



Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 139

Entry Year 2016

Acreage: 1,932

County Kalkaska

Management Area: AuSable Outwash

Revision Date: 05/20/2014

Stand Examiner: Donna Hagan

Legal Description:

T25N,R5W,Sections 10, 11, & 12

Identified Planning Goals:

Vegetation management in the AuSable Outwash management area (MA) will provide forest products; maintain or enhance wildlife habitat; protect areas of unique character, threatened, endangered and special concern species; and provide for forest-based recreational uses. Timber management for this 10-year planning period will focus on improving the age-class structure of aspen, harvesting older jack pine and regeneration of red pine and oak to help balance age-classes. Wildlife habitat management objectives include perpetuating early-successional communities for species adapted to young forests for hunting and other wildlife-related recreation opportunity and management of the state wildlife management areas. Expected trends within this 10-year planning period are an increase in non-native exotic plants, especially Phragmites in the wetland areas and increased recreational pressure.

Soil and topography:

The topography ranges from flat to slightly rolling. Poor, sandy Graycalm Outwash soils are located within the compartment.

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

The entire compartment is state owned land. There is no development other than the oil/gas activity. Section 12 has numerous above ground pipelines running through the section and is also a sour gas field. The northern border of this compartment joins Military Board Lands which are owned by the Military. This compartment is leased to the military for training purposes under the terms of a lease agreement.

In the mid 1970's, two burial pits in Section 10 were developed to dispose of thousands of PBB contaminated cattle. In 1987 a 4' high fence was erected around the pit by the Military. In 2009, the Military replaced areas of the fence. Sixteen groundwater monitoring wells were drilled in stands adjacent to the burial pits. Wells are monitored by the DEQ.

Land use in and around the compartment is primarily recreational in nature. Snowmobiling and hunting are the main activities. Military training maneuvers cause considerable traffic and activity in the forest and along the roadways for a few weeks during the traditional training period. There is daily traffic on the forest trails and county roads by service crews monitoring oil/gas facilities within the compartment.

Unique Natural Features:

Hill's Thistle is found in this compartment.

Archeological, Historical, and Cultural Features:

No Archeological, Historical, or Cultural Features known.

Special Management Designations or Considerations:

This compartment is part of a lease agreement with the Department of Military Affairs for the use by the Military for troop training.

Watershed and Fisheries Considerations:

No bodies of water within compartment boundaries.

Wildlife Habitat Considerations:

This compartment encompasses two different types of glacial land forms, a sandy outwash plain and parts of several ice contact ridges. This sandy outwash plain supports a mixture of oak, aspen, and grassland/brush communities. Stands of fire dependant conifers, once common on these plains, are currently absent within this compartment. Fire was a major disturbance on these dry soils and should be considered a valuable treatment tool in perpetuating these fire driven ecosystems. Species found in these early to mid-successional communities include: white-tailed deer, ruffed grouse,

eastern bluebird, smooth green snake, meadow vole, and red-tailed hawk.

The northern tips of several sandy ice contact ridges extend into the south/central portion of the compartment. A portion of another set of sandy ridges extends from the west a short distance into section 10. These ridges once supported a variety of fire dependent communities, most notably, coniferous forests. Present habitat types found on these ridges within this compartment are oak and aspen. All openings on this ridge are of oil and gas well origins, and most are still active. Gray squirrel, wild turkey, red-eyed vireo, eastern screech owl, and northern brown snake are some of the many wildlife species one might find here.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift is the Mississippian Michigan Formation. The Michigan is quarried for gypsum elsewhere in the State. The compartment is located between Garfield and Beaver Creek Fields. Garfield produces from the Devonian Richfield and Ordovician PdC. Beaver Creek produces from the Devonian Richfield and Detroit River Formations. Most of the State's minerals are leased.

Vehicle Access:

Vehicle access is good with the road system that is already in place. Roads are heavily used in the summer by the military during maneuvers and by the oil/gas industry.

Survey Needs:

The county roads frame in the sections within the compartment and are generally located along the section lines except on the north boundary. Lands surrounding the compartment are all state owned and all the necessary survey corners are already in place.

Recreational Facilities and Opportunities:

There are no designated recreational facilities within this compartment. Hunting, berry picking, mushroom hunting and some dispersed camping occurs within this compartment. Snowmobiling on non-designated trails (roads) is a popular activity during the winter months. Illegal ORV activity was noted in the past within this compartment. Restoration grants are available via the ORV program if needed. (T.M.N. 5/13/14)

Fire Protection:

The greatest difficulty with fire control in this compartment is the fact that a lot of gas/oil related pipeline is laying on the surface or just below it in section 12. Section 12 is also a sour gas area. Response time is also a concern since heavy equipment is about 45 minutes away. Response time improves when units are stationed at Garfield Township but they are still 19 miles away. Fortunately, there is a lack of volatile pine fuels in the area of this compartment. During extended dry summer periods, the risk of fire is heightened in the compartment due to the heavy presence of military activity.

Additional Compartment Information:

Any logging activities in section 12 must have a representative from BreitBurn check for above ground pipelines.

The following reports from the Inventory are attached:

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

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

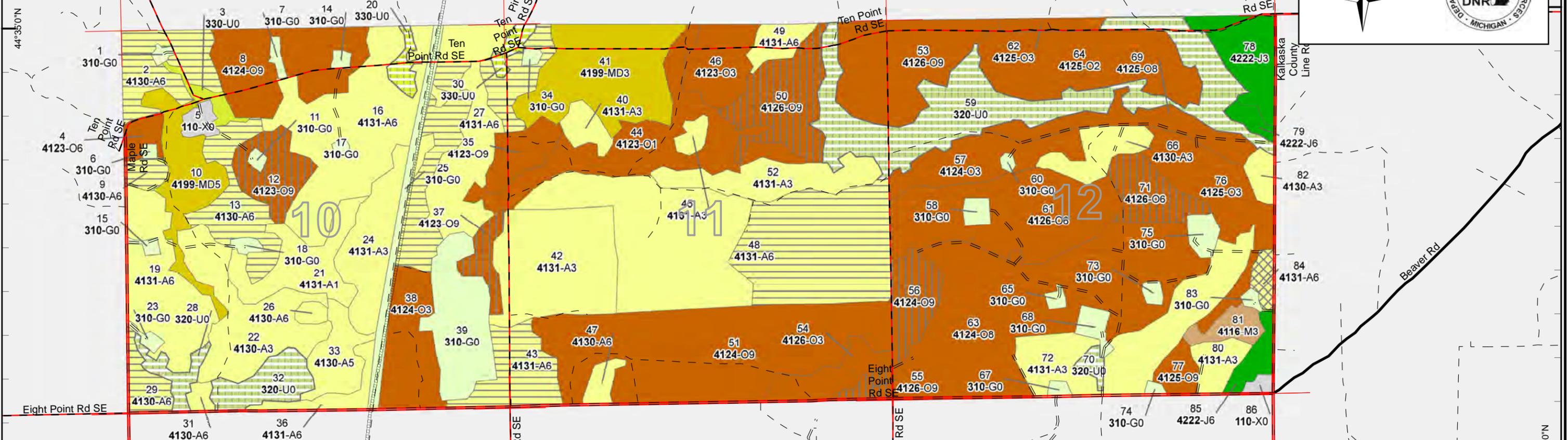
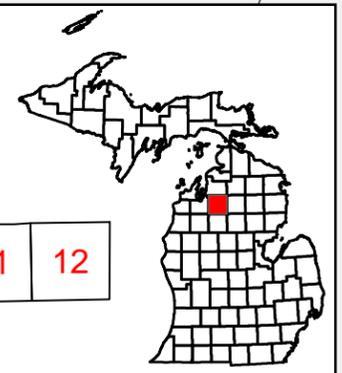
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Compartment: 139
 T25N R05W
 Sections: 10, 11, 12
 County: Kalkaska
 Unit: Traverse City
 Management Area: AuSable Outwash
 YOE: 2016
 Acres: 0 GIS Calculated
 Examiner: Donna Hagan
 Map Revised: 06/19/2014
 Map Phase: Web Post

Cover Type & Treatment Map

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

10 11 12



Legend

<ul style="list-style-type: none"> — Miris Corners + Remonumented Section Corners --- Pipeline ⊕ Powerline ▭ Lakes and Rivers ⚡ Snowmobile Trails --- ORV Route — Snowmobile Trail 	<ul style="list-style-type: none"> — Highway — County Paved Roads — Paved Roads — County Gravel Roads — Gravel Roads — Poor Dirt Roads — County Poor Dirt Roads — Trail (Non-Recreation) 	<p>Planned Regeneration</p> <ul style="list-style-type: none"> ▭ Natural ▭ Planted <p>Treatments</p> <ul style="list-style-type: none"> ▭ Clearcut (w/Reserves, Patch/Strip) ▭ Shelter Wood (w/Reserves) ▭ Selection (Group, Single Tree) ▭ Opening Maintenance ▭ Treatments w/ Site Condition 	<p>Forest Stands</p> <ul style="list-style-type: none"> ▭ 411 - Northern Hardwood ▭ 412 - Oak Types ▭ 413 - Aspen Types ▭ 419 - Mixed Upland Deciduous ▭ 422 - Natural Pines 	<p>Non-Forest Stands</p> <ul style="list-style-type: none"> ▭ 110 - Low Intensity Urban ▭ 310 - Herbaceous Openland ▭ 320 - Upland Shrub ▭ 330 - Low-Density Trees ▭ State Forest Land
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84°55'0"W 84°54'0"W 84°53'0"W 84°52'0"W 84°51'0"W

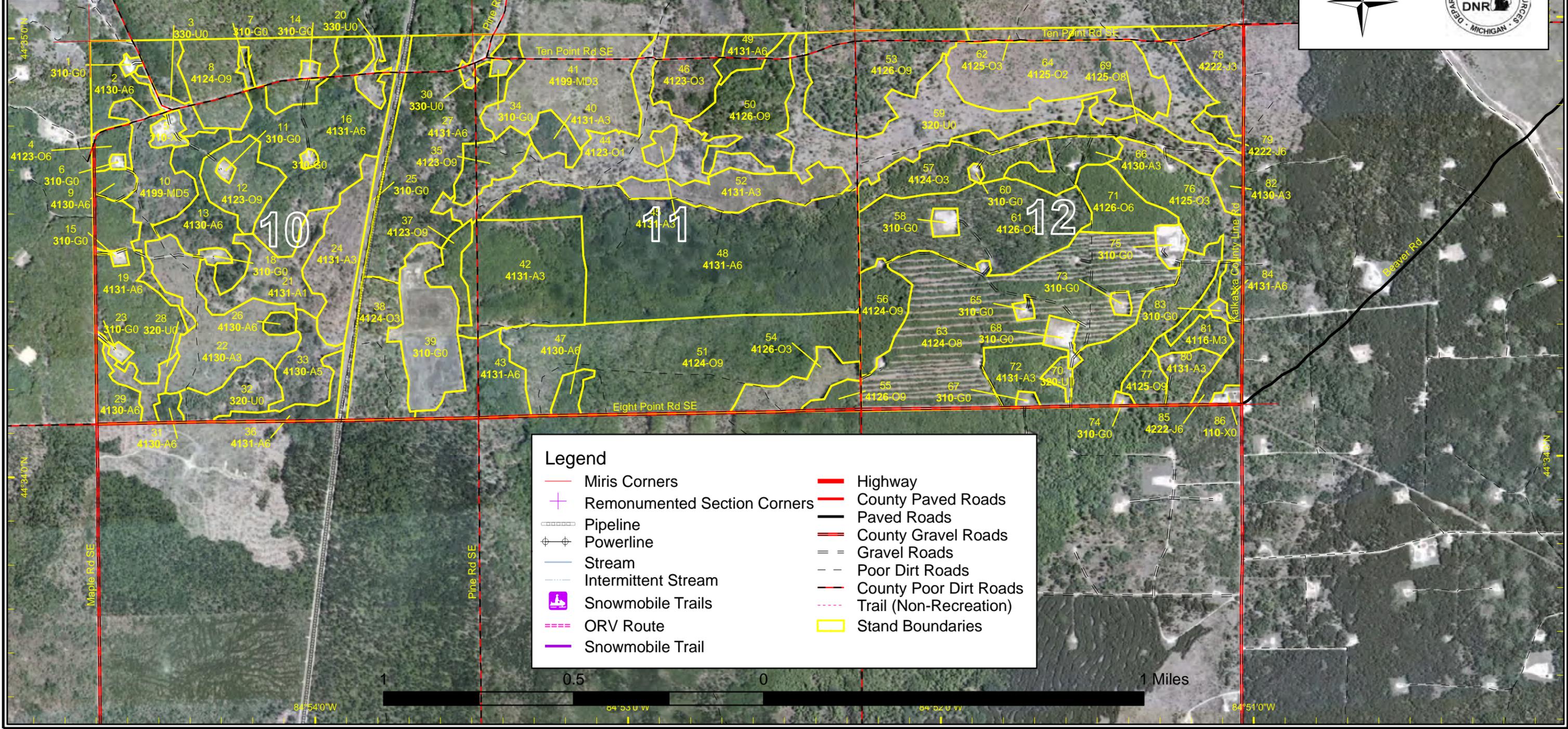
Compartment: 139
 T25N R05W
 Sections: 10, 11, 12
 County: Kalkaska
 Unit: Traverse City
 Management Area: AuSable Outwash
 YOE: 2016
 Acres: 0 GIS Calculated
 Examiner: Donna Hagan
 Map Revised: 06/19/2014
 Map Phase: Web Post

Stand Boundary Map

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

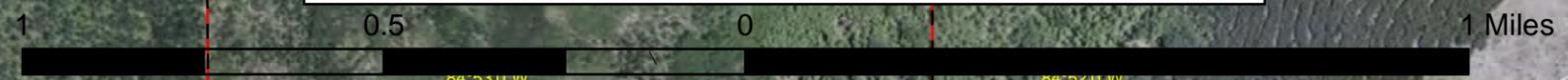
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Legend

Miris Corners	Highway
Remonumented Section Corners	County Paved Roads
Pipeline	Paved Roads
Powerline	County Gravel Roads
Stream	Gravel Roads
Intermittent Stream	Poor Dirt Roads
Snowmobile Trails	County Poor Dirt Roads
ORV Route	Trail (Non-Recreation)
Snowmobile Trail	Stand Boundaries

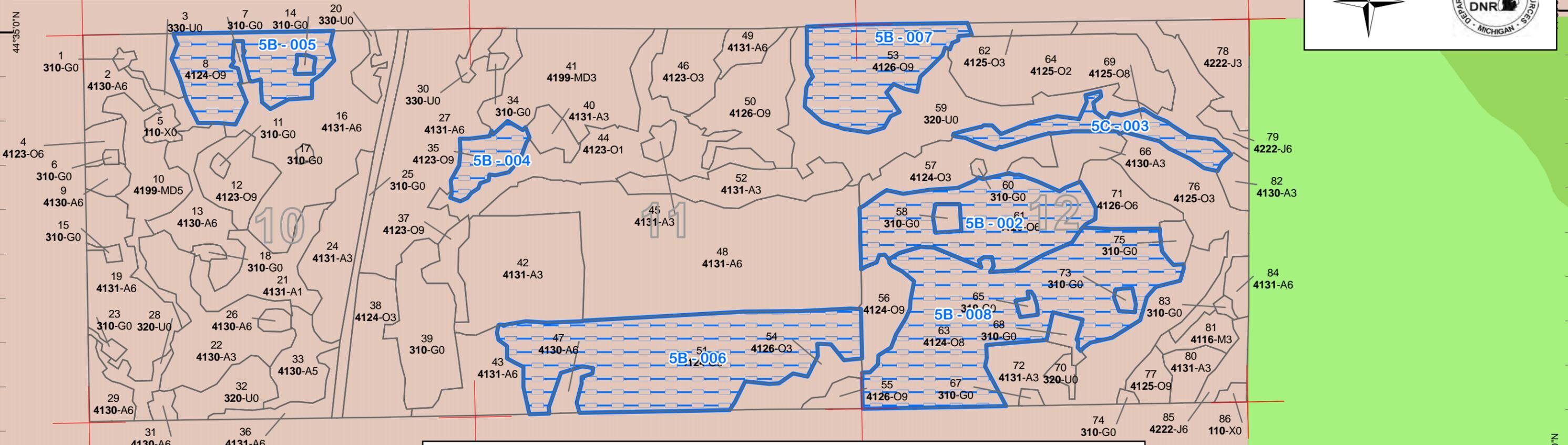


Compartment: 139
 T25N R05W
 Sections: 10, 11, 12
 County: Kalkaska
 Unit: Traverse City
 Management Area: AuSable Outwash
 YOE: 2016
 Acres: 0 GIS Calculated
 Examiner: Donna Hagan
 Map Revised: 06/19/2014
 Map Phase: Web Post

Special Conservation Areas & Site Conditions Map

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

10 11 12



Legend

Miris Corners	Reviewable SCAs
Remonumented Section Corners	Proposed SCA
Site Condition Available	SCA Removal
Available w/ Constraints (Factor - Number)	Dedicated Special Conservation Areas
Unavailable (Factor - Number)	Essential Habitat (Kirtland Warbler)
	Research, Development, and Military Lands
	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	103	16	139	181	300	32	0	0	0	0	0	0	0	0	771
Herbaceous Openland	86	0	0	0	0	0	0	0	0	0	0	0	0	0	86
Jack Pine	0	23	0	0	12	0	0	0	0	0	0	0	0	0	36
Low-Density Trees	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Mixed Upland Deciduous	56	0	0	0	28	0	0	0	0	0	0	0	0	0	84
Northern Hardwood	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
Oak	16	92	140	0	6	0	0	8	214	256	68	9	0	0	810
Upland Shrub	116	0	0	0	0	0	0	0	0	0	0	0	0	0	116
Urban	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Total	398	140	279	181	347	32	0	8	214	256	68	9	0	0	1932



Report 2 – Proposed Treatment Summaries

Traverse City Mgt. Unit
Year of Entry 2016

Compartment 139
Total Compartment Acres: 1,932

Acres by Treatment Type

Commercial Harvest - 315 Tree Planting - 0 Other - 0
Habitat Cut - 0 Opening Maintenance - 12

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen Types	205	5	0	0	0	0	210
Oak Types	0	0	0	105	0	0	105
Total	205	5	0	105	0	0	315



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
2	61139002-Cut	26.4	4130 - Aspen	High Density Pole	47		Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Poor quality quaking aspen. Very small pine component around edge of stand. Leave this with some aspen as retention. Plus leave any oak. <u>Specs:</u> Please include CWD (drumming log spec) in sale. 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.</p> <p><u>Other Comments:</u> Stand borders Ten Point and Portage Creek Roads.</p> <p><u>Next Steps:</u> Stand will regenerate to aspen, oak mix.</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>										
9	61139009-Cut	5.2	4130 - Aspen	High Density Pole	47		Harvest	Clearcut	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest, but leave the oak. Stand too small for retention. <u>Specs:</u></p> <p><u>Other Comments:</u> Stand borders Maple Road.</p> <p><u>Next Steps:</u> Stand will regenerate to an aspen, oak mix.</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>										
12	61139012-Cut	19.6	4123 - Red Oak	High Density Log	109	141-170	Harvest	Shelterwood	412 - Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Shelterwood cut leaving approximately 30-50 BA. Leave tops unchipped as much as possible to provide horizontal habitat component for wildlife. <u>Specs:</u> Please leave tops in scattered piles for wildlife habitat as much as possible.</p> <p><u>Other Comments:</u> Gas well within stand.</p> <p><u>Next Steps:</u></p> <p><u>Proposed Start Date:</u> 10/01/2015</p>										
13	61139013-Cut	25.6	4130 - Aspen	High Density Pole	47		Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest. Please include CWD (drumming log spec) in sale. 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. Possible retention area would be North of the well pad in southern portion of stand. <u>Specs:</u></p> <p><u>Other Comments:</u> Poor quality quaking aspen.</p> <p><u>Next Steps:</u> Stand will regenerate to aspen with some red maple and cherry.</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>										



Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
27	61139027_cut _small-Cut	14.4	4131 - Aspen, Oak	High Density Pole	40		Harvest	Clearcut	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest all species but leave scattered larger oak. Retention will be in the center of stand 27 where small openings and areas of dense oak regeneration with aspen pockets exist.</p> <p><u>Specs:</u></p> <p><u>Other</u> Cutting stand a little early for age classs distribution.</p> <p><u>Comments:</u></p> <p><u>Next</u> Aspen, red maple and oak are acceptable regeneration.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										
27	61139027_cut- Cut	26.5	4131 - Aspen, Oak	High Density Pole	40		Harvest	Clearcut	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest all species but leave scattered larger oak. Retention will be in the center of stand 27 where small openings and areas of dense oak regeneration with aspen pockets exist.</p> <p><u>Specs:</u></p> <p><u>Other</u> Cutting parts of stand a little early for age class distribution.</p> <p><u>Comments:</u></p> <p><u>Next</u> Aspen, oak and red maple acceptable regeneration.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										
29	61139029-Cut	9.8	4130 - Aspen	High Density Pole	47		Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest leaving any oak. Retention area can be along Maple and/or Eight Point Roads. Please include CWD (drumming log spec) in sale.</p> <p><u>Specs:</u> 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.</p> <p><u>Other</u> Poor quality quaking aspen with better red oak/black oak. Stand borders Maple and Eight Point Roads. Also pipeline running beside stand along Maple Road.</p> <p><u>Comments:</u></p> <p><u>Next</u> Stand will regenerate to an aspen/oak mix.</p> <p><u>Steps:</u></p> <p><u>Proposed</u></p> <p><u>Start Date:</u> 10/01/2015</p>										
37	61139037-Cut	9.1	4123 - Red Oak	High Density Log	119	141-170	Harvest	Shelterwood	412 - Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Shelterwood to 30-50 BA.</p> <p><u>Specs:</u></p> <p><u>Other</u> Stand borders PBB Pit. Will need to check for monitoring wells.</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>										



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
43 61139043-Cut	24.3	4131 - Aspen, Oak	High Density Pole	51		Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal

Prescription Final harvest leaving some oak. Retention should concentrate along PBB Pit. Please include CWD (drumming log spec) in sale. 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: Stand borders PBB Pit to the east and south. Will need to check for monitoring well locations.

Next Steps: Stand will regenerate to an aspen/oak mix.

Proposed Start Date: 10/01/2015

48 61139048_cut-Cut	72.4	4131 - Aspen, Oak	High Density Pole	35		Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
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Prescription Harvest all species but leave retention patch where oak densities are higher in southwestern portion of stand.

Other Comments: Young stand but breaking up age class.

Next Steps: Stand regeneration of aspen, oak and red maple is acceptable.

Proposed Start Date: 10/01/2015

50 61139050-Cut	34.7	4126 - White, Black, N. Pin Oak	High Density Log	108	141-170	Harvest	Shelterwood	4129 - Mixed Oak	Cmpt. Review Proposal
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Prescription Shelterwood leaving approximately 30-50 BA. 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: Tiny part of northeast stand crosses Ten Point Road.

Next Steps:

Proposed Start Date: 10/01/2015

55 61139055-Cut	5.5	4126 - White, Black, N. Pin Oak	High Density Log	80	171-200	Harvest	Shelterwood	4129 - Mixed Oak	Cmpt. Review Proposal
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Prescription Shelterwood leaving approximately 30-50 BA.

Other Comments: Stand borders Eight Point and Oak Roads.

Next Steps:

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
56 61139056-Cut	17.8	4124 - Red with White Oak	High Density Log	80	111-140	Harvest	Shelterwood	412 - Oak	Cmpt. Review Proposal

Prescription Specs: Shelterwood leaving 30-50 BA. 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: Stand borders Oak Road. Stand could have above ground pipelines.

Next Steps:

Proposed Start Date: 10/01/2015

71 61139071-Cut	18.4	4126 - White, Black, N. Pin Oak	High Density Pole	80	141-170	Harvest	Shelterwood	412 - Oak	Cmpt. Review Proposal
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Prescription Specs: Shelterwood leaving approximately 30-50 BA. 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: Stand could have above ground pipelines.

Next Steps:

Proposed Start Date: 10/01/2015

84 61139084-Cut	5.2	4131 - Aspen, Oak	High Density Pole	59		Harvest	Single Tree Selection	4121 - Oak, Aspen	Cmpt. Review Proposal
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Prescription Specs: Remove aspen and jack pine. Areas of advanced oak regeneration are to be protected. Too small for retention. Please include CWD (drumming log spec) in sale. 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: Along Kalkaska County Line Road. Stand could have above ground pipelines.

Next Steps: Stand will convert to an oak stand with aspen regeneration in more open areas.

Proposed Start Date: 10/01/2015

20 NF_61139020-NonFor	4.9	3301 - Low Density Deciduous Trees				Non-Forest Management	Brush Cutting	310 - Herbaceous Openland	Cmpt. Review Proposal
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Prescription Specs: Harvest woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. WLD can mark trees to cut or to leave. Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover.

Other Comments:

Next Steps: Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.

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
28 NF_61139028-NonFor	7.6	320 - Upland Shrub				Non-Forest Management	Brush Cutting	330 - Low Density Trees	Cmpt. Review Proposal

Prescription If FRD agrees, include this stand in adjacent timber sale and, harvest woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. WLD can mark trees to cut or to leave. Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs.

Other Comments:

Next Steps: Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover. Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.

Proposed Start Date: 10/01/2015

30 NF_61139030-NonFor	4.3	3301 - Low Density Deciduous Trees				Non-Forest Management	Brush Cutting	310 - Herbaceous Openland	Cmpt. Review Proposal
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Prescription Harvest woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. WLD can mark trees to cut or to leave. Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover.

Other Comments:

Next Steps: Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.

Proposed Start Date: 10/01/2015

32 NF_61139032-NonFor	16.4	320 - Upland Shrub				Non-Forest Management	Brush Cutting	320 - Upland Shrub	Cmpt. Review Proposal
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Prescription If FRD agrees, include this stand in adjacent timber sale and, harvest woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. WLD can mark trees to cut or to leave. Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover.

Other Comments:

Next Steps: Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.

Proposed Start Date: 10/01/2015

59 NF_61139059-NonFor	89.2	320 - Upland Shrub				Non-Forest Management	Brush Cutting	320 - Upland Shrub	Cmpt. Review Proposal
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Prescription If FRD agrees, include this stand in adjacent timber sale and, harvest woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. WLD can mark trees to cut or to leave. Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover.

Other Comments:

Next Steps: Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.

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
70 NF_61139070-NonFor	3.0	320 - Upland Shrub				Non-Forest Management	Brush Cutting	320 - Upland Shrub	Cmpt. Review Proposal

Prescription Specs: Harvest woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. WLD can mark trees to cut or to leave. Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover.

Other Comments:

Next Steps: Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.

Proposed Start Date: 10/01/2015

Total Treatment Acreage Proposed: 440.3



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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

Compartment 139

Donna Hagan : Examiner

Year of Entry 2016

Availability for Management

Total Acres	Acres		Dominant Site Conditions	No	5C	5B
	Available	Not Available				
771	771		Aspen	771		
36	36		Jack Pine	36		
84	84		Mixed Upland Deciduous	84		
8	8		Northern Hardwood	8		
810	810		Oak	367	23	420
1,709	1,709		Total Forested Acres	1,266	23	420
	100%		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	66				
Comments:							
003	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	23				
Comments:							
004	Available	5B: Maintain for regeneration purposes	14				
Comments:							
005	Available	5B: Maintain for regeneration purposes	43				
Comments:							

Report 5 – Site Conditions

Traverse City Mgt. Unit
Donna Hagan : Examiner

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006	Available	5B: Maintain for regeneration purposes	117
Comments:			
007	Available	5B: Maintain for regeneration purposes	51
Comments:			
008	Available	5B: Maintain for regeneration purposes	129
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.
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.

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Traverse City Mgt. Unit

Report 8 – Forested Stands

Compartment: 139
Year of Entry: 2016

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	4130 - Aspen	High Density Pole	26.4	47		Poor quality quaking aspen. Very small pine component around edge of stand.
4	4123 - Red Oak	High Density Pole	6.3	40	51-80	
8	4124 - Red with White Oak	High Density Log	43.4	87	51-80	Treated in 2012.
9	4130 - Aspen	High Density Pole	5.2	47		
10	4199 - Other Mixed Upland Deciduous	Medium Density Pole	28.2	40		Poor quality stand.
12	4123 - Red Oak	High Density Log	19.6	109	141-170	
13	4130 - Aspen	High Density Pole	25.6	47		Poor quality quaking aspen.
16	4131 - Aspen, Oak	High Density Pole	72.8	40		
19	4131 - Aspen, Oak	High Density Pole	42.0	40		
21	4131 - Aspen, Oak	Low Density Sapling	27.1	40		Old U type filling in. Very low density. Very shrubby with black cherry. Lots of grassy areas.
22	4130 - Aspen	High Density Sapling	43.8	6		Very good regeneration.
24	4131 - Aspen, Oak	High Density Sapling	28.5	5		Cut in 2008. 61-85-06
26	4130 - Aspen	High Density Pole	2.8	59		Retention area from previous sale.
27	4131 - Aspen, Oak	High Density Pole	82.8	40		Some open gappy areas throughout stand.
29	4130 - Aspen	High Density Pole	9.8	47		
31	4130 - Aspen	High Density Pole	3.1	40		
33	4130 - Aspen	Medium Density Pole	16.5	33		A lot of shrub cherry.
35	4123 - Red Oak	High Density Log	14.1	109	1-50	

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Traverse City Mgt. Unit

Report 8 – Forested Stands

Compartment: 139
Year of Entry: 2016

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
36	4131 - Aspen, Oak	High Density Pole	9.1	39		
37	4123 - Red Oak	High Density Log	9.1	119	141-170	
38	4124 - Red with White Oak	High Density Sapling	30.0	15	1-50	Red and white oak remain on site after a 1998 cutting was complete. Nice advanced oak regeneration in most places. NOTE: Monitoring wells are scattered through the stand for the PBB Cattle Burial Pit with is adjacent to the stand.
40	4131 - Aspen, Oak	High Density Sapling	7.5	26		Clearcut in 1987.
41	4199 - Other Mixed Upland Deciduous	High Density Sapling	56.2	5		Stand was harvested in 2008. #61-632-06. Scattered oak left.
42	4131 - Aspen, Oak	High Density Sapling	56.8	25		Cut in 1988.
43	4131 - Aspen, Oak	High Density Pole	24.3	51		
44	4123 - Red Oak	Low Density Sapling	54.6	25	1-50	
45	4131 - Aspen, Oak	High Density Sapling	4.0	6		Cut in 2007. #61-031-06.
46	4123 - Red Oak	High Density Sapling	20.9	26		Cut in 1987.
47	4130 - Aspen	High Density Pole	5.1	47		
48	4131 - Aspen, Oak	High Density Pole	155.2	35		Cut in 1978
49	4131 - Aspen, Oak	High Density Pole	8.3	26		Cut in 1987.
50	4126 - White, Black, N. Pin Oak	High Density Log	34.7	108	141-170	
51	4124 - Red with White Oak	High Density Log	116.6	95	51-80	Cut in 2012. #61-068-07
52	4131 - Aspen, Oak	High Density Sapling	26.9	6		Cut in 2007. #61-031-06
53	4126 - White, Black, N. Pin Oak	High Density Log	51.0	99	51-80	Thinned in 2007. #61-687-06. NOTE: Money refunded on East and SE part of sale because of steel-jacketed bullets in trees.
54	4126 - White, Black, N. Pin Oak	High Density Sapling	16.0	6		Cut in 2007. 61-044-06



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
55	4126 - White, Black, N. Pin Oak	High Density Log	5.5	80	171-200	
56	4124 - Red with White Oak	High Density Log	17.8	80	111-140	
57	4124 - Red with White Oak	High Density Sapling	27.2	24		Cut in 1989.
61	4126 - White, Black, N. Pin Oak	High Density Pole	65.6	98	51-80	Treated in 2009. 61-086-06
62	4125 - Black, N. Pin Oak	High Density Sapling	6.0	12		Cut in 2001. 61-023-00
63	4124 - Red with White Oak	Medium Density Log	129.1	80	81-110	Strip cut in 2011. The sapling strips do compose some of the overstory.
64	4125 - Black, N. Pin Oak	Medium Density	56.4	14		Aspen, maple and dead oak was removed from the stand in 1999 - 61-050-96. The oak overstory was removed in 2007 - 61-055-06.
66	4130 - Aspen	High Density Sapling	14.9	24		Cut in 1989.
69	4125 - Black, N. Pin Oak	Medium Density Log	23.0	95	1-50	
71	4126 - White, Black, N. Pin Oak	High Density Pole	18.4	80	141-170	
72	4131 - Aspen, Oak	High Density Sapling	51.8	24		Cut in 1989.
76	4125 - Black, N. Pin Oak	High Density Sapling	36.9	24		Cut in 1989.
77	4125 - Black, N. Pin Oak	High Density Log	7.6	75	81-110	Pin oak in poor form with smaller aspen and red maple present.
78	42220 - Natural Jack Pine	High Density Sapling	23.3	16		Cut in 1997.
79	42220 - Natural Jack Pine	High Density Pole	4.3	45		
80	4131 - Aspen, Oak	High Density Sapling	9.7	14		Cut in 1999.
81	4116 - Mixed N. Hardwood - Aspen	High Density Sapling	8.5	14		
82	4130 - Aspen	High Density Sapling	5.8	14		Cut in 1999.

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Traverse City Mgt. Unit

Report 8 – Forested Stands

Compartment: 139
Year of Entry: 2016



S t a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
84	4131 - Aspen, Oak	High Density Pole	5.2	59		
85	42220 - Natural Jack Pine	High Density Pole	8.1	45		



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	3102 - Grass	1.3	No	Unspecified	Well site
3	3301 - Low Density Deciduous Trees	4.9	No	Unspecified	
5	11 - Low Intensity Urban	4.2	No	Unspecified	Oil and gas facility
6	3102 - Grass	1.0	No	Unspecified	Well site
7	3102 - Grass	1.8	No	Unspecified	
11	3102 - Grass	1.3	No	Unspecified	Well pad
14	3102 - Grass	1.5	No	Unspecified	Well pad
15	3102 - Grass	1.4	No	Unspecified	Well site
17	3102 - Grass	1.2	No	Unspecified	Well site
18	3102 - Grass	1.9	No	Unspecified	Well pad
20	3301 - Low Density Deciduous Trees	4.9	No	Unspecified	
23	3102 - Grass	1.8	No	Unspecified	Well pad
25	3102 - Grass	15.3	No	Unspecified	Pipeline
28	320 - Upland Shrub	7.6	No	Unspecified	
30	3301 - Low Density Deciduous Trees	4.3	No	Unspecified	
32	320 - Upland Shrub	16.4	No	Unspecified	
34	3102 - Grass	1.3	No	Unspecified	Well pad



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
39	3102 - Grass	35.4	No	Unspecified	This is the site of the mass burial of PBB contaminated cattle from the 1970's. Area is fenced and a director's order was established to prohibit vehicular access to the area. Monitoring wells are located all around this site. The actual burial area is capped and vegetated with mostly knapweed and grasses.
58	3102 - Grass	3.2	No	Unspecified	Well site
59	320 - Upland Shrub	89.2	No	Unspecified	
60	3102 - Grass	1.0	No	Unspecified	Well site
65	3102 - Grass	1.6	No	Unspecified	Well site
67	3102 - Grass	1.5	No	Unspecified	Well site
68	3102 - Grass	4.7	No	Unspecified	Well site
70	320 - Upland Shrub	3.0	No	Unspecified	
73	3102 - Grass	1.9	No	Unspecified	Well site
74	3102 - Grass	1.1	No	Unspecified	Well site
75	3102 - Grass	5.0	No	Unspecified	Well site
83	3102 - Grass	1.3	No	Unspecified	Well site
86	11 - Low Intensity Urban	2.1	No	Unspecified	Oil & Gas Facility.