



Report 1 – Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 149

Entry Year 2015

Acreage: 1,262

County Kalkaska

Management Area: Upper Muskegon

Revision Date: 04/19/2013

Stand Examiner: Donna Hagan

Legal Description:

T25N,R5W, Sec. 35 & 36

Identified Planning Goals:

This compartment falls within the Upper Muskegon Management Area. There are 185,682 acres of state forest land in this MA, primarily located in Missaukee and Roscommon Counties with smaller portions in Wexford, Kalkaska, Mecosta, Crawford, Clare and Gladwin Counties. Vegetation management in the Upper Muskegon management area will provide timber products; maintain or enhance wildlife habitat; protect areas of unique threatened, endangered and special concern species; and provide for forest-based recreational uses. Timber management for the next ten years will focus on harvesting older jack pine and balancing age class distributions of oak, aspen and red pine. Wildlife habitat management objectives include perpetuating early-successional communities for species adapted to young forests for hunting and other wildlife-related recreation. Expected trends within the next decade are the need to manage exotic species (especially Phragmites and glossy buckthorn), the need to continue to manage cover types for a balanced age class distribution and an expected increase in recreation pressure.

Soil and topography:

Soil is Graycalm-Grayling Sands. Topography is rolling to steep hills between 6 to 18 percent slopes.

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

Located in the most southeasterly part of the county, this compartment is a solid block of state ownership. It contains mostly oak, which contrasts to the flat, jack pine plains that surround it. It also contains the point of the highest elevation in the area. To the east is Crawford County, southeast is Roscommon County, and to the south is Missaukee County. There are a few private holdings around the compartment. These are mainly undeveloped and held mostly as recreational hunting areas.

Unique, Natural Features:

Nothing listed with-in compartment.

Archeological, Historical, and Cultural Features:

None listed.

Special Management Designations or Considerations:

Watershed and Fisheries Considerations:

No water in this compartment.

Wildlife Habitat Considerations:

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift is the Mississippian Michigan Formation. The Michigan is quarried for gypsum elsewhere in the State. Gravel pits are located in the area and potential is considered good. The Compartment is located three miles southwest of Beaver Creek Field that produces from the Devonian Detroit River and Richfield Formations. Beaver Creek has produced over 16 million BO from the Richfield. The Compartment is leased for oil and gas development for the Collingwood Formation.

Vehicle Access:

Vehicle access is good. No new roads needed. Most of the unnecessary roads have been blocked off and don't need further attention.

Survey Needs:

No survey needs for this compartment.

Recreational Facilities and Opportunities:

The West Higgins Snowmobile Trail #6 runs along South County Line Road at the southern border of this compartment. Approximately 2.5 miles of the West Higgins ORV Trail runs predominantly East/West through the compartment. The West Higgins ORV trails shares dual use as the Michigan Cross Country Cycle Trail in the SE portion of the compartment. The West Higgins ORV route is designed for 50" wide vehicles or less (ATV's). 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).

Fire Protection:**Additional Compartment Information:**

The following reports from the Inventory are attached:

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

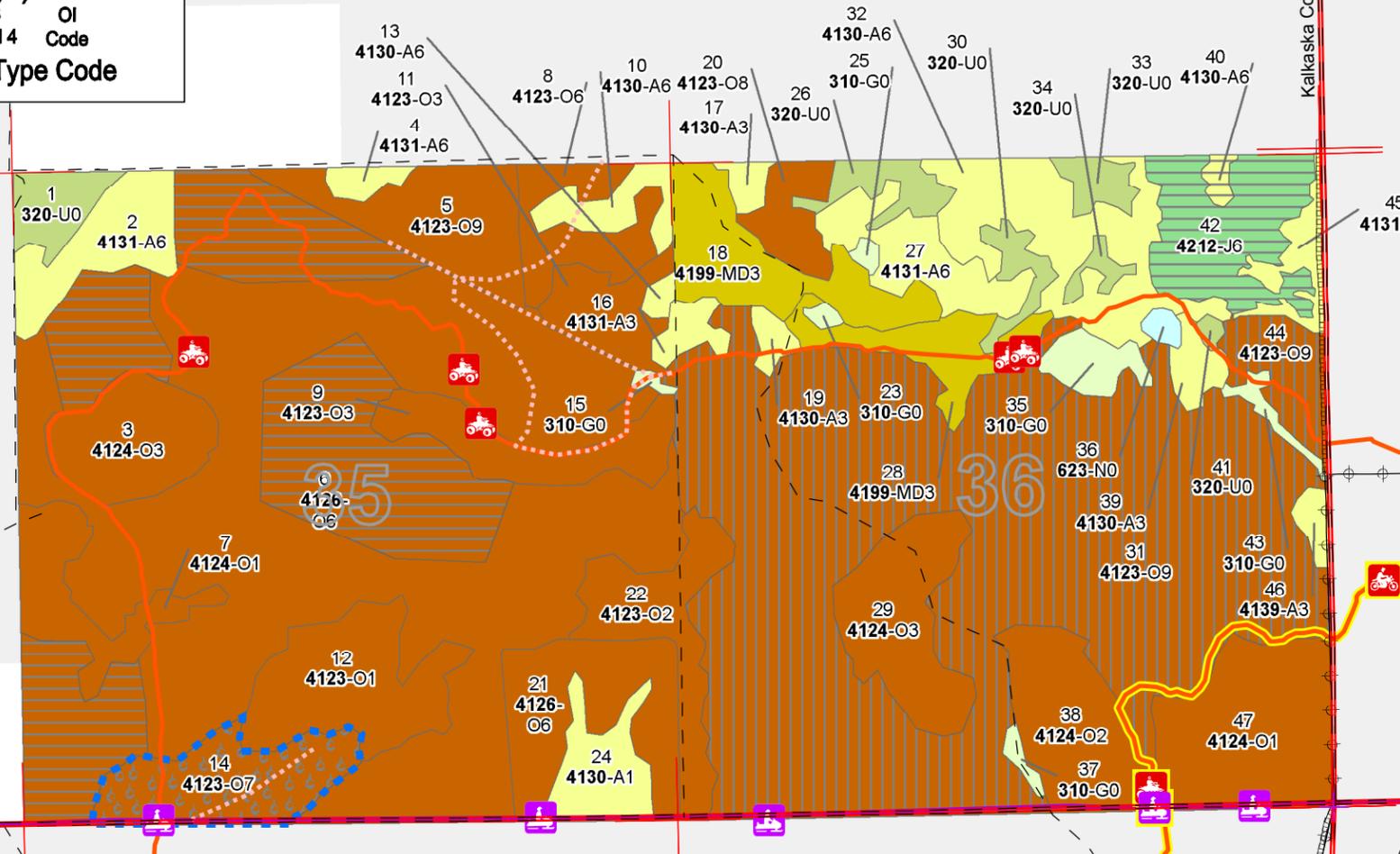
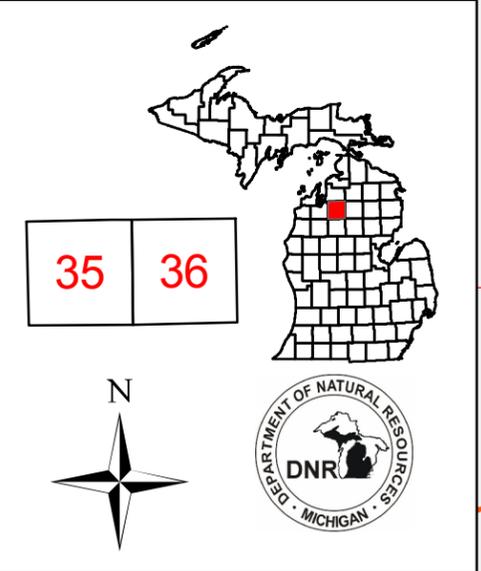
The following information is displayed, where pertinent, on the attached compartment maps:

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

Cover Type & Treatment Map

Compartment: 149
 T25N R05W
 Sections 35, 36
 County: Kalkaska
 Unit: Traverse City
 YOE: 2015
 Acres: 1,262 GIS Calculated
 Examiner: Donna Hagan
 Map Revised: 05/28/2013
 Map Phase: Web Post

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



Legend

<ul style="list-style-type: none"> — Miris Corners + Remonumented Section Corners — Paved Roads — County Gravel Roads — Gravel Roads — Poor Dirt Roads — County Poor Dirt Roads — Closed Roads — Pipeline — Powerline 	<ul style="list-style-type: none"> — MCCCT Trail — Snowmobile Trail — ORV Trail — ORV Route MCCCT Trails ORV Trails ORV Routes Snowmobile Trails Lakes and Rivers 	<p>Forest Stands</p> <ul style="list-style-type: none"> Level 3 412 - Oak Types 413 - Aspen Types 419 - Mixed Upland Deciduous 421 - Planted Pines <p>Non-Forest Stands</p> <ul style="list-style-type: none"> Level 3 310 - Herbaceous Openland 320 - Upland Shrub 623 - Emergent Wetland State Forest Land
<p>Treatments</p> <ul style="list-style-type: none"> Clearcut (w/Reserves, Patch/Strip) Shelter Wood (w/Reserves) Prescribed Burn 		

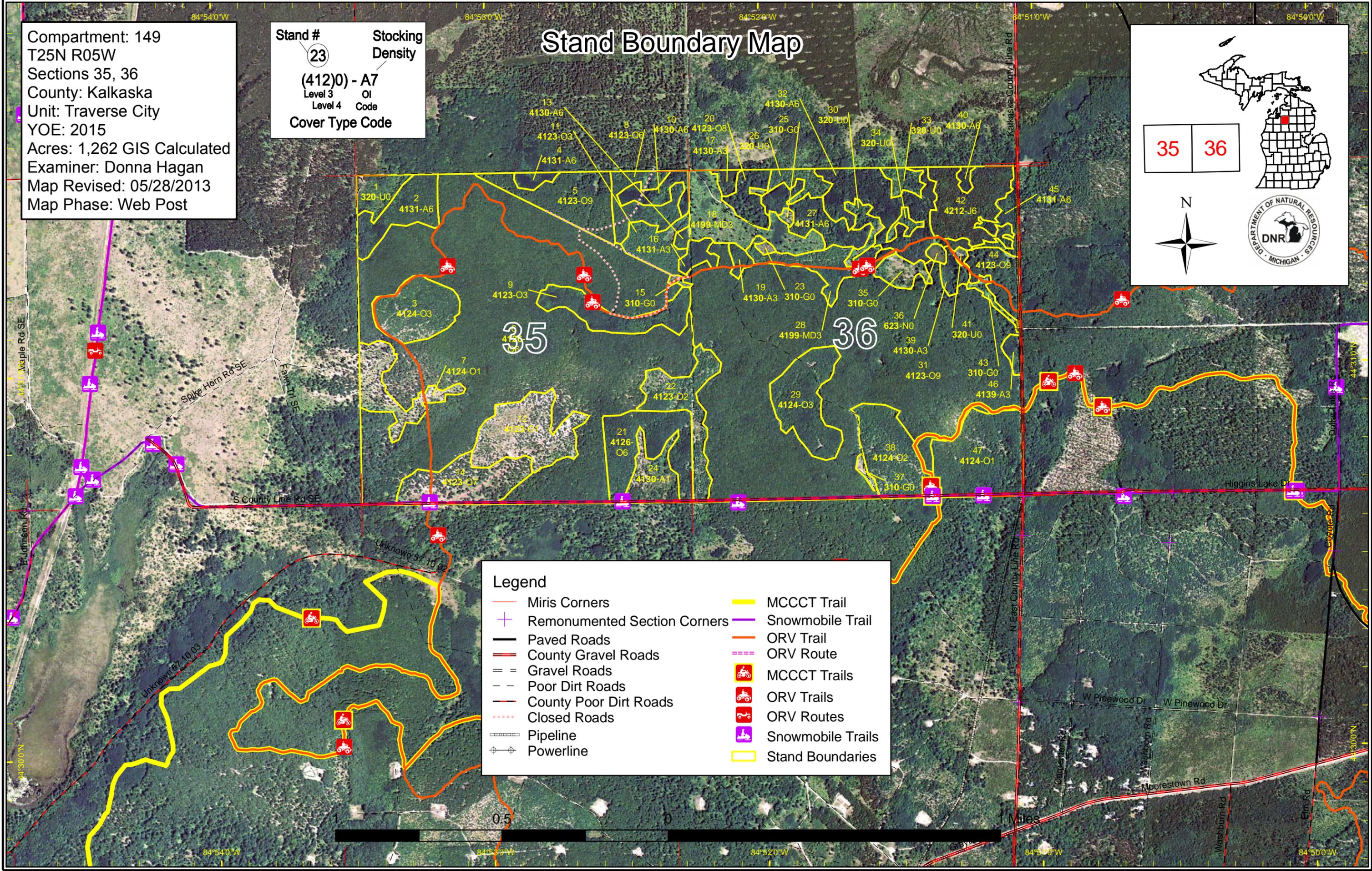


84°54'0"W 84°53'0"W 84°52'0"W 84°51'0"W 84°50'0"W

Stand Boundary Map

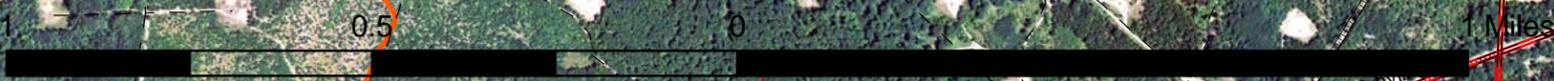
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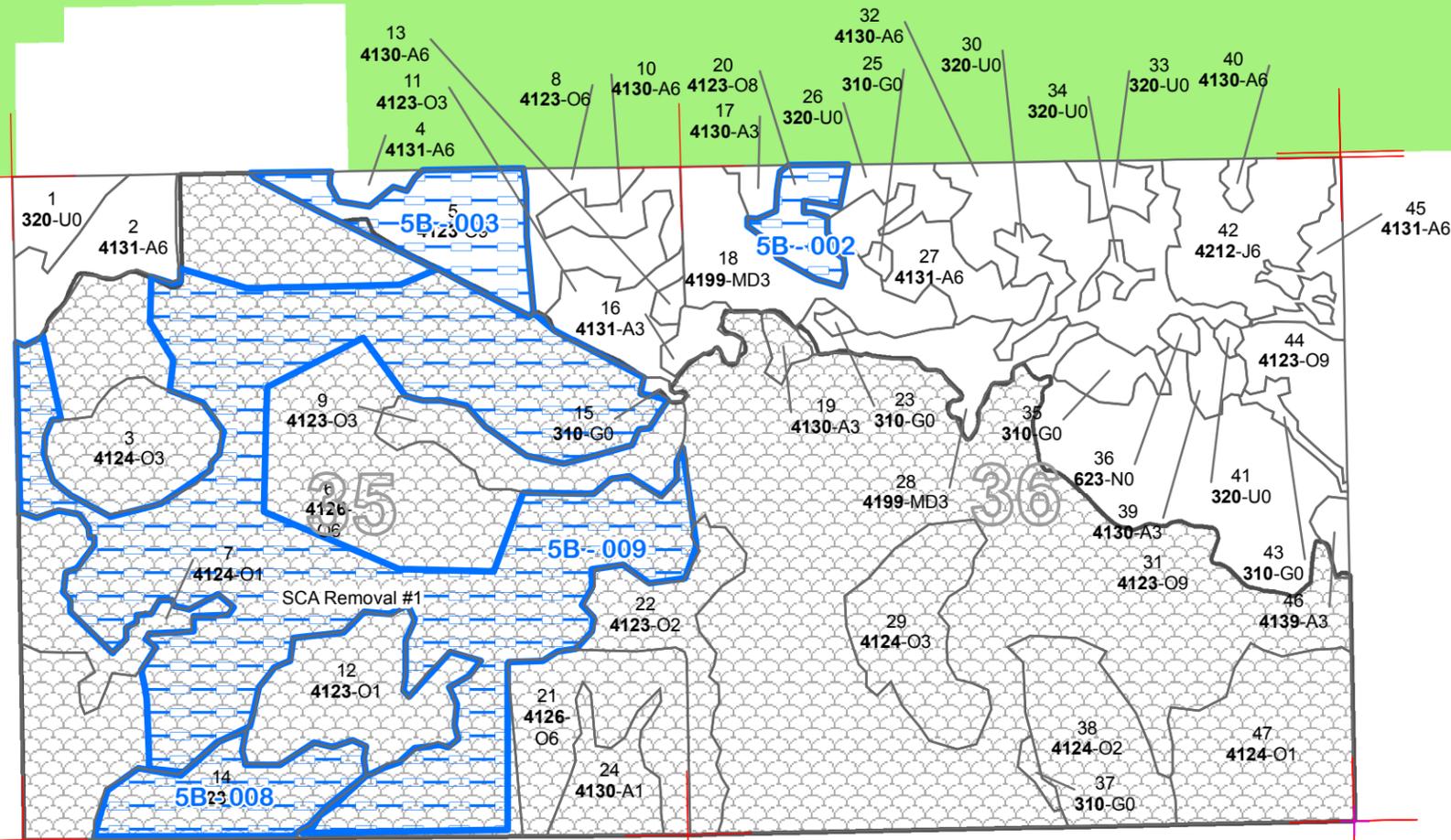
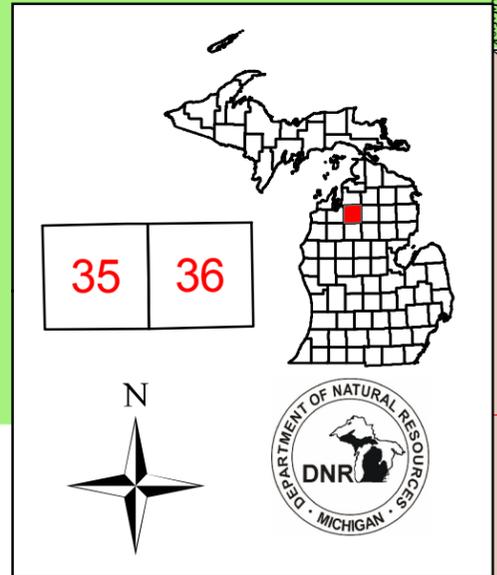
Miris Corners	MCCCT Trail
Remonumented Section Corners	Snowmobile Trail
Paved Roads	ORV Trail
County Gravel Roads	ORV Route
Gravel Roads	MCCCT Trails
Poor Dirt Roads	ORV Trails
County Poor Dirt Roads	ORV Routes
Closed Roads	Snowmobile Trails
Pipeline	Stand Boundaries
Powerline	



Special Conservation Areas & Site Conditions Map

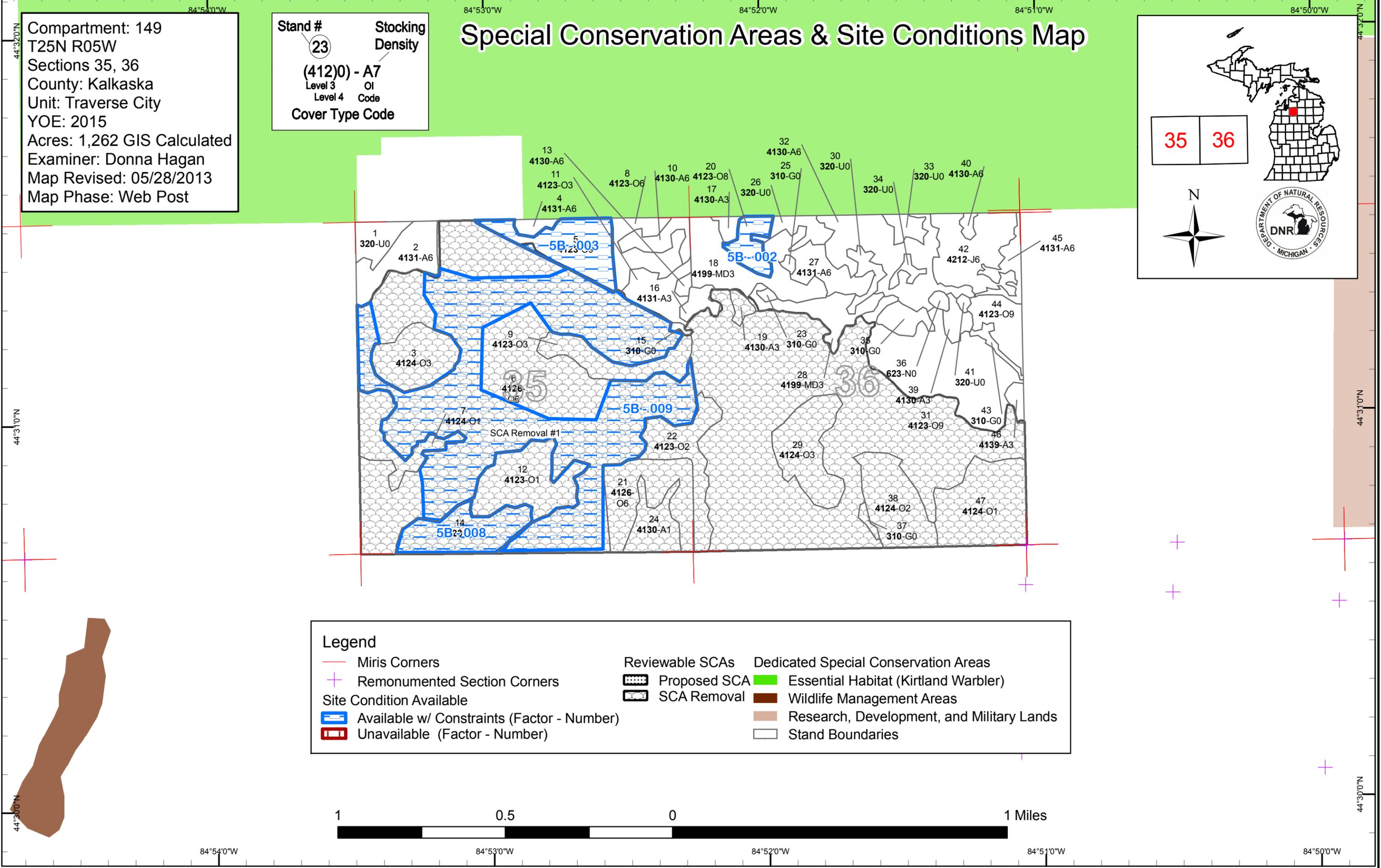
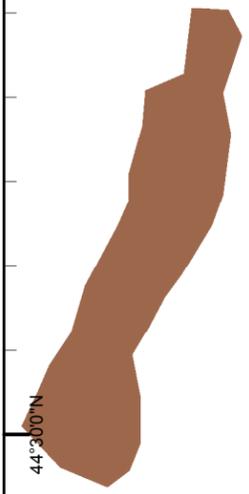
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Legend

— Miris Corners	Reviewable SCAs	Dedicated Special Conservation Areas
+ Remonumented Section Corners	Proposed SCA	Essential Habitat (Kirtland Warbler)
Site Condition Available	SCA Removal	Wildlife Management Areas
Available w/ Constraints (Factor - Number)		Research, Development, and Military Lands
Unavailable (Factor - Number)		Stand Boundaries



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	5	11	102	8	2	0	0	0	0	0	0	0	0	127
Herbaceous Openland	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Jack Pine	0	0	0	0	0	29	0	0	0	0	0	0	0	0	29
Marsh	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Mixed Upland Deciduous	27	15	0	0	0	0	0	0	0	0	0	0	0	0	42
Oak	0	117	72	72	16	0	0	712	0	27	0	0	0	0	1017
Upland Shrub	30	0	0	0	0	0	0	0	0	0	0	0	0	0	30
Total	73	137	82	175	24	31	0	712	0	27	0	0	0	0	1262



Report 3 – Proposed Treatment Summaries

Traverse City Mgt. Unit
Year of Entry 2015

Compartment 149
Total Compartment Acres: 1262

Acres by Treatment Type

Commercial Harvest - 472 Tree Planting - 0 Other - 27
Habitat Cut - 0 Opening Maintenance - 0

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen Types	2	0	0	0	0	0	2
Oak Types	121	0	0	321	0	0	442
Planted Pines	29	0	0	0	0	0	29
Total	151	0	0	321	0	0	472



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
6 61149006-Cut	120.5	4126 - White, Black, N. Pin Oak	High Density Pole	78	111-140	Harvest	Patch or Strip Clearcut	4129 - Mixed Oak	Cmpt. Review Proposal

Prescription Poorer quality stand. Would continue with the 5-10 acre patch clearcuts in areas where aspen is present. Good regeneration where this has occurred in the past.

Other Comments: Heavier to white oak pulpwood size.

Next Steps:

Proposed Start Date: 10/01/2014

31 61149031-Cut	307.4	4123 - Red Oak	High Density Log	78	111-140	Harvest	Shelter Wood with Reserves	4124 - Red with White Oak	Cmpt. Review Proposal
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Prescription Shelterwood retaining approximately 30-40BA. Areas that have an aspen component, remove all species.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2014

40 61149040-Cut	1.8	4130 - Aspen	High Density Pole	53		Harvest	Clearcut	4130 - Aspen	Cmpt. Review Proposal
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Prescription Final harvest with adjacent compartment to the north, 148, YOE 2018.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2017

42 61149042-Cut	29.0	42120 - Planted Jack Pine	High Density Pole	53		Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
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Prescription Final harvest and let come back to an aspen/oak mix.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2014



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
44 61149044-Cut	13.8	4123 - Red Oak	High Density Log	78	111-140	Harvest	Shelterwood	4124 - Red with White Oak	Cmpt. Review Proposal

Prescription: Shelterwood retaining approximately 30-40BA. Areas that have an aspen component, remove all species.
Specs:

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2014

Total Treatment Acreage Proposed: 472.4



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
14 61149014-Burn	27.1	4123 - Red Oak	Low Density Log	90	1-50	Prescribed Burn	Unspecified		Cmpt. Review Proposal

Prescription Prescribe burn to regenerate oak.
Specs:

Other
Comment:

Next
Steps:

Proposed
Start Date: 10/01/2014

Limiting Factor 5B: Retention for regeneration purposes

**Total Treatment
Acreage Proposed: 27.1**

**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

Donna Hagan : Examiner

Compartment 149

Year of Entry 2015

Availability for Management

Total Acres	Acres		Dominant Site Conditions	No	5B
	Available	Not Available			
127	127		Aspen	127	
29	29		Jack Pine	29	
42	42		Mixed Upland Deciduous	42	
1013	1013		Oak	721	291
1,211	1,211		Total Forested Acres	920	291
	100%		Relative Percent		

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

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
002	Available	5B: Retention for regeneration purposes	10				
Comments:							
003	Available	5B: Retention for regeneration purposes	27				
Comments:							
008	Available	5B: Retention for regeneration purposes	26				
Comments:							
009	Available	5B: Retention for regeneration purposes	230				
Comments:							



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
SCA Removal #1	Other SCA		SCA Removal	898.7
Comments				
Mainly older oak type				



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	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.



Stand	Traverse City Mgt. Unit		Report 10 – Forested Stands			Compartment: 149 Year of Entry: 2015	
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	
2	4131 - Aspen, Oak	High Density Pole	18.7	37			
3	4124 - Red with White Oak	High Density Sapling	23.8	23			Sale #83-96
4	4131 - Aspen, Oak	High Density Pole	3.2	34			Sale #23-77
5	4123 - Red Oak	High Density Log	26.7	79	81-110		Sale #83-96 - Thinning.
6	4126 - White, Black, N. Pin Oak	High Density Pole	354.5	78	111-140		Seems to be a lower quality stand heavier to white oak pulp.
7	4124 - Red with White Oak	Low Density Sapling	19.1	17			Sale #68-94. Some scattered larger oak left.
8	4123 - Red Oak	High Density Pole	16.5	40	51-80		
9	4123 - Red Oak	High Density Sapling	20.1	23			Sale #30-86
10	4130 - Aspen	High Density Pole	8.2	36			
11	4123 - Red Oak	High Density Sapling	13.5	15			Sale #83-96
12	4123 - Red Oak	Low Density Sapling	32.4	17			Sale #68-94
13	4130 - Aspen	High Density Pole	1.6	36			
14	4123 - Red Oak	Low Density Log	27.1	90	1-50		
16	4131 - Aspen, Oak	High Density Sapling	4.7	23			Sale #30-86
17	4130 - Aspen	High Density Sapling	2.8	36			
18	4199 - Other Mixed Upland Deciduous	High Density Sapling	26.8	5			Sale #74-05
19	4130 - Aspen	High Density Sapling	2.9	23			Sale #30-86
20	4123 - Red Oak	Medium Density Log	9.9	78	1-50		Sale #83-96

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Traverse City Mgt. Unit

Report 10 – Forested Stands

Compartment: 149
Year of Entry: 2015

Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
4126 - White, Black, N. Pin Oak	High Density Pole	32.9	36	1-50	
4123 - Red Oak	Medium Density	23.9	16		Sale #83-96
4130 - Aspen	Low Density Sapling	14.0	36		
4131 - Aspen, Oak	High Density Pole	17.5	36	1-50	
4199 - Other Mixed Upland Deciduous	High Density Sapling	15.3	15		Sale #83-96
4124 - Red with White Oak	High Density Sapling	27.9	23		Sale #30-86
4123 - Red Oak	High Density Log	307.4	78	111-140	
4130 - Aspen	High Density Pole	36.2	36		
4124 - Red with White Oak	Medium Density	28.1	16		Sale #83-96
4130 - Aspen	High Density Sapling	5.0	15		
4130 - Aspen	High Density Pole	1.8	53		
42120 - Planted Jack Pine	High Density Pole	29.0	53		
4123 - Red Oak	High Density Log	13.8	78	111-140	
4131 - Aspen, Oak	High Density Pole	7.8	43		
4139 - Aspen, Mixed Deciduous	High Density Sapling	3.0	23		
4124 - Red with White Oak	Low Density Sapling	39.4	36		



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	3205 - Mixed Upland Shrub	9.1	No	Unspecified	Mature jack pine in NW part of stand < 1 acre.
15	3102 - Grass	0.9	No	Unspecified	
23	3103 - Rubus-Fern	1.0	No	Unspecified	
25	3103 - Rubus-Fern	1.1	No	Unspecified	
26	3205 - Mixed Upland Shrub	7.4	No	Unspecified	
30	3205 - Mixed Upland Shrub	5.3	No	Unspecified	
33	3205 - Mixed Upland Shrub	4.9	No	Unspecified	
34	3205 - Mixed Upland Shrub	2.5	No	Unspecified	
35	3102 - Grass	7.0	Yes	Medium (NonForested)	
36	6239 - Mixed Emergent Wetland	1.7	No	Unspecified	
37	3102 - Grass	1.5	No	Unspecified	
41	3201 - Sweet Fern	1.0	No	Unspecified	
43	3102 - Grass	2.7	No	Unspecified	