



Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 109

Entry Year 2016

Acreage: 1,818

County Kalkaska

Management Area: Grayling Outwash

Revision Date: 05/15/2014

Stand Examiner: Margaret Studer

Legal Description:

T27N, R6W, Sec's 1 & 12. T27N, R5W, Sec. 7

Identified Planning Goals:

Maintain a variety of cover types and age class diversity which favor a variety of game and non-game species.

Soil and topography:

West of the drainage are island lake sands surrounded by Kalkaska sandy loams. East of the drainage are Rubicon sands. The drainage itself is a good size swamp with Tawas-Lupton Mucks and Ausable-Bowstring Mucks.

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

Solid state ownership can be found in sections 12 & 7, while an eighty & a twenty acre parcel are in private ownership in the NW ¼ of section 1. The west side of the compartment borders the Tall Pine Boy Scout Camp, while the south side of the compartment is in broken state ownership. Section 6 is all small parcels in & around a group of lakes collectively called East Lakes. Section 8 is solid state ownership, while north of the compartment is mostly private. Sunset Trail does not run true on the section line, multiple parcels were sold to the neighboring landowners with the exception of the north neighbor. That particular parcel of state land was designated as difficult to manage and is currently in the process of disposal. The private landowner to the east has access from 612 to the north.

Unique Natural Features:

No Unique Natural Features known.

Archeological, Historical, and Cultural Features:

There are known concerns within the compartment. All proposed management activities have taken these concerns into consideration.

Special Management Designations or Considerations:

Old CCC site should not be disturbed.

Watershed and Fisheries Considerations:

The North Branch of the Manistee River flows through Compartment 109, and the East Lakes lie just to the north. All necessary precautions should be taken to protect these watersheds.

Wildlife Habitat Considerations:

According to the Wildlife Biologist preliminary assessment would be that stands 45, 60, 35, 23, and 8 are the top priority non-forested stands. Stands 9, 14, and 30 would probably want to put a burn/opening maintenance prescriptions according to Wildlife notes from the previous inventory.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. Glacial drift thickness varies between 400 and 800 feet. Beneath the glacial drift is the Mississippian Coldwater Shale. The Coldwater does not have an economic use. The nearest gravel pit is located one mile to the north and potential is considered good on the uplands. This area is located south of the Niagaran reef trend and the Antrim Shale gas play. potential development appears to be limited. Most of the Compartment is currently leased for oil and gas development.

Vehicle Access:

Good seasonal access; road access in the winter is limited.

Survey Needs:

Good corners in this compartment.

Recreational Facilities and Opportunities:

Both the Blue Bear snowmobile trail and Kalkaska ORV route run through sections 1, 12, & 7. Both these motorized trails utilize a portion of Sunset Trail Road (County Road). Section 7 also has a small section of the North Country Trail (NCT) non-motorized recreational trail, and a section of Kalkaska ORV Trail, which is 50 inch width designed for ATV use. Appropriate trail protection specifications should be included in the timber sale contracts to reduce impacts on all of these recreational trails. Stand 405 in Section 12 is located on the side of a hill & has heavy ORV damage. If needed, restoration grants to heal this area are available via the ORV program. Contact your local recreation specialist for further restoration funding information. (T.M.N. 6/15/14)

Fire Protection:

Additional Compartment Information:

The following reports from the Inventory are attached:

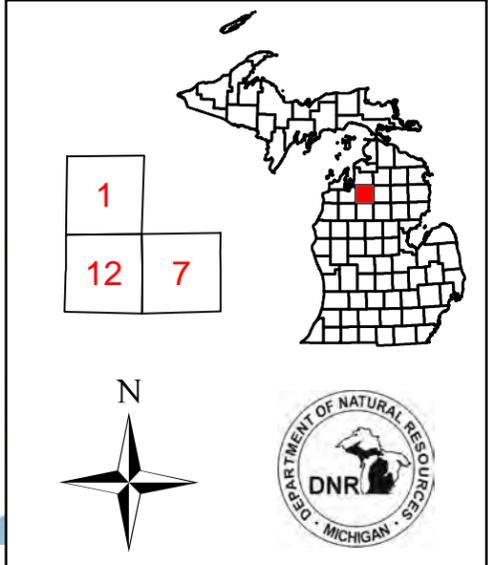
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

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

Cover Type & Treatment Map

Compartment: 109
 T27N R05W Section: 7
 T27N R06W Sections: 1, 12
 County: Kalkaska
 Unit: Traverse City
 Management Area: Grayling Outwash
 YOE: 2016
 Acres: 0 GIS Calculated
 Examiner: Margaret Studer
 Map Revised: 06/19/2014
 Map Phase: Web Post



Stand #
 23
Stocking Density
 (412)0 - A7
 Level 3 OI
 Level 4 Code
Cover Type Code

Legend

- Miris Corners
- Remonumented Section Corners
- State Forest Land
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Stream
- Intermittent Stream
- Lakes and Rivers
- Hiking Trails
- Horse Trails
- ORV Trails
- ORV Routes
- Snowmobile Trails
- Horse Trail
- Hiking Trail
- ORV Trail
- ORV Route
- Snowmobile Trail
- MCCCT Trail

Planned Regeneration

- Natural
- Planted

Treatments

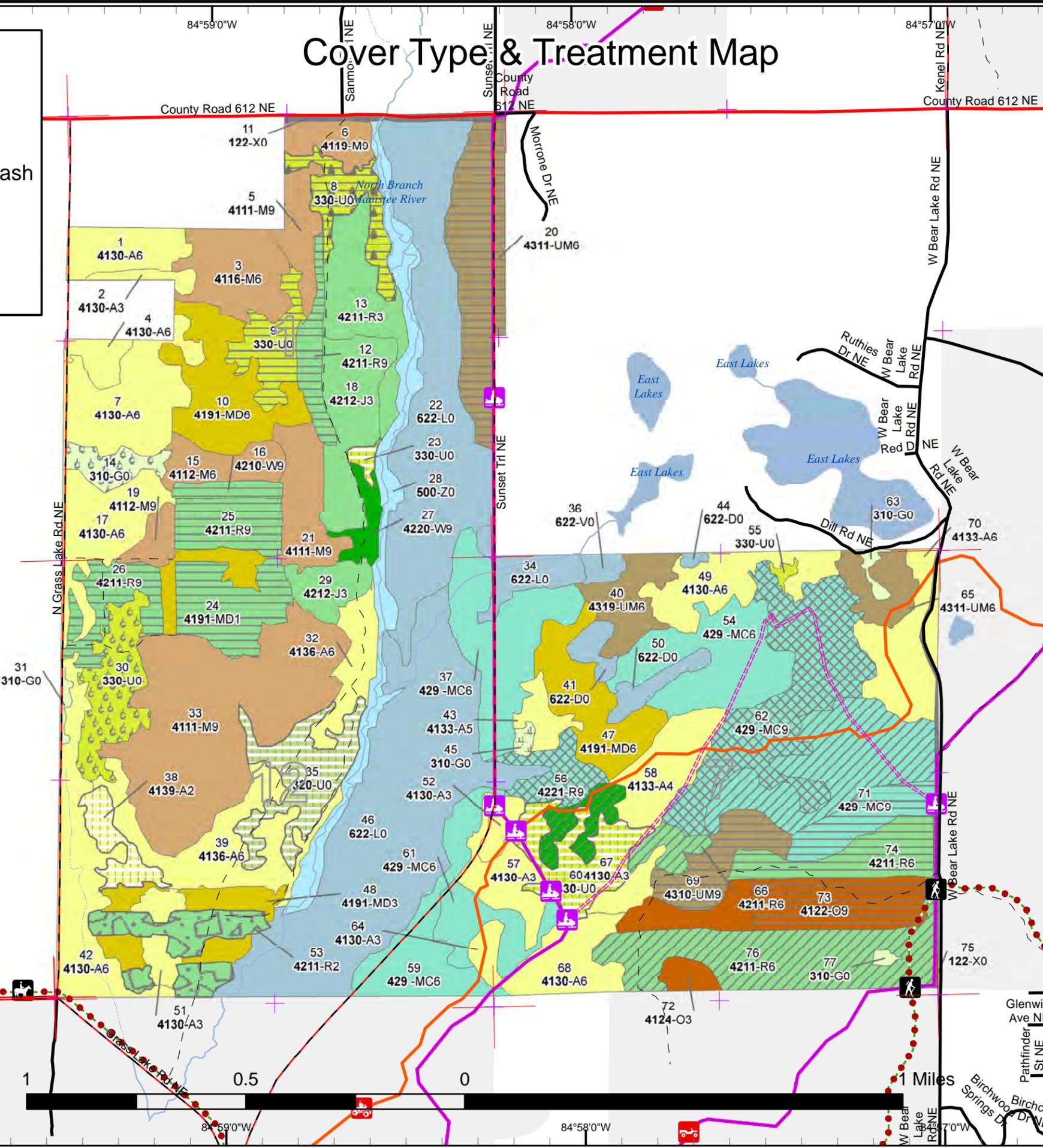
- Clearcut (w/Reserves, Patch/Strip)
- Thinning (Crown, Low, Systematic)
- Selection (Group, Single Tree)
- Prescribed Burn
- Opening Maintenance
- Regeneration Survey
- Other Treatment - See Comments
- Treatments w/ Site Condition

Forest Stands

- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 431 - Upland Mixed Forest

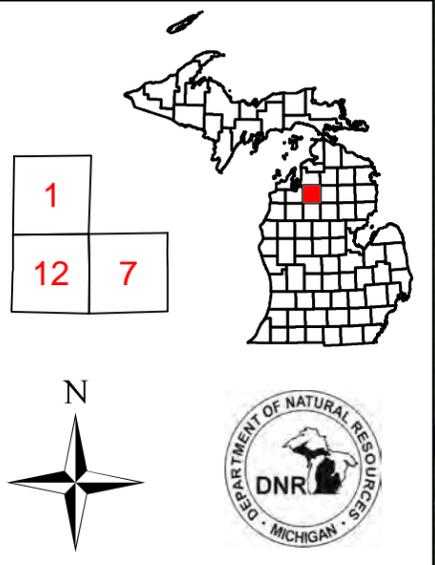
Non-Forest Stands

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



Stand Boundary Map

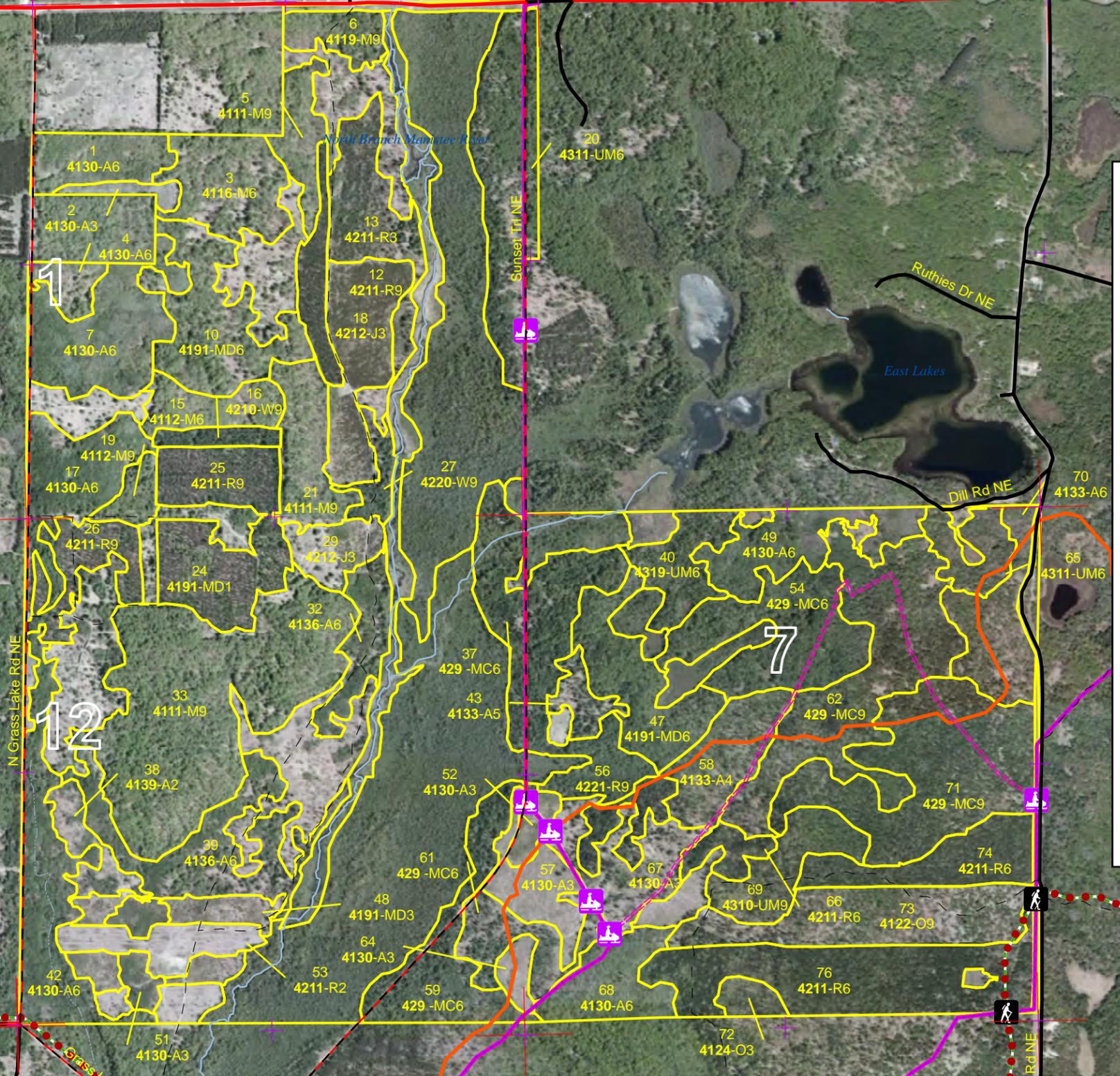
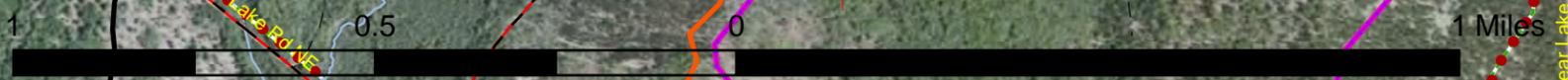
Compartment: 109
 T27N R05W Section: 7
 T27N R06W Sections: 1, 12
 County: Kalkaska
 Unit: Traverse City
 Management Area: Grayling Outwash
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Stand # 23
Stocking Density
 (412)0) - A7
 Level 3 OI
 Level 4 Code
Cover Type Code

Legend

- Miris Corners
- + Remonumented Section Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Stream
- Intermittent Stream
- Lakes and Rivers
- Hiking Trails
- Horse Trails
- ORV Trails
- ORV Routes
- Snowmobile Trails
- Horse Trail
- - - Hiking Trail
- ORV Trail
- ORV Route
- Snowmobile Trail
- Stand Boundaries



Report 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	28	31	150	140	0	0	0	0	0	0	0	0	0	0	348
Bog	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Herbaceous Openland	17	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Jack Pine	12	31	0	0	0	0	0	0	0	0	0	0	0	0	43
Low-Density Trees	90	0	0	0	0	0	0	0	0	0	0	0	0	0	90
Lowland Shrub	259	0	0	0	0	0	0	0	0	0	0	0	0	0	259
Mixed Upland Deciduous	0	29	0	30	0	0	37	0	0	0	0	0	0	0	96
Northern Hardwood	0	0	0	0	0	11	40	36	111	0	0	0	0	0	199
Oak	0	5	0	0	0	0	0	0	0	42	0	0	0	0	48
Red Pine	24	28	0	0	91	76	11	0	0	0	0	0	0	0	229
Treed Bog	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Upland Conifers	0	0	0	17	0	74	57	134	0	0	0	0	0	0	283
Upland Mixed Forest	0	0	0	59	0	17	21	0	0	0	0	0	0	0	97
Upland Shrub	29	0	0	0	0	0	0	0	0	0	0	0	0	0	29
Urban	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Water	40	0	0	0	0	0	0	0	0	0	0	0	0	0	40
White Pine	0	0	0	0	0	6	7	0	0	0	0	0	0	0	13
Total	526	124	150	247	91	184	173	170	111	42	0	0	0	0	1818



Report 2 – Proposed Treatment Summaries

Traverse City Mgt. Unit
Year of Entry 2016

Compartment 109
Total Compartment Acres: 1,818

Acres by Treatment Type

Commercial Harvest - 427 Tree Planting - 170 Other - 36
Habitat Cut - 35 Opening Maintenance - 69

Cover Type by Harvest Method

		<i>Clearcut</i>	<i>Selection</i>	<i>Seed Tree</i>	<i>Shelterwood</i>	<i>Thinning</i>	<i>Other - Specify</i>	<i>Total Acres</i>
	0	14	0	0	0	0	0	14
(Habitat Cut)Low-Density Trees	35	0	0	0	0	0	0	35
Mixed Upland Conifers	18	65	0	0	50	0	0	134
Natural Pines	0	0	0	0	11	0	0	11
Oak Types	30	0	0	0	0	0	0	30
Planted Pines	106	0	0	0	67	0	0	173
Upland Mixed Forest	67	0	0	0	0	0	0	67
Total	255	79	0	0	128	0	0	462



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
12 61109012-Cut	11.9	42110 - Planted Red Pine	High Density Log	55	200+	Harvest	Clearcut	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest all species within the stand. No retention necessary due to small size and narrow width of this stand and also because we are replanting it immediately.

Other Comments: This harvest should be in conjunction with treatments in stand 9. Replant this stand to red pine, along with 2/3 of stand 9, via trench and plant method.

Next Steps: Mechanically and/or chemically prep site as needed. Trench, replant to red pine, and monitor regeneration next inventory cycle.

Proposed Start Date: 10/01/2015

16 61109016-Cut	6.0	42100 - Planted White Pine	High Density Log	59	171-200	Harvest	Clearcut with Reserves	4211 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Specs: Harvest all species with the exception of designated retention area(s).

Other Comments: This harvest can be in conjunctions with treatments in stands 25 and 26. Replant this stand to red pine, along with stands 25 and 26.

Next Steps: Mechanically or chemically prep site as needed. Trench and replant to red pine. Monitor the success of this planting during future inventory cycles.

Proposed Start Date: 10/01/2015

20 61109020-Cut	45.9	4311 - Pine, Aspen Mix	High Density Pole	37		Harvest	Clearcut with Reserves	4136 - Aspen, Mixed Conifer	Cmpt. Review Proposal
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Prescription Specs: Final harvest stand by removing all aspen, red maple, all balsam fir greater than 4" DBH, and any orange marked trees. Leave all balsam fir less than 4" DBH, all red pine, all white pine, and all other underrepresented species (hemlock, oak, birch, etc.) to account for retention within stand. This will also help to address visual concerns near the snow mobile trail. Protect all recreation trails. This stand dips into a lowland area to the west make sure to buffer this stand where necessary; attempt to cut and regenerate lowland species where possible mark these designated area(s) and species(s) with orange paint. Leave tops unchipped as much as possible to provide horizontal habitat component for wildlife. Please leave tops in scattered piles for wildlife habitat as much as possible.

Other Comments: Lowland area not separated into its own stand due to stand size and variability.

Next Steps: Evaluate regeneration of stand following harvest and throughout next inventory cycle.

Proposed Start Date: 10/01/2015

25 61109025-Cut	45.7	42110 - Planted Red Pine	High Density Log	59	111-140	Harvest	Clearcut with Reserves	4211 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Specs: Final harvest all species leaving retention area(s) where appropriate. Consider incorporating a small (2-5 acre) island(s) that are left relatively un-thinned (or unharvested) within mature stands to provide winter roosting cover for turkeys.

Other Comments: This harvest can be in conjunctions with treatments in stands 16 and 26. Replant this stand to red pine, along with stands 16 & 26.

Next Steps: Trench and replant to red pine. Monitor the success of this planting during future inventory cycles.

Proposed Start Date: 10/01/2015



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
26 61109026-Cut	18.2	42110 - Planted Red Pine	High Density Log	59	111-140	Harvest	Clearcut with Reserves	4211 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest all species leaving retention area(s) near the CCC Camp. This will also help to buffer and protect the archeological significance of this site. Consider incorporating a small (2-5 acre) island(s) that are left relatively un-thinned (or unharvested) within mature stands to provide winter roosting cover for turkeys.</p> <p><u>Specs:</u></p> <p><u>Other</u> This harvest can be in conjunctions with treatments in stands 25 and 16. Replant this stand to red pine, along with stands 25 & 16.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Trench and replant to red pine. Monitor regeneration during the next inventory cycle.</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>									

61109037-Cut_small	13.7					Harvest	Single Tree Selection	429 - Mixed Upland Conifers	Cmpt. Review Proposal
<p><u>Prescription</u> Thin down to approximately 1/3 overall volume by removing all aspen, red maple, and by marking the red and white pine, when marking this stand focus on removing forks, suppressed trees, and/or otherwise poorly formed trees. Protect all recreation trails.</p> <p><u>Specs:</u></p> <p><u>Other</u> There is a drainage area within this stand buffer appropriately.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Monitor regeneration throughout the next inventory cycle.</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>									

56 61109056-Cut	10.6	42210 - Natural Red Pine	High Density Log	65	141-170	Harvest	Crown Thinning	42210 - Natural Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Thin stand down to approximately 1/3 the overall volume by removing all orange marked species. Focus on removing red pine that have forks, are suppressed, and/or are otherwise poorly formed individuals. Leave under represented species to maintain diversity.</p> <p><u>Specs:</u></p> <p><u>Other</u> Try to mark before leaf out. Leaving some deciduous species for additional retention.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Monitor stand during next inventory cycle.</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>									

62 61109062-Cut	65.4	429 - Mixed Upland Conifers	High Density Log	70	111-140	Harvest	Single Tree Selection	4319 - Mixed Upland Forest	Cmpt. Review Proposal
<p><u>Prescription</u> Mark to a residual BA of 80. Leave under represented species to maintain diversity and save all aspen and red maple. Create gap openings throughout this stand near mass production oak to encourage oak regeneration. Protection all recreation trails.</p> <p><u>Specs:</u></p> <p><u>Other</u></p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Monitor the success of this prescription during future inventory cycles.</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>									

66 61109066-Cut	7.6	42110 - Planted Red Pine	High Density Pole	48	141-170	Harvest	Systematic Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Systematic row thinning, consider taking two rows and leaving three due to ununiformed rows; this will also help to promote a more natural look.</p> <p><u>Specs:</u></p> <p><u>Other</u> Leave deciduous trees as additional retention.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Monitor stand during next inventory cycle.</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>									



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
69 61109069-Cut	20.6	4310 - Pine, Oak Mix	High Density Log	65	111-140	Harvest	Clearcut with Reserves	4319 - Mixed Upland Forest	Cmpt. Review Proposal

Prescription Final harvest all species except leave all oak. To account for retention save all green marked trees throughout stand. Protect all recreation trails.
Specs:

Other
Comments:

Next Monitor the success of this planting during future inventory cycles.
Steps:

Proposed
Start Date: 10/01/2015

71 61109071-Clear Cut	17.9	429 - Mixed Upland Conifers	High Density Log	77	141-170	Harvest	Clearcut with Reserves	4211 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Final harvest all species leaving retention area(s) where appropriate. In conjunctions with stand 74. Protect all recreation trails.
Specs:

Other Mechanically and/or chemically prep site as needed. Trench and replant to red pine. Monitor the success of this planting during future inventory
Comments: cycles.

Next Monitor the success of this planting during future inventory cycles
Steps:

Proposed
Start Date: 10/01/2015

71 61109071-Thinning	50.4	429 - Mixed Upland Conifers	High Density Log	77	141-170	Harvest	Low Thinning	429 - Mixed Upland Conifers	Cmpt. Review Proposal
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Prescription Thinning from below by removing all red maple, aspen, and all red and white pine under 12" in DBH. Protect all recreation trails.
Specs:

Other South portion of this stand is being final harvested and planted to red pine.
Comments:

Next Monitor the success of this planting during future inventory cycles
Steps:

Proposed
Start Date: 10/01/2015

73 61109073-Cut	29.6	4122 - Oak, Pine	High Density Log	98	51-80	Harvest	Clearcut with Reserves	4211 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Final harvest all species on the east half of stand 73. Don't cut the west half and leave 100% of the retention for this harvest in the remaining west
Specs: half. Leave tops unchipped as much as possible to provide horizontal habitat component for wildlife. Please leave tops in scattered piles for wildlife habitat as much as possible.

Other Plant east half to red pine with stand 74 and a portion of stand 71 to the north.
Comments:

Next Mechanically and/or chemically prep site as needed. Trench, replanting, and monitor regeneration next inventory cycle.
Steps:

Proposed
Start Date: 10/01/2015

74 61109074-Cut	24.2	42111 - Planted Red Pine, Mixed Deciduous	High Density Pole	48	111-140	Harvest	Clearcut with Reserves	4211 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Final harvest by removing all species with the exception of designated retention area(s). 3rd row thins all retention areas. Protect all recreation trails.
Specs:

Other This stand is to be completed in conjunction with treatments in stands 71 and 73. Portions of stand 71 and 73 should be included along with this
Comments: stand for trenching and replanting back into red pine.

Next Mechanically and/or chemically site prep as needed. Trench, replanting, and monitor regeneration during next inventory cycle.
Steps:

Proposed
Start Date: 10/01/2015



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
76	61109076-Cut	59.5	42111 - Planted Red Pine, Mixed Deciduous	High Density Pole	48	111-140	Harvest	Systematic Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Systematic row thinning, consider taking two rows and leaving three due to crooked rows; this should also help to promote a more natural look. This stand is in desperate need of a release. Protect all recreation trails.</p> <p><u>Specs:</u></p> <p><u>Other</u> Leave deciduous trees as additional retention.</p> <p><u>Comments:</u></p> <p><u>Next</u></p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										
8	NF_61109008- Cut	18.0	3303 - Mixed Low Density Trees				Harvest	Clearcut with Reserves	330 - Low Density Trees	Cmpt. Review Proposal
<p><u>Prescription</u> Final Harvest all aspen, red maple, and balsam over 4" DBH. Leave all birch, cherry and balsam fir under 4" DBH as retention.</p> <p><u>Specs:</u></p> <p><u>Other</u> Cut this in conjunction with another commercial sale. This stand was classified by wildlife as a priority non-forested site to maintain cleared for wildlife.</p> <p><u>Comments:</u></p> <p><u>Next</u> Monitor after harvest. Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										
9	NF_61109009- Cut	16.6	3301 - Low Density Deciduous Trees				Harvest	Clearcut with Reserves	4211 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Final Harvest all species. Retention is to be kept within fingers; retention in the fingers will consists of only cherry and oak remove all other species.</p> <p><u>Specs:</u> Middle 2/3s of this stand should be cleared and planted to red pine. Per WLD: Agreed with FRD to plant a portion of this stand to red pine.</p> <p><u>Other</u> This is to be harvested in conjunction with stand 12 and stand 8. Replant 2/3 of this stand to red pine with stand 12.</p> <p><u>Comments:</u></p> <p><u>Next</u> Mechanically and/or chemically site prep as needed. Trench, replant, and monitor regeneration during next inventory cycle. Maintain open portion of stand as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										
14	NF_61109014- Burn	9.6	3102 - Grass				Prescribed Burn	Unspecified	310 - Herbaceous Openland	Cmpt. Review Proposal
<p><u>Prescription</u> Burn this stand at least once per entry period in order to set back woody encroachment, increase species diversity, stimulate native herbaceous vegetation, promote berry production, and recycle nutrients.</p> <p><u>Specs:</u></p> <p><u>Other</u></p> <p><u>Comments:</u></p> <p><u>Next</u> Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										
30	NF_61109030- Burn	26.2	3303 - Mixed Low Density Trees				Prescribed Burn	Unspecified	320 - Upland Shrub	Cmpt. Review Proposal
<p><u>Prescription</u> See locked OFS comments. Burn this stand at least once per entry period in order to set back woody encroachment, increase species diversity, stimulate native herbaceous vegetation, promote berry production, and recycle nutrients.</p> <p><u>Specs:</u></p> <p><u>Other</u></p> <p><u>Comments:</u></p> <p><u>Next</u> Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
38 61109038-NonFor	11.0	4139 - Aspen, Mixed Deciduous	Medium Density Sapling	14		Non-Forest Management	Brush Cutting	3301 - Low Density Deciduous Trees	Cmpt. Review Proposal

Prescription Selectively brush hog or harvest 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. Could work around some of the trees to create a wildlife food plot of appropriate herbaceous species suited to site and soil conditions, with fertilization.

Other
Comments:

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

Proposed
Start Date: 10/01/2015

23 NF_61109023-NonFor	2.3	3303 - Mixed Low Density Trees				Non-Forest Management	Brush Cutting	320 - 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.

Other
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2015

35 NF_61109035-NonFor	28.6	3205 - Mixed Upland Shrub				Non-Forest Management	Brush Cutting	320 - Upland Shrub	Cmpt. Review Proposal
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Prescription Selectively brush hog or harvest 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. Could work around some of the trees to create a wildlife food plot of appropriate herbaceous species suited to site and soil conditions, with fertilization.

Other
Comments:

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

Proposed
Start Date: 10/01/2015

45 NF_61109045-NonFor	1.8	3102 - Grass				Non-Forest Management	Other - Specify	31022 - Warm Season Grass	Cmpt. Review Proposal
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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). fertilizing, burning, or removal of woody encroachment.

Other
Comments:

Next
Steps: Maintain as needed with mowing, seeding of native grasses and forbs,

Proposed
Start Date: 10/01/2015



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
60 NF_61109060-NonFor	25.7	3303 - Mixed Low Density Trees				Non-Forest Management	Brush Cutting	310 - Herbaceous Openland	Cmpt. Review Proposal
<p><u>Prescription</u> Selectively brush hog or harvest 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.</p> <p><u>Specs:</u> Could work around some of the trees to create a wildlife food plot of appropriate herbaceous species suited to site and soil conditions, with fertilization.</p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment.</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>									

53 61109053-Survey	23.6	42111 - Planted Red Pine, Mixed Deciduous	Medium Density Sapling	6		Regeneration Survey	Artificial Regeneration (3yr)	4211 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Regeneration survey.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> This stand is being invaded by various undesired species.</p> <p><u>Next Steps:</u> Regeneration survey</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>									

Total Treatment Acreage Proposed: 590.4



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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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#Type! #Type!

Prescription Specs:

Other Comment:

Next Steps:

Proposed Start Date: #Type!

Limiting Factor

Total Treatment Acreage Proposed: 0.0

Report 5 – Site Conditions

Traverse City Mgt. Unit
Margaret Studer : Examiner

Compartment 109
Year of Entry 2016

Availability for Management

Total Acres	Acres		Dominant Site Conditions	No	5E	5B
	Available	Not Available				
348	348		Aspen	348		
43	43		Jack Pine	43		
96	96		Mixed Upland Deciduous	96		
199	199		Northern Hardwood	199		
48	46	2	Oak	35	2	11
229	229		Red Pine	229		
283	283		Upland Conifers	283		
97	97		Upland Mixed Forest	97		
13	13		White Pine	13		
1,355	1,353	2	Total Forested Acres	1,342	2	11
	100%	0%	Relative Percent			

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

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
002	Available	5B: Maintain for regeneration purposes	11				
Comments:							
003	Not Available	5E: Long Term Retention	2				
Comments:							



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
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Comments				
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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.

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

Conservation Area	Type	Description
SCA	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	High Density Pole	17.5	27		Cut in 1986 using a green tree method. Good access off Grass Lake Rd to the west. Private property to the north, south, and west. Some gaps in the south west area of the stand. Trace amounts of pine throughout the stand.
2	4130 - Aspen	High Density Sapling	4.4	6		Access off Grass Lake Rd to the west. Private property to the south. Harvested in 2008.
3	4116 - Mixed N. Hardwood - Aspen	High Density Pole	27.0	65	81-110	Private property to the north. Adjacent to non forested area lots of small gappy areas throughout the stand. This stand is variable with aspen growing throughout in clumpy islands. Also trace amounts of large white pine.
4	4130 - Aspen	High Density Pole	7.3	27	81-110	Good access of Grass Lake Rd NE to the west. Good sugar maple and aspen regen.
5	4111 - S.Maple, Hard Mast Association	High Density Log	13.3	65	81-110	This stand has good access off 612 to the north. This stand has adjacent private land on the west.
6	4119 - Mixed Northern Hardwoods	High Density Log	11.1	55	51-80	This stand has good access off 612 to the north. The stand has adjacent private land to the west. This stand is also adjacent to the North Branch of the Manistee River on the east. There was a bit of lowland balsam to the east near the river... but all in all that isn't representative of the entire stand. This stand was harvested in 2007. There is not a lot of beech in the stand and the beech that is in this stand looks to be healthy.
7	4130 - Aspen	High Density Pole	36.9	35		Good access of N Grass Lake Rd NE to the west. This stand touches private property to the north east.
10	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	36.6	65	81-110	Small private property to the east. Adjacent to non forested area lots of small gappy areas throughout the stand. This stand is variable more conifer then similiar stand to the north with aspen growing throughout in clumpy islands.
12	42110 - Planted Red Pine	High Density Log	11.9	55	200+	Good access. State forested road adjacent to stand heads north to 612. Adjacent to multiple nonforested stands. Trace amounts of black cherry scattered throughout the stand.
13	42110 - Planted Red Pine	High Density Sapling	28.1	18		Access of state forest road that heads toward 612 to the north. Stand is looking good.
15	4112 - Maple, Beech, Cherry Association	High Density Pole	14.4	75	81-110	Access through nonforested parcel to the east. Small pocket of lg/xl-ig aspens to the south. Sugar maple regen occupying the edge and variable beech saplings through out the stand. Beech bark disease present on Beech trees through the stand not a majority component of the stand. No need to salvage.
16	42100 - Planted White Pine	High Density Log	6.0	59	171-200	Trace amounts of maple in the canopy. Lower quality white pine. Accessible through red pine paths too the south and nonforested area to the northwest.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
17	4130 - Aspen	High Density Pole	29.3	35		Adjacent to red pine plantation. Great access of Grass Lake rd to the west. Drainage areas towards the west. Larger DBH aspen to the north adjacent to the non-forested land.
18	42120 - Planted Jack Pine	High Density Sapling	30.8	12		Well stocked
19	4112 - Maple, Beech, Cherry Association	High Density Log	6.7	82	81-110	This stand was thinned in 2009 and is adjacent to red pine plantation. There is trace amounts of paper birch found through the stand. Heavier to beech on the south end of the stand and beech scale is present throughout; not enough beech to make it worth a salvage sale.
20	4311 - Pine, Aspen Mix	High Density Pole	45.9	37		This stand has a lot of open areas and is dominated by balsam and white pine to the south; the north is heavier to aspen. This stand has good access off Sunset Trail and 612. Trace amounts of paper birch.
21	4111 - S.Maple, Hard Mast Association	High Density Log	21.7	78	81-110	This stand was last thinned in 2009 and is looking good. Access to this stand is slightly more difficult I recommend managing this stand with the M6 to the west.
24	4191 - Mixed Upland Deciduous with Conifer	Low Density Sapling	9.6	14		In the NE the stand consists of an island of aspen surrounded by a grove of sumac. Also, in the NE area are multiple apple trees. Between stand 25, on the north side, there looks to be a row of mature sugar maple possibly an old fence row. Between stands 25 and 26 it is a mix of everything including larger red pine and white pine they may have seeded in during the plantings in the later 1950s. Maple and aspen regenerating throughout the entire stands. Some gaps through the stand. Old Old "U type" that filled in.
25	42110 - Planted Red Pine	High Density Log	45.7	59	111-140	Good access of N Grass Lake Rd NE. Stand is located near old CCC Camp. White pine found in the north part of the stand. Last thinned in 2010. Planted in 1955.
26	42110 - Planted Red Pine	High Density Log	18.2	59	111-140	Good access of N Grass Lake Rd NE. Stand is located near old CCC Camp. Last thinned in 2010. Planted in 1955.
27	42200 - Natural White Pine	High Density Log	7.2	65	111-140	Unique stand with very large super canopy white pine. River to the east off path to the north towards 612 or to the south towards Grass Lake Rd. Balsam is heavier to the east near the river.
29	42120 - Planted Jack Pine	High Density Sapling	12.1	7		Well stocked, Planted to the west with natural seeding in on the east side. Looks well stocked. Centrally located in the compartment access is slightly more difficult.
32	4136 - Aspen, Mixed Conifer	High Density Pole	15.6	27		Trace amounts of Jack Pine to the north possibly retention from past harvest. Good Access, Well Stocked. East side more low close to river area. Larger white pine throughout stand.
33	4111 - S.Maple, Hard Mast Association	High Density Log	104.6	80	81-110	Good access to the west off N Grass Lake Rd NE. North of this stand is a red pine plantation and to the west is a non-forested area that is the site of an old Civilian Conservation Corp (CCC) camp. This stand was last thinned in 2010.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
37	429 - Mixed Upland Conifers	High Density Pole	57.3	65	141-170	Stand has wet areas to the north. Adjacent to bogs and nonforested stands. There is good access to this stand from Sunset Trail NE; this road runs through the stand. Lowland area to the west with more balsam and cedar on that side.
38	4139 - Aspen, Mixed Deciduous	Medium Density	11.0	14		Old "U" type that is now filling in and being occupied with aspen/mixed deciduous. There are white pine scattered throughout. Stand is small; with decent access through the nonforested stand to the north. Access through the west is limited by a seasonal creek that runs north and south.
39	4136 - Aspen, Mixed Conifer	High Density Pole	38.4	28	51-80	Access of Grass Lake Rd to the south and N Grass Lake Rd NE to the west. Stand density varies greatly through the stand; some areas look like a type that has grown in, but other areas are much more dense. Trace amounts of red oak through the stand. Stand could be managed at the same time as the aspen stand to the west is.
40	4319 - Mixed Upland Forest	High Density Pole	17.2	56	51-80	Stand has limited direct access; stand is found in the north central part of section 7 between Sunset Trail and Bear Lake Road. Lowland cedar and spruce found adjacent to VO nonforested stands to the west. More dominated by deciduous species to the north and more dominated by coniferous species to the south. Stand is pretty evenly mixed.
42	4130 - Aspen	High Density Pole	40.3	26		Previously final harvested around 1986. Great access off N Grass Lake Rd NE. Wet stand with fingers of wet drainage areas throughout the stand.
43	4133 - Aspen, Mixed Pine	Medium Density Pole	7.7	28		Density varies throughout this stand. There is good access of Sunset Trail to the west.
47	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	30.3	37	81-110	Very mixed. Islands of large super canopy white pine and large old aspen. Stand density varies; more conifers in the south end of sale and more aspen and red maple throughout the north and central part of the sale.
48	4191 - Mixed Upland Deciduous with Conifer	High Density Sapling	19.3	10		Mixed stand that varies in density. Red pine strip plantation through the center of this stand. Good access off Grass Lake Rd NE.
49	4130 - Aspen	High Density Pole	25.2	34		Stand is looking good. Access is trickier there is a private road to the north and Bear Lake Rd to the east.
51	4130 - Aspen	High Density Sapling	8.8	16		Well stocked, easy access, stand splits a young red pine strip plantation.
52	4130 - Aspen	High Density Sapling	5.7	13		Well stocked. Good access off Sunset Trail. Trace amounts of balsam seedlings visible throughout the stand. Possibly management opportunities with A3 to the south. Snowmobile trail runs through this stand.
53	42111 - Planted Red Pine, Mixed Deciduous	Medium Density	23.6	6		Strip plantation red pine that was planted in 2008 it has lots of competition. No very dense.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
54	429 - Mixed Upland Conifers	High Density Pole	41.7	56	111-140	Stand has limited direct access; stand is found in the north central part of section 7 between Sunset Trail and Blear Lake Road. Lowland cedar and spruce found adjacent to VO nonforested stands to the west. More dominated by deciduous species to the north and more dominated by coniferous species to the south. Stand is pretty evenly mixed.
56	42210 - Natural Red Pine	High Density Log	10.6	65	141-170	Adjacent to the snowmobile trail. Access off Sunset Trail.
57	4130 - Aspen	High Density Sapling	16.8	6		Stand is regenerating nicely. Good access of Sunset Trail. Possibly management opportunities with older A3 to the north. Snowmobile runs adjacent/through portions of this stand.
58	4133 - Aspen, Mixed Pine	Low Density Pole	22.8	24	1-50	This stand has low density and is mostly low quality aspen and open grown pine mixed throughout. There are a few red oaks scattered throughout and the black cherry is very shrubby with multiple stems.
59	429 - Mixed Upland Conifers	High Density Pole	32.5	50	111-140	Cedar found towards the west side and moving into a lowland covertype. Good access of Sunset Trail.
61	429 - Mixed Upland Conifers	High Density Pole	17.3	32	51-80	There is good access to this stand off Sunset Trail. The snowmobile trail run adjacent to this stand on the east. Stand density is variable.
62	429 - Mixed Upland Conifers	High Density Log	65.4	70	111-140	Stand is variable in density and composition. Understory looks to be suppressed and unlikely to mature into valuable timber.
64	4130 - Aspen	High Density Sapling	5.2	13		Well stocked. Good decent access off Sunset Trail. Trace amounts of balsam seedlings visible throughout the stand. Possibly management opportunities with A3 to the south. Snowmobile trail runs adjacent to this stand.
65	4311 - Pine, Aspen Mix	High Density Pole	13.5	33	51-80	Access off Bear Lake Rd. Lots of topography changes in this stand. Stand density and stand composition differs throughout stand. More coniferous on the south end of this stand.
66	42110 - Planted Red Pine	High Density Pole	7.6	48	141-170	This stand looks to be a continuation of stand 81.
67	4130 - Aspen	High Density Sapling	6.6	6		Stand is regenerating nicely. Access of Sunset Trail to the west. Harvested in 2010.
68	4130 - Aspen	High Density Pole	21.2	33		Mixed hardwoods found towards the south of the stand continues into private property. Private property towards the south. Access of Sunset Trail to the west.
69	4310 - Pine, Oak Mix	High Density Log	20.6	65	111-140	Access to this stand is more difficult because it is located interior in this compartment with limited forested roads. It may be advantageous to harvest with the red pine to the east because it will increase access to the stand.

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Traverse City Mgt. Unit

Report 8 – Forested Stands

Compartment: 109
Year of Entry: 2016

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
70	4133 - Aspen, Mixed Pine	High Density Pole	27.0	33		Bear Lake Road runs through this stand so there is decent access; adjacent to the road is deep gullies. This stand has a lot of topography changes. It was last harvested
71	429 - Mixed Upland Conifers	High Density Log	68.3	77	141-170	Good Access off Bear Lake Road to the East. Stand is less dense to the east.
72	4124 - Red with White Oak	High Density Sapling	5.4	15		Overstory of larger trees, but over all this is a sapling size stand. Access off Bear Lake Rd to the East.
73	4122 - Oak, Pine	High Density Log	42.4	98	51-80	The stand is more open to the east. Access off Bear Lake rd to the east.
74	42111 - Planted Red Pine, Mixed Deciduous	High Density Pole	24.2	48	111-140	Planted in 1966. Planting records mention that due to oak slash rows may be variable. VERY VARIABLE. Never been thinned. Stand looks stunted and may or may not respond to thinning.
76	42111 - Planted Red Pine, Mixed Deciduous	High Density Pole	59.5	48	111-140	Planted in 1966. Planting records mention that due to oak slash rows may be variable. VERY VARIABLE. Never been thinned. Stand looks stunted and may or may not respond to thinning.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
8	3303 - Mixed Low Density Trees	18.0	Natural Regen	High	
9	3301 - Low Density Deciduous Trees	16.6	No	Medium	
11	122 - Road/Parking Lot	5.1	No	Unspecified	
14	3102 - Grass	9.6	Unspecified	Unspecified	
22	622 - Lowland Shrub	102.6	Unspecified	Unspecified	With low density mixed conifer
23	3303 - Mixed Low Density Trees	2.3	No	Unspecified	
28	50 - Water	40.2	Unspecified	Unspecified	It is actually mix nonforested wetland.
30	3303 - Mixed Low Density Trees	26.2	Unspecified	Unspecified	Site of old CCC Camp
31	3102 - Grass	1.9	Unspecified	Unspecified	
34	622 - Lowland Shrub	13.1	No	Unspecified	
35	3205 - Mixed Upland Shrub	28.6	Unspecified	Unspecified	
36	6225 - Bog	3.7	Unspecified	Unspecified	
41	6224 - Treed Bog	5.8	Unspecified	Unspecified	
44	6224 - Treed Bog	1.1	Unspecified	Unspecified	
45	3102 - Grass	1.8	No	Unspecified	
46	622 - Lowland Shrub	143.3	Unspecified	Unspecified	With low density mix deciduous trees
50	6224 - Treed Bog	7.1	Unspecified	Unspecified	
55	330 - Low-Density Trees	1.3	No	Unspecified	



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
60	3303 - Mixed Low Density Trees	25.7	Unspecified	Unspecified	
63	3102 - Grass	2.1	Unspecified	Unspecified	
75	122 - Road/Parking Lot	5.9	Unspecified	Unspecified	
77	3102 - Grass	1.1	No	Unspecified	