

### **Compartment Review Presentation**

**Cadillac Forest Management Unit** 

Compartment 22 Entry Year 2016

> Acreage: 1,890 County Lake

Management Area: Lake County Moraines

**Revision Date:** 06/04/2014

Stand Examiner: Mike Lesinski

**Legal Description:** 

T18N R11W, Sections 15, 16, 21, 22, 27

### **Identified Planning Goals:**

Vegetation management in the Lake county Moraines Management Area (MA) will provide forest 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 this 10-year planning period will focus on balancing the age class distributions of aspen and regenerating red pine and oak. Wildlife habitat management objectives include perpetuating early-successional communities for species adapted to young forests for hunting and other wildlife-related recreation opportunity. Expected trends within this 10-year planning period are increased recreational pressure (including illegal off-road vehicle impacts) and the need to successfully regenerate and establish oak.

#### Soil and topography:

Soils include Montcalm Graycalm as well as Rubicon. Overall, the soils are excessively drained. Topography is rolling to very hilly.

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

Lands to the west are part of a large block of contiguous state land. The surrounding parcels consist mainly of forested properties forty to eighty acres in size, with the exception of a subdivision and block of small 5 to 10 acre lots in the north half of section 28.

#### **Unique Natural Features:**

This compartment has the potential for occurences of box turtle, red-shouldered hawk and goshawk, as well as potential for pine tree cricket in white pine stands.

#### Archeological, Historical, and Cultural Features:

No Archeological, Historical, or Cultural Features known.

#### **Special Management Designations or Considerations:**

#### Watershed and Fisheries Considerations:

#### Wildlife Habitat Considerations:

This compartment contains four alfalfa or rye wildlife openings. These openings should be buffered from treatments in adjacent stands, and any adjacent treatments should prevent expansion of autumn olive. Generally, wildlife cover type goals are no net loss in aspen or oak acres, to protect mast bearing shrubs, to create brush piles adjacent to wetlands, to preferably leave retention in the form of islands or corridors, and to provide coarse woody debris. Promote a mix of cover types by seeking opportunities to manage for non-forested openings or barrens habitat, older age classes and mixed age stands where possible and appropriate. Featured species of special interest are grouse, woodcock, turkey and deer. (E. Victory 7/17/14)

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

Surface sediments consist of an end moraine of coarse textured till. The glacial drift thickness varies between 600 and 800 feet. Beneath the glacial drift are the Pennsylvanian Grand rive and Saginaw formations. The Saginaw is is quarried for clay in brick making. A gravel pit is located in section 33 and potential is considered good. The nearest oil and gas production is ath the Reed city Field located two miles to the east.

#### **Vehicle Access:**

A forest road access plan is detailed on the compartment map. Identified are state and county roads as well as forest roads and trails under the jurisdiction of the DNR. Also indicated are forest roads and trails under the jurisdiction of the DNR that

are proposed for abandonment. These roads were determined to be in excess of the access needs in the area, are a threat to the resources, or are a concern environmentally.

#### **Survey Needs:**

None known.

#### **Recreational Facilities and Opportunities:**

There are no developed recreational facilities within this compartment. There are numerous areas suitable for dispersed camping, and hunting (T.M.N. 3/14)

#### **Fire Protection:**

Most of the compartment has good access. Topograhy of the area may cause some issues with wildfire control. Dispersed camping can be a cause of a wildfire in this compartment. Urban interface is an increasing concern in the compartment. BET5-14

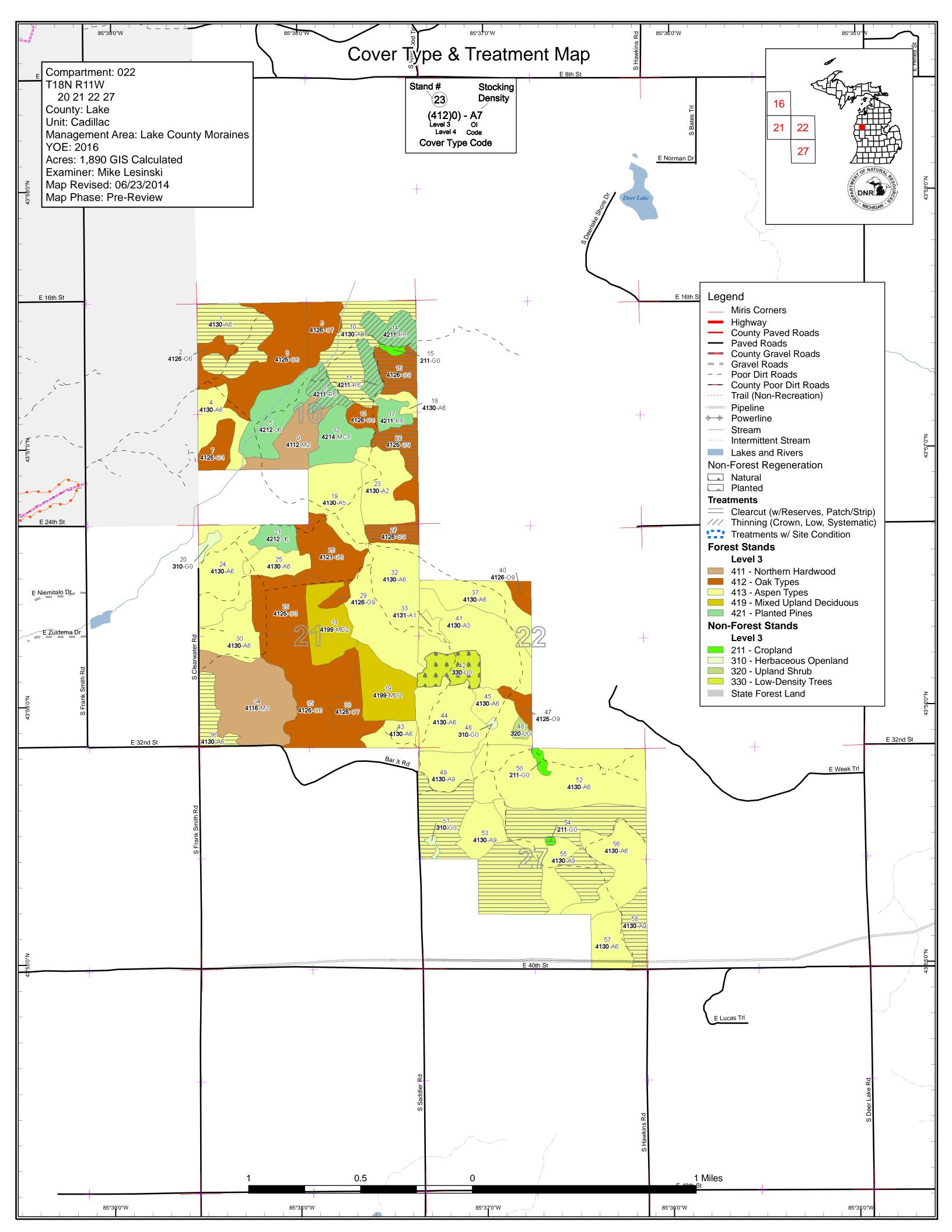
#### **Additional Compartment Information:**

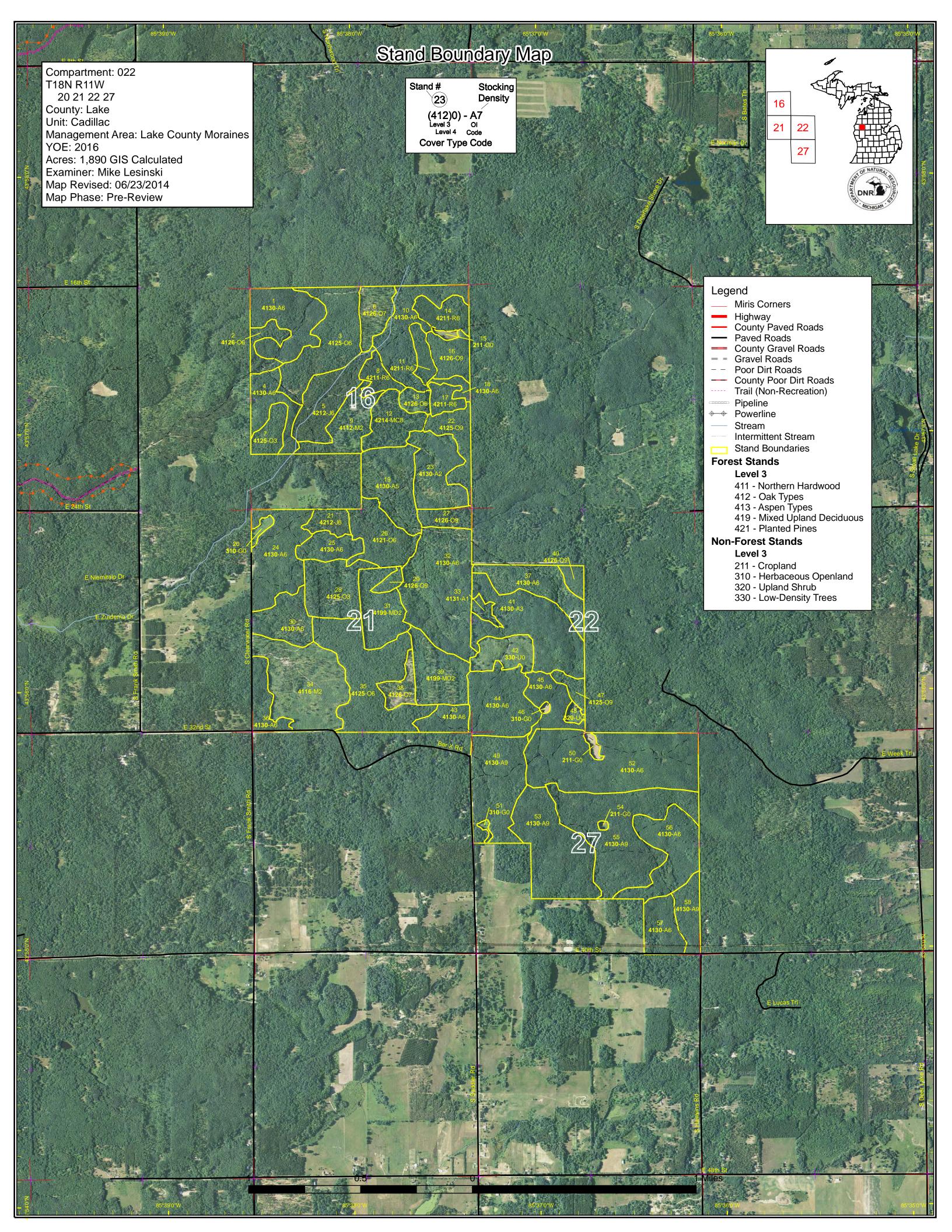
The following reports from the Inventory are attached:

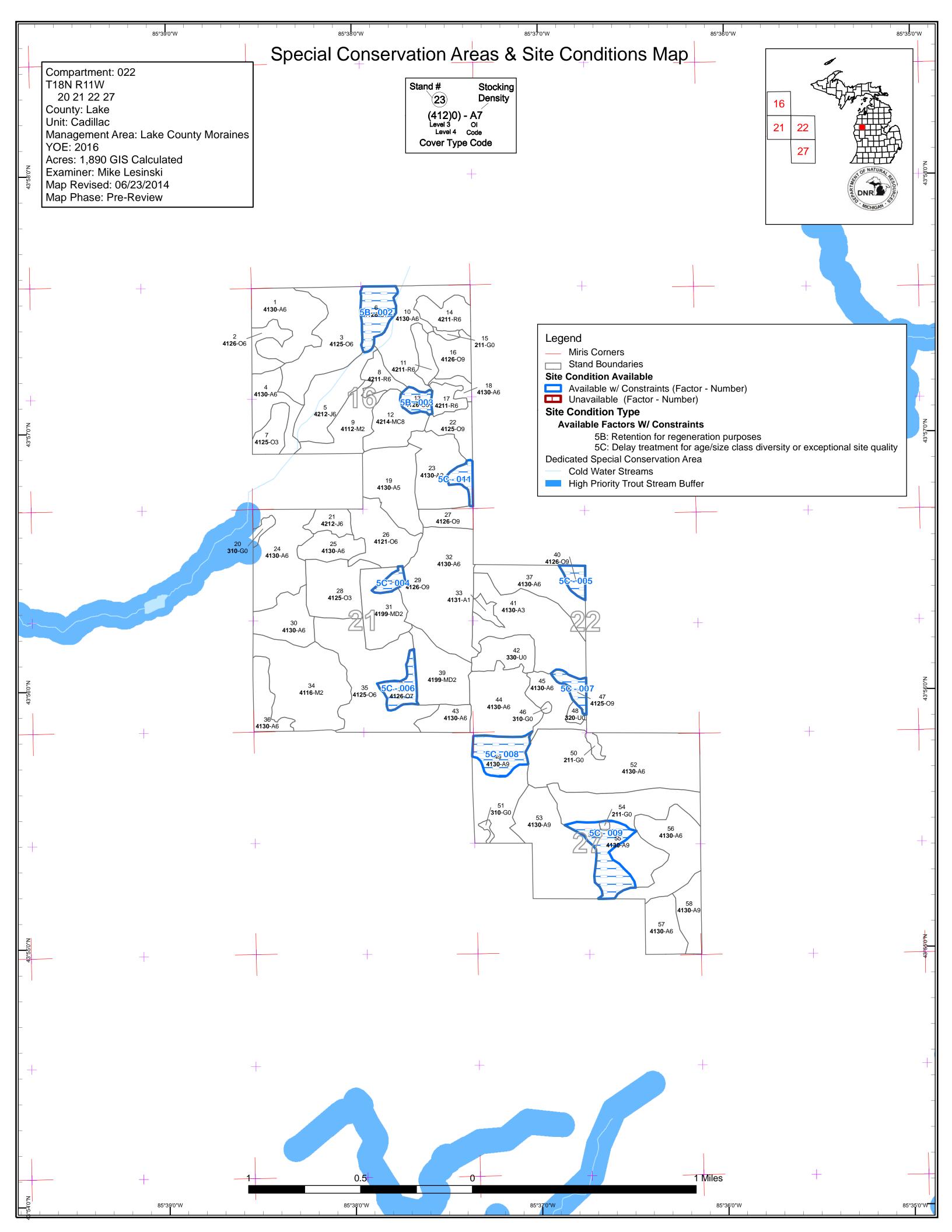
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

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







Compartment 022 Year of Entry 2016

Michael Lesinski : Examiner

Cadillac Mgt. Unit



#### Age Class

	Age Class															
		0,0	0,0	S. S	, gr	AD AS	g g	80,00	10,10	88.	850	00.00	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	,20 <sup>×</sup> /3 <sup>c</sup>	No. No.	, dois
Aspen	0	226	268	130	405	105	0	0	0	0	0	0	0	0	1135	
Cropland	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
Herbaceous Openland	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
Jack Pine	0	0	0	0	54	0	0	0	0	0	0	0	0	0	54	
Low-Density Trees	24	0	0	0	0	0	0	0	0	0	0	0	0	0	24	
Mixed Upland Deciduous	0	77	0	0	0	0	0	0	0	0	0	0	0	0	77	
Northern Hardwood	82	33	0	0	0	0	0	0	0	0	0	0	0	0	115	
Oak	0	57	0	76	39	0	90	0	27	96	0	0	0	0	384	
Planted Mixed Pines	0	0	0	0	29	0	0	0	0	0	0	0	0	0	29	
Red Pine	0	0	0	0	55	0	0	0	0	0	0	0	0	0	55	
Upland Shrub	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Total	123	393	268	206	582	105	90	0	27	96	0	0	0	0	1890	



### **Report 2 – Proposed Treatment Summaries**

Cadillac Mgt. Unit

Compartment 022 **Total Compartment Acres: 1,890** Year of Entry 2016

### **Acres by Treatment Type**

Commercial Harvest - 402 Tree Planting - 0 Other - 0

Habitat Cut - 0 Opening Maintenance - 0

		Cover Type by Harvest Method							
			Clean of	Solido Co	LOS S	N. S.	China Ora		, keres
Aspen Types		310	0	0	0	0	0	310	
Oak Types		49	0	0	0	0	0	49	
Planted Pines		0	0	0	0	44	0	44	
	Total	359	0	0	0	44	0	402	

Cadillac Mgt. Unit

### Report 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 022 Year of Entry 2016

DEPARTME	DNR MICHIGAN	
	MICHIGAN	

a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
1	63022001-Cut	50.0	4130 - Aspen	High Density Pole	42	81-110	Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal

Prescription Final harvest aspen. Leave some scattered oak where applicable. Apply grouse specifications to timber sale. Leave uncut islands to meet Specs:

retention guidelines.

Other Retention: Scattered oak and uncut islands. Acceptable alternate regen: Aspen/oak/mixed upland deciduous stand.

Comments:

<u>Next</u> Steps:

s

<u>Proposed</u>

Start Date: 10/01/2015

63022008-Cut 12.9 42110 - Planted High 111-140 Harvest Systematic 4211 - Planted Red Cmpt. Review Red Pine . Thinning Pine Proposal Density

Pole

Prescription Third row thin the planted red pine. Remove other miscellaneous cull trees as needed.

Specs:

Other Comments:

<u>Next</u>

Steps:

**Proposed** 

Start Date: 10/01/2015

10 63022010-Cut 49.3 4130 - Aspen High 41 141-170 Harvest Clearcut with 413 - Aspen Cmpt. Review Density Reserves Proposal

Pole

Prescription Final harvest aspen. Leave some scattered oak where applicable. Follow retention guidelines by creating some uncut islands. Apply grouse

Specs: specs to the timber sale.

<u>Other</u> Retention: Uncut islands and scattered oak. Acceptable alternate regeneration: Aspen/oak/mixed upland deciduous stand.

Comments:

Next Steps:

**Proposed** 

10/01/2015 Start Date:

63022011-Cut 11.3 42110 - Planted High 46 111-140 Systematic 4211 - Planted Red Cmpt. Review 11 Harvest Red Pine Density Thinning Pine Proposal

Pole

Prescription Third row thin the red pine plantation. Remove other miscellaneous cull trees as needed.

Specs:

Other Comments:

**Next** Steps:

**Proposed** 

Start Date: 10/01/2015

Compartment: 022 Cadillac Mgt. Unit Report 3 -- Treatments Prescribed Year of Entry 2016 with No Limiting Factor s t а **Treatment** Acres CoverType Size Stand BA **Treatment Treatment Cover Type** Approval n Density Method Objective d Name Age Range Type **Status** 42110 - Planted - Planted Red 63022014-Cut 19.4 High 141-170 Systematic Cmpt. Review 14 46 Harvest Thinning Red Pine Density Pine Proposal Pole Prescription Third row thin planted red pine. Remove other miscellaneous cull trees as needed. Specs: Other\_ Comments: <u>Next</u> Steps: **Proposed** Start Date: 10/01/2015 63022016-Cut 20.7 4126 - White, High 93 111-140 Harvest Clearcut with 412 - Oak Cmpt. Review Black, N. Pin Oak Reserves Proposal Density Log Prescription Harvest to a BA of 10 to 20 square feet. Favor leaving white oak where applicable. Specs: <u>Other</u> Retention: Residual stand BA. Acceptable alternate regeneration: Oak/mixed upland deciduous stand. Comments: <u>Next</u> Steps: <u>Proposed</u> Start Date: 10/01/2015 63022022-Cut 17.4 4125 - Black, N. Pin High 111-140 Harvest Clearcut with 412 - Oak Cmpt. Review Density Log Reserves Proposal Oak Prescription Harvest to a BA of 10 to 20 square feet. Specs: Other Retention: Southern portion of stand and residual stand BA. Acceptable alternate regen: Blended oak/mixed upland deciduous stand. Comments: **Next** Steps: **Proposed** Start Date: 10/01/2015 63022027-Cut 4126 - White, High 85 51-80 Harvest Clearcut with 412 - Oak Cmpt. Review Black, N. Pin Oak Density Log Reserves Proposal Prescription Harvest to a BA of 10 to 20 square feet. Fovor leaving white oak where applicable. Specs: **Other** Retention: Residual stand BA. Acceptable alternate regen: Blended oak/mixed upland deciduous stand. Comments: <u>Next</u> Steps: Proposed

<u>Prescription</u> Final harvest aspen. Leave a scattered mast tree where applicable. Focus retention on island creation. Apply grouse specs. <u>Specs:</u>

40

81-110

Harvest

Clearcut with

Reserves

413 - Aspen

Other Retention: Scattered mast trees and islands. Acceptable alternate regen: upland decidous mix.

High

Density

Pole

Comments:

20.1

4130 - Aspen

Next Steps: Proposed

Start Date:

36

Start Date: 10/01/2015

10/01/2015

63022036-Cut

Cmpt. Review Proposal Cadillac Mgt. Unit S

# Report 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 022 Year of Entry 2016

DEPARTME	DNR DINCHIGAN
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a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
49	63022049-Cut	42.1	4130 - Aspen	High Density Log	49 J	111-140	Harvest	Clearcut	413 - Aspen	Cmpt. Review Proposal

Prescription Final harvest aspen. Leave some scattered residual oak where applicable. Apply grouse specs to timber sale. Follow retention guidlines by

Specs: creating a few uncut islands.

Other Retention: Scattered oak and uncut islands. Acceptable alternate regen: Blended mixed upland deciduous stand.

Comments:

Next Steps:

Proposed

Start Date: 10/01/2015

53. 63022053-Cut 53.6 4130 - Aspen High 46 111-140 Harvest Clearcut 413 - Aspen Cmpt. Review Proposal

Prescription Final harvest aspen. Leave some scattered oak where applicable. Apply grouse specs to timber sale. Follow retention guidelines by creating a

Specs: few uncut islands.

Other Retention: Uncut islands and residual oak. Acceptable alternate regen: Blended mixed upland deciduous stand.

Comments:

Next Steps: Proposed

Stort Detail 10/0

Start Date: 10/01/2015

55 63022055-Cut 74.0 4130 - Aspen High 56 111-140 Harvest Clearcut 413 - Aspen Cmpt. Review

Density Log Proposal

<u>Prescription</u> Final harvest aspen. Leave some scattered oak where applicable. Apply grouse specs to timber sale. Follow retention guidelines by creating

Specs: uncut islands.

Other Retention: Uncut islands and residual oak. Acceptable alternate regen: Blended mixed deciduous stand.

Comments:

Next Steps:

<u>Proposed</u>

Start Date: 10/01/2015

**58 63022058-Cut** 20.5 4130 - Aspen High 47 111-140 Harvest Clearcut 413 - Aspen Cmpt. Review Density Log Proposal

<u>Prescription</u> Final harvest aspen. leave some scattered oak where applicable. Apply grouse specs to timber sale. Follow retention guidelines with uncut

Specs: island

Other Retention: Uncut islands and residual oak. Acceptable alternate regen: Blended upland deciduous stand.

Comments:

Next Steps:

Proposed

Start Date: 10/01/2015

Total Treatment

Acreage Proposed: 402.5

Cadillac Mgt. Unit Report 4 -- Treatments Prescribed with Compartment: 022 a Site Condition s Year of Entry 2016 t **Treatment** Acres CoverType Size Stand ВА **Treatment Treatment Cover Type Approval** n Objective Method Status Name Range Density Age Type #Type! #Type! **Prescription** Specs: Other Comment: **Next** Steps: <u>Proposed</u> #Type!

Total Treatment

Start Date: # Limiting Factor

Acreage Proposed: 0.0

## **Report 5 – Site Conditions**

Cadillac Mgt. Unit

Mike Lesinski : Examiner

Compartment 022 Year of Entry 2016

Availa	ability for I	Management					
Total	Acres	Acres		Domina	nt Site	e Cond	ditions
Acres	Available	Not Available		No	5C	5B	
1133	1133		Aspen	1,080	54		İ
54	54		Jack Pine	54			
77	77		Mixed Upland Deciduous	77	0		İ
115	115		Northern Hardwood	115			İ
384	384		Oak	312	41	30	İ
29	29		Planted Mixed Pines	29			İ
55	55		Red Pine	55			İ
1,847	1,847		Total Forested Acres	1,721	95	30	l
	100%		Relative Percent				•

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

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
002	Available	5B: Maintain for regeneration purposes	22				
(	Comments:						
003	Available	5B: Maintain for regeneration purposes	9				
(	Comments:						
004	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5				
(	Comments:						

Cadillac Mgt. Unit
Mike Lesinski : Examiner

Compartment 022 Year of Entry 2016

005	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	7					
Co	Comments:							
	illillents.							
006	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	14					
Co	mments:							
007	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	9					
Co	mments:							
008	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	24					
Co	mments:							
009	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	31					
Co	mments:							
011	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	7					
Co	mments:							
	-							

Cadillac Mgt. Unit Compartment: 022

Year of Entry: 2016

### Report 6 - PROPOSED SPECIAL CONSERVATION AREA\* (SCA) DETAILS

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

SCA Name	SCA Category	Detail Type	Recommendation	Acres
Comments				

Cadillac Mgt. Unit Compartment: 022





## Report 7 – EXISTING SPECIAL CONSERVATION AREA DETAILS

\* This is a list of SCA's for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to the Special Conservation Area Map for locations of the below listed Conservation Areas.

Conservatio	on Type	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area
SCA	Archaeological Site	An aquatic or terrestrial area of the State that contains physical resites of cultural and historical significance that may occur upon to bottomlands. They include thousands of Native American settlem and British outposts, nineteenth century logging camps, mines at the Great Lakes, there are shipwrecks and other remains docum be identified by Natural heritage data from the State Historic Presthis compartment will be implemented in such a manner as to mathe sensitive nature of this information, no further detail about local	errestrial areas and Great Lakes nents and burial sites, as well as French and homesteads. Beneath the waters of enting the maritime trade. Such sites may servation Office. Proposed treatments in aintain the integrity of these sites. Due to
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen condi- stocked trout populations and those of other coldwater fish speci- year to year. Coldwater streams in Michigan typically provide the contributions of groundwater to their stream flows. Such streams designated as trout resources by Fisheries Order 210.	es (e.g., slimy sculpin) to persist from se conditions due to substantial
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in influences the aquatic ecosystem and vice-versa. Because of the streams and open water wetlands, riparian areas harbor a high d communities are ecologically and socially significant in their effect as aesthetics, habitat, bank stability, timber production, and their	e unique conditions adjacent to lakes, iversity of plants and wildlife. Riparian cts on water quality and quantity, as well

s t	Cadillac	: Mgt. Unit		Report 8	<ul><li>Forested</li></ul>	Stands Compartment: 022 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	High Density Pole	50.0	42	81-110	
2	4126 - White, Black, N. Pin Oak	High Density Pole	13.5	36	51-80	Plenty of oak in understory. Not ready for harvest.
3	4125 - Black, N. Pin Oak	High Density Pole	62.2	38	81-110	Mixed poor quality oak.
4	4130 - Aspen	High Density Pole	26.6	40	81-110	Poorer quality aspen. Variable age and diameter.
5	42121 - Planted Jack Pine, Mixed Deciduous	High Density Pole	41.7	45	141-170	
6	4126 - White, Black, N. Pin Oak	Low Density Log	21.6	93	1-50	Seedtree / Shelterwood harvest last YOE.
7	4125 - Black, N. Pin Oak	High Density Sapling	15.7	17		Scattered pine.
8	42110 - Planted Red Pine	High Density Pole	12.9	46	111-140	Poorer quality red pine.
9	4112 - Maple, Beech, Cherry Association	Medium Density	33.0	16	1-50	
10	4130 - Aspen	High Density Pole	49.3	41	141-170	Variable density and diameter.
11	42110 - Planted Red Pine	High Density Pole	11.3	46	111-140	
12	42141 - Planted Mixed Pine, Mixed Deciduous	Medium Density Log	29.2	47	51-80	Planted red pine. Pockets of the stand were CC several years ago and have regenerated to an upland deciduous mix.
13	4126 - White, Black, N. Pin Oak	Medium Density Log	8.5	96	1-50	Shelterwood cut last YOE. Regen is upland deciduous mix.
14	42110 - Planted Red Pine	High Density Pole	19.4	46	141-170	
16	4126 - White, Black, N. Pin Oak	High Density Log	20.7	93	111-140	
17	42110 - Planted Red Pine	High Density Pole	11.0	46	141-170	
18	4130 - Aspen	High Density Pole	5.8	33	111-140	Variable age and diameter.
19	4130 - Aspen	Medium Density Pole	47.9	19	1-50	

S t	Cadillac		Report 8	<ul> <li>Forested Sta</li> </ul>	nds Compartment: 022 Year of Entry: 2016	RATURALARESOURC	
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	CHIGAN
21	42121 - Planted Jack Pine, Mixed Deciduous	High Density Pole	12.4	47	81-110		
22	4125 - Black, N. Pin Oak	High Density Log	24.4	97	111-140	Poorer quality oak.	
23	4130 - Aspen	Medium Density	43.6	17		Stand CC 1997.	
24	4130 - Aspen	High Density Pole	57.5	27	51-80	Stand CC 1987.	
25	4130 - Aspen	High Density Pole	19.5	27	51-80		
26	4121 - Oak, Aspen	High Density Pole	39.1	48	51-80	Oak with scattered aspen clones.	
27	4126 - White, Black, N. Pin Oak	High Density Log	13.2	85	51-80	Stand thinned 1997. Heavy red maple regen.	
28	4125 - Black, N. Pin Oak	High Density Sapling	41.3	17		Strip CC 1997.	
29	4126 - White, Black, N. Pin Oak	High Density Log	5.2	96	81-110	Small oak stand. Leave for age class diversity.	
30	4130 - Aspen	High Density Pole	30.6	27	51-80	Stand CC 1987.	
31	4199 - Other Mixed Upland Deciduous	Medium Density	36.2	17			
32	4130 - Aspen	High Density Pole	96.5	26	51-80		
33	4131 - Aspen, Oak	Low Density Sapling	5.7	12			
34	4116 - Mixed N. Hardwood - Aspen	Medium Density	81.8	8		Seedtree last YOE. Scattered overstory oak.	
35	4125 - Black, N. Pin Oak	High Density Pole	89.7	63	51-80 \	/ariable age and diameter oak. Some aspen clones in sta	nd.
36	4130 - Aspen	High Density Pole	20.1	40	81-110		
37	4130 - Aspen	High Density Pole	38.7	26	51-80		
38	4126 - White, Black, N. Pin Oak	Low Density Log	13.5	83	1-50	Shelterwood last YOE.	

			Year of Entry: 2016	DNR DNR MICHIGAN
e sity Acres	Stand Age	BA Range	General Comments:	
um 41.0 sity	17			
ensity 7.3	91	111-140		
ensity 76.7 ling	17		Variable age, diameter and density.	
ensity 15.8 le	40	81-110		
ensity 53.8 le	47	111-140		
ensity 24.8 le	40	111-140		
ensity 8.2	93	81-110	Small acreage stand	
ensity 65.3	49	111-140		
ensity 124.2 le	34	51-80		
ensity 78.9	46	111-140		
ensity 105.2	56	111-140		
ensity 52.1 le	17	1-50		
ensity 25.5 le	26	1-50		
	le ensity 24.8 le ensity 8.2 g   ensity 65.3 g   ensity 124.2 le ensity 78.9 g   ensity 105.2 g   ensity 52.1 le ensity 25.5	le ensity 24.8 40 le ensity 8.2 93 g	le ensity 24.8 40 111-140 le ensity 8.2 93 81-110 gensity 65.3 49 111-140 gensity 124.2 34 51-80 le ensity 78.9 46 111-140 gensity 105.2 56 111-140 gensity 105.2 56 111-140 le ensity 52.1 17 1-50 le ensity 25.5 26 1-50	le ensity 24.8 40 111-140 le ensity 8.2 93 81-110 Small acreage stand g

4130 - Aspen

58

High Density Log

20.5

47

111-140

Cadillac Mgt. Unit

### Report 9 - Nonforested Stands

Compartment: 022 Year of Entry: 2016



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
15	2113 - Forage Crops	2.4	Yes	High	Planted wildlife opening
20	3102 - Grass	3.8	No	Unspecified	Non-managed grass opening.
42	3301 - Low Density Deciduous Tree	23.9	Natural Regen	Aspen	
46	3102 - Grass	1.2	No	Unspecified	Small grass opening.
48	3202 - Autumn Olive/Honeysuckle	3.8	No	Unspecified	Upland brush.
50	2113 - Forage Crops	3.4	Yes	Medium	
51	3102 - Grass	1.7	No	Unspecified	Grass opening.
54	2113 - Forage Crops	1.0	Yes	Medium	