



# Report 1 – Compartment Review Presentation

## Traverse City Forest Management Unit

Compartment 121

Entry Year 2015

Acreage: 1,541

County Kalkaska

Management Area: Grayling Ice Contact

**Revision Date:** 04/18/2013

**Stand Examiner:** Katie  
Armstrong

### Legal Description:

T27N R5W, Sections 34, 35 and W half of 36

### Identified Planning Goals:

This compartment is part of the Grayling Ice Contact Management Area (MA), which lies on a matrix of ice-contact ridges separated by outwash plain, primarily at the southeast corner of the compartment. Historically vegetation on the ridges would have been a mix of oak and red pine with jack pine or lowland species on the outwash plain. Today, the compartment supports a greater proportion of short-lived species especially aspen. Forest management goals for this MA include balancing the age class distribution of aspen on suitable sites, thinning northern hardwoods when appropriate and regenerating the aging oak resource. This may involve cutting aspen stands younger than the typical rotation age of 50 years in order to expedite this balancing. The one hardwood stand in this compartment was thinned at least entry. Management challenges include regenerating oak given the complications of aging oak stands, oak wilt and elevated browse levels. Oak stands are likely to become more mixed over time since regeneration of aspen, pine and other species is more likely.

### Soil and topography:

Most of the compartment lies on sandy soils of one type or another including Lindquist, Rubicon, Graycalm, Au Gres, Grayling, and Croswell. There is a limited extent of Roscommon mucky sand in the wetter areas of Section 35. The hardwood stand sits Island Lake-Blue Lake complex.

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

This compartment is entirely State land except for 40 acres (Section 35 SESE), which is owned by a private hunting club. The compartment is surrounded by a mixture of state and private ownership. There is State land along the north boundary. The Black Creek Conservation Association owns land to the west. There is State and private ownership (the aforementioned hunting club) to the south. There are numerous small private parcels, most with year-round dwellings, to the east.

### Unique, Natural Features:

This compartment has no known element occurrences but there is potential for Hill's thistle and eastern Massasauga rattlesnake across some of the compartment.

### Archeological, Historical, and Cultural Features:

There are no known archaeological features in this compartment.

### Special Management Designations or Considerations:

Aesthetics should be considered when managing stands adjacent to M-72.

### Watershed and Fisheries Considerations:

There are no flowing streams or rivers in this compartment.

### Wildlife Habitat Considerations:

Featured Wildlife Species for this MA include American woodcock, beaver, pileated woodpecker, red-headed woodpecker, wild turkey and white-tailed deer. [Additional text to be added by WLD.]

### Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 200 and 600 feet. Beneath the glacial drift is the Mississippian Coldwater Shale. The Coldwater does not have an economic use. Gravel pits are located around the compartment and potential is considered good. This area is located six miles south of Guelph (Niagaran) reef trend and the Antrim Shale gas play. The compartment is leased for oil and gas development for the Collingwood Formation.

**Vehicle Access:**

The numerous roads in this compartment are sufficient for timber sale and recreational access. Some have been closed to vehicle traffic with varying degrees of success due to the open nature of many forest stands. At least one unauthorized hill climb area suffers from an erosion problem that would benefit from some attention.

**Survey Needs:**

There are no survey needs at this time.

**Recreational Facilities and Opportunities:**

Approximately 1-1/2 miles of the Kalkaska ORV trail bisects the compartment in a north/south fashion. Proposed timber management activities should include trail protection specifications to reduce impacts, as well as serve as an example of how silviculturally sound timber harvesting practices can co-exist and often improve recreation and hunting experiences for future generations. Treatments proposed directly adjacent to the ORV trail tread should include either a "flush cut" specification or be stumped high enough (3 feet) to avoid being hidden by perennial flora (ferns). (Submitted by Todd Neiss.)

**Fire Protection:**

Proximity to M-72 and numerous woods roads through this compartment afford good access in the event of a wildfire. Primary fire protection would come from the DNR's Kalkaska Field Office with additional help from the Grayling Field Office and the Bear Lake Township fire station which are relatively close. Risk of catastrophic wildfire is relatively low due to open nature of many oak or hardwood stands and relative lack of pine stands.

**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**

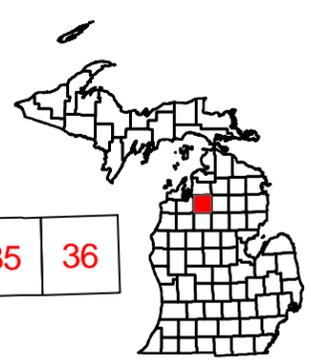


# Stand Boundary Map

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

## Legend

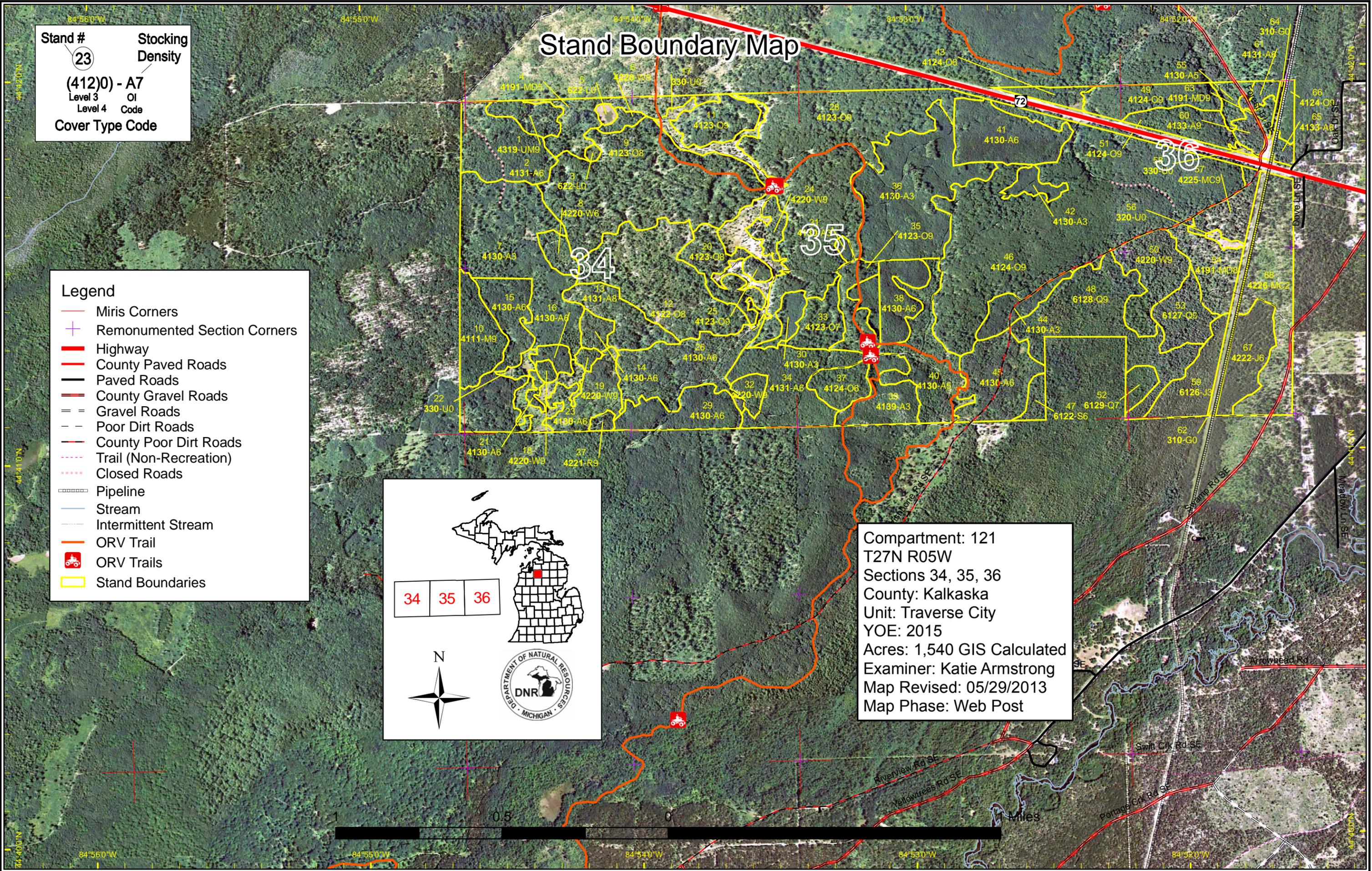
-  Miris Corners
-  Remonumented Section Corners
-  Highway
-  County Paved Roads
-  Paved Roads
-  County Gravel Roads
-  Gravel Roads
-  Poor Dirt Roads
-  County Poor Dirt Roads
-  Trail (Non-Recreation)
-  Closed Roads
-  Pipeline
-  Stream
-  Intermittent Stream
-  ORV Trail
-  ORV Trails
-  Stand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



34 35 36




Compartment: 121  
 T27N R05W  
 Sections 34, 35, 36  
 County: Kalkaska  
 Unit: Traverse City  
 YOE: 2015  
 Acres: 1,540 GIS Calculated  
 Examiner: Katie Armstrong  
 Map Revised: 05/29/2013  
 Map Phase: Web Post

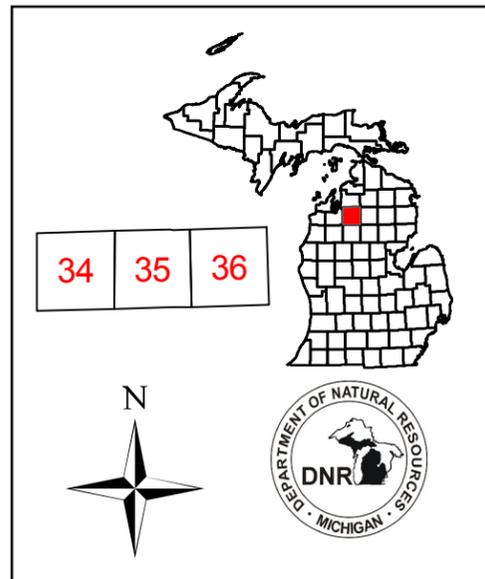


# Special Conservation Areas & Site Conditions Map

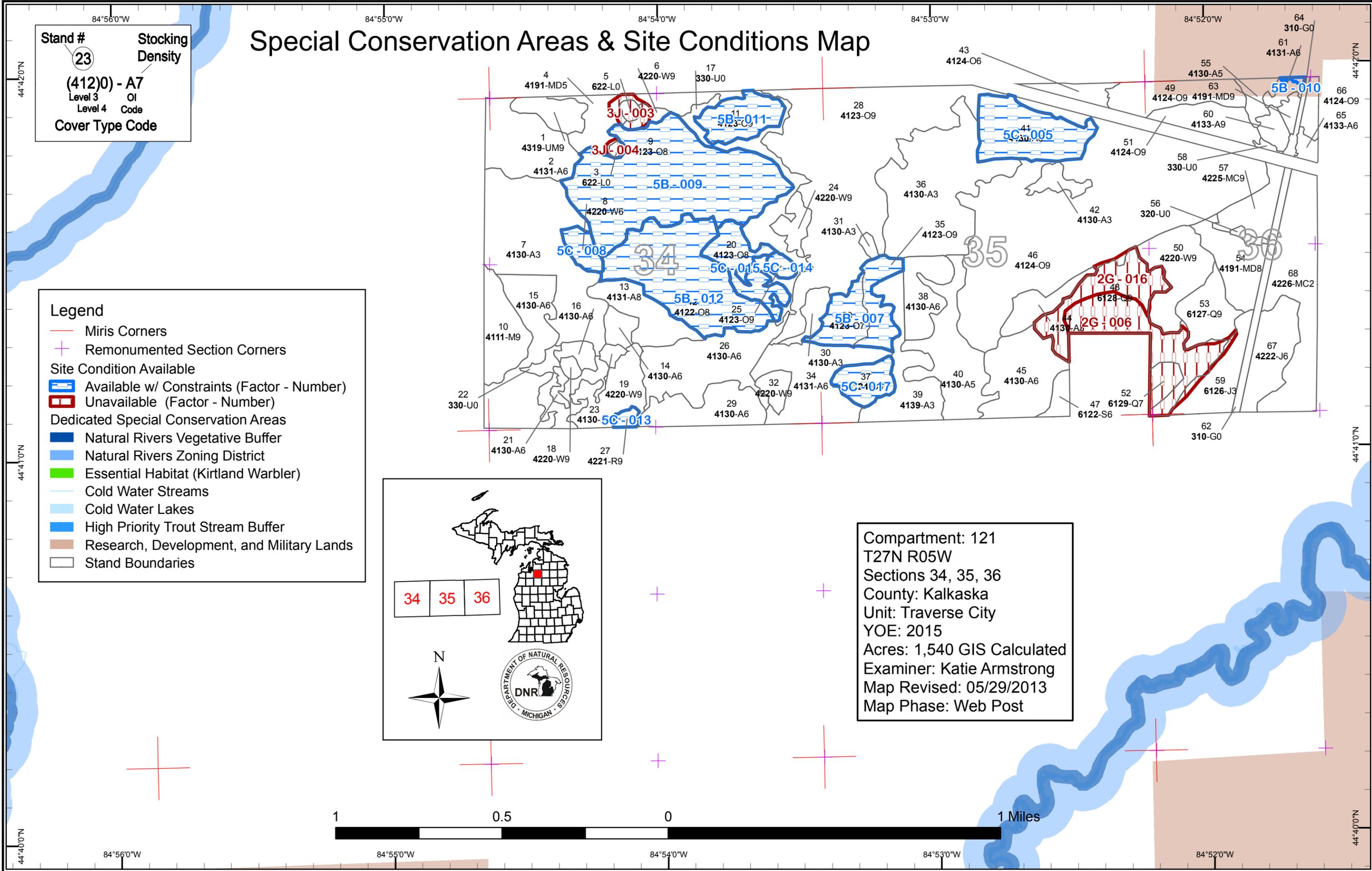
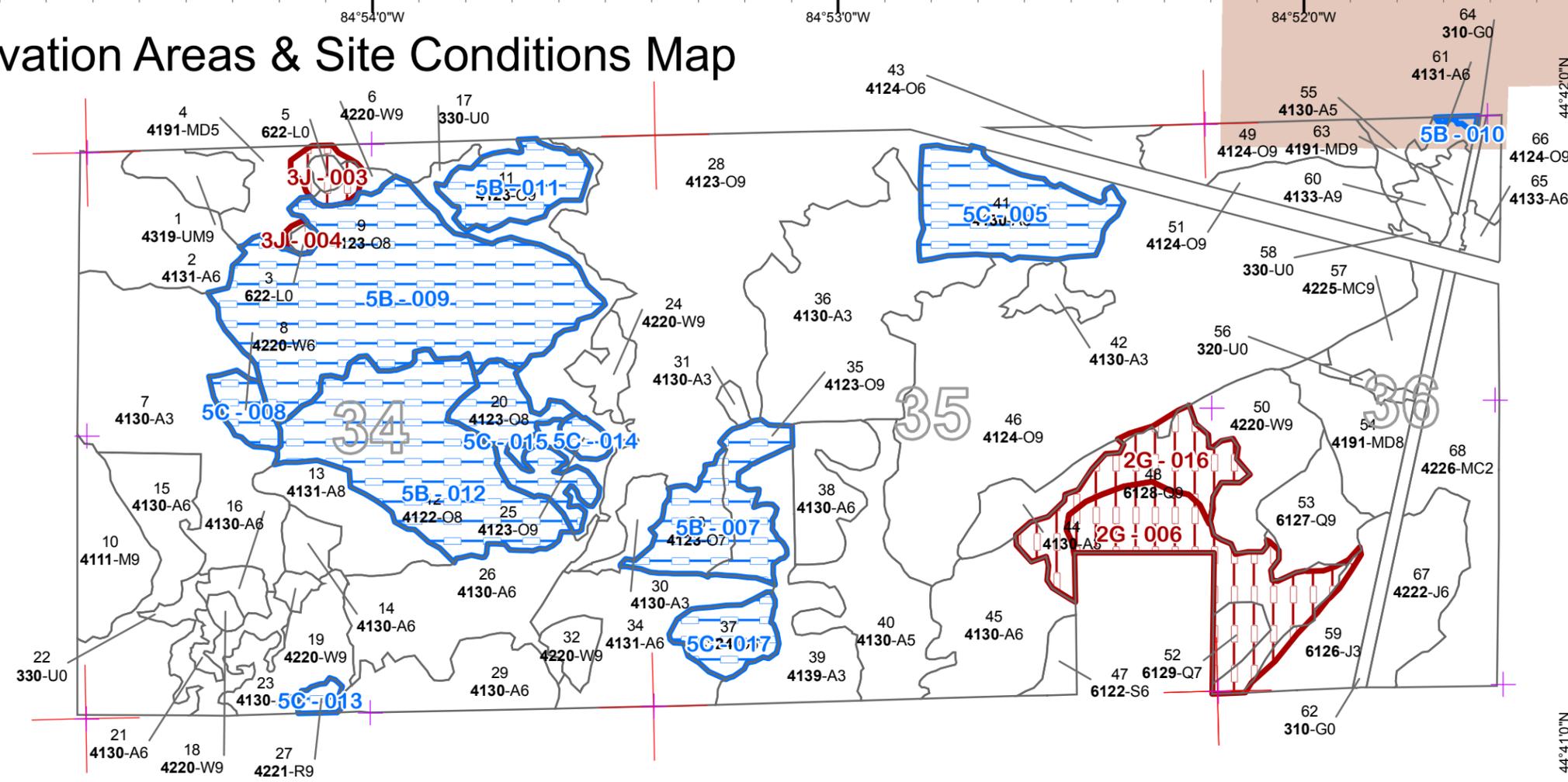
Stand # **23** Stocking Density  
**(412)0 - A7**  
 Level 3 OI  
 Level 4 Code  
 Cover Type Code

## Legend

- Miris Corners
- ✚ Remonumented Section Corners
- Site Condition Available
- Available w/ Constraints (Factor - Number)
- Unavailable (Factor - Number)
- Dedicated Special Conservation Areas
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Essential Habitat (Kirtland Warbler)
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer
- Research, Development, and Military Lands
- Stand Boundaries



Compartment: 121  
 T27N R05W  
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Report 2 – 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	0	180	11	89	236	13	0	0	20	0	0	0	0	0	549
Herbaceous Openland	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Jack Pine	0	0	0	42	0	0	0	0	0	0	0	0	0	0	42
Low-Density Trees	43	0	0	0	0	0	0	0	0	0	0	0	0	0	43
Lowland Conifers	0	0	0	0	17	0	0	63	0	0	0	0	0	0	80
Lowland Shrub	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Lowland Spruce/Fir	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5
Mixed Upland Deciduous	0	0	0	0	22	3	0	20	0	0	0	0	0	0	45
Natural Mixed Pines	0	49	0	0	0	0	0	14	0	0	0	0	0	0	63
Northern Hardwood	0	0	0	0	0	0	0	0	21	0	0	0	0	0	21
Oak	0	0	0	0	7	0	0	383	219	0	0	0	0	0	609
Red Pine	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Upland Mixed Forest	0	0	0	0	10	0	0	0	0	0	0	0	0	0	10
Upland Shrub	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
White Pine	0	0	0	0	17	0	0	8	29	0	0	0	0	0	53
<b>Total</b>	<b>62</b>	<b>229</b>	<b>11</b>	<b>131</b>	<b>308</b>	<b>16</b>	<b>0</b>	<b>492</b>	<b>291</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1540</b>



# Report 3 – Proposed Treatment Summaries

Traverse City Mgt. Unit  
Year of Entry 2015

Compartment 121  
Total Compartment Acres: 1540

## Acres by Treatment Type

Commercial Harvest - 439    Tree Planting - 0    Other - 0  
Habitat Cut - 0    Opening Maintenance - 0

## Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen Types	42	0	0	25	0	0	67
Lowland Coniferous Forest	5	0	0	0	17	0	22
Natural Pines	0	0	0	0	26	0	26
Oak Types	0	0	0	0	324	0	324
<b>Total</b>	<b>47</b>	<b>0</b>	<b>0</b>	<b>25</b>	<b>367</b>	<b>0</b>	<b>439</b>



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
13 61121013-Shelterwood	19.7	4131 - Aspen, Oak	Medium Density Log	85	81-110	Harvest	Shelterwood	4121 - Oak, Aspen	Cmpt. Review Proposal

Prescription Remove merchantable aspen and thin oak to approximately 50% canopy closure to stimulate regeneration. Leave pine.

Specs:

Other Comments: Stand transitions gradually into younger stand so actual treatment area will be smaller. Road will need to be created to access stand, probably easiest through Stand 26.

Next Steps: Regeneration check at next inventory. Acceptable regeneration includes aspen, oak, pine and red maple.

Proposed

Start Date: 10/01/2014

28 61121028-Thin	129.4	4123 - Red Oak	High Density Log	78	81-110	Harvest	Crown Thinning	4123 - Red Oak	Cmpt. Review Proposal
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Prescription Aspen and red maple were removed in 2002 but there is little to no oak regeneration. Thin oak to approximately 80-90 sf to encourage sprouting before oak is too old.

Specs:

Other Comments: Treatment area will need to be adjusted to avoid areas of existing good regeneration, low BA or other concern.

Next Steps:

Next Steps:

Proposed

Start Date: 10/01/2014

45 61121045-CCReserves	32.3	4130 - Aspen	High Density Pole	46		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
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Prescription Cut all aspen and red maple > 2". Leave any conifers or under-represented species. Leave retention along ORV trail (i.e. only treat east side of trail) and wet edges (if any).

Specs:

Other Comments: Combine with treatment on accessible parts of 47. Boundary with hunt club is fenced.

Next Steps:

Next Steps: Regeneration check at next inventory. Acceptable regeneration includes aspen, red maple, pine, oak and cherry.

Proposed

Start Date: 10/01/2014

46 61121046-Thin	189.8	4124 - Red with White Oak	High Density Log	78	81-110	Harvest	Crown Thinning	4124 - Red with White Oak	Cmpt. Review Proposal
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Prescription Aspen and red maple were removed in 2002 but there is little to no oak regeneration. Thin oak to approximately 80-90 sf to encourage sprouting before oak is too old.

Specs:

Other Comments: Treatment area will need to be adjusted to avoid areas of existing good regeneration, low BA or other concern.

Next Steps:

Next Steps:

Proposed

Start Date: 10/01/2014

47 61121047-CCReserves	4.9	6122 - Black Spruce	High Density Pole	78		Harvest	Clearcut with Reserves	6122 - Black Spruce	Cmpt. Review Proposal
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Prescription Remove merchantable spruce, fir and aspen. Leave pine as seed and/or wildlife trees. Leave aspen with no economic value for wildlife.

Specs:

Other Comments: Leave retention in wettest area at southeast corner.

Next Steps:

Next Steps: Regeneration check at next inventory. Acceptable regeneration includes spruce, aspen, red maple, white pine, and balsam fir.

Proposed

Start Date: 10/01/2014



Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
50	61121050- Thin	25.9	42200 - Natural White Pine	High Density Log	83	171-200	Harvest	Crown Thinning	42200 - Natural White Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Lightly thin white and red pine to approximately 140 sf to release understory and encourage development of vertical structure. Cut merchantable spruce or red maple if present in dense pockets.</p> <p><u>Specs:</u></p> <p><u>Other</u> Cut in dry summer to encourage scarification and avoid wet areas.</p> <p><u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u></p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2014</p>										
53	61121053- Thin	17.2	6127 - Lowland Pine	High Density Log	48	141-170	Harvest	Low Thinning	6127 - Lowland Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Thin to approximately 120 sf. Cut all aspen.</p> <p><u>Specs:</u></p> <p><u>Other</u> Cut in dry summer to encourage scarification and avoid wet areas.</p> <p><u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u></p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2014</p>										
60	61121060-Cut	5.4	4133 - Aspen, Mixed Pine	High Density Log	53	111-140	Harvest	Shelterwood	4136 - Aspen, Mixed Conifer	Cmpt. Review Proposal
<p><u>Prescription</u> Remove all aspen and mark oak and pine to cut to approximately 50 sf.</p> <p><u>Specs:</u></p> <p><u>Other</u> Exclude clump of old, fire-scarred pine at southwest edge of stand.</p> <p><u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u></p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2014</p>										
61	61121061- CCReserves	3.4	4131 - Aspen, Oak	High Density Pole	53		Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Cut all aspen &gt; 2" and cut a few oaks to encourage sprouting.</p> <p><u>Specs:</u></p> <p><u>Other</u></p> <p><u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u> Regeneration check at time of next inventory. Acceptable regeneration includes aspen, oak, red maple, and pine.</p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2014</p>										
66	61121066- Thin	4.9	4124 - Red with White Oak	High Density Log	86	141-170	Harvest	Crown Thinning	4124 - Red with White Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Remove merchantable aspen. Thin oak and maple to approximately 80-90 sf to encourage sprouting before oak is too old.</p> <p><u>Specs:</u></p> <p><u>Other</u></p> <p><u>Comments:</u></p> <p><u>Next</u> <u>Steps:</u></p> <p><u>Proposed</u> <u>Start Date:</u> 10/01/2014</p>										

**Report 4 -- Treatments Prescribed  
with No Limiting Factor**



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
<b>Total Treatment Acreage Proposed:</b>		<b>432.9</b>							



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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#Type!

Prescription  
Specs:

Other  
Comment:

Next  
Steps:

Proposed  
Start Date: #Type!

Limiting Factor

**Total Treatment  
Acreage Proposed: 0**

**Report 6 – Out of YOE – Treatments  
Prescribed with No Limiting Factor**

Year of Entry: 2015



Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
28218	5.9	Unspecified				Harvest	Other - Specify in Comments	Unspecified	Cmpt. Review Proposal

Prescription Specs:

Other Comments:

Next Steps:

Proposed Start Date:

28219	7.2	Unspecified				Harvest	Other - Specify in Comments	Unspecified	Cmpt. Review Proposal - Incomplete
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Prescription Specs:

Other Comments:

Next Steps:

Proposed Start Date:

61043_OutOfY OE-Cut	2.1					Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal - Incomplete
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Prescription Specs: retain some pine and oak for mast and seed production, Follow WLD guidance for CWD creation. Harvest all stems that are not retained.

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

Next Steps:

Proposed Start Date: 09/01/2009

**Total Treatment  
Acreage Proposed: 15.3**

## Report 7 – Site Conditions

Traverse City Mgt. Unit  
Katie Armstrong : Examiner

Compartment 121  
Year of Entry 2015

### Availability for Management

Total Acres	Acres		Dominant Site Conditions	No	5C	5B	3J	2G
	Available	Not Available						
549	549		Aspen	516	33	1		
42	40	2	Jack Pine	40				2
80	17	63	Lowland Conifers	17				63
5	5		Lowland Spruce/Fir	5				
45	42	3	Mixed Upland Deciduous	42			3	
63	63		Natural Mixed Pines	63				
21	21		Northern Hardwood	21				
609	608	1	Oak	367	34	207		1
2	2		Red Pine		2			
10	10		Upland Mixed Forest	10				
53	48	5	White Pine	41	7		2	3
1,478	1,405	73	Total Forested Acres	1,122	75	208	5	69
	95%	5%	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
003	Not Available	3J: Water quality / BMPs (stream, river, or lake)	6				
<b>Comments:</b> buffer for wet kettle hole with steep slopes							
004	Not Available	3J: Water quality / BMPs (stream, river, or lake)	2				
<b>Comments:</b> buffer for wet kettle hole with steep slopes							
005	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	33				
<b>Comments:</b> Aspen is barely merchantable.							

## Report 7 – Site Conditions

Traverse City Mgt. Unit  
Katie Armstrong : Examiner

Compartment 121  
Year of Entry 2015

006	<b>Not Available</b>	2G: Too wet (sensitive soils, does not include access issues)	41	
<b>Comments:</b>				
007	<b>Available</b>	5B: Retention for regeneration purposes	28	
<b>Comments:</b> Stands were treated in 2002.				
008	<b>Available</b>	5C: Delay treatment for age/size class diversity or exceptional site quality	7	
<b>Comments:</b>				
009	<b>Available</b>	5B: Retention for regeneration purposes	101	
<b>Comments:</b> Some species were removed in January 2008 timber sale. Leave oak for regeneration.				
010	<b>Available</b>	5B: Retention for regeneration purposes	1	
<b>Comments:</b> This part was treated recently with Compartment 117.				
011	<b>Available</b>	5B: Retention for regeneration purposes	17	
<b>Comments:</b> Some species were removed last YOE. Leave oak for regeneration. Use this stand as control for treatments in similar oak stands in this compartment.				

## Report 7 – Site Conditions

Traverse City Mgt. Unit  
Katie Armstrong : Examiner

Compartment 121  
Year of Entry 2015

012	Available	5B: Retention for regeneration purposes	62	
<b>Comments:</b> Treated in 1998 with scattered overstory oak trees left for regeneration. Good regeneration so allow it to mature longer before removing overstory (if at all).				
013	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	2	
<b>Comments:</b>				
014	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	3	
<b>Comments:</b>				
015	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	19	
<b>Comments:</b>				
016	Not Available	2G: Too wet (sensitive soils, does not include access issues)	24	4A: No merchantable products (see product standards)
<b>Comments:</b> Part of this stand is too wet and there's not much worth treating in the rest of it.				
017	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	12	
<b>Comments:</b> Allow this oak stand to develop naturally for a while longer since we are planning to treat so many other oak acres in this compartment.				



### Report 8 – 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
<b>Comments</b>				



**Report 9 – 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	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4319 - Mixed Upland Forest	High Density Log	10.4	46	81-110	Variable stand, mostly pine with more aspen in the middle of the stand. Variable diameters of white pine and aspen. Some areas of dense red maple, cherry and aspen regeneration. High browse levels. Some oak mortality, probably due to age. Moderately hilly.
2	4131 - Aspen, Oak	High Density Pole	31.5	46		Variable stand. Lots of aspen but also includes some decent quality oak, despite small diameters. Contains some small openings and a couple pockets of denser pine.
4	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	21.6	46		Very open, variable stand. Parts were typed as opening in last inventory but they are filling in. Some pockets of much younger (<10 years old) regeneration.
6	42200 - Natural White Pine	High Density Log	3.4	85	111-140	Most of stand sits on steep slope at edge of kettle hole.
7	4130 - Aspen	High Density Sapling	69.0	11		Stand was cut as part of M-72 Aspen, 61-045-99-01, finished May 2002. Cut all trees > 2" DBH except oak and pine. Good regeneration: mostly aspen but some areas are more red maple. Oak is starting to reach pole size. Scattered pockets of white and red pine. Rolling hills.
8	42200 - Natural White Pine	High Density Pole	6.6	43	171-200	Dense white pine with variable diameters. Trace of oak in the understory. Moderate slopes.
9	4123 - Red Oak	Medium Density Log	100.7	85	51-80	Good quality oak. Most of stand was cut as part of 121 Oak sale, 61-053-05-01, completed January 2008 (106 acres). Cut all aspen, paper birch and red maple and thin oak to shelterwood BA. Pockets of dense aspen, red maple and oak regeneration. Moderate browse levels. Trace of beech in understory. Rolling hills with scattered dry kettle hole depressions and scattered small openings, many of which have filled in with dense aspen regeneration (1/2" DBH, 10-20' tall).
10	4111 - S.Maple, Hard Mast Association	High Density Log	20.5	88	81-110	Stand was cut as part of M-72 Hardwoods, 61-046-99-01, finished September 2000. Marked hardwood thinning, including aspen and oak. Little to no understory. Heavy browse on seedlings. BBD is present.
11	4123 - Red Oak	High Density Log	17.4	83	81-110	121 Aspen Sale, 61-055-99-01. Aspen removed. Good oak size diversity. Fair to good quality oak. Dense red maple in patches of understory. Knoll surrounded by opening.
12	4122 - Oak, Pine	Medium Density Log	61.7	85	1-50	Stand was cut as part of Hops Oak Salvage, 61-065-94-01, finished May 1996. Marked oak and aspen was cut. Notes say oak was killed by insects. Now it is a two-aged stand with scattered log-sized canopy trees and good advanced oak regeneration and pockets of dense aspen. Heavy browse.
13	4131 - Aspen, Oak	Medium Density Log	19.7	85	81-110	Mixed oak and aspen stand. Aspen is starting to die but there is a decent amount of volume left. Some good oak advanced regeneration at edges. Flat terrain.
14	4130 - Aspen	High Density Pole	5.9	43		Decent amount of advanced oak regeneration in places.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
15	4130 - Aspen	High Density Pole	36.9	39		Mostly aspen with relatively low stocking. Decent advanced oak regeneration in some places and a trace of red pine. Scattered small openings. Evidence of an old cut at north end which has regenerated to mostly red maple.
16	4130 - Aspen	High Density Pole	4.6	43		Aspen has variable diameters (2-10") but most is 4-6".
18	42200 - Natural White Pine	High Density Log	2.1	41	141-170	
19	42200 - Natural White Pine	High Density Log	2.3	41	141-170	Somewhat dense pocket of white pine. Heavy browse on seedlings.
20	4123 - Red Oak	Medium Density Log	18.8	85	51-80	Variable stand, almost seems like leftovers from treatments in adjacent stands. Scattered canopy gaps. Low BA log stand with pockets of younger regeneration. Small patch of decent red pine in north part. Heavy browse.
21	4130 - Aspen	High Density Pole	2.2	43		Fair quality aspen with a trace of jack pine.
23	4130 - Aspen	High Density Pole	20.4	43		Scattered small openings with stand. Some are filling in with cherry. Variable aspen diameters; some areas are 2-4" and some are 4-6". Mix of bigtooth and quaking aspen. Variable stocking but generally lower than other nearby aspen stands. OI recommended removal of good aspen clones but it's unclear whether treatment occurred.
24	42200 - Natural White Pine	High Density Log	7.5	78	111-140	Variable stand on top of knoll. White pine shows good size diversity. Some aspen at edges. Hill climb area.
25	4123 - Red Oak	High Density Log	3.2	84	81-110	Small knoll of oak mostly surrounded by openings or stands with sparser canopies. Fair quality oak with patches of good advanced regeneration. Red maple in understory is reaching pole size. Hill climbs.
26	4130 - Aspen	High Density Pole	39.6	43		Mostly mediocre quaking aspen. Closer to 75% canopy cover. Scattered small openings and shallow, dry bowl-shaped depressions. A few pockets of white pine and good advanced oak regeneration in pockets. Gradual transition into adjacent stands.
27	42210 - Natural Red Pine	High Density Log	2.3	82	81-110	Small pocket of red pine with aspen filling in underneath and in canopy gaps. Some large, fire-scarred red pine. Pine is relatively short.
28	4123 - Red Oak	High Density Log	129.4	78	81-110	Much of stand was cut as part of 121 Aspen, 61-055-99-01, finished October 2002. Cut all trees > 2" DBH except oak and pine. There is still significant oak cover and little to no regeneration. Heavy white pine understory in a few places. Rolling hills. ORV trail bisects stand.
29	4130 - Aspen	High Density Pole	22.9	43		Decent quality aspen. Mixture of bigtooth and quaking but more bigtooth than adjacent stands. Better quality than stand to north.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
30	4130 - Aspen	High Density Sapling	6.6	11		Stand was cut as part of 121 Aspen, 61-055-99-01, finished October 2002. Cut all trees > 2" DBH except oak and pine. Good regeneration. A few larger white pine, red pine and red maple trees.
31	4130 - Aspen	High Density Sapling	1.8	11		Stand was cut as part of 121 Aspen, 61-055-99-01, finished October 2002. Cut all trees > 2" DBH except oak and pine. Good regeneration.
32	42200 - Natural White Pine	High Density Log	5.5	41	141-170	Dense, relatively limby white pine.
33	4123 - Red Oak	Low Density Log	13.9	78	1-50	Stand was cut as part of 121 Aspen, 61-055-99-01, finished October 2002. Cut all trees > 2" DBH except oak and pine. Stand is now two-aged with a sparse log-sized canopy and patchy regeneration underneath. Rolling hills.
34	4131 - Aspen, Oak	High Density Pole	37.5	43		Mostly good quality aspen poles with some red maple stump sprouts and pockets of bigger oak. Not much understory in oak pockets. BA in oak: 40, 60, 70.
35	4123 - Red Oak	High Density Log	13.6	78	81-110	Much of stand was cut as part of 121 Aspen, 61-055-99-01, finished October 2002. Cut all trees > 2" DBH except oak and pine. Decent quality oak with thick red maple underneath. Small canopy gaps at south end. Rolling hills. ORV trail runs through stand.
36	4130 - Aspen	High Density Sapling	69.2	11		Stand was cut as part of 121 Aspen, 61-055-99-01, finished October 2002. Cut all trees > 2" DBH except oak and pine. Oak within aspen pockets was also removed. Most of this stand is sapling sized except for a few 1-2 acre patches of older, log-sized oak totalling about 4 acres. ORV trail runs along west side of stand.
37	4124 - Red with White Oak	High Density Pole	11.9	83	51-80	Variable stand. Canopy is mostly log-sized oak but there are patches of good oak and red maple regen. Overall less average BA than other oak stands nearby. Trace of paper birch in understory. Rolling hills.
38	4130 - Aspen	High Density Pole	17.5	36		Mix of uniform size aspen, multi-stemmed red maple and oak, just starting to reach pole size. Little to no understory. Gradual transition into more mixed stand to east and south. Sale 61-021-77. Rolling hills.
39	4139 - Aspen, Mixed Deciduous	High Density Sapling	27.4	11		Stand was cut as part of 121 Aspen, 61-055-99-01, finished October 2002. Cut all trees > 2" DBH except oak and pine. Oak within aspen pockets was also removed. ORV trail runs on edge of or through stand. Somewhat steep hills at south end of stand.
40	4130 - Aspen	Medium Density Pole	35.1	36		Variable stand with some areas of mediocre aspen and some areas of U-type opening. Rolling hills. Clearcut, sale 61-021-77. ORV trail runs through stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
41	4130 - Aspen	High Density Pole	32.6	48		Mostly aspen just reaching pole size with scattered pockets of older oak. Heavy browse on seedlings. Adjacent to M-72 but buffer strip was left along highway. Rolling hills.
42	4130 - Aspen	High Density Sapling	6.1	11		Cut as part of 121 Aspen, 61-055-99-01, finished October 2002. Cut all trees except pine and oak. Good regeneration.
43	4124 - Red with White Oak	High Density Pole	6.8	46	81-110	Two-aged stand with canopy of oak and red maple and aspen and younger red maple below. Variable BA across stand. Sparser canopy than oak stands to east. Pockets of aspen concentrated along M-72 and at eastern end. Good advanced oak regeneration in a few gaps. More pole sized oak than logs. Heavy browse of oak and red maple seedlings. Small opening at southeast corner.
44	4130 - Aspen	High Density Sapling	11.2	23		Stand was cut as part of Hunt Club Sale, 61-002-99-01, clearcut finished July 1990. Good regeneration.
45	4130 - Aspen	High Density Pole	32.3	46		Poor quality, low volume aspen but it is starting to go. Most of aspen is ~6" DBH but there are some 8-10" trees. Good oak and white pine in understory that would benefit from release. Short section of ORV trail runs through west side of stand.
46	4124 - Red with White Oak	High Density Log	189.8	78	81-110	Sale 61-055-99-01, completed October 2002. Remove aspen and thin oak. Not a lot of oak in understory. Some pole/sapling red maple. Heavy browse. Moderately hilly. Adjacent to M-72.
47	6122 - Black Spruce	High Density Pole	4.9	78		Transitional stand between wet and dry areas. Aspen is in very poor shape. A few oak saplings in understory.
48	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	56.7	78		Variable stand. Pockets of cedar and mixed conifer surrounded by more typical E-type of sapling/pole size. Patchy canopy. Red maple in canopy is log-sized in places. Wet, hummocky stand but drier to north. Red map
49	4124 - Red with White Oak	High Density Log	20.8	73	51-80	Good quality oak with minimal mortality. Stand is two-aged in places. Red maple in understory ranges from 1/2 - 2" DBH or has thick stump sprouts in a few places. White pine in understory is patchy but thick in a few places. Topography is rolling hills with generally south aspect. Heavy browse on seedlings.
50	42200 - Natural White Pine	High Density Log	25.9	83	171-200	Good looking white pine with dense understory of red maple and white pine. Red maple is just starting to reach canopy. Understory red maple ranges in size from pole to 2-4" in patches. Trace of paper birch and a few oaks in understory. Parts of stand are wet.
51	4124 - Red with White Oak	High Density Log	15.9	73	81-110	Good quality oak stand. Similar to stand to north except white pine is more uniformly present in the understory of this stand. This stand also has slightly more red maple in the canopy and oak diameters might be slightly smaller. More aspen and less oak at eastern end. Rolling hills with generally northern or eastern aspect. Heavy browse on seedlings.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
52	6129 - Mixed Coniferous Lowland Forest	Low Density Log	6.0	78		Very wet stand. Hummocky with small pools of standing water, visible even in winter. Sparse canopy of log sized trees over dense alder and sapling understory.
53	6127 - Lowland Pine	High Density Log	17.2	48	141-170	Fairly dense white pine stand. Just barely log size. Aspen is in poor shape. Red maple in understory is pole/sapling size. Stand is wet at edges.
54	4191 - Mixed Upland Deciduous with Conifer	Medium Density Log	20.0	73	51-80	Stand was cut as part of M-72 Jack Pine, 61-061-99-01, finished August 2001. Cut all trees > 2" DBH except oak, red pine and white pine. Sale was chipped. Scattered canopy gaps. Good oak seedlings in places. Heavy browse.
55	4130 - Aspen	Medium Density Pole	6.4	41		Opening that is filling in but still has multiple canopy gaps. Poor quality timber but at least 1 merchantable aspen clone.
57	42250 - Pine, Oak	High Density Log	14.0	73	51-80	South part of stand was cut as part of M-72 Jack Pine, 61-061-99-01, finished August 2001. Cut all trees > 2" DBH except oak, red pine and white pine. Sale was chipped. More red pine than stand to south. BA is patchy. Some pole-sized oak in understory. Some old, fire-scarred red pine. Stand is adjacent to M-72.
59	6126 - Lowland Jack Pine	High Density Sapling	19.6	34		Similar to jack pine on east side of pipeline but this stand is definitely wetter which seems to have limited jack pine growth. This stand also shows a little more diversity in the canopy. Labrador tea in understory.
60	4133 - Aspen, Mixed Pine	High Density Log	5.4	53	111-140	Small mixed aspen and pine stand. Clump of old, large, fire-scarred red pine at southwest edge of stand.
61	4131 - Aspen, Oak	High Density Pole	4.1	53		Small, variable stand. North part treated with Compartment 117, shelterwood oak with lots of red maple sprouts. Western part is borderline merchantable aspen. Heavy browse. Lower end of 75-100% canopy cover.
63	4191 - Mixed Upland Deciduous with Conifer	High Density Log	3.1	53	51-80	Truly mixed, small stand. Canopy is on the lower end of 75-100% range. Some areas have aspen that could be cut but most of stand is too small. Mostly poor quality oak.
65	4133 - Aspen, Mixed Pine	High Density Pole	3.1	53		Small, mixed stand along M-72. Mostly poor quality with heavy browse on seedlings.
66	4124 - Red with White Oak	High Density Log	4.9	86	141-170	Decent quality oak with red maple understory that is almost part of canopy. Part of ridge with generally ESE aspect. Little to no understory. Heavy browse on seedlings. Aspen is starting to go.
67	42220 - Natural Jack Pine	High Density Pole	22.2	34		A few oaks and larger white pine and red pine.

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Traverse City Mgt. Unit

Report 10 – Forested Stands

Compartment: 121  
Year of Entry: 2015



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
68	42260 - Natural Pine, Mixed Deciduous	Medium Density	49.4	12		Stand was cut as part of M-72 Jack Pine, 61-061-99-01, finished August 2001. Cut all trees > 2" DBH except oak, red pine and white pine. Sale was chipped. FTP C62-679: 6,000 bare-root 3-0 red pine were underplanted in May 2002 for aesthetic reasons next to private property near north part of stand. Regeneration has been patchy. Stand is mostly sapling and pole-sized with clumps of log-sized pine and oak. Denser canopy left along M-72. Small opening at southeast corner is filling in.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
3	622 - Lowland Shrub	1.2	No	Unspecified	Small kettle hole with standing water. Contains a clump of small black spruce and a few white pine.
5	622 - Lowland Shrub	1.9	No	Unspecified	Small kettle hole with standing water. No vegetation visible above snow.
17	3303 - Mixed Low Density Trees	28.5	No	Unspecified	Winding, open valley between oak hills. Scattered trees including open-grown white pine, cherry and oaks. Poor dirt road and ORV trail run through or cross opening so there are some hill climb areas. Widest part is a bowl-shaped depression which is dry.
22	330 - Low-Density Trees	13.6	No	Unspecified	Meandering opening with various levels of tree cover. Some aspen, cherry, and white pine, all sapling/pole size.
56	320 - Upland Shrub	1.8	No	Unspecified	Small opening with barely any vegetation visible over snow. Slightly elevated from surrounding areas. Former oil/gas site? change to 310 - herbaceous openland.
58	330 - Low-Density Trees	0.9	No	Unspecified	Small opening between M-72 and woods road. Scattered trees including cherry, red pine, oak and shrubs.
62	310 - Herbaceous Openland	10.8	No	Unspecified	Consumers Energy gas pipeline.
64	3105 - Mixed Upland Herbaceous	2.8	No	Low (NonForested)	Consumers Energy gas pipeline and facility near M-72. Pipeline also runs along Forest Trail.