the area, and travel time for DNR units from the Platte River Field Office is acceptable. Urban Interface is not an issue here.

Additional Compartment Information:

The W½NW¼ of section 36 and the E½NW¼ section 25 are desirable parcels to acquire to block in state ownership should they become available for purchase.

The following reports from the Inventory are attached:

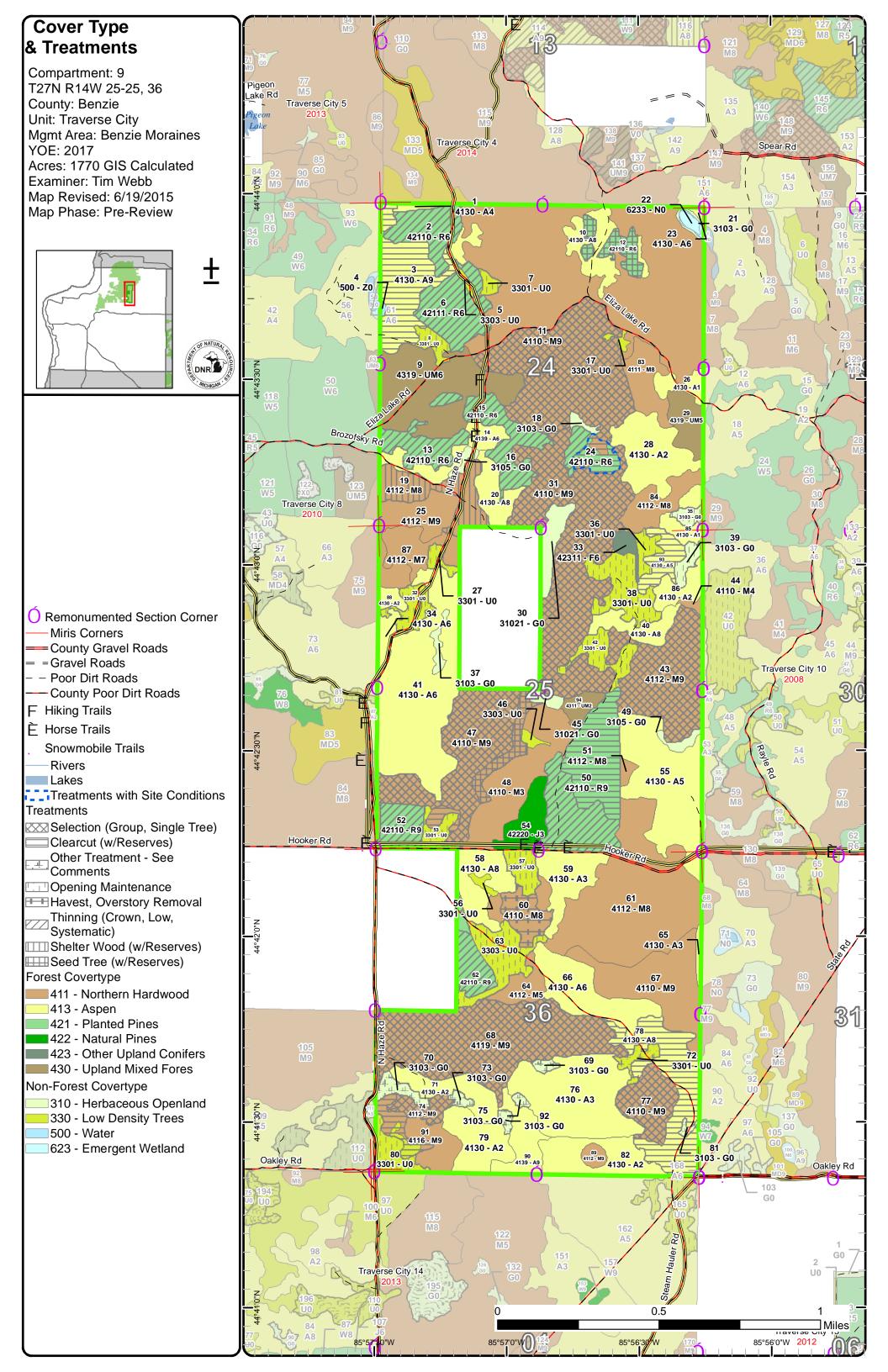
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

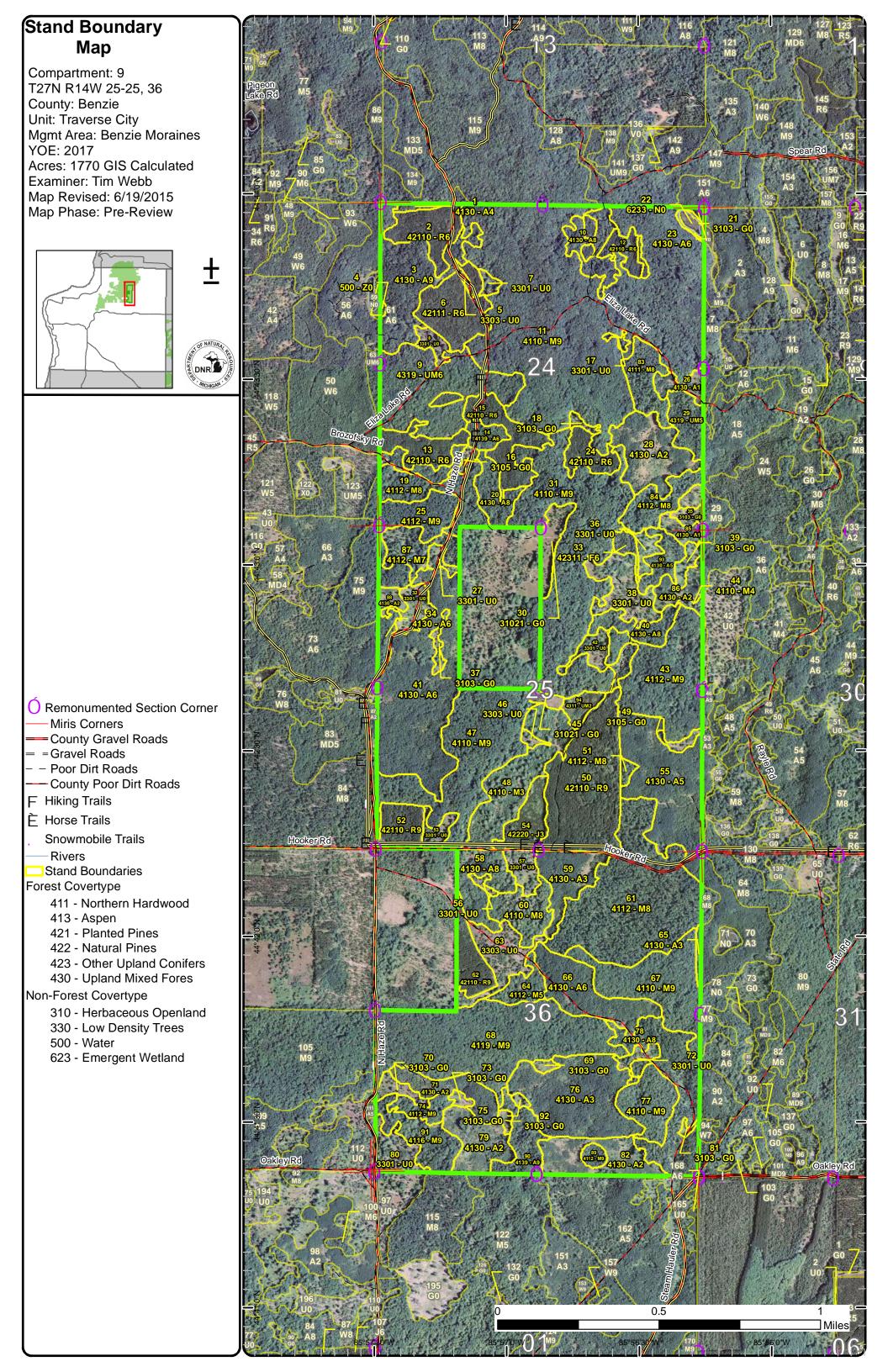
The following information is displayed, where pertinent, on the attached compartment maps:

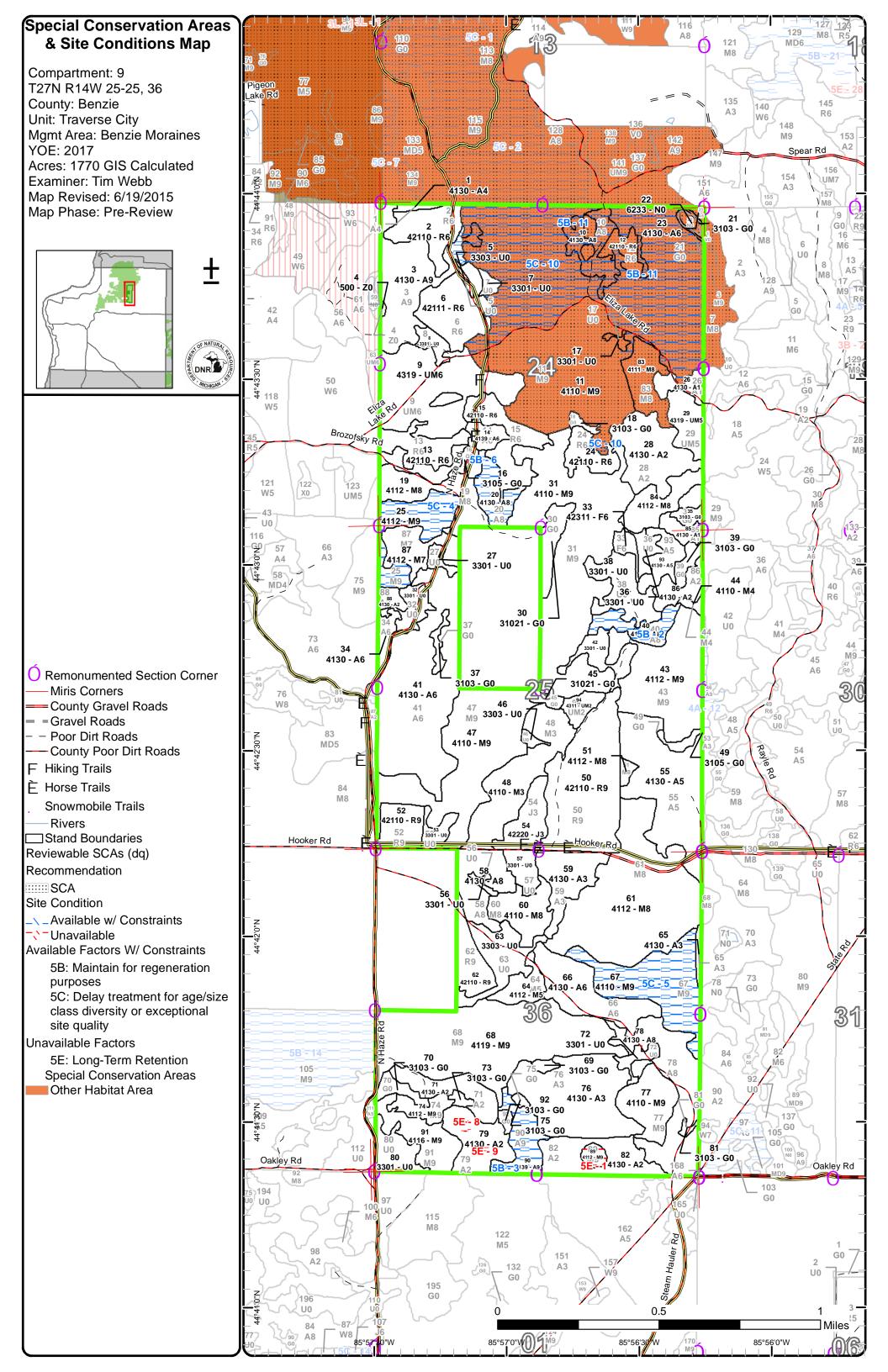
Base feature information, stand boundaries, cover types, and numbers Proposed treatments

Site condition boundaries

Details on the road access system







Compartment 9

Year of Entry 2017

DNR DNR

Traverse City Mgt. Unit
Tim Webb: Examiner

Age Class

	No.	L'OS C	3/2	87.05	S. S	8 /4	\$2. \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	\$ /s	\$ / K	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	8 8	\$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	, 20°, 20°, 20°, 20°, 20°, 20°, 20°, 20°	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	N. S. S.	\$ 15°	B. S.	St July	Se Los
Aspen	0	60	51	222	18	0	64	40	0	37	0	0	0	0	0	0	0	18	510
Herbaceous Openland	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40
Jack Pine	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Low-Density Trees	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	99
Marsh	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Northern Hardwood	0	0	36	0	0	0	0	0	0	149	444	203	0	0	0	0	0	26	858
Red Pine	0	0	0	0	0	95	0	82	0	0	0	0	0	0	0	0	0	0	177
Upland Mixed Forest	0	0	5	0	0	63	0	0	0	0	0	0	0	0	0	0	0	0	68
Upland Spruce/Fir	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	141	60	105	222	18	161	64	122	0	186	444	203	0	0	0	0	0	44	1770



Report 2 – Treatment Summary

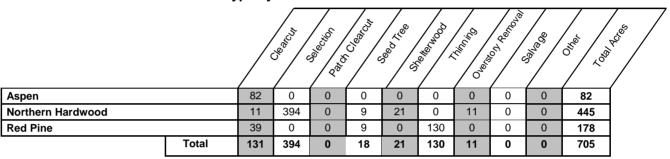
Traverse City Mgt. Unit Year of Entry: 2017

Acres of Harvest

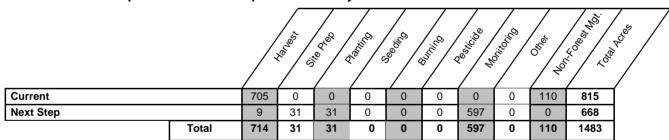
Compartment 9
Total Compartment Acres: 1,770

Commercial Harvest - 0 Harvests with Site Condition - 7 Next Step Harvest - 9 Habitat Cut - 110

Cover Type by Harvest Method



Proposed and Next Step Treatments by Harvest Method



Compartment: 9

Year of Entry: 2017

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	61009002-Cut	16.8	42110 - Planted Red Pine	Poletimber Well	47	201+	Harvest	Systematic Thinning	42110 - Planted Red Pine	Even-Aged	Proposal

Habitat Cut: No Site Condition:

Prescription 3rd-row thin. Leave cherry as much as possible. Residual BA about 140-150. Use specs to protect the recreational trail and to minimize

conflicts with users. Specs:

Next Step **Treatments:**

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Acceptable Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

61009003-Cut 33.0 4130 - Aspen Sawtimber 80 Unspec Harvest Clearcut with 4130 - Aspen Even-Aged Proposal Well ified Retention

Habitat Cut: No Site Condition:

Prescription Cut to 2" dbh. Leave an uncut patch adjacent to the wetland (including white pines), plus mark some cherry and maple to leave, and leave the red pine. Create some CWD. Use specs to protect the recreational trail and to minimize conflicts with users. Specs:

Next Step

Treatments:

Aspen sprouts; may possibly also get some mixed hardwood seedlings and sprouts, and some white pine seedlings close to the existing mature Acceptable

Regen:

Old next step comments: Other

Comment:

Proposed Start Date: 10/1 /2016

61009005-NF 1.1 3303 - Mixed Low Nonstocked 310 -0 Unspec NonForestMgt Herbaceous/Crop Proposal /Grass Planting Herbaceous **Density Trees** ified Openland

Habitat Cut: Yes Site Condition:

Prescription Remove exotics as needed by herbiciding, or other methods. Seed in forage crop appropriate for site location and seasonal (i.e. summer vs. Specs: winter forage) wildlife uses. May want/need to work around 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:

Old next step comments: Other

Comment:

Proposed Start Date: 10/1 /2016

61009006-Cut 42111 - Planted Poletimber 47 141-42110 - Planted Even-Aged Harvest Systematic Proposal Red Pine, Mixed Well 170 **Thinning** Red Pine

Deciduous

Habitat Cut: No Site Condition:

Prescription 3rd-row thin the pine; retain other species as much as possible for diversity. Use specs to protect the recreational trail and to minimize conflicts

with users. Specs:

Next Step **Treatments:**

<u>Acceptable</u> Regen:

Other Old next step comments:

Comment:

Traverse City Mgt. Unit Report 4 -- Treatments Compartment: 9 s Year of Entry: 2017 t а **Treatment** Size Stand BA **Treatment Treatment Cover Type** Acres Stand Age **Approval** n Name CoverType Density Age Range Type Method Objective Structure **Status** d Unspec NonForestMgt Herbaceous/Crop 7 61009007-NF 310 -Proposal 2.2 3301 - Low Density Nonstocked 0 **Deciduous Trees** ified /Grass Planting Herbaceous Openland **Habitat Cut: Yes Site Condition:** Prescription Remove exotics as needed by herbiciding, or other methods. Seed in forage crop 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). Maintain as needed with mowing, Specs: seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment. Next Step Treatments: Acceptable Regen: Other Old next step comments: Comment: **Proposed Start Date:** 10/1 /2016 61009008-NF 4.3 3301 - Low Density Nonstocked Unspec NonForestMgt Herbaceous/Crop 310 -Proposal Deciduous Trees /Grass Planting ified Herbaceous Openland **Habitat Cut: Yes Site Condition:** Prescription Remove exotics as needed by herbiciding, or other methods. Seed in forage crop 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). Maintain as needed with mowing, Specs: seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment. Next Step **Treatments:** <u>Acceptable</u> Regen: Other Old next step comments: Comment: Proposed Start Date: 10/1 /2016 61009011-Cut 81.3 4110 - Sugar Maple Sawtimber 111-Harvest Single Tree 4110 - Sugar Uneven-Proposal Association Well 140 Selection Maple Aged Association **Habitat Cut: No** Site Condition: Prescription Mark for selection to a residual BA of 90-100. Favor retention of some old aspen, beech, and cavity trees for wildlife, as well as a bias toward larger diameter trees than normally left in hardwood selection cuts. Leave at least 2 downed trees per acre. Use specs to protect the Specs: recreational trail and to minimize conflicts with users. Next Step Treatments: Acceptable mixed hardwood in regeneration gaps; maple/basswood preferred over beech/ironwood Regen:

Within a proposed SCA, to be managed for interior, overmature hardwood habitat. Old next step comments:

Comment:

Other

10/1 /2016 **Proposed Start Date:**

61009012-Cut 9.1 42110 - Planted Poletimber 171-Harvest Seed Tree with 4119 - Mixed Two-Aged Proposal Red Pine Well 200 Retention Northern Hardwoods

Site Condition: **Habitat Cut: No**

Prescription Leave scattered clumps of sturdy red pine and hardwoods (10-30 BA) for seed/shade source and long-term retention, then let the stand

regenerate to mixed hardwoods and pine. Specs:

Next Step Treatments:

Acceptable mixed hardwood and red pine, predominantly sugar maple

Regen:

Other Old next step comments:

Comment:

Old next step comments: Other

Comment:

Proposed Start Date: 10/1 /2016

61009024-42110 - Planted Poletimber 47 201+ Clearcut with 4139 - Aspen, 24 7 4 Harvest Even-Aged Proposal clearcut Red Pine Well Retention Mixed

Deciduous

Habitat Cut: No Site Condition: Age-Class or Site Quality

Prescription Clearcut with residual clumps of red pine and cherry.

Specs:

Next Step **Treatments:**

Acceptable Natural regeneration to a mix of sugar maple, cherry, red pine, and aspen.

Regen:

Other Old next step comments:

Comment:

Traverse City Mgt. Unit Report 4 -- Treatments Compartment: 9 s Year of Entry: 2017 t а **Treatment** Stand BA **Treatment Treatment Cover Type** Acres Stand Size Age **Approval** n Name CoverType Density Age Range Type Method Objective Structure **Status** d 61009024-thin 42110 - Planted 201+ 4211 - Planted 24 3.9 Poletimber 47 Harvest Systematic Even-Aged Proposal Red Pine Well Thinning Red Pine **Habitat Cut: No Site Condition:** Prescription 3rd-row thin. Specs: Next Step **Treatments:** Acceptable Regen: Other Old next step comments: Comment: **Proposed Start Date:** 10/1 /2016 61009027-NF 2.9 3301 - Low Density Nonstocked Unspec NonForestMgt Herbaceous/Crop 310 -Proposal **Deciduous Trees** /Grass Planting Herbaceous Openland **Habitat Cut: Yes Site Condition:** Prescription This opening is dominated by bracken fern due to lack of natural disturbances. Mechanically treat bracken ro reduce its extent, plant to annual Specs: rye for several years and then convert to an appropriate perennial pasture mix (i.e. clover/alfalfa) or native mix if soils will allow. Periodic maintenance such as mowing, fertilization, reseeding, burning, and/or removal of woody encroachment. Next Step Treatments: <u>Acceptable</u> Regen: **Other** Could plant white spruce at east end of opening for cover and a buffer between WLD opening and private property. Old next step comments: Comment: Proposed Start Date: 10/1 /2016 61009031-Cut 97.3 4110 - Sugar Maple Sawtimber 111-Single Tree 4110 - Sugar Harvest Uneven-Proposal Association Well 140 Selection Maple Aged Association **Habitat Cut: No Site Condition:** Prescription Mark for selection, residual BA about 90. Target harvesting on trees with old skidder damage. Retain some of the beech and aspen for wildlife. Specs: Create some CWD Next Step **Treatments:** Acceptable mixed hardwood regen in gaps; maple/basswood/cherry preferred over beech/ironwood Regen: Other (Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

7.6 3301 - Low Density Nonstocked 61009032-NF NonForestMgt 310 -Unspec Herbaceous/Crop Proposal Deciduous Trees /Grass Planting Herbaceous Openland

Habitat Cut: Yes Site Condition:

Prescription This opening is dominated by bracken fern due to lack of natural disturbances. Mechanically treat bracken ro reduce its extent, plant to annual rye for several years and then convert to an appropriate perennial pasture mix (i.e. clover/alfalfa) or native mix if soils will allow. Periodic Specs:

maintenance such as mowing, fertilization, reseeding, burning, and/or removal of woody encroachment.

Next Step **Treatments:**

<u>Acceptable</u> Regen:

Old next step comments:

<u>Other</u> Comment:

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

61009035-NF 35

2.9 3103 - Rubus-Fern Nonstocked

Unspec NonForestMgt Herbaceous/Crop ified /Grass Planting

310 -Herbaceous Openland

Proposal

Habitat Cut: Yes Site Condition:

Specs:

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

Next Step Treatments:

Acceptable

Regen:

Other

Could manage this opening with 36, 39, 38, 42, and stands in compartment 10. Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

61009036-NF

4.5 3301 - Low Density Nonstocked Deciduous Trees

Unspec NonForestMgt

Herbaceous/Crop /Grass Planting

310 -

Proposal

ified Herbaceous Openland

Habitat Cut: Yes Site Condition:

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

maintenance such as mowing, fertilization, reseeding, burning, and/or removal of woody encroachment.

Next Step **Treatments:**

<u>Acceptable</u>

Regen:

Other Could manage this opening with 35, 39, 38, 42, and stands in compartment 10. Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

310 -61009038-NF 18.0 3301 - Low Density Nonstocked Unspec NonForestMgt Herbaceous/Crop **Deciduous Trees** /Grass Planting Herbaceous

Openland

Proposal

Habitat Cut: Yes Site Condition:

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

maintenance such as mowing, fertilization, reseeding, burning, and/or removal of woody encroachment.

Next Step

Treatments:

Acceptable

Other

Regen:

Could manage this opening with 36, 39, 35, 42, and stands in compartment 10. Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

61009039-NF 3.8 3103 - Rubus-Fern Nonstocked Unspec NonForestMgt Herbaceous/Crop 310 -Proposal

ified

/Grass Planting

Herbaceous Openland

Habitat Cut: Yes Site Condition:

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

maintenance such as mowing, fertilization, reseeding, burning, and/or removal of woody encroachment.

Next Step

Treatments:

<u>Acceptable</u>

Regen:

Could manage this opening with 36, 35, 38, 42, and stands in compartment 10. Old next step comments:

Comment:

Other

Report 4 -- Treatments

/Grass Planting

Compartment: 9 Year of Entry: 2017

Herbaceous Openland DNR DNR DNR CR

t а Stand **Treatment Treatment Cover Type Treatment** Acres Stand Size BA Age **Approval** n Name CoverType Density Age Range Type Method Objective Structure **Status** d 61009042-NF Unspec NonForestMgt Herbaceous/Crop 42 9.8 3301 - Low Density Nonstocked 310 -Proposal

Habitat Cut: Yes Site Condition:

Deciduous Trees

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

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Next Step Treatments:

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Acceptable Regen:

Other Could manage this opening with 36, 39, 38, 35, and stands in compartment 10. Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

61009043-Cut 49.1 4112 - Maple, Sawtimber 141-Harvest Single Tree 4112 - Maple, Uneven-Proposal Beech, Cherry Well 170 Selection Beech, Cherry Aged Association Association

Habitat Cut: No Site Condition:

<u>Prescription</u> Mark for selection harvest. Make regen holes around aspen clones. Focus on releasing better quality red maple and cherry. Remove defective

Specs: trees, multi-stemmed, etc. Create some CWD.

Next Step Treatments:

Acceptable A mix of regeneration is desired, including aspen sprouts in larger regen gaps focused on existing aspen clones, plus red maple and cherry

seedlings and stump sprouts in other gaps.

Old next step comments:

Comment:

Regen:

Proposed Start Date: 10/1 /2016

47 61009047- 2.8 4110 - Sugar Maple Sawtimber 94 111- Harvest Clearcut with 4139 - Aspen, Even-Aged Proposal Retention Mixed

Deciduous

Habitat Cut: No Site Condition:

Prescription Clearcut, retaining a few scattered hardwoods and aspen.

Specs:

Next Step Treatments:

Acceptable Full stocking with aspen sprouts is expected; some mixed hardwood seedlings and stump sprouts would also be acceptable.

Regen: Other

Regeneration may expand out into adjacent opening. Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

47 61009047-Cut 51.3 4110 - Sugar Maple Sawtimber 94 111- Harvest Single Tree 4110 - Sugar Uneven- Proposal Association Well 140 Selection Maple Aged Association

Habitat Cut: No Site Condition:

<u>Prescription</u> Mark for selection down to 90 BA. Focus on cutting multi-stemmed, skidder damaged, etc. Leave some mast trees and some CWD.

Specs:

Next Step
Treatments:

Acceptable Sugar maple, cherry and basswood are desired regen species in gaps, although ironwood and beech may dominate in the short term.

Regen:

Other Old next step comments:

Comment:

Report 4 -- Treatments Compartment: 9 Year of Entry: 2017

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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
47	61009047-nh- cc	8.6 4	1110 - Sugar Maple Association	Sawtimber Well	94	111- 140	Harvest	Seed Tree with Retention	4110 - Sugar Maple Association	Even-Aged	Proposal

Habitat Cut: No Site Condition:

Prescription Retain 10-20 BA of mature sugar maple plus a few other mixed hardwoods, well scattered through the treatment area. Cut all other trees >2"

dbh. Create some CWD during harvest operations. Specs:

Next Step Treatments:

Acceptable Sugar maple with a mix of other hardwood species is desired.

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

42110 - Planted 50 31.1 60 Clearcut with 42110 - Planted Even-Aged Proposal 61009050-Sawtimber 171-Harvest

Red Pine Well 200 Retention Red Pine clearcut

Habitat Cut: No Site Condition:

Prescription Clearcut, retaining some scattered clumps of hardwoods and pine.

Specs:

SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr) Next Step

Treatments:

Acceptable red pine, with patches of aspen sprouts

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

50 61009050-thin 26.8 42110 - Planted Sawtimber 60 171-Harvest Low Thinning 42110 - Planted Even-Aged Proposal

Red Pine Red Pine Well 200

Habitat Cut: No Site Condition:

Prescription Mark to thin, residual BA about 130. Clearcut and expand the aspen patches for habitat inclusions.

Specs:

Next Step

Treatments:

<u>Acceptable</u>

Regen:

This part of stand 50 has a significant hardwood sapling understory. Avoid going less than 130 on the residual BA to keep hardwoods from Other

increasing this period. Old next step comments: Comment:

10/1 /2016 Proposed Start Date:

52 61009052-Cut 11.8 42110 - Planted Sawtimber 171-Harvest Low Thinning 4211 - Planted Even-Aged Proposal

> Red Pine Red Pine Well 200

Habitat Cut: No Site Condition:

Prescription Mark for thinning to a residual BA of 120-130. Focus marking on low diameter, suppressed, multi-stemmed trees, etc. Use specs to protect the

recreational trail and to minimize conflicts with users. Specs:

Next Step

Treatments:

Acceptable Regen:

Other Over thinning would likely result in considerable increase of understory hardwood regeneration. Old next step comments:

Comment:

Habitat Cut: No Site Condition:

Prescription Mark for thinning, targeting small diameter, suppressed, or skidder-damaged trees. Reduce BA to about 140.

Specs:

Next Step Treatments:

<u>Acceptable</u>

Regen:

Other Omit the Scotch pine patch from the sale - let succeed to hardwoods. Old next step comments:

Comment:

S

Upland Shrub

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	>
63	61009063-NF	17.6	3303 - Mixed Low	Nonstocke	d	Unspec	NonForestMat	Brush Cutting	3205 - Mixed		Proposal	

ified

Habitat Cut: Yes Site Condition:

Density Trees

Specs:

Prescription Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. Could plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. Work around some of the existing beneficial vegetation to create a wildlife food plot of appropriate herbaceous species suited to site and soil conditions, with fertilization. Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment.

Next Step **Treatments:**

Acceptable Regen:

Other Old next step comments:

Comment:

10/1 /2016 **Proposed Start Date:**

61009068-Cut 89.6 4119 - Mixed 87 111-Single Tree 4119 - Mixed Uneven-Proposal Sawtimber Harvest Northern Hardwoods 140 Selection Northern Aged Hardwoods

Habitat Cut: No Site Condition:

Prescription Mark for selection with a residual BA of about 90. Retain some beech and cherry for mast. Retain any elm, yellow birch, and conifers. Retain some older aspen for potential cavity trees. Create CWD (1-2 downed trees/acre). Use specs to protect the snowmobile trail and to minimize Specs: conflicts with users.

Next Step Treatments:

Acceptable Maple, basswood and cherry are desired regeneration species in canopy gaps, although beech and ironwood may dominate in the short term. Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

61009069-NF 1.6 3103 - Rubus-Fern Nonstocked Unspec NonForestMqt Fruit Tree/Shrub 3205 - Mixed Proposal ified **Planting** Upland Shrub

Habitat Cut: Yes Site Condition:

Prescription Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. Plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. May Specs: need to fertilize plantings and protect with wire cages or tubex.

Next Step

Treatments:

<u>Acceptable</u>

Regen:

Old next step comments:

<u>Other</u> Comment:

Proposed Start Date: 10/1 /2016

61009070-NF 4.5 3103 - Rubus-Fern Nonstocked Unspec NonForestMgt Fruit Tree/Shrub 3205 - Mixed Proposal ified **Planting** Upland Shrub

Habitat Cut: Yes **Site Condition:**

Prescription Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. Plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. May Specs:

need to fertilize plantings and protect with wire cages or tubex.

Next Step **Treatments:**

<u>Acceptable</u> Regen:

Other Old next step comments:

Comment:

Traverse City Mgt. Unit Report 4 -- Treatments Compartment: 9 s Year of Entry: 2017 t а **Treatment** Stand BA **Treatment Treatment Cover Type** Acres Stand Size Age **Approval** n Name CoverType Density Age Range Type Method Objective Structure **Status** d Unspec NonForestMgt Fruit Tree/Shrub 61009072-NF 3.9 3301 - Low Density Nonstocked 3205 - Mixed Proposal 72 **Deciduous Trees** ified **Planting** Upland Shrub **Habitat Cut: Yes Site Condition:** Prescription Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. Plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. May Specs: need to fertilize plantings and protect with wire cages or tubex. Next Step **Treatments:** <u>Acceptable</u> Regen: **Other** Old next step comments: Comment: **Proposed Start Date:** 10/1 /2016 61009073-NF Proposal 1.6 3103 - Rubus-Fern Nonstocked Unspec NonForestMgt Fruit Tree/Shrub 3205 - Mixed ified **Planting** Upland Shrub **Habitat Cut: Yes Site Condition:** Prescription Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs Specs: and/or conifers for wildlife food and cover. Plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. May need to fertilize plantings and protect with wire cages or tubex. Next Step **Treatments:** Acceptable Regen: Other Old next step comments: Comment: **Proposed Start Date:** 10/1 /2016 61009074-Cut 6.7 4112 - Maple, Sawtimber 85 111-Harvest Single Tree 4112 - Maple, Uneven-Proposal Beech, Cherry Well Selection Beech, Cherry 140 Aged Association Association **Habitat Cut: No Site Condition:** Prescription Mark for selection with a residual BA of about 80-90. Focus harvest on low quality, multi-stemmed trees. Retain some beech and cherry for Specs: mast. Next Step Treatments: Acceptable Red maple and cherry regeneration is desired in canopy gaps, although ironwood and beech may dominate in the short term. Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

61009075-NF 1.1 3103 - Rubus-Fern Nonstocked Unspec NonForestMgt Fruit Tree/Shrub 3205 - Mixed Proposal

> ified **Planting** Upland Shrub

Habitat Cut: Yes Site Condition:

Prescription Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. Plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. May Specs:

need to fertilize plantings and protect with wire cages or tubex.

Next Step **Treatments:**

<u>Acceptable</u>

Regen:

Other

Old next step comments:

Comment:

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
77	61009077-Cut	18.3 4	4110 - Sugar Maple Association	Sawtimber Well	104	111- 140	Harvest	Single Tree Selection	4110 - Sugar Maple Association	Uneven- Aged	Proposal

Habitat Cut: No Site Condition:

Prescription Mark selection harvest to 90 BA residual. Spec to cut ironwood > 5" dbh. Leave beech, some cherry for mast; leave all hemlock.

Specs:

S

Next Step Treatments:

Acceptable Maple, cherry and basswood are desirable species to regenerate in canopy gaps, although ironwood is likely to dominate in the short term.

Regen:

Old next step comments: Other

Comment:

Proposed Start Date: 10/1 /2016

39.7 61009078-Cut 4130 - Aspen Sawtimber 60 Unspec Harvest Clearcut with 413 - Aspen Even-Aged Proposal Retention Medium ified

Habitat Cut: No Site Condition:

Prescription Clearcut, leaving a few 1/2 acre islands for retention, plus mark some individual pine/hardwoods to retain. Create some CWD. Leave hemlock.

Specs: Leave clumps of maple regen as much as possible.

Next Step Treatments:

Acceptable Full stocking with aspen sprouts is expected. Some cherry, red maple, and white pine regeneration are also possible and acceptable in the mix.

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

61009080-NF 8.4 3301 - Low Density Nonstocked Unspec NonForestMgt **Brush Cutting** 3205 - Mixed Proposal

Deciduous Trees Upland Shrub ified

Habitat Cut: Yes Site Condition:

Prescription Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs Specs: and/or conifers for wildlife food and cover. Could plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. Work around some of the existing beneficial vegetation to create a wildlife food plot of appropriate herbaceous species suited to site and soil

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

encroachment.

Next Step

Treatments:

Acceptable

Regen: Other

Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

61009081-NF 1.0 3103 - Rubus-Fern Nonstocked Unspec NonForestMgt Fruit Tree/Shrub 3205 - Mixed Proposal

ified **Planting** Upland Shrub

Habitat Cut: Yes **Site Condition:**

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

and/or conifers for wildlife food and cover. Plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. May

need to fertilize plantings and protect with wire cages or tubex.

Next Step

Treatments:

Acceptable Regen:

<u>Other</u> Old next step comments:

Comment:

Traverse City Mgt. Unit Report 4 -- Treatments Compartment: 9 Year of Entry: 2017

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	/
91	61009091-Cut	7.8	4116 - Mixed N. Hardwood - Aspen	Sawtimber Well	85	51-80	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal	

Site Condition: Habitat Cut: No

Prescription Clearcut, marking scattered hardwoods and aspen to retain. Create some CWD during harvest operations. Use specs to protect the Specs:

snowmobile trail and to minimize conflicts with users.

Next Step **Treatments:**

Acceptable aspen sprouts, along with mixed hardwood seedlings and stump sprouts

Regen:

S

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

61009092-NF 1.5 3103 - Rubus-Fern Nonstocked 0 Unspec NonForestMgt Fruit Tree/Shrub 3205 - Mixed Proposal

ified **Planting** Upland Shrub

Habitat Cut: Yes Site Condition:

Prescription Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. Plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. May Specs:

need to fertilize plantings and protect with wire cages or tubex.

Next Step Treatments:

<u>Acceptable</u> Regen:

Old next step comments: Other

Comment:

Proposed Start Date: 10/1 /2016

61009093-Cut 9.3 Poletimber 55 Unspec Clearcut with 4130 - Aspen Proposal 4130 - Aspen Harvest Even-Aged Medium Retention

ified

Habitat Cut: No Site Condition:

Prescription Clearcut; mark scattered trees to retain: maple, cherry, a few aspen. Create some CWD during harvest.

Specs:

Next Step Treatments:

Acceptable Full stocking with aspen sprouts is expected, plus some black cherry seedlings and stump sprouts.

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

Total Treatment 815.2 Acreage Proposed:

Traverse City Mgt. Unit
Tim Webb: Examiner

Compartment: 9
Year of Entry: 2017

Dominant Site Conditions

5C 5E

4	1
216	3
220	4
	216

*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	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
2	Available	5B: Maintain for regeneration purposes	11	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Let the aspen die ou	ut naturally, releasing decent of	quality un	derstory of red maple, sug	gar maple, and cherry.		
3	Available	5B: Maintain for regeneration purposes	15	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
	Latachan dia aut na	aturally and let succeed to har	dwoods.				

Report 5 – Site Conditions

Compartment: 9
Year of Entry: 2017

Traverse City Mgt. Unit

Tim Webb : Examiner

4	Available	5C: Delay treatment for age/size class diversity or	21	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Just thinned in 200	exceptional site quality 09, BA still a touch low; hold at le	ast anot	her 10 years till 2nd thinni	ing.		
5	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	40	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
6	Available	5B: Maintain for regeneration purposes	11	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Let aspen die out i	naturally and let succeed to hard	woods.				
8	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
9	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
10	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	159	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: SCA for mature ha	ardwood habitat					

Report 5 – Site Conditions

Traverse City Mgt. Unit

Tim Webb : Examiner

11	Available	5B: Maintain for regeneration purposes	15	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
	omments: t aspen die out na	aturally and let succeed to hard	dwoods.	Part of an interior hardwood	d forest habitat SCA.		

Traverse City Mgt. Unit Compartment: 009

Year of Entry: 2017



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

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

SCA Name	SCA Category	Detail Type	Recommendation	Acres
Unspecified Comments	Habitat Areas or Corridors	Other Habitat Area	Proposed SCA	792

This proposal is for a multi-compartment SCA, to be managed as core habitat for species requiring mature, interior hardwood forest. Stands will continue to be managed using timber harvest, but with emphasis on habitat rather than timber production.

Mgt. Unit Compartment:
Year of Entry

Report 7 – EXISTING SPECIAL CONSERVATION AREA DETAILS



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

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

S t				Report 8	B – Forested	Stands Compartment: 9 Year of Entry: 2017
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	Poletimber Poor	1.7	52	Unspecified	Small, sparse stand. Could cut along with stand to north in adjacent compartment, or #3. Bracken and trout lily.
2	42110 - Planted Red Pine	Poletimber Well	16.8	47	201+	Black cherry is stump sprouts. 8-10' rows. 2005 RP heights: 43', 45', 47', 51'. Some variation in row direction. 2015 BAs: 260, 210, 210, 130, 280; mean 218.
3	4130 - Aspen	Sawtimber Well	36.8	80	Unspecified	A lot of large diameter aspen, declining. Lots of CWD. Some red pine at north end. Rolling terrain. NE arm is younger, polesized aspen.
6	42111 - Planted Red Pine, Mixed Deciduous	Poletimber Well	24.6	47	141-170	Patches of deciduous trees throughout the plantation, thus some variation in basal area. 2015 BAs: 100, 170, 50, 240, 150, 210; mean 153.
9	4319 - Mixed Upland Forest	Poletimber Well	51.6	44	111-140	Mixed type. Planted white pine sometimes forms canopy; other places it is overtopped by hardwoods. 2015 BAs: 130, 130, 140, 100, 140; mean 128.
10	4130 - Aspen	Sawtimber Medium	14.7	59	Unspecified	Very thick maple regen in places. Lots of CWD from dying aspen.
11	4110 - Sugar Maple Association	Sawtimber Well	236.8	97	111-140	High quality hardwoods, especially on hills and ridges. AFOCa habitat; more toward AFO at east end of stand: more cherry and beech on slope toward pond. Some area of poles, saplings, and some patches of aspen. Low CWD. NE area thinned 2 entry periods ago, with a heavy flush of beech saplings post-harvest. Some dead white ash. Scattered red maple, and some sub-canopy ironwood poles. 2015 BAs: 20 plots ranging from 50 to 210, mean 128.
12	42110 - Planted Red Pine	Poletimber Well	9.1	42	171-200	Average BA from 3 plots = 170 RP + 10 QA + 10 BC = 190. Lots of sugar maple regeneration near edges.
13	42110 - Planted Red Pine	Poletimber Well	13.7	47	141-170	Sugar maple regen patches. BC stump sprouts. 2005 RP heights: 43', 45', 47'. 2015 BAs: 130, 210, 200, 160, 150; mean 170.
14	4139 - Aspen, Mixed Deciduous	Poletimber Well	13.0	33	81-110	Remnant BC/A/M, scattered planted RP, over pole A/RM. Let it grow. 2005: counted 83 rings on an older black cherry before hitting rotten core.
15	42110 - Planted Red Pine	Poletimber Well	21.6	47	141-170	Parts of stand have thick SM seedlings/saplings. 2005: RP heights: 47', 49'. 2015 BAs: 110, 110, 180, 180, 180, 180; mean 157.
19	4112 - Maple, Beech, Cherry Association	Sawtimber Medium	21.3	88	81-110	Poor hardwoods, probably grazed when young (found barbed wire). Many multi-stemmed trees. Aspen is patchy, more on the east side. 2015 BAs: 190, 120, 100, 100, 40, 90; mean 107.
20	4130 - Aspen	Sawtimber Medium	11.3	56	Unspecified	SM regen is in pockets. Quaking aspen is dying off, will succeed to hardwoods. Some decent quality sugar maple.

s t	Traverse Cit	y Mgt. Unit		Report 8	- Forested	Stands Compartment: 9 Year of Entry: 2017
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
23	4130 - Aspen	Poletimber Well	0.9	56	Unspecified	Tail end of a larger stand in compartment to the north.
24	42110 - Planted Red Pine	Poletimber Well	9.3	47	201+	Thick with SM seedlings except NW part of stand. 2005 RP heights: 62', 52', 55'. 2015 BAs: 240, 240, 150, 180; mean 203.
25	4112 - Maple, Beech, Cherry Association	Sawtimber Well	20.7	94	111-140	Decent red maple. Thinned fall 2009, whole-tree harvested. Flush of post-harvest seedlings: ironwood, beech, and cherry. 2015 BAs: 130, 90, 120, 120; mean 115.
26	4130 - Aspen	Sapling Poor	6.1	15	Unspecified	Aspen regen patchy, much of cut not regenerated yet, but some AB & SM are creeping in. Lots of blackberry.
28	4130 - Aspen	Sapling Medium	27.1	15	Immature	Much open ground. Aspen is clumped; cherry is very slowly creeping out into open areas. Few NH seedlings other than cherry and beech. Lots of raspberry/blackberry.
29	4319 - Mixed Upland Forest	Poletimber Medium	11.4	47	51-80	Some solid planted WP, other areas with WP overtopped by mixed hardwoods. 8-10' rows. SM seedlings in places. Thinned fall 2009. Not field visited in 2015; data is from post-harvest update.
31	4110 - Sugar Maple Association	Sawtimber Well	97.8	105	111-140	Patch of large bigtooth aspen at far north end of stand, outside boundary of previous cut. High quality hardwoods: AFOCa. Aspen is patchy. 2015: 8 BAs taken, range 50-200, mean 126.
33	42311 - Planted Spruce, Mixed Deciduous	Poletimber Well	3.4	40	51-80	2-storied: old hardwoods over dense, limby spruce.
34	4130 - Aspen	Poletimber Well	5.1	38	Unspecified	Some older hardwoods along north and east edges, but mostly pole timber.
40	4130 - Aspen	Sawtimber Medium	10.9	55	Unspecified	Poor, low stocked aspen succeeding to maple.
41	4130 - Aspen	Poletimber Well	77.7	24	Unspecified	
43	4112 - Maple, Beech, Cherry Association	Sawtimber Well	49.1	95	141-170	Good amount of CWD and snags. Mosaic of middling hardwoods, aspen clones, patches of hardwood seedlings and saplings, and small openings. Numerous multi-stemmed red maple. Some good quality red maple. 2015 BAs: mean of 7 plots = 148, range 90-190.
44	4110 - Sugar Maple Association	Poletimber Poor	1.6	24	1-50	A few older SM (+\-16"dbh) in opening with lots of seedling/sapling SM & RM reclaiming site. A few juneberry. 2015 BAs: 20, 10, 0; mean 10.
47	4110 - Sugar Maple Association	Sawtimber Well	63.4	94	111-140	AFOCa: leeks, blue cohosh, jack in the pulpit, Canadian white violet, etc. High quality hardwood stand. Little CWD. Some SM seedlings in regen holes. However, west arm of stand has thick beech/maple regen. Occasional cherry, dead ash. 2015 BAs: mean of 7 plots = 131, range 100-150.

S t	Traverse Cit	y Mgt. Unit		Report 8	- Forested	Stands Compartment: 9 Year of Entry: 2017
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
48	4110 - Sugar Maple Association	Sapling Well	35.6	18	1-50	Some patches of JP regen, but some overtopped or broken from snow. Scattered remnant sawlog trees; mostly sugar maple, a few basswood and beech. Best sugar maple regeneration I've seen.
50	42110 - Planted Red Pine	Sawtimber Well	58.0	60	171-200	Good quality red pine, some to 15-16" dbh. Was row thinned. One inclusion of bigtooth aspen with advanced maple saplings and some poles; other patches of BTA and QA. Advanced hardwood regen thick in places. 2005 RP heights: 58', 63', 74'. A few SM, WP in addition to listed species. Mature hardwoods in patches, some with advanced understories of hardwoods and/or red pine. 2015 BAs: mean of 7 plots = 179; range 130-210. Beech and maple seedlings will likely get much thicker if the stand is thinned again.
51	4112 - Maple, Beech, Cherry Association	Sawtimber Medium	1.9	98	51-80	Numerous multi-stemmed trees. Thinned winter 2008. 2015 BAs: 110, 40, 60; mean 70.
52	42110 - Planted Red Pine	Sawtimber Well	11.8	60	171-200	Was 3rd row thinned. 2005: BAs: 200, 130, 100, 160; mean 148. 2015 BAs: 230, 170, 190, 170; mean 190.
54	42220 - Natural Jack Pine	Sapling Well	13.4	18	Unspecified	Thick JP regeneration from harvested plantation. Some patches of snow damaged trees - bent/broken. A few scattered mature sugar maples.
55	4130 - Aspen	Poletimber Medium	51.5	25	1-50	A few small openings in stand. Fair amount of bent/broken stems from snow storm damage.
58	4130 - Aspen	Sawtimber Medium	18.3	55	51-80	Poor, sparse QA giving way to SM. Probably best to let succeed, as SM regen is decent quality and well stocked, whereas cutting aspen would damage SM and perpetuate poor QA. Maple age is from a 4" dbh tree in 2005.
59	4130 - Aspen	Sapling Well	18.3	15	Unspecified	No residuals, little CWD. Some open pockets, including a larger opening at the NE end that has been used as a timber landing. Deciduous saplings = ironwood, beech, cherry, a few sugar maple.
60	4110 - Sugar Maple Association	Sawtimber Medium	15.7	92	51-80	SM saplings denser in more open spots. Northeast end has better quality. Most of the stand is older semi-open sugar maple, many multi-stemmed. North lobe was thinned in spring 2008. 2015 BAs: 70, 40, 80, mean 63.
61	4112 - Maple, Beech, Cherry Association	Sawtimber Medium	86.7	107	81-110	Good number of snags and CWD. Some nicer RM. Thinned in 2008. Numerous girdled beech still standing. Scattered dead ash. Fair amount of logging damage to boles. 2015 BAs: 60, 100, 90, 90; mean 85.
62	42110 - Planted Red Pine	Sawtimber Well	12.3	62	201+	Pushing hard to hardwoods. Good quality RP. Was 3rd-row thinned. 2005 RP heights: 59', 58'. Scotch pine in one patch toward north end of stand: see imagery. 2015 BAs: 200, 220, 230, 200; mean 212.

S t	Traverse Cit	y Mgt. Unit		Report 8	- Forested	Stands Compartment: 9 Year of Entry: 2017
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
64	4112 - Maple, Beech, Cherry Association	Poletimber Medium	8.5	78	81-110	Semi-open stand. Older BC, some RM nursing a seedling/sapling stand of RM/SM. Numerous small openings - could possibly plant oak in gaps for wildlife project. Older cherry is low quality. 2015 BAs: 130, 20, 100; mean 83.
65	4130 - Aspen	Sapling Well	2.0	26	Unspecified	Part of larger stand in section to east. Older hemlock remnants here and there. Not field checked in 2015; changes in tree sizes were estimated based on similar stand to the north (stand 55).
66	4130 - Aspen	Poletimber Well	27.5	24	1-50	2005 comments: shrubs = raspberry, chokecherry, gooseberry, maple-leaved viburnum, hawthorn. NH seedlings + BC, SM, WA, BW, AB, IW. Pretty lush understory. No residuals or CWD. 2015: thick understory of advanced hardwood saplings.
67	4110 - Sugar Maple Association	Sawtimber Well	39.6	96	111-140	A few hemlock. Light on CWD. Age is on a larger sugar maple. Scattered red maple, dead white ash. 2015 BAs: mean of 7 plots = 110, range 50-150.
68	4119 - Mixed Northern Hardwoods	Sawtimber Well	89.6	87	111-140	Very little ground cover (AFO phase?). Light on CWD. Better quality west side, with some dead ash. 2005 BA's 130, 100, 110, 110; mean 112. 2015 BAs: mean of 10 plots = 139, range 80-180. Small numbers of q. aspen, elm, yellow birch.
71	4130 - Aspen	Sapling Medium	14.4	24	Unspecified	Many bent/broken stems from snow.
74	4112 - Maple, Beech, Cherry Association	Sawtimber Well	6.7	85	111-140	Some old beech and basswood. Many multi-stemmed trees. Trace of quaking aspen. 2015 BAs: 100, 150, 140; mean 130.
76	4130 - Aspen	Sapling Well	48.6	24	Unspecified	No residuals or CWD. Numerous hardwood seedlings/saplings (cherry ironwood, red maple, juneberry), raspberry. Denser/more BTA/better quality on high ground; more QA/lower quality/sparser on lower slopes/depressions.
77	4110 - Sugar Maple Association	Sawtimber Well	18.3	104	111-140	Age is on a larger than average SM. Aspen declining, some CWD resulting. Much of BA is small ironwood poles. Some hemlock in patches, a few red maple, beech. 2005 BA's: 70, 130, 150, 140; mean 122. 2015 BAs: 90, 150, 120, 160; mean 130.
78	4130 - Aspen	Sawtimber Medium	39.7	60	Unspecified	Variable density, from open gaps to full canopy. Stand is mostly along a shallow draw. Some snags and CWD, but could use more CWD. Trace of hemlock.
79	4130 - Aspen	Sapling Medium	18.9	7	1-50	Hilly, steep in places. Clearcut in summer 2008; 2 residual islands were left of about 1/2 acre each, in addition to scattered individual retained hardwoods and a few small patches of advanced maple regeneration. NE part of the cut failed to regenerate, split off in 2015 as a non-forested stand (#92).

4130 - Aspen

82

Sapling Medium

7

Unspecified

22.2

Stand was clearcut in summer 2008. Some mature timber was

left on steeper slopes along the north and south borders of the stand, plus a few scattered leave trees. Generally well stocked; some small open areas.

Traverse Cit	y Mgt. Unit		Report 8	- Forested	Stands Compartment: 9 Year of Entry: 2017
Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
4111 - S.Maple, Hard Mast Association	Sawtimber Medium	14.8	97	81-110	High end Kotar class: leeks, violets, Dutchman's breeches, etc. Thinned fall 2009. High amount of beech at the south end. 2015 BAs: 130, 80, 80; mean 97.
4112 - Maple, Beech, Cherry Association	Sawtimber Medium	13.9	94	81-110	Thinned in fall 2009. Post-harvest flush of seedlings: BC, AB IW.
4130 - Aspen	Sapling Poor	7.6	7	Unspecified	Clearcut in summer 2008 with scattered residual hardwoods an CWD trees. Failed regen. area was joined with adjacent non-forested type. Red maple stump sprouts are heavily browsed
4130 - Aspen	Sapling Medium	8.3	7	Unspecified	Clearcut in summer 2008 with scattered residual hardwoods ar CWD trees. Some sparse/open pockets, but generally well stocked. Heavy bracken fern ground cover.
4112 - Maple, Beech, Cherry Association	Sawtimber Poor	14.2	88	1-50	Poor hardwoods, probably grazed when young (found barbed wire). Many multi-stemmed trees. Thinned fall 2009, whole-tree harvested. Numerous black cherry cavity trees; scattered white pine & elm. Aspen and cherry are starting to fill in the gaps. 2015 BAs: 90, 30, 10; mean 43.
4130 - Aspen	Sapling Medium	3.1	5	Unspecified	Clearcut fall 2009, whole-tree harvested with scattered residuatrees. Aspen regenerated most of the site; areas without aspeare slowly filling in with cherry. Red maple stump-sprouted, but sprouts are getting mowed by deer.
4112 - Maple, Beech, Cherry Association	Sawtimber Well	3.0	91	81-110	Stand is a big kettle depression left as retention in the middle of a clearcut stand, providing local age-class diversity and maturicover. Cherry and aspen are dying out. 2015 BAs: 100, 110, 60; mean 90.
4139 - Aspen, Mixed Deciduous	Sawtimber Well	14.7	54	51-80	Hilly, steep in places. Second age of about 55 on QA in 2005. Better hardwoods on ridges. QA is declining. 2015 BAs: 90, 90, 50; mean 77.
4116 - Mixed N. Hardwood - Aspen	Sawtimber Well	17.6	85	51-80	Hilly, steep in places. Second age of about 55 on QA in 2005. Mosaic of mature/poor QA, mature hardwoods, and hardwood poles. 2015 BAs: 90, 60, 80; mean 77.
	Level 4 Cover Type 4111 - S.Maple, Hard Mast Association 4112 - Maple, Beech, Cherry Association 4130 - Aspen 4112 - Maple, Beech, Cherry Association 4130 - Aspen 4130 - Aspen 4130 - Aspen 4112 - Maple, Beech, Cherry Association	Cover Type Density 4111 - S.Maple, Hard Mast Association 4112 - Maple, Beech, Cherry Association 4130 - Aspen Sapling Poor 4130 - Aspen Sapling Medium 4112 - Maple, Beech, Cherry Association 4112 - Maple, Beech, Cherry Association 4112 - Maple, Beech, Cherry Association 4130 - Aspen Sapling Medium 4130 - Aspen Sapling Medium 4112 - Maple, Beech, Cherry Association Sawtimber Well 4114 - Maple, Beech, Cherry Association Sawtimber Well Sawtimber Well	Level 4 Cover Type Bize Density Acres 4111 - S.Maple, Hard Mast Association 4112 - Maple, Beech, Cherry Association A130 - Aspen Sapling Poor 4130 - Aspen Saytimber Medium A130 - Aspen Sapling Medium 4112 - Maple, Beech, Cherry Association A112 - Maple, Beech, Cherry Association A130 - Aspen Saytimber Poor A14.2 4112 - Maple, Beech, Cherry Association Saytimber Poor Acres Acres Acres Acres Acres Acres Acres Acres 14.8 Acres 14.8 Atres Acres Ac	Level 4 Cover Type Size Density Acres Stand Age 4111 - S.Maple, Hard Mast Association Sawtimber Medium 14.8 97 4112 - Maple, Beech, Cherry Association Sawtimber Medium 13.9 94 4130 - Aspen Sapling Poor 7.6 7 4130 - Aspen Sapling Medium 8.3 7 4112 - Maple, Beech, Cherry Association Sawtimber Poor 14.2 88 4130 - Aspen Sapling Medium 3.1 5 4112 - Maple, Beech, Cherry Association Sawtimber Well 3.0 91 4139 - Aspen, Mixed Deciduous Sawtimber Well 14.7 54 4116 - Mixed N. Sawtimber Well 17.6 85	Level 4 Cover Type Size Density Acres Stand Age BA Range 4111 - S.Maple, Hard Mast Association Sawtimber Medium 14.8 97 81-110 4112 - Maple, Beech, Cherry Association Sawtimber Medium 13.9 94 81-110 4130 - Aspen Sapling Poor 7.6 7 Unspecified 4112 - Maple, Beech, Cherry Association Sawtimber Poor 14.2 88 1-50 4130 - Aspen Sapling Medium 3.1 5 Unspecified 4112 - Maple, Beech, Cherry Association Sawtimber Medium 3.0 91 81-110 4112 - Maple, Beech, Cherry Association Sawtimber Well 14.7 54 51-80 4139 - Aspen, Mixed Deciduous Sawtimber Well 14.7 54 51-80

55

18

Unspecified

1-50

9.3

5.5

4130 - Aspen

4311 - Pine, Aspen Mix

93

94

Poletimber

Medium

Sapling

Medium

Aspen in poor condition, low quality in general.

Aspen is in 2 clones: QA on north edge, BTA in middle of stand.



Stand	Cover Type	Acres	Managed Site	General Comments:
4	500 - Water	0.4	No	Pretty spot! Frog breeding habitat. In 2005 inventory, this part of the wetland was emergent/not under water; 2015: now mostly under water. There are some white pine saplings out in the water, dying.
5	3303 - Mixed Low Density Trees	1.1	No	Unlisted species is lycopodium. Ground cover info is mainly from 2005 inventory.
7	3301 - Low Density Deciduous Tree	2.2	No	Ground cover info is mainly from 2005 inventory. Pines = RP, WP.
8	3301 - Low Density Deciduous Tree	4.3	No	Ground cover info is mainly from 2005 inventory. A few scattered red pine, Scotch pine.
16	3105 - Mixed Upland Herbaceous	2.0	No	Fair amount of maple regeneration. Log cherries with juneberry underneath. St. johns wort/mixed grasses/cladonia/poverty grass. Ground cover info is mainly from 2005 inventory.
17	3301 - Low Density Deciduous Tree	1.2	No	2005 comments: West lobe is all raspberry/blackberry. East portion is all goldenrod. No need for maintenance at this time. Would like to keep this opening as-is. Do not use as a timber landing. Ground cover info is from 2005.
18	3103 - Rubus-Fern	1.7	No	Hillside. All bracken fern ground cover with a little bit of grasses. Unlisted specie is hawkweed. Ground cover info is from 2005. Deciduous saplings are beech, sugar maple, ironwood.
21	3103 - Rubus-Fern	1.1	No	Nice open habitat along wetland edge.
22	6233 - Wet Meadow	2.2	No	Mostly open water at present (spring 2005). Portion of wetland within compartment 9 is mostly water/grasses; portion in compartment 10 is mostly leatherleaf. Muskrat, cranes, mallards seen.
27	3301 - Low Density Deciduous Tree	2.9	No	Pockets of upland deciduous with bracken fern. Ground cover info is mainly from 2005 inventory.
30	31021 - Cool Season Grass	9.0	No	Part of larger opening that is private (low density deciduous trees). The public portion is herbaceous openland. Black cherry, with cool season grasses, including timothy (?), some goldenrod, leafy spurge, and hoary alyssum. Mixed pine saplings: SP, RP, WP.
32	3301 - Low Density Deciduous Tree	7.6	No	Bracken fern with poverty grass/cladonia underneath. Aspen/cherry thicket toward north end. Ground cover info is mainly from 2005 inventory.
35	3103 - Rubus-Fern	2.9	No	Little frost pocket. All bracken fern. Expanded 2015 to include failed regeneration area from surrounding 2008 clearcut.
36	3301 - Low Density Deciduous Tree	4.5	No	Log black cherry and all bracken fem. Hilly terrain. Spruce trees to the west.



Stand	Cover Type	Acres	Managed Site	General Comments:
37	3103 - Rubus-Fern	2.8	No	Mostly sapling/pole black cherry with a few cherries that are log-sized. Bracken fern with poverty grass. Fern dominates, but a good amount of grass spread evenly.
38	3301 - Low Density Deciduous Tree	18.0	No	Log-sized black cherries with juneberry and seedling maples underneath. Plenty of rubus/blackberry. Mixed forbs (goldenrod) in spots. Fair amount of poverty grass/cladonia. Spots of St. Johnswort.
39	3103 - Rubus-Fern	3.8	No	All bracken fern. A few log red maple and black cherry. A couple pole cherry mixed in. Expanded in 2015 to include a failed regeneration area of an adjacent clearcut.
42	3301 - Low Density Deciduous Tree	9.8	No	Main opening is bracken fern/rubus with a few spots of cladonia/poverty grass. Slow succession to northern hardwoods.
45	31021 - Cool Season Grass	2.5	No	2005 comments: Partially private. 70% cool season grasses. 30% rubus/spotted knapweed/slightly degraded.
46	3303 - Mixed Low Density Trees	1.5	No	
49	3105 - Mixed Upland Herbaceous	2.5	No	Walk-in. Frost pocket. A few large black cherry. Mixture of poverty grass/cladonia and bracken fern. A couple spots of st. john's wort. Ground cover info is mainly from 2005 inventory.
53	3301 - Low Density Deciduous Tree	4.9	No	Pines = Scotch, red, jack. Ground cover info is mainly from 2005 inventory.
56	3301 - Low Density Deciduous Tree	1.5	No	Unlisted specie is trout lily. Ground cover info is mainly from 2005 inventory.
57	3301 - Low Density Deciduous Tree	7.0	No	Scattered mature maple and cherry surrounded by juneberry and maple saplings. Ground cover is rubus/fern, with cladonia and mixed grasses. Ground cover info is mainly from 2005 inventory.
63	3303 - Mixed Low Density Trees	17.6	No	Patches of leafy spurge. Ground cover info is mainly from 2005 inventory.
69	3103 - Rubus-Fern	1.6	No	Lots of orange hawkweed, trout lily, some St. John's wort. Ground cover info is mainly from 2005 inventory.
70	3103 - Rubus-Fern	4.5	No	Ground cover info is mainly from 2005 inventory: almost all rubus; cladonia and bracken fern mixed in; counted 3 hawthorn shrubs.
72	3301 - Low Density Deciduous Tree	3.9	No	Mostly pole/log black cherry with a few sugar maple mixed in. Terrain is rolling. A few aspen in spots. Allot of strawberry along SW hill.
73	3103 - Rubus-Fern	1.6	No	Nice diverse natural opening. Accessible via narrow woods road. Fruiting shrubs = cherry, juneberry. Ground cover info is mainly from 2005 inventory.

Report 9 - Nonforested Stands



Stand	Cover Type	Acres	Managed Site	General Comments:
75	3103 - Rubus-Fern	1.1	No	Frost hole - natural opening. Some St. John's wort.
80	3301 - Low Density Deciduous Tree	10.6	No	Islands of timber intermixed with openings. Opening have black cherry, rubus, trout lily (unlisted specie), and cladonia. Ground cover info is mainly from 2005 inventory.
81	3103 - Rubus-Fern	1.0	No	NE finger is grown in with young aspen and choke cherry. When adjacent aspen gets harvests, cut up into opening. Lots of trout lily. Ground cover info is mainly from 2005 inventory.
92	3103 - Rubus-Fern	1.5	No	Part of a summer 2008 aspen clearcut that failed to regenerate.