



Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 43

Entry Year 2016

Acreage: 3,086

County Grand Traverse

Management Area: Boardman Plains

Revision Date: 06/17/2014

Stand Examiner: Pat Ruppen

Legal Description:

T27N R9W Sections 19,20,29,30,32

Identified Planning Goals:

Management for this compartment is guided by the Boardman Plains Management Area Guidance. Oak is a major type in this compartment. The predominate understory species are red maple and white pine with oak and red pine to a lesser extent. The predominate shrub species are blueberry, juneberry, wintergreen and witch hazel.

A number of aspen stands exist in this compartment that were regenerated in the late 1960's –early 1970's. There are also some aspen stands remaining in the 80+ age class. These older should be regenerated as possible and several stands are prescribed in this entry period.

Conditions that existed around the turn of the last century that created the extensive oak stands (large clearcuts that minimized frost pockets, intense fires that minimized competition and a smaller deer population) cannot be replicated. Therefore, the oak resource in this compartment is skewed towards the older age classes due to a minimal amount of regeneration for the last 70 years (Figure 4.21.3). The oak in the 90+ age classes is approaching the end of the normal lifespan on outwash plains and is becoming increasingly susceptible to insects and diseases such as oak wilt and oak decline. Older oak also does not sprout as vigorously from stump sprouts. Due to the advanced age of the oak and the challenges to regenerating oak, management should concentrate on maintaining an oak component in mixed stands. The current understory of white pine and red maple (below oak) will be released through partial oak harvests. Several treatments of this type are prescribed in this compartment. Where oak is in the understory, such as under jack pine or other pine types, treatments to reduce the pine overstory will release oak. One prescribed jack pine harvest has an oak component that will be considered in retention. Considerations should also be given to planting pine in oak stands, which can help to shelter young oak from late spring freezes. Several stands are prescribed with this type of treatment following The Red Pine Project guidance. Oak can be a component of other cover types, but will require management techniques to ensure regeneration. Oak retention for mast and seed production will be considered in all treatments where oak is a component of the stand.

The most tolerant species adapted to this site are white pine and red maple and therefore represent the potential climax association of this Kotar Classification. (PArVHa) Because of its longevity, red pine can be expected to persist in this type. Without intervention, red pine, jack pine, aspen and oaks will largely be displaced by white pine and red maple.

Oak and Pine Barrens were once common in this fire prone landscape but are currently absent in this compartment except in isolated frost prone areas. An attempt to re-create a barrens area in Section 29 should be continued with prescribed fire if funding can be attained

Soil and topography:

LTA 1111 Coarse textured end moraine. Steep and hilly. Soils are deep and excessively drained. Rubicon Sand, with small inclusions of Kalkaska sand and Kalkaska loamy sand. LTA 5211 Glacial outwash plain that is pitted with ice block depressions. Deep excessively drained acidic sands: Grayling, Rubicon with Rifle peat in kettle depressions.

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

This compartment is within a large block of state ownership. There is solid state ownership to the east and broken ownership to the west, south and north. This compartment has several private in holdings. This compartment is in close proximity to one of the most rapidly developing areas in Michigan. Pressure for various recreational land uses is heavy.

Unique Natural Features:

Pothole lakes including Dollar Lake, Bullhead Lake and Perch Lake and Strombolis Lakes.

Archeological, Historical, and Cultural Features:

No Archeological, Historical, or Cultural Features known.

Special Management Designations or Considerations:

Watershed and Fisheries Considerations:

Fisheries Division recommends that reasonable harvest buffer zones (outlined in the Forestry BMP handbook) be established around all lakes and ponds within this compartment. This compartment contains a number of small pothole lakes including Perch Lake, Bullhead Lake, Dollar Lake, Strombolis Lake, and Island Lake. Reasonable buffers (as outlined in Water Quality Management Practices on Forest Land) should be adhered to around all the lakes and ponds in this compartment. Existing buffers appear to be appropriate for the proposed treatments.

Wildlife Habitat Considerations:

Compartment 43 straddles the boundary between two glacial land types, moraine ridges (1111) to the north and an outwash plain (5211) which covers the southern 4/5. The bulk of this compartment is state owned, with several exceptions, the largest being centered on Island Lake. Wildfire is a common natural disturbance of sandy outwash plains. Consequently, many of the communities found here are comprised of fire dependant species. Present habitat types on the outwash plain are oak or aspen communities with some scattered conifer components. Small wetlands or ponds are found in ice block depressions scattered about this area. Other depressions which function as frost pockets and cold air drainages support open or semi-open communities. Prescribed fire is an important tool in maintaining the health of these habitats. Opportunities to re-establish the currently rare barrens communities should be pursued when identified. A variety of wildlife species, including: ruffed grouse, fox squirrel, red bat, and eastern garter snake, call this fire derived mosaic home. A number of abandoned oil well pads exist in this compartment and need to be re-vegetated. These sites are comprised of sterile sandy soils with little chance of supporting native herbaceous plant life. Most of these sites will be planted to an appropriate conifer species or kept open for future use as timber landings.

The moraine ridges in the north part of the compartment are comprised of steep sandy hills supporting a mixture of oak, aspen, and northern hardwood. Wildfire would occasionally make its way into these ridges from the adjacent outwash plains. Therefore, the southwest borders of this moraine complex are a good area to manage for earlier successional communities. Wildlife species benefiting from these communities include: deer, black bear, downy woodpecker, and eastern box turtles. The openings found among the ridges in compartment 43 are either of ice block depression origin or are products of drilling for fossil fuels.

Mineral Resource and Development Concerns and/or Restrictions

Inactive and active oil and gas wells. Many abandoned well sites. Gravel Pits are not in this area, but there should be potential along the north end. This area is located along the north end of the prolific Niagaran Reef trend and has had previous production. The compartment is mostly leased for oil and gas production. Additional reefs could be found in the compartment. The Antrim Shale has not been developed in this area but may have future potential.

Vehicle Access:

Strombolis Road, Perch Lake Road, Muncie Lake Road, and Sand Lakes Road are county maintained and provide good access. A network of woods trails and two tract roads dissect the compartment and need to be evaluated. The south 2/3 of the compartment is fairly level and access is fair-good. The north 1/3 of compartment is on moraine ridges and the road network is inadequate for heavy truck access. Investment in some road segments would be necessary to access this portion of the compartment.

Survey Needs:

Recreational Facilities and Opportunities:

Sections of the Boardman Valley Snowmobile Trail, Vasa Pathway, Vasa Single Track Mountain Bike Trail, TC-Kalkaska Hiking Trail, and North Country Trail are found in this compartment. Appropriate trail protection specifications should be included in the timber sale contract where harvesting may impact these recreational facilities. Hunting, fishing, and dispersed camping are also common recreational activities within this compartment. (T.M.N. 4/14/14)

Fire Protection:

This area is protected by the DNR Traverse City Field Office, and VFD protection is Battalion # 3 Williamsburg Fire Dept. On occasion, there has been fire occurrence in this area, and it has been difficult at times to get units into fires. While it is mostly hardwood fuel type, fires here have grown because of the remoteness, and at times fires not being spotted right away. Urban Interface is not an issue here.

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**

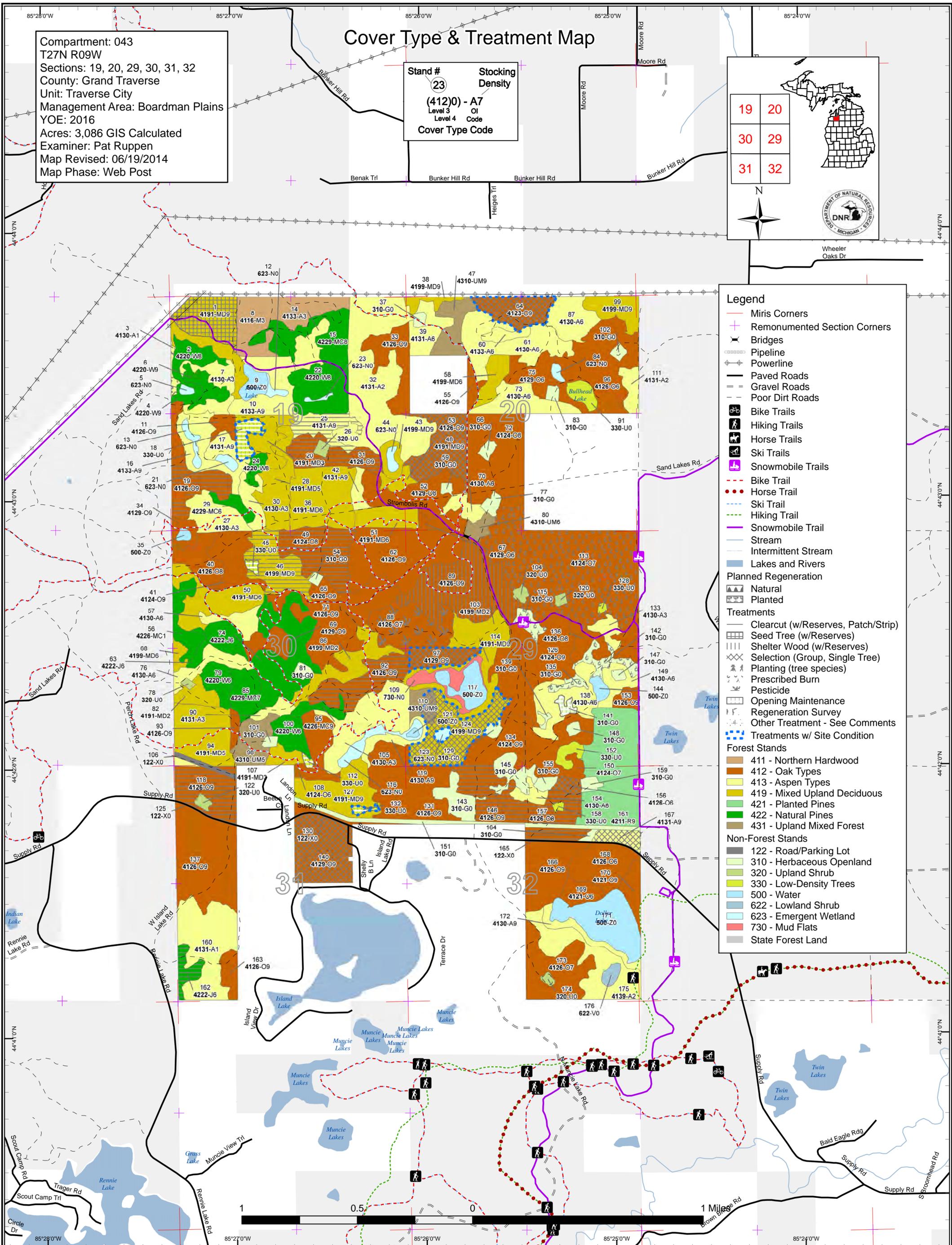
Cover Type & Treatment Map

Compartment: 043
 T27N R09W
 Sections: 19, 20, 29, 30, 31, 32
 County: Grand Traverse
 Unit: Traverse City
 Management Area: Boardman Plains
 YOE: 2016
 Acres: 3,086 GIS Calculated
 Examiner: Pat Ruppen
 Map Revised: 06/19/2014
 Map Phase: Web Post

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

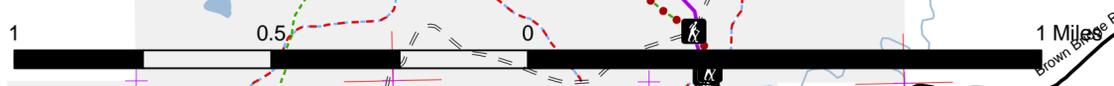
19	20
30	29
31	32

N



Legend

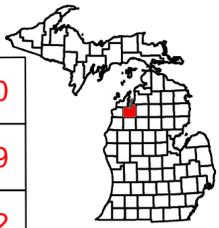
- Miris Corners
- Remonumented Section Corners
- Bridges
- Pipeline
- Powerline
- Paved Roads
- Gravel Roads
- Poor Dirt Roads
- Bike Trails
- Hiking Trails
- Horse Trails
- Ski Trails
- Snowmobile Trails
- Bike Trail
- Horse Trail
- Ski Trail
- Hiking Trail
- Snowmobile Trail
- Stream
- Intermittent Stream
- Lakes and Rivers
- Planned Regeneration
 - Natural
 - Planted
- Treatments
 - Clearcut (w/Reserves, Patch/Strip)
 - Seed Tree (w/Reserves)
 - Shelter Wood (w/Reserves)
 - Selection (Group, Single Tree)
 - Planting (tree species)
 - Prescribed Burn
 - Pesticide
 - 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
 - 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
 - 623 - Emergent Wetland
 - 730 - Mud Flats
 - State Forest Land



Stand Boundary Map

Compartment: 043
 T27N R09W
 Sections: 19, 20, 29, 30, 31, 32
 County: Grand Traverse
 Unit: Traverse City
 Management Area: Boardman Plains
 YOE: 2016
 Acres: 3,086 GIS Calculated
 Examiner: Pat Ruppen
 Map Revised: 06/19/2014
 Map Phase: Web Post

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



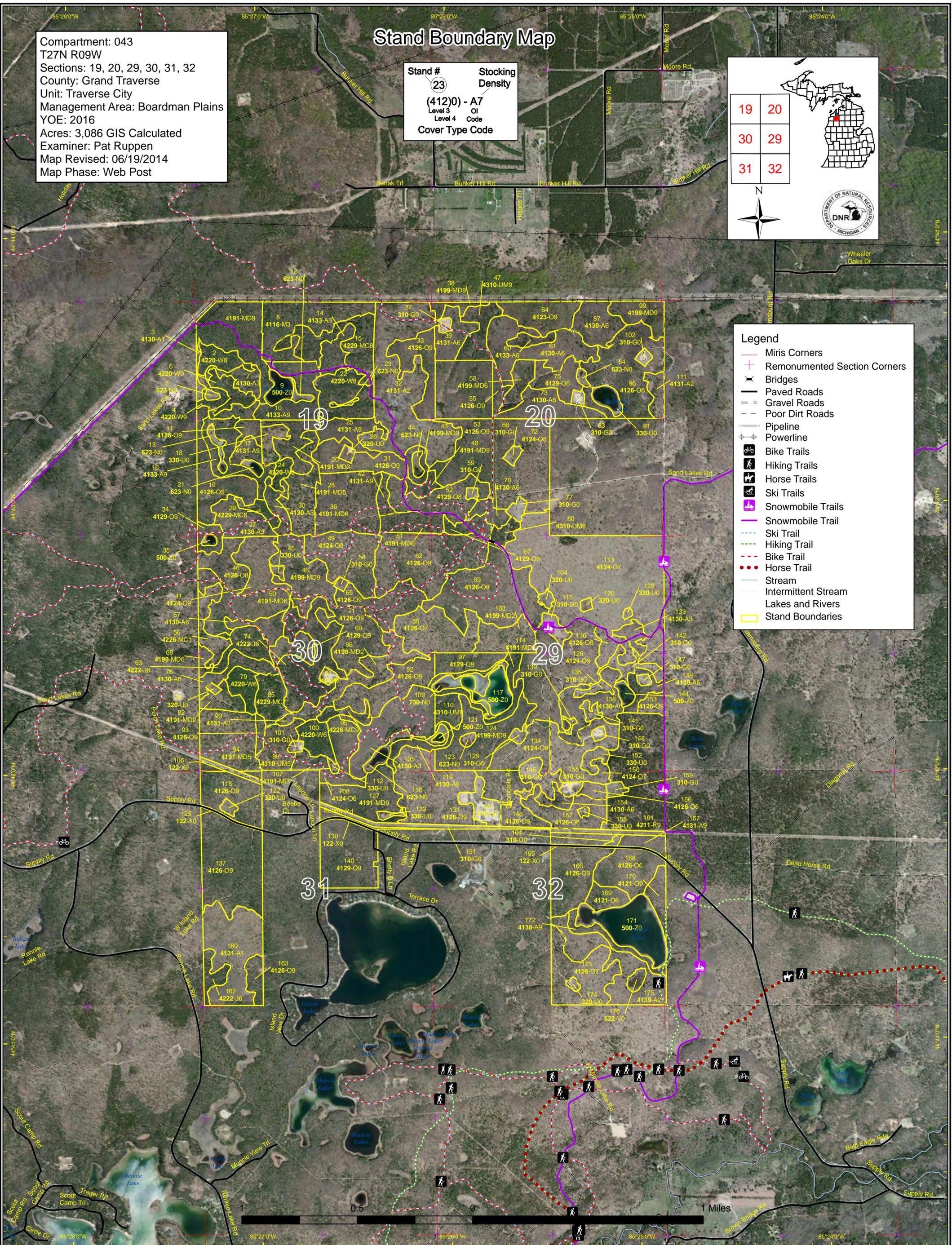
19	20
30	29
31	32

N




Legend

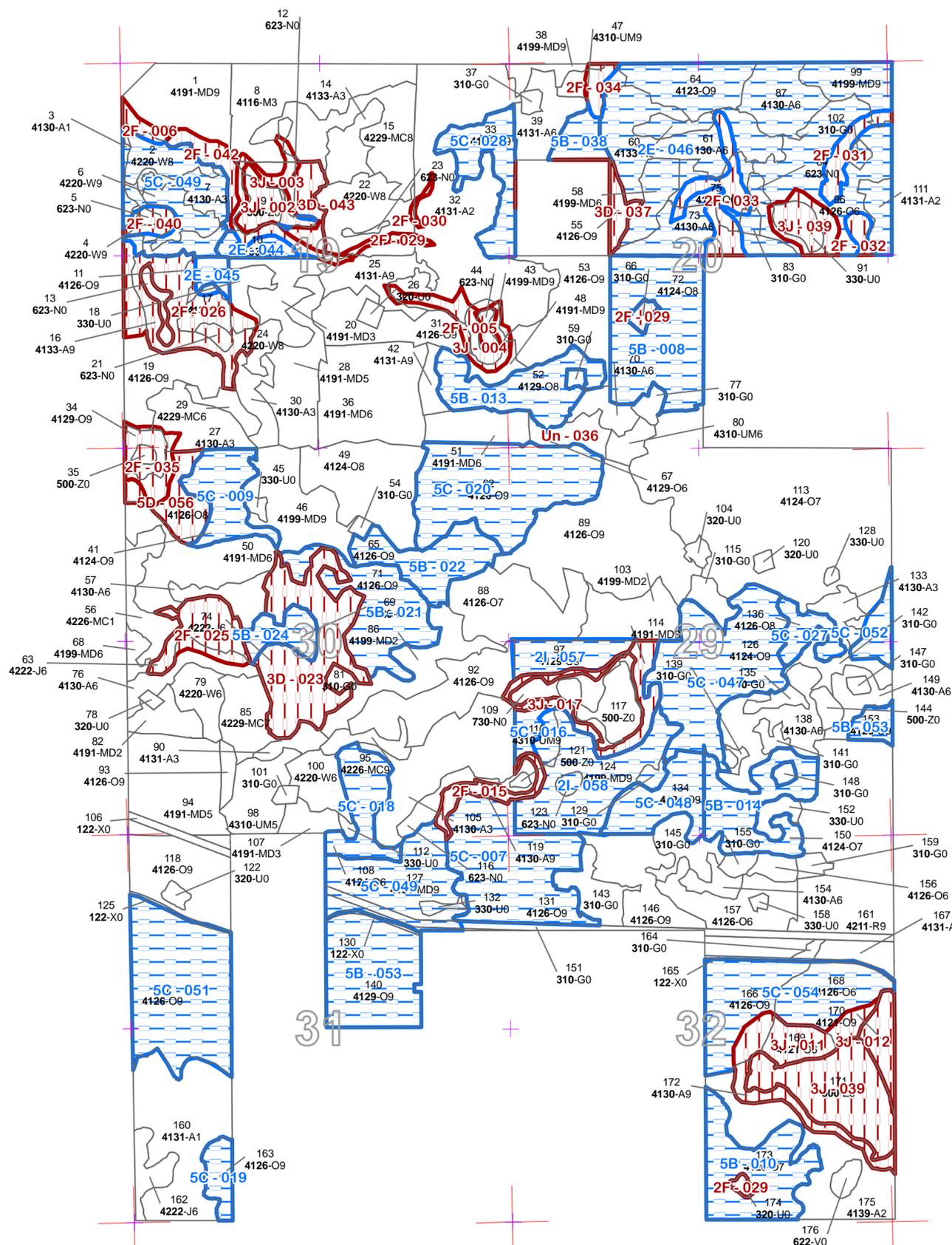
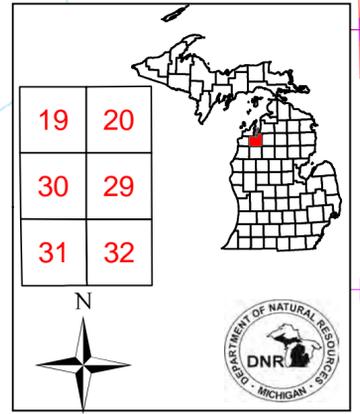
- Miris Corners
- Remonumented Section Corners
- Bridges
- Paved Roads
- Gravel Roads
- Poor Dirt Roads
- Pipeline
- Powerline
- Bike Trails
- Hiking Trails
- Horse Trails
- Ski Trails
- Snowmobile Trails
- Snowmobile Trail
- Ski Trail
- Hiking Trail
- Bike Trail
- Horse Trail
- Stream
- Intermittent Stream
- Lakes and Rivers
- Stand Boundaries



Compartment: 043
 T27N R09W
 Sections: 19, 20, 29, 30, 31, 32
 County: Grand Traverse
 Unit: Traverse City
 Management Area: Boardman Plains
 YOE: 2016
 Acres: 3,086 GIS Calculated
 Examiner: Pat Ruppen
 Map Revised: 06/19/2014
 Map Phase: Web Post

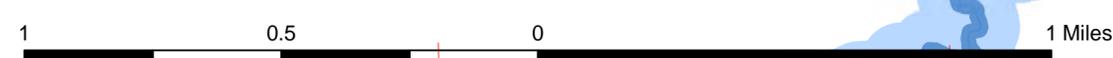
Special Conservation Areas & Site Conditions Map

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



Legend

- Miris Corners
- Remunemented Section Corners
- Site Condition Available
 - Available w/ Constraints (Factor - Number)
 - Unavailable (Factor - Number)
- Reviewable SCAs
 - Proposed SCA
 - SCA Removal
- Dedicated Special Conservation Areas
 - Natural Rivers Vegetative Buffer
 - Natural Rivers Zoning District
 - Cold Water Streams
 - High Priority Trout Stream Buffer
 - Stand Boundaries



44°44'0"N

44°43'0"N

44°42'0"N

44°41'0"N

44°44'0"N

44°43'0"N

44°42'0"N

44°41'0"N

85°28'0"W 85°27'0"W 85°26'0"W 85°25'0"W 85°24'0"W

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	137	87	57	26	184	0	16	34	49	0	0	0	0	0	590
Bog	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Herbaceous Openland	96	0	0	0	0	0	0	0	0	0	0	0	0	0	96
Jack Pine	0	0	0	0	0	0	49	24	0	0	0	0	0	0	73
Low-Density Trees	27	0	0	0	0	0	0	0	0	0	0	0	0	0	27
Marsh	27	0	0	0	0	0	0	0	0	0	0	0	0	0	27
Mixed Upland Deciduous	20	24	70	0	104	31	0	30	57	76	33	0	0	0	446
Natural Mixed Pines	14	0	0	0	0	0	6	34	0	21	0	0	0	0	76
Northern Hardwood	0	42	0	0	0	0	0	0	0	0	0	0	0	0	42
Oak	0	0	0	0	0	0	0	36	147	576	538	95	9	0	1401
Red Pine	0	0	0	0	0	0	73	0	0	0	0	0	0	0	73
Sand, Soil	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Upland Mixed Forest	0	0	18	0	6	0	0	0	10	0	17	0	0	0	51
Upland Shrub	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Urban	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Water	67	0	0	0	0	0	0	0	0	0	0	0	0	0	67
White Pine	0	0	0	0	0	11	22	6	45	0	0	0	0	0	85
Total	421	154	145	26	294	42	166	163	308	673	588	95	9	0	3086



Report 2 – Proposed Treatment Summaries

Traverse City Mgt. Unit
Year of Entry 2016

Compartment 043
Total Compartment Acres: 3,086

Acres by Treatment Type

Commercial Harvest - 525 Tree Planting - 180 Other - 203
Habitat Cut - 0 Opening Maintenance - 16

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>
Aspen Types	15	8	0	0	0	0	23
Mixed Upland Deciduous	30	45	29	0	0	0	104
Natural Pines	8	0	0	0	0	0	8
Oak Types	202	120	0	68	0	0	390
Total	255	173	29	68	0	0	525



S
t
a
n
d

Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
1 61043001-Cut	28.9	4191 - Mixed Upland Deciduous with Conifer	High Density Log	94	141-170	Harvest	Seed Tree with Reserves	42260 - Natural Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Encourage formation of new age class by reducing canopy closure to 40% or less. Retain most red and white pine with some well formed oak and maple. Remove all aspen. Retain some den trees and snags as found. Consider snowmobile trail which bisects treatment area. Consider retaining additional trees along trail edge.

Other Expect regeneration of white pine, oak, aspen and maple. Stand is trending toward white pine with advanced regeneration present. Consider
Comments: Snowmobile Trail on east edge of stand...possible retention area.

Next
Steps:

Proposed
Start Date: 10/01/2015

19 61043019-Cut	20.0	4126 - White, Black, N. Pin Oak	High Density Log	99	81-110	Harvest	Clearcut with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal
-----------------	------	---------------------------------	------------------	----	--------	---------	------------------------	-------------------	-----------------------

Prescription Retain some well formed oak and pine and final harvest remaining stems.
Specs:

Other Expect regeneration of oak, aspen, red maple and mixed pine.
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2015

25 61043025-Cut	15.4	4131 - Aspen, Oak	High Density Log	89	111-140	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
-----------------	------	-------------------	------------------	----	---------	---------	------------------------	-------------------	-----------------------

Prescription Retain some well formed oak and pine for mast and seed production and final harvest remaining stems to regenerate stand. Retain some pockets of red oak where quality oak is found.

Other Expect regeneration of oak, aspen, red maple and white pine. Consider green-up requirements along the previous harvest to the east and
Comments: Snowmobile Trail near east side of treatment. Trail may be buffered by last treatment and terrain.

Next
Steps:

Proposed
Start Date: 10/01/2015

31 61043031-Cut	24.7	4126 - White, Black, N. Pin Oak	High Density Log	94	111-140	Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal
-----------------	------	---------------------------------	------------------	----	---------	---------	------------------------	---	-----------------------

Prescription Retain some well formed oak and pine and harvest remaining stems to 2" DBH. Chip tops to prepare site for trenching and planting.
Specs:

Other Expect regeneration of oak, red maple, aspen, white pine and planted red pine.
Comments:

Next Trench and plant red pine in a weave pattern around residual trees.
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
46 61043046-Cut	29.6	4199 - Other Mixed Upland Deciduous	High Density Log	72	81-110	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal

Prescription Specs: Retain some well formed oak and pine and harvest remaining stems. Stand have areas with heavy stocking of mature aspen but other areas are stocked with low quality oak.

Other Comments: Consider VASA trail on south edge of stand. Consider single track bike trail in area as well.

Next Steps: Trench and plant red pine on level ground without heavy aspen stocking. Treat with stand 49 to the east which will be planted after harvest. Do not plant areas with heavy aspen stocking as these areas will be expected to regenerate to aspen.

Proposed Start Date: 10/01/2015

49 61043049-Cut	39.0	4124 - Red with White Oak	Medium Density Log	94	51-80	Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal
-----------------	------	---------------------------	--------------------	----	-------	---------	------------------------	---	-----------------------

Prescription Specs: retain scattered oak and pine and harvest remaining trees to prepare stand for trenching and planting. Past harvest has not resulted in new age formation due to excessive browsing.

Other Comments: Stumps from last harvest are high and may cause problem with trencher. Consider single track bike trail in treatment.

Next Steps: Trench and plant red pine in a weave pattern around retention.

Proposed Start Date: 10/01/2015

53 61043053-Cut	34.5	4126 - White, Black, N. Pin Oak	High Density Log	102	111-140	Harvest	Single Tree Selection	42260 - Natural Pine, Mixed Deciduous	Cmpt. Review Proposal
-----------------	------	---------------------------------	------------------	-----	---------	---------	-----------------------	---------------------------------------	-----------------------

Prescription Specs: Mark stand for crop tree release where quality stems are present and to release understory pine where quality is low. Target large, wolfy and stagnant/suppressed trees for removal. Retain most pine especially large red pine on slope in NW corner. A couple younger aspen clones age 40-50 could be retained. Harvest older declining aspen. Consider marking red maple if enough quality is found. Stand is trending back to white pine. Attempt to protect advanced pine regeneration. Consider shortwood only sale.

Other Comments: Consider VASA Trail along east side of stand. Expect white pine understory to advance along with new age class formed of oak, maple, aspen.

Next Steps:

Proposed Start Date: 10/01/2015

89 61043089-Cut	68.1	4126 - White, Black, N. Pin Oak	High Density Log	104	111-140	Harvest	Shelter Wood with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal
-----------------	------	---------------------------------	------------------	-----	---------	---------	----------------------------	------------------	-----------------------

Prescription Specs: Reduce basal area to @ 40-50 to encourage development and advancement of pine understory. In areas with better quality stems residual stocking after treatment may be higher (70-90 ba).

Other Comments: Consider single track bike trail running through stand. Some areas have thick advanced white pine regeneration. Attempt to protect during harvest as possible. Expect new age class to form of white pine, red maple, oak and aspen which will grow through remaining canopy. Some red pine regeneration may also occur. Consider Snowmobile Trail which bisects treatment area. More retention along trail corridor may be considered. The thin strip between Strombolis Road and the trail may be a good retention area.

Next Steps: If regeneration does not develop, consider opening canopy further and planting red pine.

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
92 61043092-Cut	21.3	4126 - White, Black, N. Pin Oak	High Density Log	104	111-140	Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Retain some well formed oak and pine. Harvest remaining stems to 2" dbh. Chip tops to prepare site for trenching. Do not require slash retention as this will impeded regeneration efforts.

Other Comments: Small pot hole depressions could be used as retention pockets. Consider single track bike trail,

Next Steps: Trench and plant red pine in a weave pattern after harvest.

Proposed Start Date: 10/01/2015

92 61043092-Cut_small	9.9	4126 - White, Black, N. Pin Oak	High Density Log	104	111-140	Harvest	Clearcut with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal
------------------------------	-----	---------------------------------	------------------	-----	---------	---------	------------------------	------------------	-----------------------

Prescription Specs: Mark stand for crop tree release where quality stems are found. Where sufficient crop trees are not present reduce stocking to 40-50 basal area to encourage development of understory pine.

Other Comments: Treat with stand 97 to the east. Goal is to maintain an oak canopy in this stand for mast production. Consider single track bike trail.

Next Steps:

Proposed Start Date: 10/01/2015

118 61043118-Cut	30.5	4126 - White, Black, N. Pin Oak	High Density Log	116	81-110	Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal
-------------------------	------	---------------------------------	------------------	-----	--------	---------	------------------------	---	-----------------------

Prescription Specs: Retain some well-formed oak and pine and harvest remaining stems down to 2 " dbh. Chip tops to prepare stand for trenching and planting. Do not require slash retention as this will impede regeneration efforts.

Other Comments: Some older large crowned oak and pine found and noted in inventory. Incorporate these into retention. Visual impacts along Supply Road could be mitigated by retaining pine mix along road and using the depression on the east side of the old well pad as a retention pocket.

Next Steps: Trench and plant red pine in a weave pattern around residual stems. Plant old well pad NF ST 122

Proposed Start Date: 10/01/2015

140 61043140-Cut_exp-0	44.0	4129 - Mixed Oak	High Density Log	109	81-110	Harvest	Single Tree Selection	4122 - Oak, Pine	Cmpt. Review Proposal
-------------------------------	------	------------------	------------------	-----	--------	---------	-----------------------	------------------	-----------------------

Prescription Specs: Mark stand for crop tree release. Remove suppressed and poor fomed trees. Where crop trees are absent, reduce basal are to @40 to allow white pine understory to advance.

Other Comments: Areas with thick wp understory. Attempt to protect during harvest. Potential oak wilt pocket along private line in se part of stand.

Next 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
146 61043146-Cut	25.2	4126 - White, Black, N. Pin Oak	High Density Log	94	81-110	Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Retain some widely scattered well formed oak and pine and harvest remaining stems to 2" dbh. Chip tops to prepare site for trenching and planting.

Other Comments: Expect regeneration of oak, rm,wp. aspen and planted red pine. Treat with stand to 157 to the east.

Next Steps: Trench and plant red pine in a weave pattern around residual.

Proposed Start Date: 10/01/2015

156 61043156-Cut	4.7	4126 - White, Black, N. Pin Oak	High Density Pole	74	111-140	Harvest	Single Tree Selection	412 - Oak	Cmpt. Review Proposal
------------------	-----	---------------------------------	-------------------	----	---------	---------	-----------------------	-----------	-----------------------

Prescription Specs: Mark this stand for crop tree release. Pole size oak. Treat with stands 143 and 146.

Other Comments: Oak is not high quality or vibrant but intention is to keep this 5 acre oak patch for diversity and mast production considering surrounding age and species mix.

Next Steps:

Proposed Start Date: 10/01/2015

157 61043157-Cut	31.1	4126 - White, Black, N. Pin Oak	High Density Pole	74	81-110	Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal
------------------	------	---------------------------------	-------------------	----	--------	---------	------------------------	---	-----------------------

Prescription Specs: Retain some widely scattered well formed oak and pine and harvest remaining stems down to 2" dbh. Chip tops to prepare site for trenching and planting.

Other Comments: Expect regeneration of oak, rm,wp. aspen and planted red pine. This stand was previously orange marked and sold but never harvested. Oak is off site, poor quality and stagnant.

Next Steps: Trench and plant red pine in a weave pattern around residual trees. Treat with stand 146 to west.

Proposed Start Date: 10/01/2015

162 61043162-Cut	8.0	42220 - Natural Jack Pine	High Density Pole	74		Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal
------------------	-----	---------------------------	-------------------	----	--	---------	------------------------	---	-----------------------

Prescription Specs: Retain some well formed oak and red pine and harvest remaining stems to 2" dbh.

Other Comments: Declining jack pine. Treat with stand 72 in C 48. Chip tops to prep site for trenching and planting. Do not retain any slash as this will impede regeneration efforts. Expect regeneration of oak, red maple, jack pine, white pine and planted red pine.

Next Steps: Trench and plant red pine in a weave pattern around retention.

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
167 61043167-Cut	7.7	4131 - Aspen, Oak	High Density Log	61	111-140	Harvest	Group Selection	4131 - Aspen, Oak	Cmpt. Review Proposal

Prescription Retain some well formed oak pine and red maple ahnd harvest remaining stems to regenerate stand.

Specs:

Other Stand has aspen component that is declining and falling out. Consider visual impact along supply road, Treat with st 157

Comments:

Next monitor regeneration success.

Steps:

Proposed

Start Date: 10/01/2015

113 61043113-Burn	148.0	4124 - Red with White Oak	Low Density Log	99	1-50	Prescribed Burn	Unspecified	330 - Low Density Trees	Cmpt. Review Proposal
-------------------	-------	---------------------------	-----------------	----	------	-----------------	-------------	-------------------------	-----------------------

Prescription The goal of prescribed burning is to restore and maintain an Oak/Pine Barrens ecosystem. The timing and frequency of the burns will be based on currents needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods.

Specs:

Other

Comments:

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

Steps:

Proposed

Start Date: 10/01/2015

115 NF_61043115-Burn	5.9	310 - Herbaceous Openland				Prescribed Burn	Unspecified	310 - Herbaceous Openland	Cmpt. Review Proposal
----------------------	-----	---------------------------	--	--	--	-----------------	-------------	---------------------------	-----------------------

Prescription Keep previous treatment. The goal of prescribed burning is to restore and maintain an Oak/Pine Barrens ecosystem. The timing and frequency of the burns will be based on currents needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods.

Specs:

Other

Comments:

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

Steps:

Proposed

Start Date: 10/01/2015

128 NF_61043128-Burn	1.0	3301 - Low Density Deciduous Trees				Prescribed Burn	Unspecified	330 - Low Density Trees	Cmpt. Review Proposal
----------------------	-----	------------------------------------	--	--	--	-----------------	-------------	-------------------------	-----------------------

Prescription The goal of prescribed burning is to restore and maintain an Oak/Pine Barrens ecosystem. The timing and frequency of the burns will be based on currents needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods.

Specs:

Other

Comments:

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

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
-----------------------	----------------	-------	-----------	--------------	-----------	----------	----------------	------------------	----------------------	-----------------

135	NF_61043135-Burn	3.8	31022 - Warm Season Grass				Prescribed Burn	Unspecified	31022 - Warm Season Grass	Cmpt. Review Proposal
-----	------------------	-----	---------------------------	--	--	--	-----------------	-------------	---------------------------	-----------------------

Prescription The goal of prescribed burning is to restore and maintain an Oak/Pine Barrens ecosystem. The timing and frequency of the burns will be based on current needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods.

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

142	NF_61043142-Burn	9.1	3101 - Poverty Grass, Cladonia				Prescribed Burn	Unspecified	330 - Low Density Trees	Cmpt. Review Proposal
-----	------------------	-----	--------------------------------	--	--	--	-----------------	-------------	-------------------------	-----------------------

Prescription The goal of prescribed burning is to restore and maintain an Oak/Pine Barrens ecosystem. The timing and frequency of the burns will be based on current needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods.

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

	61043084-Cut_Prep_Plant_Survey_Spray	35.7					Pesticide	Aerial	4122 - Oak, Pine	Fld. Tr. Bdy.
--	--------------------------------------	------	--	--	--	--	-----------	--------	------------------	---------------

Prescription --Patrick Ruppen : 01/02/2014 comments:
Specs: --Patrick Ruppen : 01/02/2014 comments:
--Patrick Ruppen : 01/02/2014 comments:

Other Comments: Oak is very stagnant. Some areas of good white pine and oak advanced regeneration. Some red pine as well. Not heavy to red maple. Larger red oak scattered in what is otherwise small diameter low value oak.

Next Steps: Weave pine planting into residual stand. Trench and plant as soon as possible.

Proposed Start Date: 01/02/2014

45	NF_61043045-NonFor1	1.6	3301 - Low Density Deciduous Trees				Non-Forest Management	Brush Cutting	320 - 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.

Other Comments:

Next 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
112 NF_61043112-NonFor	1.2	3302 - Low Density Conifer Trees				Non-Forest Management	Brush Cutting	320 - Upland Shrub	Cmpt. Review Proposal

Prescription Specs: 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

141 NF_61043141-NonFor	3.0	3105 - Mixed Upland Herbaceous				Non-Forest Management	Brush Cutting	310 - Herbaceous Openland	Cmpt. Review Proposal
------------------------	-----	--------------------------------	--	--	--	-----------------------	---------------	---------------------------	-----------------------

Prescription Specs: 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

61043_OutOfY OE-Cut_Survey	2.1					Regeneration Survey	Next Inventory Cycle (natural regen)	4131 - Aspen, Oak	Fld. Tr. Bdy. - Incomplete
----------------------------	-----	--	--	--	--	---------------------	--------------------------------------	-------------------	----------------------------

Prescription Specs:

Other Comments: New stand should have mix of oak, pine, aspen and maple.

Next Steps:

Proposed Start Date: 10/01/2019

Total Treatment Acreage Proposed: 654.0



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
64	61043064-Cut	22.8	4123 - Red Oak	High Density Log	104	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Cmpt. Review Proposal
<p><u>Prescription Specs:</u> Sale was marked and auctioned in 2006 but not purchased due to access issues and volume. Try to resell in current entry period. Add remaining unmarked ash and most beech into sale.</p> <p><u>Other Comment:</u> Treatment area is factor limited due to road issues. Perhaps this could be accessed in winter if road could be frozen in. Moved start date up to Oct 2014 due to concerns over aging marking paint.</p> <p><u>Next Steps:</u></p> <p><u>Proposed Start Date:</u> 10/01/2014</p> <p><u>Limiting Factor</u> 2E: Road needed</p>										
97	61043097-Cut	14.5	4129 - Mixed Oak	High Density Log	89	111-140	Harvest	Single Tree Selection	4122 - Oak, Pine	Cmpt. Review Proposal
<p><u>Prescription Specs:</u> Mark for crop tree release where quality is found. In areas of low quality, reduce BA to @40-50 to release advanced white pine understory.</p> <p><u>Other Comment:</u> Desire is to maintain an oak canopy in this stand based on adjacent cover types. Treat with the east part of stand 92.</p> <p><u>Next Steps:</u></p> <p><u>Proposed Start Date:</u> 10/01/2015</p> <p><u>Limiting Factor</u> 2I: Survey needed</p>										
124	61043124-Cut	45.0	4199 - Other Mixed Upland Deciduous	High Density Log	89	81-110	Harvest	Group Selection	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription Specs:</u> Stand has areas with heavy aspen stocking and other parts of the stand are stocked with oak mix. Aspen is mature and declining. Harvest areas with heavy aspen and reserve scattered oak and pine in these aspen clones. Areas with heavier oak stocking may be marked for crop tree release.</p> <p><u>Other Comment:</u> Consider slopes while marking. Some areas will need to be excluded but these could be retention areas for aspen. Consider single track bike trail.</p> <p><u>Next Steps:</u></p> <p><u>Proposed Start Date:</u> 10/01/2015</p> <p><u>Limiting Factor</u> 1C: Other dept or div proc/practices</p>										
18	NF_61043018-NonFor	8.3	3301 - Low Density Deciduous Trees				Non-Forest Management	Brush Cutting	310 - Herbaceous Openland	Cmpt. Review Proposal
<p><u>Prescription Specs:</u> Probably will need to remove some woody vegetation. Plant 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, Juneberry, cherry, oak).</p> <p><u>Other Comment:</u> Parts of stand may not be operable due to slope.</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> <p><u>Limiting Factor</u> 2F: Too steep</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
132	NF_61043132- NonFor	1.7	3303 - Mixed Low Density Trees				Non-Forest Management	Brush Cutting	310 - Herbaceous Openland	Cmpt. Review Proposal

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

Other
Comment:

Next
Steps:

Proposed
Start Date: 10/01/2015

Limiting Factor 5C: Delay treatment for age/size class diversity or exceptional site quality

**Total Treatment
Acreage Proposed: 92.3**

Report 5 – Site Conditions

Traverse City Mgt. Unit

Compartment 043

Pat Ruppen : Examiner

Year of Entry 2016

Availability for Management

Total Acres	Acres Available	Acres Not Available		Dominant Site Conditions									
				Un	No	5D	5C	5B	3J	3D	2I	2F	2E
589	504	85	Aspen		389		19		19	10		55	96
73	8	65	Jack Pine		8					49		16	
445	407	38	Mixed Upland Deciduous		307		34		19		41	19	26
76	75	0	Natural Mixed Pines		75				0				
42	41	1	Northern Hardwood		41				1				
1399	1295	104	Oak	9	498	14	422	284	36	6	15	39	74
73	73		Red Pine		73								
51	47	4	Upland Mixed Forest		27		5	9			4	4	1
84	77	7	White Pine		55		23		0			7	
2,831	2,527	304	Total Forested Acres	9	1,473	14	502	293	76	65	60	140	198
	89%	11%	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	Not Available	3J: Water quality / BMPs (stream, river, or lake)	11				
Comments: Perch lake							
003	Not Available	3J: Water quality / BMPs (stream, river, or lake)	11	2F: Too steep			
Comments: Steep slopes around Perch Lake.							
004	Not Available	3J: Water quality / BMPs (stream, river, or lake)	3				
Comments: pothole depression lake							

Report 5 – Site Conditions

Traverse City Mgt. Unit

Pat Ruppen : Examiner

Compartment 043

Year of Entry 2016

005	Not Available	2F: Too steep	13	3J: Water quality / BMPs (stream, river, or lake)
Comments: Slopes around pothole lake.				
006	Not Available	2F: Too steep	4	
Comments:				
007	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	57	
Comments: Timber treatment completed 2010. Combination of crop tree release and understory release.				
008	Available	5B: Maintain for regeneration purposes	58	
Comments: 2014: stand was thinned in prior entry period. Second age developing of white pine and red maple. Remaining oak in canopy looks to be fine. Let second age grow in through into oak canopy. Stocking is variable of canopy layer with some areas fully stocked with oak. Portions of the stand have ba of residual reduced to 40-60. .				
009	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	22	
Comments: Harvested as part of TS# 068-06. Completed 8/09. Cut marked trees and all aspen. Red maple was marked to retain good single stem trees.				
010	Available	5B: Maintain for regeneration purposes	39	
Comments: part of TS# 038-06 Cut all but leave pine and green marked. This part of sale was heavier to oak and rm and less aspen. Completed 9/09. Keep retained trees in canopy as first age at this time.				

Report 5 – Site Conditions

Traverse City Mgt. Unit

Pat Ruppen : Examiner

Compartment 043

Year of Entry 2016

011	Not Available	3J: Water quality / BMPs (stream, river, or lake)	30	2F: Too steep	
Comments: Riparian zone around Dollar Lake					
012	Not Available	3J: Water quality / BMPs (stream, river, or lake)	10	2F: Too steep	3D: Recreational / Scenic values
Comments: Steep slopes around Dollar Lake. Walking Trail around lake.					
013	Available	5B: Maintain for regeneration purposes	31	5C: Delay treatment for age/size class diversity or exceptional site quality	
Comments: Recently harvested TS# 018-06. Old re-ad sale that covered mulitple ifmap stands. Cut orange marked and all rm and dead oak.					
014	Available	5B: Maintain for regeneration purposes	32		
Comments: TS#095-06. Cut all but rp,wp,and green marked. Trenched. Completed 10/08. Trenched and planted to rp. FTP C61-455. Planted 2009.					
015	Not Available	2F: Too steep	8	3J: Water quality / BMPs (stream, river, or lake)	
Comments:					
016	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5	No Limiting Factor	
Comments: Natural pine mix on steep west facing slope. Some bigger pine mixed in. Stand is overstocked but it would be difficult to thin without damaging residual due to slopes. Consider leaving this small patch of natural pine.					

Report 5 – Site Conditions

Traverse City Mgt. Unit

Pat Ruppen : Examiner

Compartment 043

Year of Entry 2016

017	Not Available	3J: Water quality / BMPs (stream, river, or lake)	17	2F: Too steep	3D: Recreational / Scenic values
Comments: Steep slopes around Strombolis Lake					
018	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	21		
Comments: Oak Ridge. Stocking is not too high in stand. Looks like it may have been thinned at some point					
019	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	9		
Comments: This mature oak pine mix does not show any sign of mortality at this time, Keep this stand for age diversity.					
020	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	65		
Comments: 2008 harvest. combination of crop tree release and understory release. Stand is converting back to white pine from low quality oak.					
021	Available	5B: Maintain for regeneration purposes	37		
Comments: Second age is thick in most places. Could not enter this stand until this develops without damaging second age. Second age is small diameter for likely age-44 (sapling/small pole) but stocking is good.					
022	Available	5B: Maintain for regeneration purposes	26	No Limiting Factor	
Comments: Let this stand grow and see if second age develops. A lot of trail influence in this stand with single track and VASA					

Report 5 – Site Conditions

Traverse City Mgt. Unit

Pat Ruppen : Examiner

Compartment 043

Year of Entry 2016

023	Not Available	3D: Recreational / Scenic values	49	2F: Too steep
-----	----------------------	---	----	---------------

Comments:

west side of stand has a lot of influence from VASA trail. With slopes and trail, it would be difficult to harvest. Stand may be left to succeed naturally to ak and pine.

024	Available	5B: Maintain for regeneration purposes	11	
-----	------------------	---	----	--

Comments:

Stand has youger age class of aspen and red maple that is growing through canopy. Let this second age develop.

025	Not Available	2F: Too steep	19	
-----	----------------------	----------------------	----	--

Comments:

stand is too steep to operate on for such low volume. Stand should be factor limited and allowed to naturally convert as jack pine falls out.

026	Not Available	2F: Too steep	40	
-----	----------------------	----------------------	----	--

Comments:

027	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	10	
-----	------------------	---	----	--

Comments:

Part of TS#071-06. Completed 7/10. Cut orange marked and all aspen/rm.

028	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	24	
-----	------------------	---	----	--

Comments:

Keep this stand for now until Recently harvested stand to west develops.

029	Not Available	2F: Too steep	7	
-----	----------------------	----------------------	---	--

Comments:

Report 5 – Site Conditions

Traverse City Mgt. Unit

Pat Ruppen : Examiner

Compartment 043

Year of Entry 2016

030	Not Available	2F: Too steep	1
Comments:			
031	Not Available	2F: Too steep	8
Comments:			
032	Not Available	2F: Too steep	3
Comments:			
033	Not Available	2F: Too steep	17
Comments:			
034	Not Available	2F: Too steep	5
Comments:			
035	Not Available	2F: Too steep	14
Comments:			
036	Not Available	Unspecified	9
Comments:			
<p>Two aged stand with older oak and wp 16" avg dbh. thick wp,rm, aspen and some oak in younger age. Looks like wp has been filling in slowly. various ages. A little rp was planted in spots. sapling sized. Fully stocked with both age classes. Counted older age as canopy. This stand needs to develope.</p>			

Report 5 – Site Conditions

Traverse City Mgt. Unit

Pat Ruppen : Examiner

Compartment 043

Year of Entry 2016

037 **Not Available** **3D: Recreational / Scenic values** 6

Comments:

Small stand between private ownership and VASA pathway. Although this stand is somewhat overstocked recommend letting this stand naturally develop. Trail and private property make this improbable.

038 **Available** **5B: Maintain for regeneration purposes** 9

Comments:

The younger age class needs to develop in this stand. The part of the stand south of the VASA Trail is heavier to pine but still has younger age class mixed in.

039 **Not Available** **3J: Water quality / BMPs (stream, river, or lake)** 53 **3D: Recreational / Scenic values**

Comments:

040 **Not Available** **2F: Too steep** 5

Comments:

042 **Not Available** **2F: Too steep** 8

Comments:

043 **Not Available** **3D: Recreational / Scenic values** 10

Comments:

Small acreage adjacent to Perch Lake

044 **Available** **2E: Road needed** 7

Comments:

Cost to access stand would not be justified due to the small acres available. Excessive roadwork needed.

Report 5 – Site Conditions

Traverse City Mgt. Unit

Pat Ruppen : Examiner

Compartment 043

Year of Entry 2016

045	Available	2E: Road needed	5
Comments: Available product would not justify the cost of roadwork.			
046	Available	2E: Road needed	192
Comments: The road back to this section of the compartment has several bad sandy blow-out that prevent truck access.			
047	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	63
Comments: treating adjacent stands at this time and other adjacent areas have recently been treated.			
048	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	23
Comments: treating adjacent stands at this time and other adjacent areas have recently been treated.			
049	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	86
Comments: treating adjacent stands at this time and other adjacent areas have recently been treated.			
051	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	65
Comments: treating adjacent stands at this time and other adjacent areas have recently been treated.			

Report 5 – Site Conditions

Traverse City Mgt. Unit

Compartment 043

Pat Ruppen : Examiner

Year of Entry 2016

052	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	9
Comments: recently treated			
053	Available	5B: Maintain for regeneration purposes	51
Comments: Treated in earlier entry period. New age class forming would be damaged by harvest operation.			
054	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	53
Comments: treating adjacent stands at this time and other adjacent areas have recently been treated.			
056	Not Available	5D: Unproductive Forest Land	14
Comments: treated in last entry period			
057	Available	2I: Survey needed	16
Comments: DNR has option to purchase this private parcel but sale in not finalized at this time			
058	Available	2I: Survey needed	50
Comments: DNR has option to purchase this private parcel but sale in not finalized at this time			



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
-----------------	---------------------	--------------------	-----------------------	--------------

Comments



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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4191 - Mixed Upland Deciduous with Conifer	High Density Log	42.7	94	141-170	2014: Poor quality oak log and poles with aspen/pine mix and red maple. White pine understory thick in places.
2	42200 - Natural White Pine	Medium Density Log	11.5	80	111-140	2014: White and red pine (most is white) overstory.
3	4130 - Aspen	Low Density Sapling	2.3	4		
4	42200 - Natural White Pine	High Density Log	5.8	79	141-170	Slope around potlone depression
6	42200 - Natural White Pine	High Density Log	10.0	69	1-50	2004: Two age stand. Both ages counted in canopy.
7	4130 - Aspen	High Density Sapling	15.9	15	1-50	
8	4116 - Mixed N. Hardwood - Aspen	High Density Sapling	42.2	15	1-50	2014: Aspen regen and many clumps of red maple sprouts, some oak sprouts -- lots of white pine Light stocking of old red and white pine overstory
10	4133 - Aspen, Mixed Pine	High Density Log	26.7	79	141-170	
11	4126 - White, Black, N. Pin Oak	High Density Log	6.0	104	111-140	. 2014: Mixed oak logs and poles with some aspen and pine. Average quality and stocking.
14	4133 - Aspen, Mixed Pine	High Density Sapling	11.5	15	1-50	white and red pine overstory with aspen regeneration. Aspen counted as canopy -- 2 aged
15	42290 - Natural Mixed Pine	Medium Density Log	34.0	79	51-80	
16	4133 - Aspen, Mixed Pine	High Density Log	22.0	84	111-140	Steep slopes around ice depressions.
17	4131 - Aspen, Oak	High Density Log	7.3	79	81-110	
19	4126 - White, Black, N. Pin Oak	High Density Log	30.2	99	81-110	
20	4191 - Mixed Upland Deciduous with Conifer	High Density Sapling	16.8	29		
22	42200 - Natural White Pine	Medium Density Log	28.5	89	51-80	
24	42200 - Natural White Pine	Medium Density Log	5.1	84	1-50	2004: Was harvested in a past entry leaving pine overstory ..residual red and white -- most white called canopy -- 2nd age is regeneration formed after that treatment



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
25	4131 - Aspen, Oak	High Density Log	16.6	89	111-140	2
27	4130 - Aspen	High Density Sapling	19.5	34	51-80	2014: 30 yr old stand formed after final harvest -- a few residual pine, oak left
28	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	27.0	59	1-50	2014: 2 aged -- white pine left from last treatment. Good stocking of oak in openings but getting browsed badly.
29	42290 - Natural Mixed Pine	High Density Pole	5.6	94	81-110	2014: looks like this area may be good to keep and let pine develop. Only a 6 acre stand. Look and determine if this is good. mostly WP regen Both ages counted as canopy Almost multi aged WP
30	4130 - Aspen	High Density Sapling	9.8	29	1-50	2014: 30 year old stand after final harvest with scattered white pine reserved in canopy. A good bit of red maple stump sprouts Good oak regen in openings but getting browsed badly. Some is getting through in thicker areas
31	4126 - White, Black, N. Pin Oak	High Density Log	24.7	94	111-140	2014: old stagnant off site oak... old pine stumps... small log size drier oak site. Some larger oak logs but most is small log/pole.
32	4131 - Aspen, Oak	Medium Density	95.8	4	1-50	.
33	4126 - White, Black, N. Pin Oak	High Density Log	24.2	97	111-140	2014: drier low quality oak. Looks like pine would be better suited to this site.
34	4129 - Mixed Oak	High Density Log	6.6	99	111-140	
36	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	45.4	46	51-80	A light supercanopy of old white pine and oak 50-40 yr old age class and old -100+ part marked
38	4199 - Other Mixed Upland Deciduous	High Density Log	5.0	109	81-110	Large scattered red oak and red maple with aspen and pine mixed in
39	4131 - Aspen, Oak	High Density Pole	15.5	44	111-140	
40	4126 - White, Black, N. Pin Oak	Medium Density Log	18.4	94	51-80	
41	4124 - Red with White Oak	High Density Log	22.0	94	51-80	
42	4131 - Aspen, Oak	High Density Log	5.4	44	111-140	Mix of aspen poles/small logs and older aged wp,rp,oak. Good growth and height on aspen. Let stand grow in longer.

S t a n d	Traverse City Mgt. Unit		Report 8 – Forested Stands			Compartment: 043	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2016	
43	4199 - Other Mixed Upland Deciduous	High Density Log	5.9	102	111-140		Steep slope around ice depression lake.
46	4199 - Other Mixed Upland Deciduous	High Density Log	30.1	72	81-110		2014: Aspen in stand is mature. Aspen is heavier in areas and not evenly distributed. Topography is bowls and hills.
47	4310 - Pine, Oak Mix	High Density Log	17.1	104	141-170		2014FMD: Old red and white pine and scattered oak Younger aspen red oak, red maple, white pine.
48	4191 - Mixed Upland Deciduous with Conifer	High Density Log	5.9	109	81-110		2014: Older oak and pine with pole sized aspen and red maple growing through.
49	4124 - Red with White Oak	Medium Density Log	39.0	94	51-80		
50	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	32.4	42	51-80		Widely Scattered older Oak and Pine. Stand final harvested 40 yrs ago with some residual overstory.
51	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	15.0	48	111-140		50-60 yr old stand formed after final harvest
52	4129 - Mixed Oak	Medium Density Log	31.4	109	51-80		
53	4126 - White, Black, N. Pin Oak	High Density Log	34.5	102	111-140		
55	4126 - White, Black, N. Pin Oak	High Density Log	5.6	99	111-140		2014; Small stand between private ownership and VASA pathway.
56	42260 - Natural Pine, Mixed Deciduous	Low Density Sapling	14.1	5			
57	4130 - Aspen	High Density Pole	10.1	40	81-110		Aspen dominated stand 40 yr age
58	4199 - Other Mixed Upland Deciduous	High Density Pole	11.3	44	141-170		Younger aged aspen and maple with oldr pine and oak canopy.
60	4133 - Aspen, Mixed Pine	High Density Pole	5.5	44	111-140		
61	4130 - Aspen	High Density Pole	41.1	44	111-140		Aspen stand generated after harvest in late 60's...early 70's
62	4126 - White, Black, N. Pin Oak	High Density Log	64.6	104	111-140		
63	42220 - Natural Jack Pine	High Density Pole	15.7	74	51-80		two aged stand with old red and white pine and some oak in super-canopy and jack and red pine regen in canopy. Counted both in canopy calls. Jack pine mixed age but most is 65-70 years old.



S
t
a
n
d

Traverse City Mgt. Unit

Report 8 – Forested Stands

Compartment: 043
Year of Entry: 2016

Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
4123 - Red Oak	High Density Log	22.8	104	111-140	Quality red oak and mixed northern hardwoods. Ash component but not major.
4126 - White, Black, N. Pin Oak	High Density Log	26.2	104	51-80	
4129 - Mixed Oak	High Density Pole	9.2	109	141-170	
4199 - Other Mixed Upland Deciduous	High Density Pole	3.8	59	141-170	Small stand along boundary
4129 - Mixed Oak	High Density Log	11.3	104	81-110	
4130 - Aspen	High Density Pole	7.8	44	51-80	
4126 - White, Black, N. Pin Oak	High Density Log	37.4	104	81-110	
4124 - Red with White Oak	Medium Density Log	57.8	98	81-110	
4130 - Aspen	High Density Pole	22.7	44	111-140	
42220 - Natural Jack Pine	High Density Pole	48.9	69	51-80	
4129 - Mixed Oak	High Density Pole	16.2	95	111-140	
4130 - Aspen	High Density Pole	14.6	42	51-80	nicely stocked pole sized aspen
42200 - Natural White Pine	High Density Pole	11.4	59	51-80	
4310 - Pine, Oak Mix	High Density Pole	6.0	44	81-110	
4191 - Mixed Upland Deciduous with Conifer	Medium Density	9.6	24		
42290 - Natural Mixed Pine	Low Density Log	15.8	94	1-50	
4199 - Other Mixed Upland Deciduous	Medium Density	24.5	16	1-50	
4130 - Aspen	High Density Pole	20.1	44	51-80	

S t a n d	Traverse City Mgt. Unit		Report 8 – Forested Stands			Compartment: 043	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2016	
88	4126 - White, Black, N. Pin Oak	Low Density Log	35.8	104	1-50		
89	4126 - White, Black, N. Pin Oak	High Density Log	68.4	104	111-140		
90	4131 - Aspen, Oak	High Density Sapling	5.6	24			
92	4126 - White, Black, N. Pin Oak	High Density Log	31.3	104	111-140		2014. Oak generated from turn of the century harvest- larger multi-stem trees from stump sprouts. Some rp, wp,rm,aspen mixed in. Some red pine regeneration' Many old burnt stumps. A little heavier stocking in northeast part with more poles/small
93	4126 - White, Black, N. Pin Oak	High Density Log	3.7	99	81-110		Leave island between other harvests.
94	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	37.5	24	1-50		
95	42260 - Natural Pine, Mixed Deciduous	High Density Log	6.4	69	81-110		2014. Drain with large scattered oak and mixed pine. A little red maple and aspen. East side is heavier to mature jp.
96	4126 - White, Black, N. Pin Oak	High Density Pole	57.1	94	111-140		
97	4129 - Mixed Oak	High Density Log	14.5	89	111-140		New aquisition 2014.
98	4310 - Pine, Oak Mix	Medium Density Pole	18.0	24	1-50		
99	4199 - Other Mixed Upland Deciduous	High Density Log	15.8	104	81-110		
100	42200 - Natural White Pine	High Density Pole	12.4	69	1-50		
103	4199 - Other Mixed Upland Deciduous	Medium Density	20.2	5	1-50		
105	4130 - Aspen	High Density Sapling	41.7	25			
107	4191 - Mixed Upland Deciduous with Conifer	High Density Sapling	6.6	24	1-50		
108	4124 - Red with White Oak	High Density Pole	20.7	107	81-110		
110	4310 - Pine, Oak Mix	High Density Log	9.5	89	141-170		Part of new aquisition 2013. Natural pine mix on steep west facing slope. Some bigger pine mixed in. Stand is overstocked but it would be difficult to thin without damaging residual due to slopes. Consider leaving this small patch of natural pine.





	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
111	4131 - Aspen, Oak	Medium Density	8.2	16	1-50	
113	4124 - Red with White Oak	Low Density Log	148.0	99	1-50	Barrens management area.
114	4191 - Mixed Upland Deciduous with Conifer	High Density Log	16.5	89	111-140	Slope around depression lake. Mixed natural pine with oak, aspen and rm.
118	4126 - White, Black, N. Pin Oak	High Density Log	30.5	116	81-110	
119	4130 - Aspen	High Density Log	8.1	65	111-140	Mature bigtooth aspen clone. on steep riparian area.
124	4199 - Other Mixed Upland Deciduous	High Density Log	40.6	89	81-110	New aquisition 2014. Ground has a mederate slope. Most of it would be workable. Mixed oak with aspen, rm and pine. Aspen is clonal but also scattered individually in parts of stand. Some areas heavily stocked with aspen. Some of the red maple in the coves has decent form and this species is well represented in these areas. The aspen is mature and declining a bit.
126	4124 - Red with White Oak	High Density Log	63.3	84	81-110	2014. Part of this stand is new aquisition. Mixed oak stand. Heavier to Red Oak and more log sized than surrounding stands.
127	4191 - Mixed Upland Deciduous with Conifer	High Density Log	33.4	99	111-140	2014: Oak/pine maple/aspen. Good pine component with older pine scattered around. Oak is average with a good bit of big wofly crowns. Aspen is old and declining. WP regen is thick in
131	4126 - White, Black, N. Pin Oak	High Density Log	57.4	100	51-80	
133	4130 - Aspen	High Density Sapling	6.8	34	81-110	Young aspen regen
134	4124 - Red with White Oak	High Density Log	22.7	98	111-140	2014: New aquisition. Lower quality oak stand.
136	4126 - White, Black, N. Pin Oak	Medium Density Log	19.9	94	51-80	
137	4126 - White, Black, N. Pin Oak	High Density Log	64.5	114	111-140	2014: Big wolffy oak with some larger white and red pine scattered around. Pine, oak and maple understory heavy in most of stand. Oak understory is mostly poorly formed. Remaining jack pine and aspen in stand is declining in vigor and dropping out. Heavier aspen stocking on south and east of two track road.
138	4130 - Aspen	High Density Pole	26.6	46	81-110	



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
140	4129 - Mixed Oak	High Density Log	47.7	109	81-110	2014: Oak with scattered red and white pine. Some large wp scattered around. Mixed oak sizes some bigger wolfy crowns but most is log/pole size. Scattered aspen clones. A little bit of natural red pine regeneraton in understory. WP understory is considerable in stand but has a good bit of snow damage from previous winters. Possible oak wilt or root rot pocket central near south line.
146	4126 - White, Black, N. Pin Oak	High Density Log	25.2	94	81-110	2004:Some pockets of pole sized oak and then patches of larger log size 2014: Some old wolfy oak but the rest is mixed diameters with variable stocking. Most is poor quality. Some better oak and stocking on NE part of stand. Consider retaining a few oak and pine and chipping stand/trenching and planting red pine.
149	4130 - Aspen	High Density Pole	9.3	43	111-140	
150	4124 - Red with White Oak	Low Density Log	31.7	84	1-50	
153	4126 - White, Black, N. Pin Oak	High Density Log	5.9	94	51-80	
154	4130 - Aspen	High Density Pole	5.6	44		
156	4126 - White, Black, N. Pin Oak	High Density Pole	4.7	74	111-140	Pole size oak stand
157	4126 - White, Black, N. Pin Oak	High Density Pole	31.1	74	81-110	.
160	4131 - Aspen, Oak	Low Density Sapling	51.4	15		
161	42110 - Planted Red Pine	High Density Log	72.7	63	81-110	
162	42220 - Natural Jack Pine	High Density Pole	8.0	74		
163	4126 - White, Black, N. Pin Oak	High Density Log	8.6	121	111-140	S
166	4126 - White, Black, N. Pin Oak	High Density Log	33.8	109	81-110	
167	4131 - Aspen, Oak	High Density Log	7.7	61	111-140	
168	4126 - White, Black, N. Pin Oak	High Density Pole	27.8	82	111-140	.
169	4121 - Oak, Aspen	High Density Pole	10.1	81	111-140	Aspen on steep slope and a Little strip of Jp along lake. Few large WP. camp site walk-in trail leading out to muncie lake rd.

S
t
a
n
d

Traverse City Mgt. Unit

Report 8 – Forested Stands

Compartment: 043
Year of Entry: 2016



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
170	4121 - Oak, Aspen	High Density Log	9.9	93	51-80	
172	4130 - Aspen	High Density Log	10.1	89	111-140	2014. New stand after harvest. Riparian Zone around lake.
173	4126 - White, Black, N. Pin Oak	Low Density Log	38.7	99	1-50	
175	4139 - Aspen, Mixed Deciduous	Medium Density	38.9	5	1-50	Regenerate aspen clone



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
5	6232 - Wet Prairie	1.4	No	Low	Has small upland portion on north edge. Frogs. Some standig water. Unlisted is an unknown shrub.
9	50 - Water	7.7	No	Unspecified	Frogs. Wet meadow around perimeter. Wet meadow range from 10-15ft wide.
12	6232 - Wet Prairie	2.1	No	High	Contains traces of iris, silverleaf, and thistle.
13	6233 - Wet Meadow	3.7	No	High	small pond at south end w/grass and rushes along perimeter. Saw cedar waxwings, frogs. Mudrunning - need to restrict vehicular access (will be difficult)
18	3301 - Low Density Deciduous Trees	8.3	No	Low	fairly recent fire. Thick carpet of poverty or penn sedge. old stumps.
21	6233 - Wet Meadow	2.5	No	High	The 2 track leading to this NFS has a steep sandy section that probably is prone to erosion. Frogs. Mudrunning - restrict vehicular access.
23	6233 - Wet Meadow	1.0	No	Low	Saw two bear cubs close by.
26	3201 - Sweet Fern	2.1	No	Unspecified	
35	50 - Water	1.7	No	Low	Nice pond. Some log white pine, eastern hemlock pole and sawlogs, and oak sawlogs on adjacent slope.
37	310 - Herbaceous Openland	2.0	Unspecified	Unspecified	
44	6233 - Wet Meadow	2.6	No	High	Large white pine, big-toothed aspen, oak in forested stand along perimeter. South 1/3 still has standing water (shallow). Frogs. Trace of goldenrod and iris.
45	3301 - Low Density Deciduous Trees	1.6	No	Medium	Eastern wood peewee, red-headed woodpecker. Frost pocket. Traces of little bluestem, poverty grass, rush, moss. Nice big tooth aspen to north. Another small frost pocket to north, could be OFS, similar vegetation.
54	3105 - Mixed Upland Herbaceous	1.5	No	Unspecified	Unlisted species is mullein and yarrow.
59	3104 - Degraded	1.5	No	Medium	revegetate.
66	3104 - Degraded	2.5	No	Medium	revegetate.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
77	3104 - Degraded	3.5	No	Medium	Revegetate. milkweed and mullin.
78	3201 - Sweet Fern	1.1	No	Unspecified	Old well pad? Has good vegetation cover. Some log oaks on perimeter. Unlisted species is mullein.
81	3104 - Degraded	2.4	No	Medium	
83	3104 - Degraded	2.1	No	Low	
84	6233 - Wet Meadow	1.9	No	High	Mudrunners. needs vehicle barriers and signs.
91	3303 - Mixed Low Density Trees	7.0	No	Low	Bullhead lake and surrounding ecotone. 10-40' buffer of exposed lake bed.
101	3104 - Degraded	1.8	Unspecified	Unspecified	
102	3104 - Degraded	2.0	No	Low	still has oil equipment.
104	3205 - Mixed Upland Shrub	2.3	No	Low	Nice frost pocket. Leave as is. Dead trees along perimeter. Also has trace of oak, junberry and SJW.
106	122 - Road/Parking Lot	3.5	Unspecified	Unspecified	
109	730 - Mud Flats	10.5	Unspecified	Unspecified	
112	3302 - Low Density Conifer Trees	1.2	No	Medium	Frost pocket. Rabbit scat (hare).
115	310 - Herbaceous Openland	5.9	No	Unspecified	
116	6239 - Mixed Emergent Wetland	9.5	No	Unspecified	Variable margin of exposed bottomland around perimeter. Fringe of dead jack pine. Currently has open water at both ends. Great blue heron, frogs, thistle, silverleaf, and wood duck. Trace of iris.
117	50 - Water	13.9	Unspecified	Unspecified	
120	3201 - Sweet Fern	1.5	No	Low	leave as is. could be used as a timber landing.
121	50 - Water	1.0	Unspecified	Unspecified	



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
122	3205 - Mixed Upland Shrub	2.1	No	Unspecified	
123	6233 - Wet Meadow	2.0	Unspecified	Unspecified	
125	122 - Road/Parking Lot	1.4	Unspecified	Unspecified	
128	3301 - Low Density Deciduous Trees	1.0	No	Medium	minor chainsaw work on encroachment. old stumps with charring. dead oaks, oak seedlings, trace of LBS, juneberry, jack pine, witchhazel.
129	310 - Herbaceous Openland	2.5	Unspecified	Unspecified	
130	122 - Road/Parking Lot	1.3	Unspecified	Unspecified	
132	3303 - Mixed Low Density Trees	1.7	No	Medium	South facing aspect.
135	31022 - Warm Season Grass	3.8	No	Medium	Lots of grass species. Low to Medium priority burn. Possibly not enough continuous fuels. This is a cold air drainage with minor aspen encroachment and evidence of an old burn. Has low spots that are probably seasonally flooded and there is evidence of mudrunners.
139	3105 - Mixed Upland Herbaceous	1.1	No	Low	See management considerations. Nice mix of natural cover.
141	3105 - Mixed Upland Herbaceous	3.0	No	Medium	Old stumps, aspen creeping in. One white pine.
142	3101 - Poverty Grass, Cladonia	9.1	No	Low	Occasional clone of mature aspen (some mortality). This is another cold air drainage valley. Could do some saw work.
143	310 - Herbaceous Openland	12.5	Unspecified	Unspecified	
144	50 - Water	3.8	No	Low	small pond with varying perimeter of upland/lowland ecotone. Lots of frogs. Several unidentified wildflowers along perimeter.
145	3105 - Mixed Upland Herbaceous	11.8	No	Low	Frost pocket. Nice mix of natural cover, browse, and hard and soft mast.
147	3104 - Degraded	1.6	No	High	revegetate
148	310 - Herbaceous Openland	1.8	Unspecified	Unspecified	



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
151	310 - Herbaceous Openland	16.2	Unspecified	Unspecified	
152	330 - Low-Density Trees	5.3	Unspecified	Unspecified	
155	3104 - Degraded	3.0	No	Medium	Opening is a small valley, cold air drainage. The sides and some of the center are bare sand with ORV use. Keep as opening but reveg(?), probably very difficult. Probably leave as is but block ORV use.
158	3301 - Low Density Deciduous Trees	1.1	No	Low	Scattered LBS, one log WP, aspen is dying in a depression, possibly a frost pocket. Road from 161 to this stand was once bermed (reclose?). Nice mix.
159	310 - Herbaceous Openland	3.1	Unspecified	Unspecified	
164	31022 - Warm Season Grass	1.3	No	Medium	Frost pocket.
165	122 - Road/Parking Lot	2.4	Unspecified	Unspecified	
171	50 - Water	38.9	Unspecified	Unspecified	
174	3201 - Sweet Fern	1.4	No	Medium	South 1/2 has fairly thick sweetfern. North 1/2 dominated by barren, SJW, and SKW. Revegetate, party spot some garbage. Or could keep and use as a timber landing.
176	6225 - Bog	3.6	No	Low	Spongy damp soil. No standing water.