



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

**COMPARTMENT # 44 ENTRY YEAR: 2013**

**Compartment Acreage: 3708      County: Grand Traverse**

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**Stand Examiner:** Patrick Ruppen

**Legal Description:** T27N, R9W Sections 21, 22, 27, 28, 33, 34

**Management Goals:** This compartment is designated as Mixed Use under the Pere Marquette State Forest Management Plan. The Boardman River, a natural and scenic river runs through the southeast corner of the compartment. This compartment is within parts of three Land Type Associations (LTA's). The north east corner is within LTA 1111 which is described as steep broken moraine ridges with deep excessively drained sands. The majority of the compartment falls within two LTA's (5211 and 5111); which are very similar. They are described as outwash plains with level to gently rolling topography and ice block depressions. These deep excessively drained sites had occasional to frequent wildfires depending on the position in the landscape. Conifer mixes were commonly found in early forest surveys especially red pine mixed with jack pine, white pine, and less commonly oak. Aspen was a small component historically in these LTA's. Oak/pine barren were also found maintained by the commonly occurring wildfires. Current forest types found in this compartment are mixes of oak, red pine, white pine, aspen, and red maple. After the period of extensive harvesting and large wildfires early 1900's red pine was planted in many areas of this compartment among the residual trees. Current forested mixes show a gradient between stands heavily to oak and stands heavily to red pine. Red maple, aspen and jack pine are also found as stand components and a number of aspen stands have been successfully regenerated in other entry periods. As expected, with the exclusion of wildfire, older oak stands are converting to white pine, older pine stands are converting to oak, and very little natural red pine regeneration is occurring. Current management goals for this entry will be: (1) to increase the vigor of some of the better quality oak stands through crown thinning, (2) to create some new mixed stands with a red pine component through planting red pine in a weave pattern after harvest operations (clear-cuts with retention), (3) to harvest and replant some stands with a heavy red pine component. These stands still will certainly have a component of oak, white pine, jack pine and red maple due to the advanced regeneration currently found in these stands, (4) to regenerate some stands with a heavy aspen component. See stand specific treatments in following report.

**Soil and Topography:** Slightly rolling to rolling terrain. Few Kettle lakes. Deep glacial outwash sands-mostly Rubicon.

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

Block state ownership in and around compartment with single family homes north of the compartment in the Williamsburg area.

**Unique, Natural Features (include only non-site specific and non-sensitive information):**

North Branch of the Boardman River, Dead Horse Lake, Twin Lakes.

**Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information):** none found

**Special Management Designations or Considerations:**

**Watershed and Fisheries Considerations:** The North Branch of the Boardman River, Twin Lakes, Dead Horse Lake, and a small un-named lake are all located within this compartment. Scheduled treatments appear to be well away from the river and most lakes, and should provide appropriate protection for the water bodies. Buffers should be maintained around lakes scheduled for clear-cut treatments in order to protect riparian vegetation, and cutting should not occur in wet riparian areas. As always, the appropriate BMP's should be applied when working in the proximity of surface water.

**Wildlife Habitat Considerations:**

**Mineral Resource and Development Concerns and/or Restrictions:** Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium and minor end moraine of coarse-textured till. The glacial drift thickness varies between 400 and 800 feet. Beneath the glacial drift is the Mississippian Coldwater Shale. There is no current economic use for the Coldwater. Gravel pits are not in this area, but there should be potential along the north edge. This area is located in the prolific Guelph (Niagaran) reef trend and has had previous production. The Compartment is nearly all leased and 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:** good with county roads and a network of state forest roads allowing access to most areas in the compartment. Topographic features (dips and drains) limit truck access in areas.

**Survey Needs:** none

**Recreational Facilities and Opportunities:** Boardman Valley Snowmobile Trail, Shore to Shore Hiking Trail and North Country Trail.

**Fire Protection:** This area is protected by the Traverse City Office of the DNR and the Grand Traverse County Fire Departments. Travel time to the area is acceptable. Accessibility is sufficient with Williamsburg road running north to south on the west side of the compartment. Broomhead road on the east side of the compartment also allows for a rapid fire response to the compartment. A zone dispatch area is immediately to the south and east of the compartment. Water access (Boardman River) is relatively close south of the compartment which could be used for fire suppression if needed. (Comments made by Rod Rader, Fire Supervisor, Traverse City Field Office).

**Additional Compartment Information:**

**\*\*\*\* Cover type details, proposed treatments and stands designated as FDF are listed in the attached reports:**

**Cover Type by Age Class**

**Cover Type by Management Objective**

**Compartment Volume Summary**

**Proposed Treatments – No Limiting Factors**

**Proposed Treatments – With Limiting Factors**

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

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

**Proposed treatments**

**Proposed road access system**

**Suggested potential old growth**

# Cover Type & Treatment Map

85°25'0"W      85°24'0"W      85°23'0"W

**Legend**

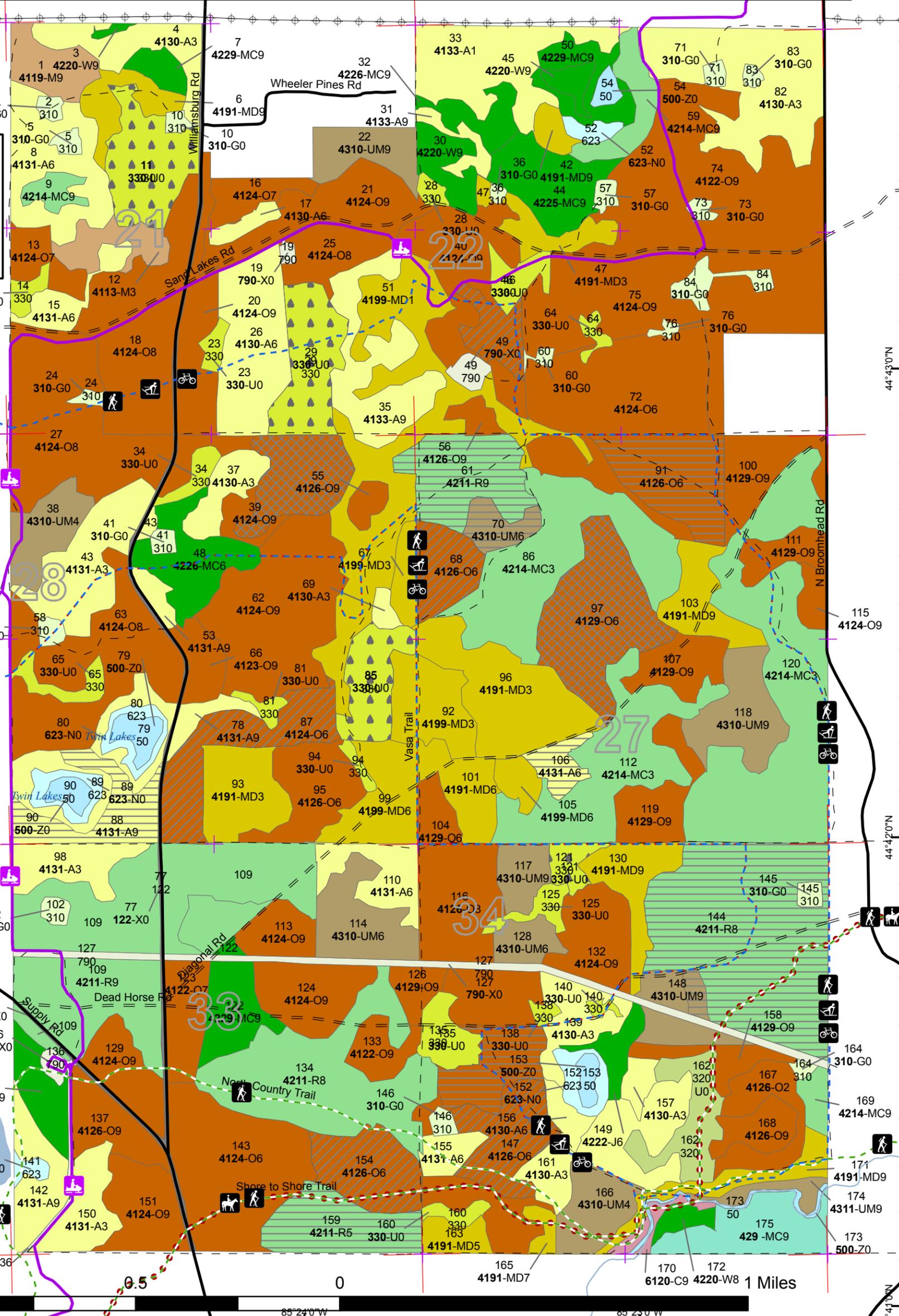
- Transportation:** Paved Roads, Gravel Roads, Poor Dirt Roads, Bridges, Power, Intermittent Stream/Drain, Stream, Lakes and Rivers, Bike Trails, Hiking Trails, Horse Trails, Ski Trails, Snowmobile Trails.
- Treatments:** Thinning (Crown, Low, Systematic), Selection (Group, Single Tree), Clearcut (w/Reserves, Patch/Strip).
- Forest Stands (Level 3):** 411 - Northern Hardwood, 412 - Oak Types, 413 - Aspen Types, 419 - Mixed Upland Deciduous, 421 - Planted Pines, 422 - Natural Pines, 429 - Mixed Upland Conifers, 431 - Upland Mixed Forest, 612 - Lowland Coniferous Forest.
- Non-Forest Stands (Level 3):** 122 - Road/Parking Lot, 310 - Herbaceous Openland, 320 - Upland Shrub, 330 - Low-Density Trees, 500 - Water, 623 - Emergent Wetland, 790 - Other Bare/Sparsely Vegetated.
- Planned Regeneration:** Natural.

**Stand #**  
**Stocking Density**  
**Cover Type Code**

(4120) - A7  
 Level 3  
 Level 4  
 OI  
 Code

**Compartment 44**  
 T27N, R09W, Sec. 21-22, 27-28  
 T27N, R09W, Sec. 33-34  
 County: Grand Traverse  
 Unit: Traverse City  
 YOE: 2013  
 Acres: 3,703 GIS Calculated  
 Stand Examiner: Pat Ruppen  
 Map Revised: 5/23/2011  
 Map Phase: Pre-Review

21 22  
 28 27  
 33 34



1      0.5      0      1 Miles

85°25'0"W      85°24'0"W      85°23'0"W

44°43'0"N  
 44°42'0"N  
 44°41'0"N

85°25'0"W  
 85°24'0"W  
 85°23'0"W



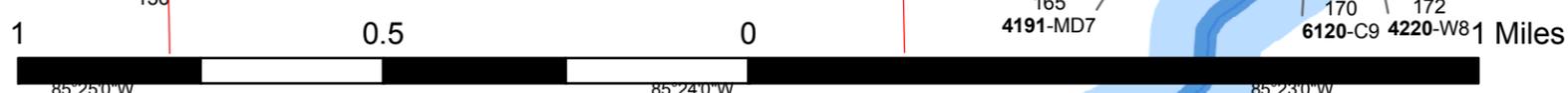
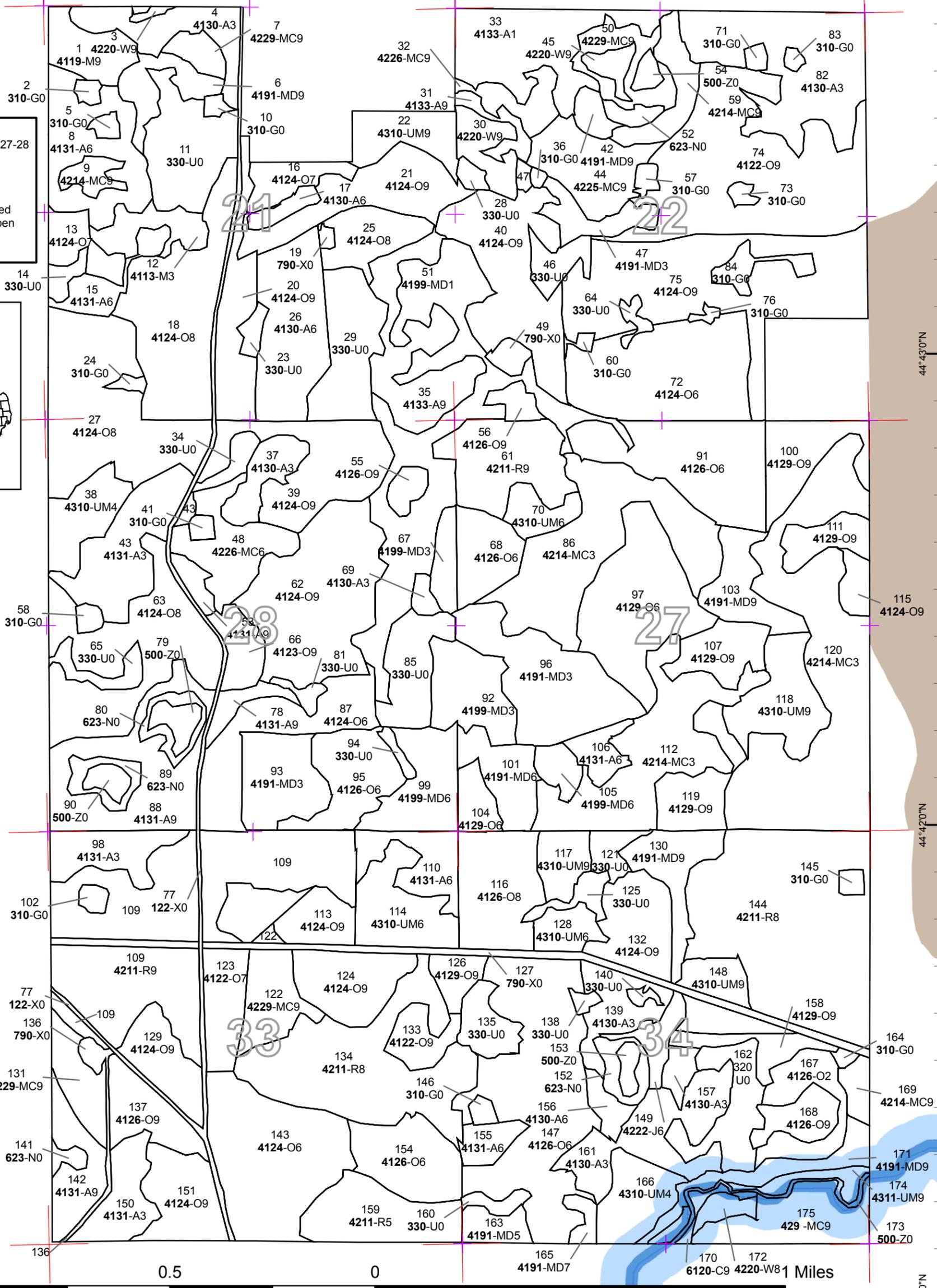
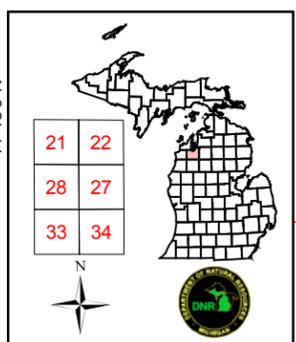
# Dedicated & Proposed Special Conservation Area Map

**Legend**

— Miris Corners	□ Stand Boundaries	Non-Forest Stands
High Conservation Value Areas	Forest Stands	Level 3
■ Dedicated Management Areas	Level 3	122 - Road/Parking Lot
■ Natural Rivers Vegetative Buffer	411 - Northern Hardwood	310 - Herbaceous Openland
■ Natural Rivers Zoning District	412 - Oak Types	320 - Upland Shrub
Special Conservation Areas	413 - Aspen Types	330 - Low-Density Trees
— Cold Water Streams	419 - Mixed Upland Deciduous	500 - Water
	421 - Planted Pines	623 - Emergent Wetland
	422 - Natural Pines	790 - Other Bare/Sparsely Vegetated
	429 - Mixed Upland Conifers	
	431 - Upland Mixed Forest	
	612 - Lowland Coniferous Forest	

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

Compartment 44  
T27N, R09W, Sec. 21-22, 27-28  
T27N, R09W, Sec. 33-34  
County: Grand Traverse  
Unit: Traverse City  
YOE: 2013  
Acres: 3,703 GIS Calculated  
Stand Examiner: Pat Ruppen  
Map Revised: 5/23/2011  
Map Phase: Pre-Review



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



	Age Class														Total	
	Non-Forested	1-9	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	0	0	55	162	96	8	0	19	6	105	5	0	0	0	80	536
Bare/Sparsely Vegetated	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33
Cedar	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5
Herbaceous Openland	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40
Jack Pine	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	9
Low-Density Trees	157	0	0	0	0	0	0	0	0	0	0	0	0	0	0	157
Marsh	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
Mixed Upland Deciduous	0	0	14	9	0	26	0	8	39	7	113	0	0	0	136	352
Natural Mixed Pines	0	0	0	0	0	0	0	0	26	15	11	7	28	36	124	
Northern Hardwood	0	0	0	0	14	0	0	0	0	0	0	17	0	0	0	30
Oak	0	0	0	0	0	27	0	0	0	124	930	81	0	0	280	1442
Planted Mixed Pines	0	0	0	237	0	0	0	0	6	6	0	15	0	0	0	265
Red Pine	0	0	0	0	0	0	0	0	36	0	0	0	0	0	360	396
Upland Conifers	0	0	0	0	0	0	0	28	0	0	0	0	0	0	0	28
Upland Mixed Forest	0	0	0	0	0	19	0	6	49	46	0	0	0	0	48	170
Upland Shrub	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
Urban	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
Water	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
White Pine	0	0	0	0	0	0	0	13	5	0	0	0	1	0	5	25
<b>Total</b>	<b>321</b>	<b>0</b>	<b>68</b>	<b>408</b>	<b>110</b>	<b>81</b>	<b>0</b>	<b>75</b>	<b>155</b>	<b>315</b>	<b>1063</b>	<b>125</b>	<b>8</b>	<b>28</b>	<b>946</b>	<b>3703</b>



## Table 2 – Proposed Treatment Summaries

**Traverse City Mgt. Unit**  
**Year of Entry 2013**

**Compartment 044**  
**Total Compartment Acres: 3703**

### Acres by Treatment Type

Commercial Harvest - 497	Site Prep - 0	Tree Planting - 0	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	Tree Seeding - 0	Pesticide - 0	

### Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
<b>Aspen</b>	33	0	0	0	0	0	<b>33</b>
<b>Oak</b>	59	83	0	0	126	0	<b>268</b>
<b>Red Pine</b>	186	0	0	0	0	0	<b>186</b>
<b>Upland Mixed Forest</b>	10	0	0	0	0	0	<b>10</b>
<b>Total</b>	<b>288</b>	<b>83</b>	<b>0</b>	<b>0</b>	<b>126</b>	<b>0</b>	<b>497</b>



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
39	61044039-Cut	29.1	4124 - Red with White Oak	High Density Log	93	Harvest	Single Tree Selection	4124 - Red with White Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for crop tree release on quality oak and red maple stems. Retain scattered pine in stand. Reduce basal area to 70-90.  <u>Specs:</u>  <u>Other</u> Quality oak for area.  <u>Comments:</u>  <u>Next</u>  <u>Steps:</u></p>									
40	61044040-Cut	13.4	4124 - Red with White Oak	High Density Log	94	Harvest	Crown Thinning	42201 - Natural White Pine, Mixed Deciduous	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for crop tree release in areas of better quality oak and where quality os poor, open up canopy to promote understory pine.  <u>Specs:</u>  <u>Other</u> Expect second age of oak/aspens/white pine/ red maple to form.  <u>Comments:</u>  <u>Next</u>  <u>Steps:</u></p>									
61	61044061-Cut	36.1	42110 - Planted Red Pine	High Density Log	73	Harvest	Clearcut with Reserves	42110 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest remaining red pine to prep site for re-planting. Retain the few scattered oak trees in stand. Chip tops to prep for planting.  <u>Specs:</u>  <u>Other</u> Expect regeneration of oak, jack pine, white pine, red maple and planted red pine.  <u>Comments:</u>  <u>Next</u> Trench and plant red pine.  <u>Steps:</u></p>									
68	61044068-Cut	19.1	4126 - White, Black, N. Pin Oak	High Density Pole	97	Harvest	Crown Thinning	4124 - Red with White Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Mark stand for crop tree release following DNR guidelines.  <u>Specs:</u>  <u>Other</u>  <u>Comments:</u>  <u>Next</u>  <u>Steps:</u></p>									
70	61044070-Cut	10.1	4310 - Pine, Oak Mix	High Density Pole	73	Harvest	Clearcut with Reserves	42110 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Retain some scattered well formed oak in the 10-14" diameter range and final harvest stand. Tops must be chipped to prep site for painting.  <u>Specs:</u>  <u>Other</u> Expect regeneration of oak, white pine, jack pine, red maple and planted red pine.  <u>Comments:</u>  <u>Next</u> Trench and palnt red pine in a weave pattern around residual trees.  <u>Steps:</u></p>									



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
87	61044087-Cut	36.7	4124 - Red with White Oak	High Density Pole	92	Harvest	Crown Thinning	4124 - Red with White Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Mark for crop tree release following DNR guidelines. Remove all aspen by specification. Evaluate red maple quality to determine whether to  <u>Specs:</u> mark or remove by spec.</p> <p><u>Other</u> Access possible from both south and northeast.  <u>Comments:</u></p> <p><u>Next</u>  <u>Steps:</u></p>									
88	61044088-Cut	24.5	4131 - Aspen, Oak	High Density Log	80	Harvest	Clearcut with Reserves	4136 - Aspen, Mixed Conifer	Cmpt. Review Proposal
<p><u>Prescription</u> Remove aspen, red maple and poor quality oak. Retain pine and well formed oak. Consider visual impact along Broomhead Road, riparian  <u>Specs:</u> buffer around lakes and areas with excessive slope.</p> <p><u>Other</u>  <u>Comments:</u></p> <p><u>Next</u>  <u>Steps:</u></p>									
91	61044091-Cut	36.3	4126 - White, Black, N. Pin Oak	High Density Pole	92	Harvest	Clearcut with Reserves	42110 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Retain scattered well formed oak and pine and harvest retaining stems.  <u>Specs:</u></p> <p><u>Other</u> Expect new stand to form of aspen/oak/red maple/white pine and planted red pine.  <u>Comments:</u></p> <p><u>Next</u> Trench and plant red pine in weave pattern. Exclude lobe on west from planting as it should regenerate to aspen.  <u>Steps:</u></p>									
97	61044097-Cut	54.3	4129 - Mixed Oak	High Density Pole	89	Harvest	Single Tree Selection	4124 - Red with White Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Cut all aspen, red maple and marked oak. Mark for crop tree release. Some areas have lower stocking. East side has some better crop trees.  <u>Specs:</u> Attempts to maintain oak canopy.</p> <p><u>Other</u> Expect second age to form of aspen/oak/white pine.  <u>Comments:</u></p> <p><u>Next</u>  <u>Steps:</u></p>									
106	61044106-Cut	8.7	4131 - Aspen, Oak	High Density Pole	83	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Retain some oak and pine and cut remaining stems to regenerate stand.  <u>Specs:</u></p> <p><u>Other</u> Should get good aspen regeneration along with maple, oak, white pine and possibly a little red pine.  <u>Comments:</u></p> <p><u>Next</u>  <u>Steps:</u></p>									



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
144	61044144-Cut	118.9	42111 - Planted Red Pine, Mixed Deciduous	Medium Density Log	80	Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Select scattered well formed oak to retain. Harvest remaining trees to begin site prep for new plantation.

Specs:

Other Site will be trenched and planted after harvest. Make harvest window short and expedite sale. Jack pine was cut out of this sale in last harvest  
Comments: so there is an urgency to get the red pine out of this stand and trenching done before understory develops further.

Next Trench and plant red pine in weave pattern. Avoid areas with heavy advanced oak regen.  
Steps:

147	61044147-Cut	28.2	4126 - White, Black, N. Pin Oak	High Density Pole	93	Harvest	Crown Thinning	4122 - Oak, Pine	Cmpt. Review Proposal
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Prescription Mark stand for crown release where quality stems are found. In areas of poor quality, open canopy to release understory pine. Consider  
Specs: marking red maple to retain some good stems and reduce amount of stump sprout.

Other Expect white pine to grow through from understory. Attempt to protect advanced regeneration. Manage stand for oak logs with eventual  
Comments: replacement by pine/red maple.

Next  
Steps:

147	61044147- Cut/plant	23.0	4126 - White, Black, N. Pin Oak	High Density Pole	93	Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Mark some well formed oak and pine to retain and clearcut remaining stems to prep site for planting.

Specs:

Other Expect new stand to form under retained canopy of oak/white pine/red maple/aspens and planted red pine.  
Comments:

Next trench and plant red pine in a weave pattern.  
Steps:

154	61044154-Cut	28.1	4126 - White, Black, N. Pin Oak	High Density Pole	92	Harvest	Crown Thinning	4122 - Oak, Pine	Cmpt. Review Proposal
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Prescription Mark stand for crop tree release. Opening stand canopy may release some of the red pine which is generally sub canopy.

Specs:

Other  
Comments:

Next  
Steps:

159	61044159-Cut	30.6	42110 - Planted Red Pine	Medium Density Pole	64	Harvest	Clearcut	42110 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Stand has been thinned and underplanted with red pine. Remove remaining overstory. Retain any well formed oak if found. Attempt to protect  
Specs: planted understory. Chip tops or reduce slash to prep for trenching and planting.

Other  
Comments:

Next Trench and plant with red pine to bring stocking level up to a fully stocked stand.  
Steps:

**Total Treatment  
Acreage Proposed: 497.1**

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



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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#Error

Prescription Specs:

Other Comment:

Next Steps:

Limiting Factor and No Treatment Reason

**Total Treatment Acreage Proposed: 0**

Stand	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 044	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2013	
1	4119 - Mixed Northern Hardwoods	High Density Log	16.6	101	111-140		
3	42200 - Natural White Pine	High Density Log	1.2	113	171-200		
4	4130 - Aspen	High Density Sapling	22.7	15			
6	4191 - Mixed Upland Deciduous with Conifer	High Density Log	14.6	Uneven Age	111-140	2003FMD: Factor limited scenic visual values. 2011FMD: Mix of old pine/oak/aspen Thick wp regen in spots 5-10'. Valleys and hill sides.	
7	42290 - Natural Mixed Pine	High Density Log	6.9	113			
8	4131 - Aspen, Oak	High Density Pole	36.4	37	81-110		
9	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Log	6.4	82	111-140		
12	4113 - R.Maple, Conifer	High Density Sapling	13.9	32			
13	4124 - Red with White Oak	Low Density Log	11.9	93	1-50		
15	4131 - Aspen, Oak	High Density Pole	11.2	37	51-80		
16	4124 - Red with White Oak	Low Density Log	11.5	86	1-50		
17	4130 - Aspen	High Density Pole	5.0	38	111-140		
18	4124 - Red with White Oak	Medium Density Log	60.3	91	1-50	TS# 6106705 Cut all marked oak and aspen/rm. Closed 11.07 2011FMD: small oak log stand after thinning. A little wp scattered around. Red maple sprouting and getting browsed.	
20	4124 - Red with White Oak	High Density Log	25.8	91	51-80		
21	4124 - Red with White Oak	High Density Log	34.9	86	81-110		
22	4310 - Pine, Oak Mix	High Density Log	18.6	86	111-140	2003fmd; O4O8A4M4 Cut under contract # 61-079-05-01. Sale completed August 2006.Cut all aspen rm, bc-no oak or pine2011FMD: Cut out aspen and red maple in last sale. This area is heavir to pine ans is a new stand split off from PI stand 16. All was cut together but the other part is heavier to oak. Let stand grow in after last harvest and look at next entry period.	



S t a n d	Traverse City Mgt. Unit		5 – Forested Stands			Compartment: 044	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2013	
25	4124 - Red with White Oak	Medium Density Log	18.2	89	1-50		
26	4130 - Aspen	High Density Pole	43.5	38	81-110		
27	4124 - Red with White Oak	Medium Density Log	70.5	93	1-50		
30	42200 - Natural White Pine	High Density Log	13.0	66	81-110		
31	4133 - Aspen, Mixed Pine	High Density Log	6.1	85	81-110		
32	42260 - Natural Pine, Mixed Deciduous	High Density Log	11.5	106	81-110		
33	4133 - Aspen, Mixed Pine	Low Density Sapling	43.9	Uneven Age	1-50		
35	4133 - Aspen, Mixed Pine	High Density Log	38.0	89	111-140		
37	4130 - Aspen	High Density Sapling	13.3	15			
38	4310 - Pine, Oak Mix	Low Density Pole	19.4	45	1-50		
39	4124 - Red with White Oak	High Density Log	42.3	93	141-170		
40	4124 - Red with White Oak	High Density Log	54.5	94	111-140		New stand added.
42	4191 - Mixed Upland Deciduous with Conifer	High Density Log	5.6	91	141-170		
43	4131 - Aspen, Oak	High Density Sapling	36.5	22	1-50		
44	42250 - Pine, Oak	High Density Log	27.9	147	81-110		
45	42200 - Natural White Pine	High Density Log	5.4	78	51-80		
47	4191 - Mixed Upland Deciduous with Conifer	High Density Sapling	13.7	16			
48	42260 - Natural Pine, Mixed Deciduous	High Density Pole	26.5	84	51-80		



S t a n d	Traverse City Mgt. Unit		5 – Forested Stands			Compartment: 044	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2013	
50	42290 - Natural Mixed Pine	High Density Log	15.5	91	141-170		
51	4199 - Other Mixed Upland Deciduous	Low Density Sapling	87.4	92	1-50		
53	4131 - Aspen, Oak	High Density Log	4.9	90	111-140		
55	4126 - White, Black, N. Pin Oak	High Density Log	5.4	92	81-110		
56	4126 - White, Black, N. Pin Oak	High Density Log	5.3	89	111-140	A50407M4 HIGH POCKETS WITHIN LARGE G TYPE-NICE VISTAS. Harvest may cause excessive erosion A6	
59	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Log	15.4	108	81-110		
61	42110 - Planted Red Pine	High Density Log	36.1	73	81-110		
62	4124 - Red with White Oak	High Density Log	69.6	102	81-110		
63	4124 - Red with White Oak	Medium Density Log	64.2	90	51-80		
66	4123 - Red Oak	High Density Log	11.7	102	51-80		
67	4199 - Other Mixed Upland Deciduous	High Density Sapling	8.6	22			
68	4126 - White, Black, N. Pin Oak	High Density Pole	19.1	97	111-140		
69	4130 - Aspen	High Density Sapling	3.2	22			
70	4310 - Pine, Oak Mix	High Density Pole	10.1	73	81-110		
72	4124 - Red with White Oak	High Density Pole	62.4	94	81-110		
74	4122 - Oak, Pine	High Density Log	99.5	94	81-110		
75	4124 - Red with White Oak	High Density Log	93.1	92	51-80		
78	4131 - Aspen, Oak	High Density Log	6.6	80	81-110		



S t a n d	Traverse City Mgt. Unit		5 – Forested Stands			Compartment: 044	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2013	
82	4130 - Aspen	High Density Sapling	60.6	24	51-80		
86	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Sapling	68.1	21			
87	4124 - Red with White Oak	High Density Pole	36.7	92	111-140		
88	4131 - Aspen, Oak	High Density Log	45.2	80	81-110		
91	4126 - White, Black, N. Pin Oak	High Density Pole	51.7	92	81-110		
92	4199 - Other Mixed Upland Deciduous	High Density Sapling	25.3	Uneven Age	1-50		
93	4191 - Mixed Upland Deciduous with Conifer	High Density Sapling	26.8	Uneven Age	1-50		
95	4126 - White, Black, N. Pin Oak	High Density Pole	27.0	41	51-80		
96	4191 - Mixed Upland Deciduous with Conifer	High Density Sapling	48.9	Uneven Age	1-50		
97	4129 - Mixed Oak	High Density Pole	54.3	89	111-140		
98	4131 - Aspen, Oak	High Density Sapling	19.1	24			
99	4199 - Other Mixed Upland Deciduous	High Density Pole	26.2	41	51-80		
100	4129 - Mixed Oak	High Density Log	22.3	92	81-110		
101	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	18.9	70	111-140		
103	4191 - Mixed Upland Deciduous with Conifer	High Density Log	19.8	92	111-140		
104	4129 - Mixed Oak	High Density Pole	8.8	92	81-110		
105	4199 - Other Mixed Upland Deciduous	High Density Pole	7.1	88	81-110		
106	4131 - Aspen, Oak	High Density Pole	8.7	83	51-80		



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## Traverse City Mgt. Unit

## 5 – Forested Stands

Compartment: 044  
Year of Entry: 2013

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
107	4129 - Mixed Oak	High Density Log	17.1	92	111-140	
108	42110 - Planted Red Pine	Low Density Log	12.0	Uneven Age	1-50	
109	42111 - Planted Red Pine, Mixed Deciduous	High Density Log	126.6	Uneven Age	81-110	
110	4131 - Aspen, Oak	High Density Pole	18.8	Uneven Age	51-80	
111	4129 - Mixed Oak	High Density Log	12.0	92	81-110	2003FMD: O8 Was prescribed for final harvest in 1985 but did not seem to get done. 2011 FMD: Split off south part of stand which is mainly oak. This stand has planted pine from 1930 with oak/aspens/rm. Some large crowned oak and pine that everything else grew through. Could reduce ba if in area and manage as mixed stand. WP will come in under.
112	42140 - Planted Mixed Pine	High Density Sapling	59.0	24		
113	4124 - Red with White Oak	High Density Log	13.5	Uneven Age	51-80	
114	4310 - Pine, Oak Mix	High Density Pole	26.6	Uneven Age	81-110	
115	4124 - Red with White Oak	High Density Log	6.4	92	111-140	
116	4126 - White, Black, N. Pin Oak	Medium Density Log	35.4	Uneven Age	51-80	
117	4310 - Pine, Oak Mix	High Density Log	11.9	Uneven Age	111-140	
118	4310 - Pine, Oak Mix	High Density Log	27.9	83	111-140	
119	4129 - Mixed Oak	High Density Log	20.7	91	111-140	
120	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Sapling	110.2	22		
122	42290 - Natural Mixed Pine	High Density Log	20.5	Uneven Age	111-140	
123	4122 - Oak, Pine	Low Density Log	18.1	Uneven Age	1-50	
124	4124 - Red with White Oak	High Density Log	25.7	92	51-80	New stand added.

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## Traverse City Mgt. Unit

## 5 – Forested Stands

Compartment: 044  
Year of Entry: 2013

Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
4129 - Mixed Oak	High Density Log	8.2	95	111-140	
4310 - Pine, Oak Mix	High Density Pole	9.9	Uneven Age	81-110	Older large crowned scattered oak with 65 yr old white pine, rm, aspen grown in. Heavy red maple sapling under. Pockets of stunted aspen falling out of stand.
4124 - Red with White Oak	High Density Log	19.1	92	51-80	
4191 - Mixed Upland Deciduous with Conifer	High Density Log	20.4	Uneven Age	111-140	
42290 - Natural Mixed Pine	High Density Log	15.0	Uneven Age	81-110	Looks like this stand was thinned with the stand to the west that has a heavier red pine component. This stand is more of a mixed white and red pine canopy with oak. Developing understory of oak/aspens /red maple/white pine /jack pine.
4124 - Red with White Oak	High Density Log	25.4	95	111-140	
4122 - Oak, Pine	High Density Log	11.5	Uneven Age	81-110	
42110 - Planted Red Pine	Medium Density Log	75.8	Uneven Age	1-50	
4126 - White, Black, N. Pin Oak	High Density Log	19.0	92	81-110	
4130 - Aspen	High Density Sapling	17.7	Uneven Age	1-50	
4131 - Aspen, Oak	High Density Log	19.0	65	111-140	
4124 - Red with White Oak	High Density Pole	64.3	Uneven Age	81-110	
42111 - Planted Red Pine, Mixed Deciduous	Medium Density Log	115.4	Uneven Age	51-80	
4126 - White, Black, N. Pin Oak	High Density Pole	89.8	Uneven Age	111-140	
4310 - Pine, Oak Mix	High Density Log	18.3	74	111-140	
42220 - Natural Jack Pine	High Density Pole	8.7	74	51-80	
4131 - Aspen, Oak	High Density Sapling	18.6	15		

S t a n d	Traverse City Mgt. Unit		5 – Forested Stands			Compartment: 044	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2013	
151	4124 - Red with White Oak	High Density Log	24.1	92	111-140		
154	4126 - White, Black, N. Pin Oak	High Density Pole	28.1	Uneven Age	81-110		
155	4131 - Aspen, Oak	High Density Pole	8.1	43	81-110		
156	4130 - Aspen	High Density Pole	6.4	76	51-80		
157	4130 - Aspen	High Density Sapling	5.4	21	1-50	Part of timber sale with adjoining stand 55. More patchy aspen regen in this stand and more oak and pine retention.	
158	4129 - Mixed Oak	High Density Log	11.2	95	51-80	New stand added.	
159	42110 - Planted Red Pine	Medium Density Pole	30.6	Uneven Age	51-80		
161	4130 - Aspen	High Density Sapling	36.8	21	1-50		
163	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	8.3	65	51-80		
165	4191 - Mixed Upland Deciduous with Conifer	Low Density Log	4.1	70	1-50		
166	4310 - Pine, Oak Mix	Low Density Pole	20.6	76	1-50		
167	4126 - White, Black, N. Pin Oak	Medium Density	19.4	Uneven Age			
168	4126 - White, Black, N. Pin Oak	High Density Log	12.3	92	81-110	2003FMD:O8 2011FMD: Open grown look of oak with low quality poles and red maple grown in. A little white pine as well. Not much for quality in the oak. Could green mark some better formed oak and plant red pine or leave as oak pocket or cut out some of the lower quality stems and leave as oak pocket. There is already a lot of young aged oak/aspen in area. Ground lays good for planting and managing red pine. Would work well with other adjacent areas considered for planting.	
169	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Log	5.9	74	111-140		
170	6120 - Lowland Cedar	High Density Log	5.0	70	81-110	Strip along river with cedar, pine, aspen, rm.	
171	4191 - Mixed Upland Deciduous with Conifer	High Density Log	15.9	75	81-110		
172	42200 - Natural White Pine	Medium Density Log	5.2	Uneven Age	1-50	Stand swapped from Non-Forested to Forested.	



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Traverse City Mgt. Unit

5 – Forested Stands

Compartment: 044  
Year of Entry: 2013



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
174	4311 - Pine, Aspen Mix	High Density Log	6.4	65	81-110	Mixed stand of pine, oak, aspen along slope of river and bottomland. Pine may have been planted but no record.
175	429 - Mixed Upland Conifers	High Density Log	28.3	65	111-140	Mixed pine and aspen along river. Some oak and cedar mixed in near river. Scattered older pine at 100 yrs but most is 65. White pine saplings filling in the gaps.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
2	310 - Herbaceous Openland	2.2	N/A	Unspecified	
5	310 - Herbaceous Openland	2.3	N/A	Unspecified	
10	310 - Herbaceous Openland	1.8	N/A	Unspecified	
11	330 - Low-Density Trees	33.1	Natural Regen	Aspen	Stand was aspen oak pine. Cut back to residual oak/pine 11/08 to regenerate. Expect stand to return to forested type.
14	3301 - Low Density Deciduous Tree	4.0	No	Unspecified	
19	790 - Other Bare/Sparsely Vegetate	1.2	N/A	Unspecified	
23	330 - Low-Density Trees	3.5	N/A	Unspecified	
24	310 - Herbaceous Openland	1.8	N/A	Unspecified	
28	330 - Low-Density Trees	2.7	N/A	Unspecified	
29	3303 - Mixed Low Density Trees	31.0	Natural Regen	Mixed Upland Deciduous	Recent harvest with retention. Should return to forested stand by next inventory.
34	3303 - Mixed Low Density Trees	5.2	N/A	Unspecified	
36	310 - Herbaceous Openland	1.0	N/A	Unspecified	
41	310 - Herbaceous Openland	2.2	N/A	Unspecified	
46	330 - Low-Density Trees	8.8	N/A	Unspecified	
49	790 - Other Bare/Sparsely Vegetate	4.1	N/A	Unspecified	
52	623 - Emergent Wetland	3.8	N/A	Unspecified	Pothole lake that is nearly dry-seasonally wet.
54	50 - Water	3.0	N/A	Unspecified	
57	310 - Herbaceous Openland	2.5	N/A	Unspecified	



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
58	310 - Herbaceous Openland	2.6	N/A	Unspecified	
60	310 - Herbaceous Openland	1.4	N/A	Unspecified	
64	330 - Low-Density Trees	2.8	N/A	Unspecified	
65	330 - Low-Density Trees	7.0	N/A	Unspecified	
71	310 - Herbaceous Openland	2.0	N/A	Unspecified	
73	310 - Herbaceous Openland	2.0	N/A	Unspecified	
76	310 - Herbaceous Openland	1.2	N/A	Unspecified	
77	122 - Road/Parking Lot	21.5	N/A	Unspecified	
79	50 - Water	6.1	N/A	Unspecified	
80	623 - Emergent Wetland	6.0	N/A	Unspecified	
81	330 - Low-Density Trees	3.0	N/A	Unspecified	
83	310 - Herbaceous Openland	1.4	N/A	Unspecified	
84	310 - Herbaceous Openland	7.1	N/A	Unspecified	
85	3303 - Mixed Low Density Trees	22.0	Natural Regen	Aspen	Scatter white pine and oak left after sale. Regenerating to aspen/oak/red maple. Heavy browsing.
89	623 - Emergent Wetland	6.5	N/A	Unspecified	
90	50 - Water	4.5	N/A	Unspecified	
94	330 - Low-Density Trees	2.2	N/A	Unspecified	
102	310 - Herbaceous Openland	2.7	N/A	Unspecified	



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
121	3302 - Low Density Conifer Trees	6.8	Natural Regen	Mixed Upland Deciduous	Timber sale that was completed in 2009. sprouts from red maple/cherry/oak and some wp seedlings. Red pine residual left. Should convert back to forested stand by next inventory.
125	330 - Low-Density Trees	6.1	NVA	Unspecified	
127	790 - Other Bare/Sparsely Vegetate	21.9	NVA	Unspecified	
135	330 - Low-Density Trees	11.9	NVA	Unspecified	
136	790 - Other Bare/Sparsely Vegetate	5.5	NVA	Unspecified	
138	330 - Low-Density Trees	1.8	NVA	Unspecified	
140	330 - Low-Density Trees	1.5	NVA	Unspecified	
141	623 - Emergent Wetland	2.6	NVA	Unspecified	
145	310 - Herbaceous Openland	2.3	NVA	Unspecified	
146	310 - Herbaceous Openland	2.4	NVA	Unspecified	
152	623 - Emergent Wetland	7.1	NVA	Unspecified	
153	50 - Water	3.5	NVA	Unspecified	
160	3301 - Low Density Deciduous Tree	3.8	NVA	Unspecified	
162	320 - Upland Shrub	22.6	NVA	Unspecified	
164	310 - Herbaceous Openland	1.3	NVA	Unspecified	
173	50 - Water	4.0	NVA	Unspecified	



### 7 – PROPOSED SPECIAL CONSERVATION AREA\* (SCA) DETAILS

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

Stand	SCA Type	SCA Name	Acres	Comments
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**8 – DEDICATED CONSERVATION AREA DETAILS**

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

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

Conservation Area	Type	Description
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
HCVA	Dedicated Management Areas	Such areas are dedicated by the DNR Director for specific management uses through the promulgation of rules, as governed by Part 5, Department of Natural Resources, of the NREPA (MCL 324.502(2) and 324.504). Section 38 of the Administrative Procedures Act (MCL 24.238) provides for public requests for the promulgation of rules. This is an active program, with one proposed site currently under review by the DNR.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.