



**TRAVERSE CITY FOREST MANAGEMENT UNIT  
COMPARTMENT REVIEW PRESENTATION**

**COMPARTMENT # 004    ENTRY YEAR: 2014**

**Compartment Acreage: 3378      County: Benzie**

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**Stand Examiner:** Timothy Webb

**Legal Description:** T27N R13W Sections 6, 7, 8, 18; T27N R14W Sections 1, 12, 13

**Management Goals:** Northern hardwood stands and red pine and white pine plantations occupy most of the uplands in compartment 4. Past treatments in the deciduous types have had a variety of outcomes depending on soil type, topography, amount of aspen in the species mix, degree of canopy opening, and potential for beech regeneration. Future harvest prescriptions need to consider these factors to favor desirable outcomes. Certain situations are suited for even-aged management, with final harvests of mature stands resulting initially in mixed aspen and cherry regeneration. These species seem to be able to overtop initial flushes of beech sprouts. Maple often develops over extended periods. This approach may be appropriate on lower slope positions, excessively drained soils (e.g. Kaleva sand), and/or areas with more bigtooth aspen. Hardwoods situated on upper slope positions, on well drained or somewhat excessively drained soils (e.g. Benzonia sand), and/or with less aspen and perhaps some ash or basswood may be better suited for selection harvests with potential hardwood regeneration in canopy gaps. Still other stands in draws and depressions, influenced by cold air drainage, are occupied by quaking aspen, low-quality cherry, and other hardwoods. Many of these sites have a well-stocked understory of red and sugar maple which will further develop as the aspen overstory drops out over time.

Pine plantations can continue to be managed with periodic thinnings. White pine plantations with a component of hardwoods can gradually be managed toward a more natural mix, focusing on retention of higher quality trees with each thinning and on increasing within-stand diversity.

Two areas within the compartment were previously mapped as proposed old growth. Timber harvest has been avoided in these areas since nomination in 1997. These areas, more or less, are now being proposed as Special Conservation Areas. Boundaries have been adjusted to coincide less with forest stands and more with physical features such as roads, trails, and topography. These SCAs are designed to promote structural and successional development of forests, associated wildlife habitat, recreational opportunities, and to maintain a remote, rustic character. Commercial timber harvest may be limited to treatments which enhance these values.

Numerous small wetlands and herbaceous openings are situated in kettle depressions. Several of these wetlands have begun to harbor phragmites. Herbicide treatment or other control methods should be considered to eliminate this invasive species, as well as autumn olive and garlic mustard which are also in or near the compartment.

**Soil and Topography:** Soil types are predominantly well drained to excessively drained sands, including Benzonia, Kaleva, Benona, Fogg, and other sandy soils. Small areas of loamy sand occur in places. Wetlands contain histosols or muck soils. Most of the compartment is situated on moraine and pitted outwash plain landforms. Consequently, the land is rather hilly with numerous kettle depressions.

**Ownership Patterns, Development, and Land Use in and Around the Compartment:** Compartment 4 connects on the north, west, and south with a fairly large block of state land having scattered private inholdings. To the east and northeast are rural residential properties, small agricultural fields, fragmented private forest land, and lakefront homes on Pearl Lake and other small lakes. Mistwood Golf Course is about 1½ miles to the east. New development has slowed in recent years.

**Unique, Natural Features:** State land surrounds Lime Lake and Hartman Lake within the compartment, with additional state land frontage on Pearl and Garey Lakes. Small wetlands are scattered through the compartment, situated in kettle depressions.

**Archeological, Historical, and Cultural Features:** There is evidence within the compartment of early 1900s homesteads, including lilac bushes, fruit trees, black locust trees, and remnant fields.

**Special Management Designations or Considerations:** Two Special Conservation Areas are being proposed within the compartment (see “Management Goals” above).

**Watershed and Fisheries Considerations:** This compartment contains portions of Pearl Lake, Lime Lake, Gerry Lake, and Hartman Lake, and is part of the Platte River watershed. There are also numerous wetland areas in this compartment. Fisheries Division currently stocks Lime Lake with walleye in order to create a remote and unique walleye angling opportunity. While there is a selection cut scheduled in the vicinity of Lime Lake, there appears to be a sufficient buffer. Please adhere to all appropriate BMPs in regards to the wetlands and lakes found within this compartment.

**Wildlife Habitat Considerations:** A majority of compartment 4 lies along a small moraine ridge. This area is characterized by having many kettle lakes and well drained sands. Existing northern hardwood stands should be managed to perpetuate the cover type. Timber prescriptions in the northern hardwood stands should be designed to promote species diversity as well as leave snags, coarse woody debris, and conifers. Several small white pine plantations are slowly converting to hardwoods, but currently provide pockets of dense cover for wildlife, such as: eastern gray squirrels, common gray fox, white breasted nuthatches, and blue-spotted salamanders. Pockets of higher quality aspen should be maintained within hardwood stands through periodic patch cutting. These aspen pockets should be located on the fringe of the hardwood blocks where fires on the outwash plains might have penetrated slightly into moraine country. Aspen stands in this area show a strong component of hardwoods and should convert to hardwoods in time. The openings on the moraine ridges are typically the result of frost pockets and consequently need little maintenance. The southeast corner of the compartment transitions into a pitted outwash plain. This more fire prone area should be managed in conjunction with similar LTAs in neighboring compartments, for a variety of forest age classes, successional stages, and patch sizes, as well as grass/shrub openings. Several upland brush communities here require some removal of wood encroachment via adjacent timber sales.

**Mineral Resource and Development Concerns and/or Restrictions:** Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium and coarse-textured glacial till. The glacial drift thickness varies between 600 and 800 feet. Beneath the glacial drift are the Devonian Antrim Shale and the Traverse Group. The Traverse is used for stone and the Antrim quarried for cement products. The nearest gravel pit is three miles away, but there should be some gravel potential in the compartment. This area is located northwest of the current Antrim Shale gas play and the Antrim Shale appears to be pinching out with limited potential.

**Vehicle Access:** Much of the compartment is somewhat remote and hilly, but access is sufficient. Some areas may have fairly long skidding or forwarding routes if prescribed for timber management, but building new roads would be difficult, intrusive, and unnecessary. One stretch of the Shore-to-Shore Trail on a poor road in section 13 should be considered for closure to wheeled motor vehicles because of excessive rutting and puddling.

**Survey Needs:** None needed.

**Recreational Facilities and Opportunities:** Compartment 4 includes Garey Lake State Forest Campground & Trail Camp. The Shore-to-Shore Riding-Hiking Trail spans the entire compartment north to south, so horseback riding is important here. The Platte River Snowmobile Trail passes through the north part of the compartment. Pearl and Lime Lakes are popular for camping, fishing, and waterfowl hunting. Dispersed recreation includes deer hunting and mushrooming.

**Fire Protection:** Fire protection for this area is covered by both Homestead Fire Department and Almira Fire Department. Wildfire coverage is handled out of the Platte River Field Office with support resources available from the Traverse City Field Office. Good vehicle access to part of the compartment is limited due to the rolling terrain and lack of seasonal roads or logging skid trails. In other areas of the compartment access is fair but limited. The area is dominated by mature hardwoods with relatively little wildfire history. Water supply sources in the event of a wildfire are readily available from any one of the local lakes in the immediate area. Submitted by: Rod Rader, Fire Supervisor, Traverse City Field Office.

**Additional Compartment Information:**

**\*\*\*\* Cover type details and proposed treatments are listed in the attached reports:**

**Cover Type by Age Class**

**Proposed Treatments – No Limiting Factors**

**Proposed Treatments – With Limiting Factors**

**\*\*\*\* The following information is displayed on the attached compartment maps:**

**Base feature information, stand numbers, cover types**

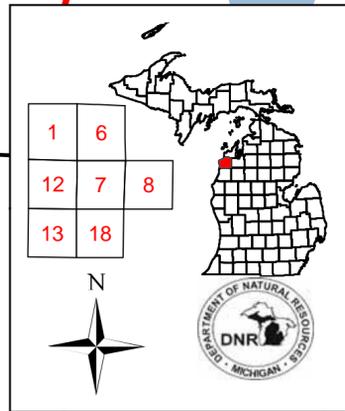
**Proposed treatments**

**Proposed SCAs**

# Cover Type & Treatment Map

Compartment: 004  
 T27N R13W Sec. 06, 07, 08, 18  
 T27N R14W Sec. 01, 12, 13  
 County: Benzie  
 Unit: Traverse City  
 YOE: 2014  
 Acres: 3,378 GIS Calculated  
 Examiner: Tim Webb  
 Map Revised: 5/22/2012  
 Map Phase: Pre-Review

Stand #  
 23  
 (4120) - A7  
 Level 3 OI  
 Level 4 Code  
 Cover Type Code



### Legend

- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- Stream
- Intermittent Stream
- Hiking Trails
- Horse Trails
- Snowmobile Trails
- Horse Trail
- Hiking Trail
- Snowmobile Trail

### Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Shelter Wood (w/Reserves)
- Thinning (Crown, Low, Systematic)
- Selection (Group, Single Tree)
- Site Preparation
- Opening Maintenance

### Forest Stands

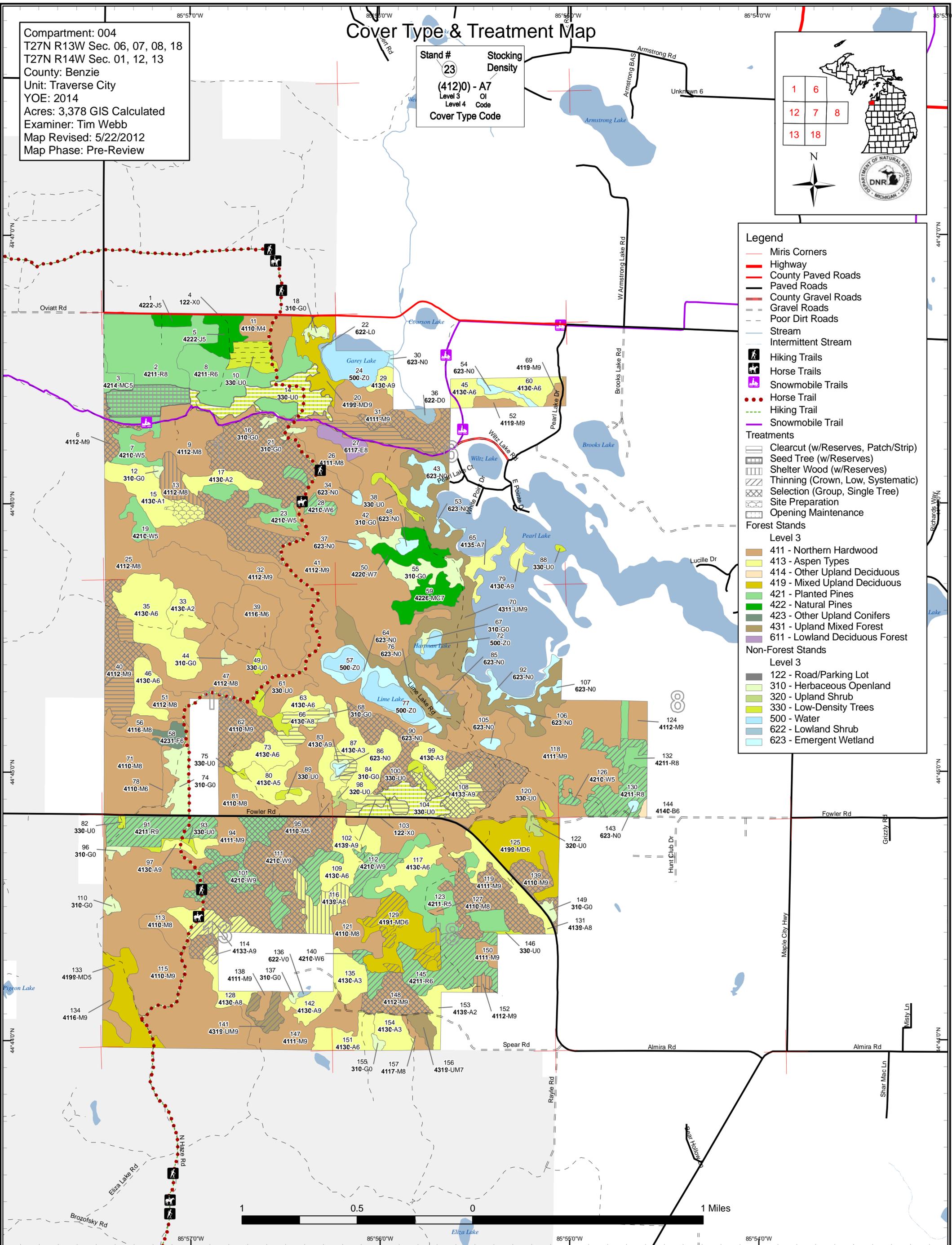
Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 414 - Other Upland Deciduous
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest

### Non-Forest Stands

Level 3

- 122 - Road/Parking Lot
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland

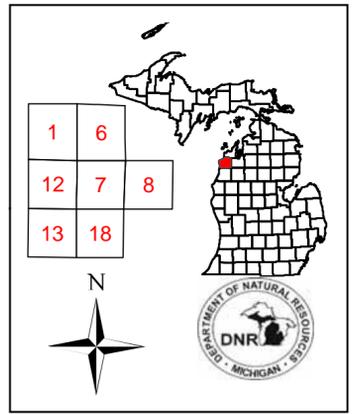




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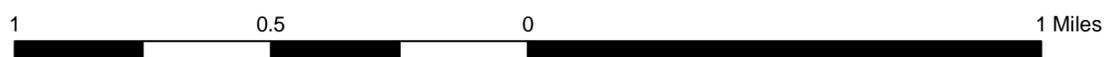
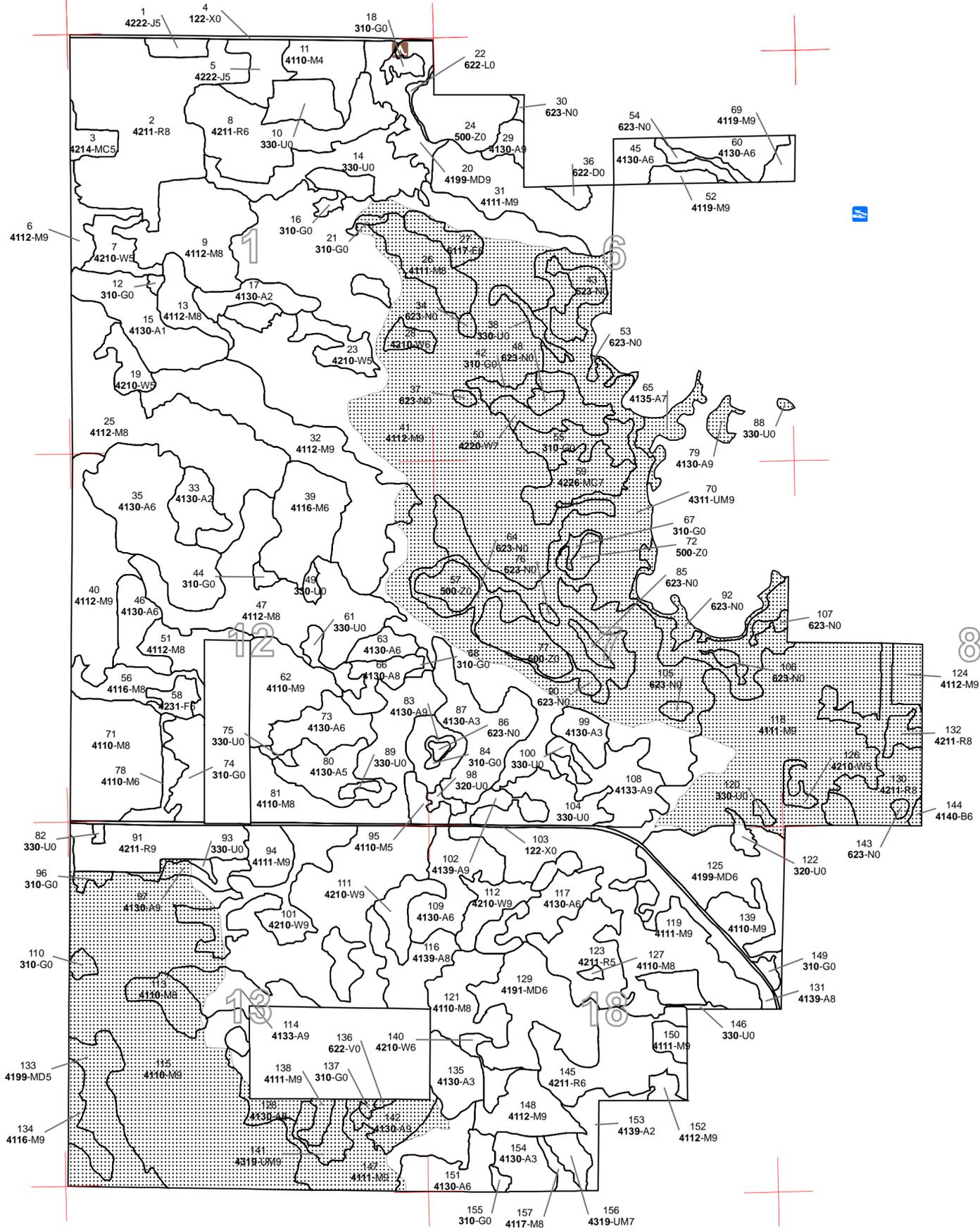
# Dedicated & Proposed Special Conservation Area Map

Stand #  
 23  
 Stacking  
 Density  
 (4120) - A7  
 Level 3 OI  
 Level 4 Code  
 Cover Type Code



## Legend

- Miris Corners
- Stand Boundaries
- Forest Stands
  - Level 3
    - 411 - Northern Hardwood
    - 413 - Aspen Types
    - 414 - Other Upland Deciduous
    - 419 - Mixed Upland Deciduous
    - 421 - Planted Pines
    - 422 - Natural Pines
    - 423 - Other Upland Conifers
    - 431 - Upland Mixed Forest
    - 611 - Lowland Deciduous Forest
  - Non-Forest Stands
    - Level 3
      - 122 - Road/Parking Lot
      - 310 - Herbaceous Openland
      - 320 - Upland Shrub
      - 330 - Low-Density Trees
      - 500 - Water
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      - 623 - Emergent Wetland
- Proposed Special Conservation Areas
  - SCA - Special Conservation Area
- Special Conservation Areas
  - ▲ Campgrounds
  - Ⓡ Boat Access Sites



**Table 1 – Total Acres by Cover Type and Age Class**



	Age Class													Total	
	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +		Uneven Age
Aspen	24	123	72	129	25	36	39	0	6	0	0	0	0	63	516
Bog	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Herbaceous Openland	63	0	0	0	0	0	0	0	0	0	0	0	0	0	63
Jack Pine	0	0	0	5	13	0	0	0	0	0	0	0	0	0	19
Low-Density Trees	95	0	0	0	0	0	0	0	0	0	0	0	0	0	95
Lowland Deciduous	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9
Lowland Shrub	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Marsh	63	0	0	0	0	0	0	0	0	0	0	0	0	0	63
Mixed Upland Deciduous	0	0	42	0	53	45	0	0	0	0	0	0	0	0	140
Natural Mixed Pines	0	0	0	0	20	0	0	0	0	0	0	0	0	0	20
Northern Hardwood	0	0	0	0	18	33	84	453	665	122	329	21	0	30	1755
Paper Birch	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Planted Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7
Red Pine	0	0	0	0	55	164	97	0	0	0	0	0	0	0	316
Treed Bog	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Upland Mixed Forest	0	0	0	0	0	16	0	0	0	0	0	0	0	127	143
Upland Shrub	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Upland Spruce/Fir	0	0	0	7	0	0	0	0	0	0	0	0	0	0	7
Urban	15	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Water	55	0	0	0	0	0	0	0	0	0	0	0	0	0	55
White Pine	0	0	0	17	0	126	0	0	0	0	0	0	0	0	143
<b>Total</b>	<b>325</b>	<b>123</b>	<b>114</b>	<b>158</b>	<b>184</b>	<b>421</b>	<b>222</b>	<b>453</b>	<b>670</b>	<b>122</b>	<b>329</b>	<b>21</b>	<b>0</b>	<b>236</b>	<b>3378</b>



## Table 2 – Proposed Treatment Summaries

Traverse City Mgt. Unit  
Year of Entry 2014

Compartment 004  
Total Compartment Acres: 3378

### Acres by Treatment Type

Commercial Harvest - 767	Site Prep - 7	Tree Planting - 0	Prescribed Burn - 0	Other - 0
Habitat Cut - 23	Opening Maintenance - 53	Tree Seeding - 0	Pesticide - 0	

### Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen	29	19	0	21	15	0	85
Mixed Upland Deciduous	0	0	0	0	18	0	18
Northern Hardwood	37	408	0	17	0	0	462
Red Pine	0	0	25	0	105	0	130
Upland Mixed Forest	0	0	0	0	9	0	9
White Pine	0	32	0	0	55	0	86
<b>Total</b>	<b>66</b>	<b>459</b>	<b>25</b>	<b>38</b>	<b>202</b>	<b>0</b>	<b>790</b>



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
<b>2 61004002-Cut</b>	25.0	42110 - Planted Red Pine	Medium Density Log	66	141-170	Harvest	Seed Tree with Reserves	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Cut red pine in part of the parent stand with low stocking. Leave about 20 BA for seed trees (i.e. about twenty-five 12" trees per acre, about 42' apart on average).  
Specs: Specify snow-free season harvest for scarification. Consider whole-tree harvesting & required chipping.

Other Comments:

Next Steps: Check regeneration at appropriate intervals post-harvest. Consider removing most of residuals at some point. If natural regeneration is unsuccessful, consider trenching and planting red pine.

Proposed Start Date: 10/01/2013

<b>6 61004006-Cut</b>	9.3	4112 - Maple, Beech, Cherry Association	High Density Log	97	141-170	Harvest	Single Tree Selection	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal
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Prescription Mark for thinning; residual BA of about 80-90. Leave some beech, pine for retention. Create CWD during harvest. Use contract specifications to protect the snowmobile trail. Avoid winter harvest.

Other Comments:

Next Steps: None needed. Some mixed hardwood regeneration is expected in canopy gaps, but will probably be initially dominated by beech and ironwood.

Proposed Start Date: 10/01/2013

<b>13 61004013-Cut</b>	13.3	4112 - Maple, Beech, Cherry Association	Medium Density Log	79	111-140	Harvest	Shelter Wood with Reserves	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal
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Prescription Mark for harvest, retaining +/- 50 BA, including some mast trees for retention. Cut heavier where aspen is concentrated. Focus harvest on lower quality and multi-stemmed trees.

Other Comments: Retain residual overstory at least 10 years to nurture regeneration.

Next Steps: Check regeneration progress at next 10-year inventory and possibly remove most of remaining overstory to release.

Proposed Start Date: 10/01/2013

<b>28 61004028-Cut</b>	8.6	42100 - Planted White Pine	High Density Pole	55	171-200	Harvest	Systematic Thinning	42100 - Planted White Pine	Cmpt. Review Proposal
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Prescription 3rd-row thinning. Leave hardwoods as much as possible.  
Specs:

Other Comments: Intention is to gradually move this stand toward an uneven-aged mixed pine-hardwood type. Use appropriate contract specifications to protect the rec. trail.

Next Steps: None.

Proposed Start Date: 10/01/2013



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
<b>31 61004031-Cut</b>	22.1	4111 - S.Maple, Hard Mast Association	High Density Log	96	111-140	Harvest	Group Selection	4111 - S.Maple, Hard Mast Association	Cmpt. Review Proposal

Prescription Mark for harvest to an average residual BA of about 90. Create some CWD during harvest operations. Retain some mast trees throughout.  
Specs: Avoid low, wet areas within stand.

Other Comments: Consider beech bark disease guidelines in marking, as beech scale is present in the area. SE corner of stand abuts snowmobile trail.

Next Steps: None.

Proposed Start Date: 10/01/2013

<b>40 61004040-clearcut</b>	19.4	4112 - Maple, Beech, Cherry Association	High Density Log	74	111-140	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
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Prescription Clearcut to a 2" diameter limit. Mark scattered small patches of hardwoods for retention, plus some single beech trees or cavity trees. Create some CWD during harvest operations.

Other Comments:  
Next Steps: Stand should regenerate well with aspen sprouts and cherry seedlings, plus other mixed hardwood stump sprouts and seedlings.

Proposed Start Date: 10/01/2013

<b>40 61004040-selection</b>	23.1	4112 - Maple, Beech, Cherry Association	High Density Log	74	111-140	Harvest	Single Tree Selection	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal
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Prescription Mark for harvest with a residual BA of about 90. Create some CWD during harvest operations. Retain some mast producing trees and cavity trees.

Other Comments:  
Next Steps: None.

Proposed Start Date: 10/01/2013

<b>41 61004041-clearcut</b>	17.8	4112 - Maple, Beech, Cherry Association	High Density Log	88	141-170	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
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Prescription Clearcut to a 2" diameter limit, retaining conifers, scattered hardwoods and cavity trees, plus some small patches of hardwoods along the snowmobile trail. Create some CWD during harvest operations.

Other Comments: Use appropriate contract specifications to protect snowmobile trail, including a seasonal harvest restriction.

Next Steps: None needed. Stand should regenerate well with aspen sprouts, plus some mixed hardwood sprouts and seedlings.

Proposed Start Date: 10/01/2013



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
<b>41 61004041-selection-1</b>	66.4	4112 - Maple, Beech, Cherry Association	High Density Log	88	141-170	Harvest	Single Tree Selection	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal

Prescription Mark for harvest with a residual BA of about 90. Create some CWD during harvest operations. Retain some cavity trees and mast producing trees. Adjust marking along Shore-to-Shore trail to accomodate visual concerns.

Other Use appropriate contract specifications to protect the rec. trail.  
Comments:

Next None needed.  
Steps:

Proposed  
Start Date: 10/01/2013

<b>41 61004041-selection-2</b>	35.4	4112 - Maple, Beech, Cherry Association	High Density Log	88	141-170	Harvest	Single Tree Selection	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal
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Prescription Mark for harvest with a residual BA of about 90. Create some CWD during harvest operations. Retain some cavity trees and mast producing trees. Adjust marking along Shore-to-Shore trail to accomodate visual concerns.

Other Use appropriate contract specifications to protect the rec. trail.  
Comments:

Next None needed.  
Steps:

Proposed  
Start Date: 10/01/2013

<b>41 61004041-selection-3</b>	27.1	4112 - Maple, Beech, Cherry Association	High Density Log	88	141-170	Harvest	Single Tree Selection	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal
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Prescription Mark for harvest with a residual BA of about 90. Create some CWD during harvest operations. Retain some cavity trees and mast producing trees.

Other  
Comments:

Next None needed.  
Steps:

Proposed  
Start Date: 10/01/2013

<b>41 61004041-selection-4</b>	16.3	4112 - Maple, Beech, Cherry Association	High Density Log	88	141-170	Harvest	Single Tree Selection	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal
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Prescription Mark for harvest with a residual BA of about 90. Create some CWD during harvest operations. Retain some cavity trees and mast producing trees.

Other  
Comments:

Next None needed.  
Steps:

Proposed  
Start Date: 10/01/2013



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
<b>62</b>	<b>61004062-Cut</b>	28.1	4110 - Sugar Maple Association	High Density Log	89	111-140	Harvest	Single Tree Selection	4110 - Sugar Maple Association	Cmpt. Review Proposal
<u>Prescription</u> Mark for selection, focusing on beech, multi-stemmed and poor quality sugar maple; retain some beech and aspen for mast and cavity trees.										
<u>Specs:</u> Create some regen holes, especially around some of the aspen clones. Create some CWD during harvest operations. Residual BA: about 90.										
<u>Other Comments:</u> Beech scale is present; employ beech bark disease guidelines as appropriate. Use appropriate contract specifications to protect the rec. trail.										
<u>Next Steps:</u> None needed. Mixed hardwood regeneration is anticipated in canopy gaps, but may be initially dominated by beech and ironwood. Aspen and cherry should regenerate well in larger openings.										
<u>Proposed Start Date:</u> 10/01/2013										
<b>66</b>	<b>61004066-Cut</b>	11.6	4130 - Aspen	Medium Density Log	50	51-80	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
<u>Prescription</u> Clearcut to a 2" diameter limit, retaining all oak and juneberry plus some individually marked hardwoods and cavity trees. Create some CWD										
<u>Specs:</u> during harvest operations.										
<u>Other Comments:</u>										
<u>Next Steps:</u> None needed. Stand is expected to regenerate adequately with aspen sprouts and cherry seedlings.										
<u>Proposed Start Date:</u> 10/01/2013										
<b>83</b>	<b>61004083-Cut</b>	3.8	4130 - Aspen	High Density Log	80		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
<u>Prescription</u> Clearcut to a 2" diameter limit, retaining any conifers, some mast trees, and scattered hardwoods. Create some CWD during harvest operations.										
<u>Specs:</u>										
<u>Other Comments:</u> Cut only the east part of the stand. Allow the west part of the stand to succeed to hardwoods.										
<u>Next Steps:</u> None needed. Stand is expected to regenerate well with aspen sprouts and some hardwood seedlings.										
<u>Proposed Start Date:</u> 10/01/2013										
<b>91</b>	<b>61004091-Cut</b>	32.7	42110 - Planted Red Pine	High Density Log	55	171-200	Harvest	Low Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription</u> Mark for thinning with a residual BA of 120-130. Retain scattered hardwoods.										
<u>Specs:</u>										
<u>Other Comments:</u> Shore-to-Shore Trail passes through the stand. Use appropriate contract specifications to protect the rec. trail.										
<u>Next Steps:</u> None needed.										
<u>Proposed Start Date:</u> 10/01/2013										
<b>101</b>	<b>61004101-Cut</b>	31.5	42101 - Planted White Pine, Mixed Deciduous	High Density Log	50	171-200	Harvest	Single Tree Selection	42101 - Planted White Pine, Mixed Deciduous	Cmpt. Review Proposal
<u>Prescription</u> Mark for thinning. Create some regeneration gaps around aspen clones and to release patches of advanced hardwood regeneration.										
<u>Specs:</u>										
<u>Other Comments:</u> The goal is to move the stand toward a more natural uneven-aged mix of pine and hardwood. Shore-to-Shore Trail passes through the stand; use contract specifications as needed to accomodate recreational use.										
<u>Next Steps:</u> Pine and hardwood seedlings as well as aspen sprouts are expected, desirable regeneration in cnopy gaps.										
<u>Proposed Start Date:</u> 10/01/2013										



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
102	61004102-Cut	7.3	4139 - Aspen, Mixed Deciduous	High Density Log	55	111-140	Harvest	Clearcut with Reserves	4139 - Aspen, Mixed Deciduous	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut to a 2" diameter limit, retaining scattered hardwoods and conifers. However, thin the east lobe of the stand to keep this patch as hardwoods. Create some CWD during harvest operations.</p> <p><u>Specs:</u></p> <p><u>Other</u> Beech scale is present in the east hardwood lobe; mark to reduce beech BA.</p> <p><u>Comments:</u></p> <p><u>Next</u> None needed. Stand should regenerate well with aspen sprouts and some hardwood sprouts and seedlings.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2013</p>										
108	61004108-clearcut	6.3	4133 - Aspen, Mixed Pine	High Density Log	60	111-140	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Clearcut to a 2" diameter limit, retaining scattered hardwoods, conifers and cavity trees. Create some CWD during harvest operations.</p> <p><u>Specs:</u></p> <p><u>Other</u></p> <p><u>Comments:</u></p> <p><u>Next</u> None needed. Stand should regenerate adequately with aspen sprouts and mixed hardwoods.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2013</p>										
108	61004108-thin	19.2	4133 - Aspen, Mixed Pine	High Density Log	60	111-140	Harvest	Single Tree Selection	42201 - Natural White Pine, Mixed Deciduous	Cmpt. Review Proposal
<p><u>Prescription</u> Thin to remove much of the aspen and damaged or low quality trees of other species; residual BA about 100, but variable.</p> <p><u>Specs:</u></p> <p><u>Other</u></p> <p><u>Comments:</u></p> <p><u>Next</u> None needed.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2013</p>										
111	61004111-Cut	19.2	42100 - Planted White Pine	High Density Log	50	200+	Harvest	Systematic Thinning	42101 - Planted White Pine, Mixed Deciduous	Cmpt. Review Proposal
<p><u>Prescription</u> 3rd-row thin the white pine and also remove much of the aspen. Retain hardwoods as much as possible, especially better quality stems.</p> <p><u>Specs:</u></p> <p><u>Other</u> The goal is to move the stand toward a more natural uneven-aged mix of pine and hardwood.</p> <p><u>Comments:</u></p> <p><u>Next</u> None needed.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2013</p>										



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
112	61004112-Cut	12.9	42101 - Planted White Pine, Mixed Deciduous	High Density Log	54	141-170	Harvest	Systematic Thinning	42101 - Planted White Pine, Mixed Deciduous	Cmpt. Review Proposal
<p><u>Prescription</u> 3rd-row thin the white pine and cut much of the aspen. Retain hardwoods and red pine as much as possible, especially better quality stems.</p> <p><u>Specs:</u></p> <p><u>Other</u> The goal is to move the stand toward a more natural uneven-aged mix of pine and hardwood.</p> <p><u>Comments:</u></p> <p><u>Next</u> None needed.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2013</p>										

114	61004114-Cut	15.4	4133 - Aspen, Mixed Pine	High Density Log	60	111-140	Harvest	Low Thinning	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for thinning, targeting low quality hardwoods and much of the aspen. Row thin pine patches as possible. Release advanced hardwood regeneration where possible.</p> <p><u>Specs:</u></p> <p><u>Other</u> The goal is to move the stand toward a more natural uneven-aged mix of pine and hardwood. Shore-to-Shore Trail passes through the stand; cutting will only take place east of trail. Use appropriate contract specifications to protect the rec. trail.</p> <p><u>Comments:</u></p> <p><u>Next</u> None needed. Regeneration progress should be checked at next inventory cycle.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2013</p>										

115	61004115-Cut	93.2	4110 - Sugar Maple Association	High Density Log	78	111-140	Harvest	Single Tree Selection	4110 - Sugar Maple Association	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for harvest with a residual BA of about 90. Create some CWD during harvest operations. Retention should focus on mast producing trees, cavity trees, and scarce species (elm, yellow birch, conifers).</p> <p><u>Specs:</u></p> <p><u>Other</u> Shore-to-Shore Trail abuts part of the stand - adjust marking near the trail to accomodate visual concerns. Use appropriate contract specifications to protect the rec. trail.</p> <p><u>Comments:</u></p> <p><u>Next</u> None needed.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2013</p>										

116	61004116-Cut	21.1	4139 - Aspen, Mixed Deciduous	Medium Density Log	60	81-110	Harvest	Shelter Wood with Reserves	4117 - Mixed N. Hardwood - Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest most of the aspen and select hardwoods and pines, favoring release/advancement of the younger hardwoods. Create some CWD during harvest operations. Retain some of the overmature pine and maple.</p> <p><u>Specs:</u></p> <p><u>Other</u></p> <p><u>Comments:</u></p> <p><u>Next</u> None needed. Check progress of regeneration at next inventory cycle.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2013</p>										



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
118	61004118-Cut_exp-0	8.9	4111 - S.Maple, Hard Mast Association	High Density Log	104	111-140	Harvest	Single Tree Selection	4111 - S.Maple, Hard Mast Association	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for harvest with a residual BA of about 90. Retained trees to include cavity trees, mast trees, and scarcer species (oak, hemlock, etc.)</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> None needed.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										
119	61004119-Cut	43.8	4111 - S.Maple, Hard Mast Association	High Density Log	82	111-140	Harvest	Single Tree Selection	4111 - S.Maple, Hard Mast Association	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for harvest with a residual BA of about 90. Create some regeneration holes including some larger gaps around aspen clones. Create some CWD during harvest operations. Retention should include some mast trees, cavity trees, and scarcer species such as elm and hemlock. Remove much of the overmature aspen, but leave some to develop into cavity trees or snags.</p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> None needed.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										
126	61004126-salvage	7.5	42100 - Planted White Pine	Medium Density Pole	51	111-140	Harvest	Low Thinning	42100 - Planted White Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest all pine damaged during 3/2/2012 snowstorm, plus any additional trees needed to facilitate harvest of damaged timber.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> Stand will be entered earlier than the rest of the treatments in the compartment, per the "Chapter 7" review process, to reduce bark beetle and wildfire risks.</p> <p><u>Next Steps:</u> None needed. Monitor the stand in coming years for bark beetle damage.</p> <p><u>Proposed Start Date:</u> 05/12/2012</p>										
129	61004129-Cut	17.7	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	54	141-170	Harvest	Systematic Thinning	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
<p><u>Prescription</u> Row thin the larger patches of white pine within the parent stand.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> Leave some smaller patches of pine unthinned for wildlife cover.</p> <p><u>Next Steps:</u> None needed.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
130	61004130-salvage	31.3	42110 - Planted Red Pine	Medium Density Log	51	111-140	Harvest	Low Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest all pine damaged during 3/2/2012 snowstorm, plus any additional trees needed to facilitate harvest of damaged timber.  <u>Specs:</u></p> <p><u>Other Comments:</u> Stand will be entered earlier than the rest of the treatments in the compartment, per the "Chapter 7" review process, to reduce bark beetle and wildfire risks.</p> <p><u>Next Steps:</u> None needed. Monitor the stand in coming years for bark beetle damage.</p> <p><u>Proposed Start Date:</u> 05/12/2012</p>										
139	61004139-Cut	13.0	4110 - Sugar Maple Association	High Density Log	85	111-140	Harvest	Single Tree Selection	4110 - Sugar Maple Association	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for harvest with a residual BA of about 90. Create some CWD during harvest operations. Retain some mast trees, cavity trees, conifers, and underrepresented species.  <u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> None needed.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										
140	61004140-Cut	6.4	42100 - Planted White Pine	High Density Pole	50	171-200	Harvest	Systematic Thinning	42100 - Planted White Pine	Cmpt. Review Proposal
<p><u>Prescription</u> 3rd-row thin. Retain deciduous trees as much as possible for within-stand diversity.  <u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> None needed.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										
141	61004141-Cut	9.2	4319 - Mixed Upland Forest	High Density Log	56	141-170	Harvest	Low Thinning	4319 - Mixed Upland Forest	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for thinning, focusing removal on lower quality stems. Aim for a residual BA of about 120 in pine patches and 90 in hardwood dominated patches. Create some CWD during harvest operations.  <u>Specs:</u></p> <p><u>Other Comments:</u> The goal is to move this stand toward a more natural, uneven-aged mix of pine and hardwoods.</p> <p><u>Next Steps:</u> None needed.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										
145	61004145-Cut	41.4	42110 - Planted Red Pine	High Density Pole	50	171-200	Harvest	Systematic Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> 3rd-row thin. Retain scattered hardwoods.  <u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> None needed.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
<b>148 61004148-Cut</b>	21.0	4112 - Maple, Beech, Cherry Association	High Density Log	105	111-140	Harvest	Group Selection	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal

Prescription Mark for harvest, focusing on reduction of beech BA. Residual BA: about 80-90. Create some CWD during harvest, away from the road.  
Specs: Retention should include some mast trees, cavity trees, and conifers.

Other Comments:

Next Steps: None needed. Mixed hardwood regeneration is desired in canopy gaps, although an initial dominance of beech and ironwood is likely.

Proposed Start Date: 10/01/2013

<b>152 61004152-Cut</b>	3.6	4112 - Maple, Beech, Cherry Association	High Density Log	97	81-110	Harvest	Shelter Wood with Reserves	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal
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Prescription Mark 30-50 BA of mixed hardwoods to retain, cut all other trees. Create some CWD during harvest.  
Specs:

Other Comments:

Next Steps: Check for regeneration at appropriate intervals following harvest. Desired regeneration is mixed hardwoods, but initial dominance of beech is likely. Other species may take considerably longer to develop and compete with beech. Replacement with red pine might be an acceptable alternative if hardwood regeneration fails.

Proposed Start Date: 10/01/2013

<b>15 61004015-Prep</b>	7.3	4130 - Aspen	Low Density Sapling	15		Site Prep	Trenching	42110 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Prepare site mechanically (e.g. trenching) for subsequent planting.  
Specs:

Other Comments: Proposed area is a very sparsely regenerated patch in a 1997 clearcut stand. Because of small acreage and isolation, trenching and planting may have to be done with local rather than district resources.

Next Steps: Plant white spruce.

Proposed Start Date: 10/01/2013

<b>14 NF_61004014-NonFor</b>	32.9	3301 - Low Density Deciduous Trees				Non-Forest Management	Brush Cutting	3205 - Mixed Upland Shrub	Cmpt. Review Proposal
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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. Preferably via adjacent timber sales.  
Specs:

Other Comments:

Next Steps:

Proposed Start Date: Unspecified

**Table 3 -- Treatments Prescribed  
with No Limiting Factor**



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
<b>104 NF_61004104-NonFor</b>	20.3	3301 - Low Density Deciduous Trees				Non-Forest Management	Brush Cutting	3205 - Mixed Upland Shrub	Cmpt. Review Proposal

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. Preferably via adjacent timber sales.

Other Comments:

Next Steps:

Proposed Start Date: Unspecified

**Total Treatment Acreage Proposed: 850.9**

**Table 4 -- Treatments Prescribed with  
a Limiting Factor**



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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Prescription  
Specs:

Other  
Comment:

Next  
Steps:

Proposed  
Start Date: #Error

Limiting Factor and No  
Treatment Reason

**Total Treatment  
Acreage Proposed: 0**

**Out of YOE -- Treatments  
Prescribed with No Limiting Factor**

Year of Entry: 2014



Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
61043_OutOfY OE-Cut	2.1					Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal - Incomplete
<u>Prescription</u> <u>Specs:</u> retain some pine and osk for mast and seed production, Follwo WLD guidance for CWD creation. Harvest all stems that are not retained.									
<u>Other</u> New stand should have mix of oak, pine, aspen and maple.									
<u>Comments:</u>									
<u>Next Steps:</u>									
<u>Proposed Start Date:</u> 09/01/2009									
61231_OutOfY OE-Thin	4.6			0		Harvest	Low Thinning	4122 - Oak, Pine	Cmpt. Review Proposal
<u>Prescription</u> <u>Specs:</u> Within harvest area, remove all aspen. Heavily thin oak and maple to a residual BA of about 50 sf. Leave retention in patches or strips sufficient to meet minimum retention goals.									
<u>Other</u> Topography is rather hilly. Combine with treatment in Compartment 133.									
<u>Comments:</u>									
<u>Next Steps:</u>									
<u>Proposed Start Date:</u> 10/01/2013									
<b>Total Treatment Acreage Proposed:</b>		<b>6.7</b>							

Stand	Traverse City Mgt. Unit		5 – Forested Stands			Compartment: 004	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2014	
1	42220 - Natural Jack Pine	Medium Density Pole	5.4	30			Stand consists primarily of pines which seeded into an old field/orchard from adjacent plantations.
2	42110 - Planted Red Pine	Medium Density Log	97.2	66	141-170		Stand was thinned in 2007, removing multi-stemmed red pine, and most of the jack pine except a few rows toward the south end left for habitat diversity. There are several open areas and younger re-planted patches within the stand where there were failures of the original planting. About 6 acres at the extreme south end was planted in 1957.
3	42140 - Planted Mixed Pine	Medium Density Pole	6.9	Uneven Age	51-80		Appears to be a replant of a failed plantation, plus volunteer pines and encroaching hardwoods.
5	42220 - Natural Jack Pine	Medium Density Pole	13.3	43			Stand consists primarily of pines which seeded into an old field/orchard from adjacent plantations. Small patch of black locust poles in NW corner.
6	4112 - Maple, Beech, Cherry Association	High Density Log	9.3	97	141-170		Stand includes some patches of planted white pine and a few red pine.
7	42101 - Planted White Pine, Mixed Deciduous	Medium Density Pole	12.6	56	111-140		Thinned fall 2006.
8	42110 - Planted Red Pine	High Density Pole	54.6	45	171-200		Evidence of past erosion. Some jack pine poles along west edge of stand.
9	4112 - Maple, Beech, Cherry Association	Medium Density Log	44.5	78	111-140		Stand was thinned in 2006. Good flush of beech and red maple seedlings as a result of thinning. Scattered understory hemlock.
11	4110 - Sugar Maple Association	Low Density Pole	17.8	47	1-50		Old field reverting to forest.
13	4112 - Maple, Beech, Cherry Association	Medium Density Log	13.3	79	111-140		Low quality stand, numerous multi-stemmed trees. Aspen is mostly clustered near the middle of the stand.
15	4130 - Aspen	Low Density Sapling	34.1	15			Regeneration is patchy, thick in places, but with large areas of failed regeneration, especially at the NW and SE ends of the stand.
17	4130 - Aspen	Medium Density	12.7	15			
19	42101 - Planted White Pine, Mixed Deciduous	Medium Density Pole	9.4	55	81-110		Row thinned in 2006.
20	4199 - Other Mixed Upland Deciduous	High Density Log	21.4	45	81-110		Heterogenous mix of trees on hills adjoining Garey Lake. Aspen is in scattered clones. Many of the large diameter white pine and sugar maple, as well as the black locust, were likely planted around an old farmstead. Scattered red oak, hemlock. Black locust is in a dense patch at the north end.
23	42100 - Planted White Pine	Medium Density Pole	17.5	55	81-110		Row thinned in 2006.



Stand	Traverse City Mgt. Unit		5 – Forested Stands			Compartment: 004	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2014	
25	4112 - Maple, Beech, Cherry Association	Medium Density Log	85.3	105	81-110		Thinned in 2006.
26	4111 - S.Maple, Hard Mast Association	Medium Density Log	20.6	111	81-110		Regen holes created in a previous thinning are full of beech saplings. Many 18"+ trees are of low quality. Steep slopes. Small numbers of white ash, yellow birch, black cherry.
27	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Log	9.2	Uneven Age			Small numbers of tamarack, black spruce, and cedar.
28	42100 - Planted White Pine	High Density Pole	8.6	55	171-200		
29	4130 - Aspen	High Density Log	5.5	86			Some mortality/blowdown in aspen, but relatively sound for its age. Small number of hemlock, white pine, beech and yellow birch canopy trees.
31	4111 - S.Maple, Hard Mast Association	High Density Log	43.0	96	111-140		Rolling terrain. Stand has several small openings (regen. gaps from previous harvest) and wetland inclusions. Some paper birch, hemlock, and white pine.
32	4112 - Maple, Beech, Cherry Association	High Density Log	74.2	62	111-140		Low quality timber, numerous multi-stemmed trees. Some mortality/blowdown in aspen. There is a small patch of planted white spruce at the NW end of the stand. The stand generally follows a shallow valley which is probably a cold air sink that inhibits tree growth; trees are denser, better quality on hills and ridges.
33	4130 - Aspen	Medium Density	13.2	18			
35	4130 - Aspen	High Density Pole	55.2	38			Scattered older beech.
39	4116 - Mixed N. Hardwood - Aspen	High Density Pole	33.2	55	81-110		Stand has scattered older hardwoods including some big beech.
40	4112 - Maple, Beech, Cherry Association	High Density Log	42.5	74	111-140		Scattered big, older hardwoods.
41	4112 - Maple, Beech, Cherry Association	High Density Log	462.2	88	141-170		Paper birch is dying out. Aspen is in scattered clones, some mortality. Some white pine and hemlock. Rolling terrain, numerous depressions, steep slopes in places.
45	4130 - Aspen	High Density Pole	12.7	26			Scattered beech and paper birch. Small area of wetland in SW corner.
46	4130 - Aspen	High Density Pole	15.5	38			
47	4112 - Maple, Beech, Cherry Association	Medium Density Log	73.7	71	81-110		Stand was heavily thinned in 2006. A heavy flush of hardwood regen. resulted from the thinning in open gaps: mostly beech, some cherry and ironwood, and aspen in patches. There are also some patches of fairly well developed sugar maple saplings.



S t a n d	Traverse City Mgt. Unit		5 – Forested Stands			Compartment: 004	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2014	
50	42200 - Natural White Pine	Low Density Log	17.4	39	1-50	Trees slowly reclaiming an old clearing. Pines are limby, open-grown. Hilly.	
51	4112 - Maple, Beech, Cherry Association	Medium Density Log	13.3	85	81-110	Stand was thinned in 2006, resulting in a heavy flush of beech seedlings and raspberry/blackberry. Good quality red maple.	
52	4119 - Mixed Northern Hardwoods	High Density Log	4.6	103	141-170	Many large, hollow beech.	
56	4116 - Mixed N. Hardwood - Aspen	Medium Density Log	15.7	Uneven Age	1-50	Stand consists of old, open-grown cherry with patches of quaking aspen. Much of the stand has a good stocking of understory sugar maple. There are several small openings. Most of the stand is low-lying and frost-prone.	
58	42310 - Planted Spruce	High Density Pole	6.6	37	81-110	Thick sugar maple saplings in small canopy gaps. Scattered juneberry and quaking aspen.	
59	42260 - Natural Pine, Mixed Deciduous	Low Density Log	19.9	47	1-50	Trees slowly reclaiming an old clearing. Pines are limby, open-grown. Hilly.	
60	4130 - Aspen	High Density Pole	14.1	26		Scattered black cherry and white ash.	
62	4110 - Sugar Maple Association	High Density Log	28.1	89	111-140	Numerous multi-stemmed and low quality trees, but also many with good potential. Beech scale is present. Aspen is in scattered clones.	
63	4130 - Aspen	High Density Pole	7.7	38		Decent quality aspen.	
65	4135 - Aspen, Cedar	Low Density Log	9.7	60		Wooded peninsula in Pearl Lake with open shoreline. Small patches of phragmites.	
66	4130 - Aspen	Medium Density Log	11.6	50	51-80	Scattered red oak. Hardwood density varies considerably.	
69	4119 - Mixed Northern Hardwoods	High Density Log	4.9	107	111-140		
70	4311 - Pine, Aspen Mix	High Density Log	126.8	Uneven Age	81-110	Stand is on steep slopes adjacent to Pearl Lake, Hartman Lake, Lime Lake and several wetlands. Part of this stand north of Hartman Lake showed 1901 year of origin for white pine in OI.	
71	4110 - Sugar Maple Association	Medium Density Log	50.7	99	111-140	Good quality timber.	
73	4130 - Aspen	High Density Pole	18.2	38			
78	4110 - Sugar Maple Association	High Density Pole	8.2	Uneven Age	51-80		





Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
79	4130 - Aspen	High Density Log	3.9	60		Wooded island in Pearl Lake with some open shoreline. Grasses, sedges, reeds, and some cedar seedlings cover the open shore areas. There is one big, old cottonwood on the island.
80	4130 - Aspen	Medium Density Pole	20.2	38		There are scattered individuals/clumps of older aspen and hardwoods along with the pole-sized age class which resulted from a 1974 cut. Stand is succeeding to hardwoods.
81	4110 - Sugar Maple Association	Medium Density Log	51.1	89	81-110	Stand was thinned in 2006, resulting in a heavy flush of rubus and beech in canopy gaps. Aspen is in scattered clones. Scattered dying ash.
83	4130 - Aspen	High Density Log	11.5	Uneven Age		Stand is situated on slopes surrounding a depression. Fair amount of mortality in the aspen. Stand is succeeding to hardwoods, especially the west side of the stand. Scattered white pine.
87	4130 - Aspen	High Density Sapling	37.1	17		Stand has several small openings.
91	42110 - Planted Red Pine	High Density Log	33.3	55	171-200	Hardwood regen. is thick in places; mostly beech with some sugar maple, cherry, ironwood, and ash. Narrow strip of deciduous trees along Fowler Rd.
94	4111 - S.Maple, Hard Mast Association	High Density Log	12.6	80	111-140	There are beech monitoring plots in the stand. Aspen is dying out. Scattered black cherry.
95	4110 - Sugar Maple Association	Medium Density Pole	6.5	Uneven Age	51-80	2-storied stand: sparse, older hardwoods, mostly cherry, with advanced sugar maple regeneration. Scattered white ash, white pine, aspen, and juneberry.
97	4130 - Aspen	High Density Log	6.8	44		Excellent growth in aspen.
99	4130 - Aspen	High Density Sapling	10.0	17		Scattered white pine saplings and poles.
101	42101 - Planted White Pine, Mixed Deciduous	High Density Log	31.5	50	171-200	Stand consists of dense blocks of plantation white pine in low areas with intervening patches of aspen & hardwoods. Aspen is declining.
102	4139 - Aspen, Mixed Deciduous	High Density Log	7.3	55	111-140	Stand is a heterogenous mix of aspen clones and hardwoods. Beech scale is present.
108	4133 - Aspen, Mixed Pine	High Density Log	25.5	60	111-140	
109	4130 - Aspen	High Density Pole	27.8	28		
111	42100 - Planted White Pine	High Density Log	19.2	50	200+	Pines have not self-pruned much, fairly limby. NE part of stand has a 1-2 acre hardwood inclusion. Scattered elm.

S t a n d	Traverse City Mgt. Unit		5 – Forested Stands			Compartment: 004	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2014	
112	42101 - Planted White Pine, Mixed Deciduous	High Density Log	12.9	54	141-170		Occasional row of red pine. Some mortality in aspen.
113	4110 - Sugar Maple Association	Medium Density Log	12.7	101	111-140		Similar to surrounding hardwood stand, but somewhat older and larger diameters. Some black cherry.
114	4133 - Aspen, Mixed Pine	High Density Log	21.2	Uneven Age	111-140		Some mortality in aspen. Succeeding to hardwoods. Stand includes several dense patches of planted white pine.
115	4110 - Sugar Maple Association	High Density Log	278.8	78	111-140		Scattered yellow birch, ash, elm. Beech and bigtooth aspen have a patchy distribution.
116	4139 - Aspen, Mixed Deciduous	Medium Density Log	21.1	Uneven Age	81-110		Scattered large, old sugar maple and white pine. Advanced hardwood understory through much of the stand. Some mortality in the aspen.
117	4130 - Aspen	High Density Pole	17.2	28			Stand has two inclusions of planted white pine.
118	4111 - S.Maple, Hard Mast Association	High Density Log	134.8	104	111-140		Stand has a few scattered regeneration patches. Small numbers of paper birch, hemlock. Good number of snags and cavity trees.
119	4111 - S.Maple, Hard Mast Association	High Density Log	79.0	82	111-140		Variable stocking, age, and species mix. Scattered patches of planted white pine; some ash, elm, and hemlock.
121	4110 - Sugar Maple Association	Medium Density Log	25.2	103	51-80		Stand was thinned in 2004. Good cherry regeneration in gaps.
123	42110 - Planted Red Pine	Medium Density Pole	50.0	50	111-140		Stand was 3rd-row thinned in 2005. Some damage from 3/2/2012 snowstorm, mostly just top 10 feet or so of some trees snapped off. Dense sugar maple regen in scattered patches, otherwise fairly open understory.
124	4112 - Maple, Beech, Cherry Association	High Density Log	8.8	97	111-140		
125	4199 - Other Mixed Upland Deciduous	High Density Pole	42.2	25	1-50		Stand includes several small (<1 acre) openings. Small amounts of red oak, basswood, white ash, white pine.
126	42100 - Planted White Pine	Medium Density Pole	7.5	51	111-140		Stand was thinned in 2009, heavily damaged by 3/2/2012 snowstorm. Ironwood, beech, and heavily browsed ash seedlings; thick white pine seedlings in some open gaps.
127	4110 - Sugar Maple Association	Medium Density Log	1.1	95	171-200		A few beech, hemlock, red maple.
128	4130 - Aspen	Medium Density Log	9.0	Uneven Age			Stand is succeeding to hardwoods.





	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
129	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	44.9	54	141-170	Stand is a mosaic of patches of planted white pine, mixed hardwoods, and regenerated aspen. OI records show planting date of 1958 for pine in the north end of the stand, 1962 in the southeast.
130	42110 - Planted Red Pine	Medium Density Log	34.5	51	111-140	Stand was thinned in 2009. Includes a small wetland at the south end of the stand, south of Fowler Rd.
131	4139 - Aspen, Mixed Deciduous	Medium Density Log	17.5	56	81-110	Good advanced regeneration of sugar maple throughout much of the stand. Some mortality in aspen, especially quaking aspen. Scattered elm, hemlock, and white pine. There appears to be some variation in aspen ages; Y.O.O. for bigtooth aspen was listed as 1935 in last inventory.
132	42110 - Planted Red Pine	Medium Density Log	5.1	51	51-80	Mixed pine plantation; Scotch pine was removed in a 2009 harvest. Numerous white and Scotch pine seedlings in open gaps.
133	4199 - Other Mixed Upland Deciduous	Medium Density Pole	31.8	48	81-110	Scattered beech, elm, junberry.
134	4116 - Mixed N. Hardwood - Aspen	High Density Log	10.0	69	141-170	Beech scale is present in the stand.
135	4130 - Aspen	High Density Sapling	16.0	18		Substantial bending and breaking from 3/2/2012 snowstorm; black cherry in understory may take over.
138	4111 - S.Maple, Hard Mast Association	High Density Log	4.2	87	81-110	Scattered white pine and red maple.
139	4110 - Sugar Maple Association	High Density Log	14.2	85	111-140	Small numbers of canopy hemlock, red maple.
140	42100 - Planted White Pine	High Density Pole	6.4	50	171-200	
141	4319 - Mixed Upland Forest	High Density Log	9.2	56	141-170	
142	4130 - Aspen	High Density Log	12.2	38		
144	4140 - Other Upland Deciduous	High Density Pole	1.2	69	81-110	Isolated hardwood patch between red pine plantation and adjacent private land.
145	42110 - Planted Red Pine	High Density Pole	41.4	50	171-200	
147	4111 - S.Maple, Hard Mast Association	High Density Log	37.3	104	81-110	Scattered hemlock, white pine and basswood. Numerous old, hollow beech.
148	4112 - Maple, Beech, Cherry Association	High Density Log	21.0	105	111-140	

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## Traverse City Mgt. Unit

## 5 – Forested Stands

Compartment: 004  
Year of Entry: 2014

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
150	4111 - S.Maple, Hard Mast Association	High Density Log	5.3	93	81-110	Aspen is concentrated along the north edge of the stand.
151	4130 - Aspen	High Density Pole	17.9	41		There is a concentration of hardwoods in the SE part of the stand.
152	4112 - Maple, Beech, Cherry Association	High Density Log	3.6	97	81-110	
153	4139 - Aspen, Mixed Deciduous	Medium Density	10.0	8	1-50	Clearcut with residuals in 2004: numerous residual white pines (especially at the south end of the stand) and hardwoods. 2-storied. Patch distribution of aspen saplings and advanced sugar maple regeneration.
154	4130 - Aspen	High Density Sapling	13.5	8		Clearcut in 2004, sugar maple and white pine were left as residuals, plus some aspen poles on the periphery, resulting in a 2-storied stand.
156	4319 - Mixed Upland Forest	Low Density Log	6.8	54	51-80	
157	4117 - Mixed N. Hardwood - Pine	Medium Density Log	3.6	105	81-110	Numerous multi-stemmed maples.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
4	122 - Road/Parking Lot	5.3	No	Unspecified	Pettengill Road
10	3301 - Low Density Deciduous Tree	14.7	Yes	High (NonForested)	Garey Lake Trail Camp
12	3102 - Grass	1.1	No	Low (NonForested)	
14	3301 - Low Density Deciduous Tree	32.9	No	Medium (NonForested)	Hilly stand. Scattered small blocks of planted red pine.
16	3103 - Rubus-Fern	2.0	No	Low (NonForested)	frost hole
18	3102 - Grass	3.7	Yes	High (NonForested)	Garey Lake State Forest Campground
21	3103 - Rubus-Fern	1.6	No	Low (NonForested)	Low, frost-prone area. Mostly black cherry, plus a red oak and a sugar maple.
22	6229 - Mixed lowland shrub	1.4	No	Low (NonForested)	Exposed shoreline area of Garey Lake. Standing dead trees.
24	50 - Water	22.8	No	Low (NonForested)	Garey Lake
30	6239 - Mixed Emergent Wetland	1.1	No	Low (NonForested)	Stand is the ends of two drainages flowing into Garey Lake.
34	6233 - Wet Meadow	1.6	No	Low (NonForested)	
36	6224 - Treed Bog	3.2	No	Low (NonForested)	
37	6239 - Mixed Emergent Wetland	1.4	No	Low (NonForested)	Small pond surrounded by open, grassy shore.
38	3301 - Low Density Deciduous Tree	5.0	No	Low (NonForested)	old orchard
42	3103 - Rubus-Fern	5.5	No	Low (NonForested)	
43	6233 - Wet Meadow	11.6	No	Low (NonForested)	numerous snags
44	3103 - Rubus-Fern	2.0	No	Low (NonForested)	
48	6233 - Wet Meadow	3.1	No	Low (NonForested)	some open water



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
49	3301 - Low Density Deciduous Tree	2.4	No	Low (NonForested)	
53	6233 - Wet Meadow	2.1	No	Low (NonForested)	
54	6233 - Wet Meadow	3.9	No	Low (NonForested)	
55	3102 - Grass	15.7	No	Low (NonForested)	hilly opening
57	50 - Water	9.6	No	Low (NonForested)	NW basin of Lime Lake, currently separated from the rest of the lake.
61	3301 - Low Density Deciduous Tree	6.1	No	Low (NonForested)	Trees are mostly black cherry and sugar maple with some red maple, aspen, and beech.
64	6233 - Wet Meadow	11.3	No	Low (NonForested)	Exposed shoreline surrounding the NW basin of Lime Lake.
67	3102 - Grass	1.9	No	Low (NonForested)	Open shore area adjacent to Hartman Lake.
68	3103 - Rubus-Fern	1.5	No	Low (NonForested)	
72	50 - Water	5.4	No	Low (NonForested)	Hartman Lake
74	3102 - Grass	15.8	Yes	Medium (NonForested)	Sugar maple saplings are in patches surrounding many of the open-grown black cherry trees.
75	3301 - Low Density Deciduous Tree	1.5	No	Low (NonForested)	
76	6239 - Mixed Emergent Wetland	1.2	No	Low (NonForested)	Grasses, forbs, raspberries and some tree seedlings on exposed shoreline surrounding a small wetland.
77	50 - Water	16.9	No	Low (NonForested)	Lime Lake
82	3301 - Low Density Deciduous Tree	1.0	No	Medium (NonForested)	
84	3103 - Rubus-Fern	1.8	No	Low (NonForested)	Upland opening surrounding a small wetland.
85	6239 - Mixed Emergent Wetland	3.0	No	Low (NonForested)	Forbs, grasses, raspberries, and tree seedlings on exposed edges of wetland.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
86	6233 - Wet Meadow	1.3	No	Low (NonForested)	
88	3302 - Low Density Conifer Trees	0.7	No	Low (NonForested)	Island in Pearl Lake. Patch of cedar and other trees surrounded by open shore.
89	3301 - Low Density Deciduous Tree	1.9	No	Low (NonForested)	
90	6233 - Wet Meadow	3.9	No	Low (NonForested)	Open wetlands at the SE end of Lime Lake.
92	6233 - Wet Meadow	9.2	No	Low (NonForested)	Pearl Lake shoreline
93	3301 - Low Density Deciduous Tree	2.7	No	Low (NonForested)	Opening is succeeding to forest cover, mostly sugar maple and black cherry.
96	3102 - Grass	2.5	No	Low (NonForested)	low, frost-prone
98	3202 - Autumn Olive/Honeysuckle	2.5	Yes	Medium (NonForested)	
100	3301 - Low Density Deciduous Tree	3.2	No	Low (NonForested)	There is a small wetland at the south end of this stand.
103	122 - Road/Parking Lot	9.6	No	Unspecified	Fowler & Rayle Rds.
104	3301 - Low Density Deciduous Tree	20.3	Yes	Medium (NonForested)	Old field filling in with hardwoods. West end has some planted autumn olive and spruce. Deciduous trees are mainly black cherry and sugar maple with scattered oak, beech and quaking aspen.
105	6233 - Wet Meadow	2.3	No	Low (NonForested)	
106	6233 - Wet Meadow	2.6	No	Low (NonForested)	
107	6233 - Wet Meadow	2.3	No	Low (NonForested)	
110	3102 - Grass	2.8	No	Low (NonForested)	
120	3301 - Low Density Deciduous Tree	1.5	No	Low (NonForested)	Stand is in a frost-prone depression.
122	3204 - Mast Producing Shrub	3.4	No	Medium (NonForested)	



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
136	6225 - Bog	0.6	No	Low (NonForested)	Small open wetland spans property line.
137	3103 - Rubus-Fern	1.0	No	Low (NonForested)	
143	6233 - Wet Meadow	1.2	No	Low (NonForested)	
146	3303 - Mixed Low Density Trees	1.0	No	Low (NonForested)	
149	3102 - Grass	2.3	No	Medium (NonForested)	Deciduous trees are mostly black cherry with some white ash, sugar maple, basswood, and ironwood.
155	3103 - Rubus-Fern	1.7	No	Low (NonForested)	Stand is in a depression. Lowest spot is currently dry, but appears to be periodically inundated.



**7 – 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.

Stand	SCA Type	SCA Name	Acres	Comments
41	Unique Site - SCA	61004041-SCA	779.5	This proposed SCA roughly corresponds to a 1997 proposed old-growth management area. It includes Lime Lake, Hartman Lake, a significant stretch of the Pearl Lake shoreline, and numerous wetlands and kettle depressions. The area supports significant dispersed recreation, including hunting, horseback riding, camping, hiking, fishing, and mushrooming. Several rare wildlife species are associated with Pearl Lake. The area has a relatively remote, rustic character. SCA status is intended to recognize and protect these values. Forest management will not be prescribed primarily for timber production. However, treatments may be prescribed periodically to enhance recreation values, respond to forest health issues, reduce exotic and invasive species, promote more natural species diversity (e.g. in pine plantations), or to improve wildlife habitat.
115	Unique Site - SCA	61004115-SCA	315.9	This area was previously nominated as proposed old growth in 1997. Nomination as a Special Conservation Area (SCA) is recommended. This area is part of a proposed multi-compartment complex of stands on a moraine landscape which could be managed long-term for late-successional northern hardwoods with conifer elements, and subsequently for related wildlife species. Active management might be limited to promoting succession/diversity in plantations or other forest stands, treating exotic pests, improving wildlife habitat, maintaining forest health, or suppressing wildfires.



### 8 – DEDICATED CONSERVATION AREA DETAILS

\* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

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

Conservation Area	Type	Description
SCA	Concentrated Recreation Area	Facilities that are designed and maintained for routine or heavy recreational use, including State Parks, State Forest campgrounds, motorized and non-motorized trails, trailheads, staging areas and public access sites.