

### **Compartment Review Presentation**

**Cadillac Forest Management Unit** 

Compartment 63086 Entry Year 2017 Acreage: 2,570

**County Missaukee** 

Management Area: Manistee River Valley

Revision Date: 2015-07-08

Stand Examiner: Steve Eisele

**Legal Description:** 

T24N, R6W, Sec. 1,2,3,10.12

#### **Identified Planning Goals:**

Vegetation management in the Manistee River Valley management area (MA) will provide timber products; maintain or enhance wildlife habitat; protect areas of unique character including the Manistee River and its tributaries, a designated natural river; threatened, endangered and special concern species; and provide for forest-based recreational uses. Timber management for this 10-year planning period includes continuing aspen management to maintain early successional habitat for hunting and other wildlife-related recreational opportunities; increasing regeneration of oak; focusing on balancing the red pine age class structure through final harvests and re-planting; and on improving red pine quality through partial harvests. Expected trends within this 10-year planning period are increased recreational pressure, especially on the established trails and along the Manistee River and its tributaries; an increased wildland/urban interface and a need to restore barrens communities through prescribed fire; and invasive plant control.

#### Soil and topography:

Montcalm-Grayling, Rubicon sands. Mostly level terrain with many wet areas.

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

Solid sections of state land with the exception of Horseshoe lake on the west half of section 2. This private land contains cabins and some full time residences. Limited fishing in flooded area. Hunting, ORV use and snowmobile trail are the main forms of recreation.

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

Massasauga and wood turtle potential near cannon flooding. Also listed as potential species include great blue heron, osprey, eagle and assorted turtles.

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

Woodland mounds and Late Woodland camp listed within compartment.

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

Continue to maintain age class diversity. Monitor and encourage oak regeneration where possible.

#### **Watershed and Fisheries Considerations:**

Big Cannon Creek is a designated stream under the Upper Manistee River State Natural Rivers Zoning. Under the Upper Manistee River Natural River Plan, Big Cannon Creek has special protection (see page 41 of the plan), where no cutting may be done closer than 100 feet from the river's edge, subject to seasonal, wetland, and topographic restrictions.

#### Wildlife Habitat Considerations:

This compartment contains Cannons Creek #2 Flooding SWMA. Numerous reptiles, amphibians, various waterfowl, and other bird species are associated with the flooding and associated wetlands. Uplands provide valuable year-round deer habitat. Bear, bobcat, beaver, ruffed grouse, woodcock, and turkeys utilize this area. The goal of maintaining various timber types and age classes, maintaining the impoundments, and manipulating the blueberry and shrub component associated with the grassland and upland brush type will continue to benefit a wide variety of game and non-game species. Featured species of special interest are eastern massasauga rattlesnake, American bittern, mallard, ruffed grouse, and deer. Timber sale specifications to benefit wildlife (where applicable) will include brush pile creation along lowland edges, protection of mast-bearing wildlife shrubs and ironwood, protection of standing dead snags, and creation of drumming logs (1-2 per acre) and woody debris (tops or whole trees) in aspen cuts. (E. Victory 6/2015)

#### 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 Michigan Formation. The Michigan

Formation is quarried for gypsum in other areas of the State. A gravel pit is located to the north and gravel potential appears to be good on the uplands. East Norwich Field is located three miles to the east. The field has produced over 15.9 million BO and 15.7 Bcf gas from the Devonian Richfield Formation. It is in secondary recovery operations currently. There are no State lands currently leased in the Compartment

#### **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. Proposed new roads or roads recommended for substantial improvement are noted below.

#### **Survey Needs:**

Survey corners are established through out the compartment. The actual private lines will need to be run for sale set up.

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

Numerous motorized recreational trails are located within this compartment. The Mis-Kal route, North Missuakee ORV trail, (maximum 50" width) North Missuakee Cycle trail, Michigan Cross Country Cycle trail (MCCCT), and Snowmobile trail #6 are all located within this compartment. Trail protection specifications should be included in any timber sale potentially impacting these trails. Specifically, appropriate measures identified in DNR Policy and Procedures "32.22XX" (Best Management Practices for Forest and Wildlife Management Adjacent to Recreation Trails) should be taken into consideration when setting up timber sales within this compartment. The area also has some Wildlife Flooding areas, which provide hunting and fishing opportunities. There is also dispersed camping in the area. (T.M.N. 12/16/14)

#### **Fire Protection:**

There is some private land in the compartment which provides Urban Interface problems. There are some low areas which could cause difficult access for suppression equipment. There are some small pine areas with mixed hardwoods.

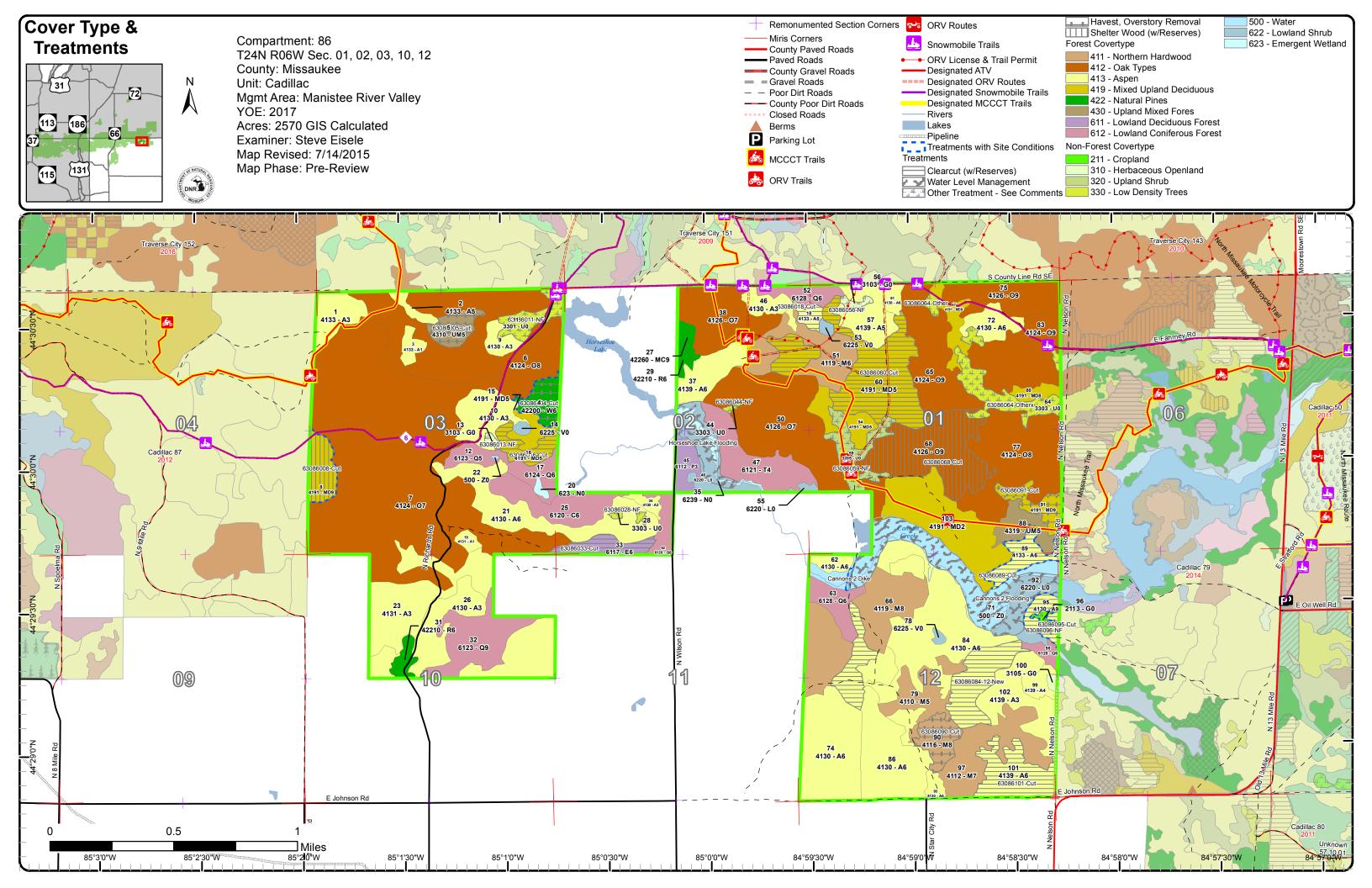
#### **Additional Compartment Information:**

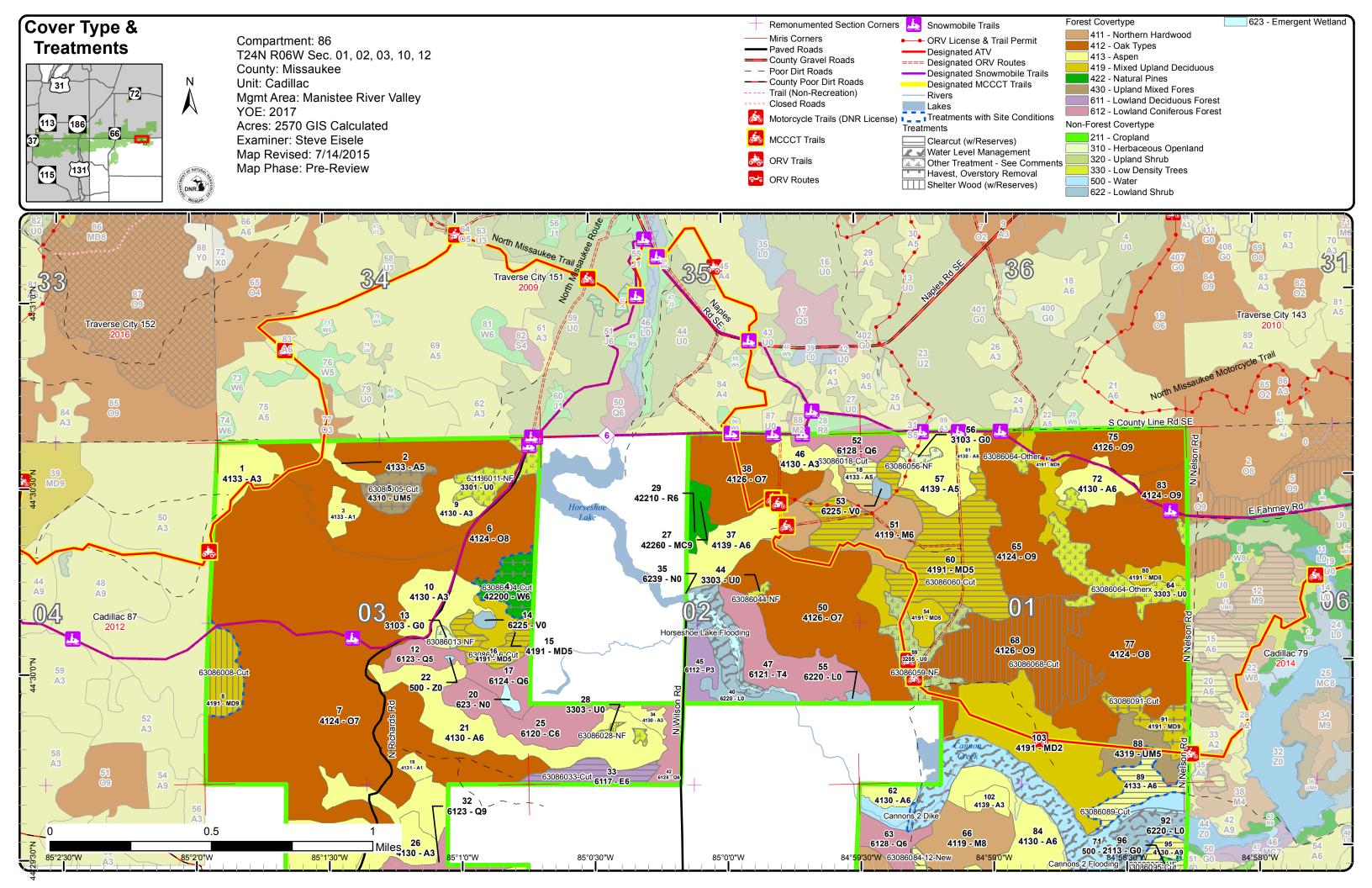
The following reports from the Inventory are attached:

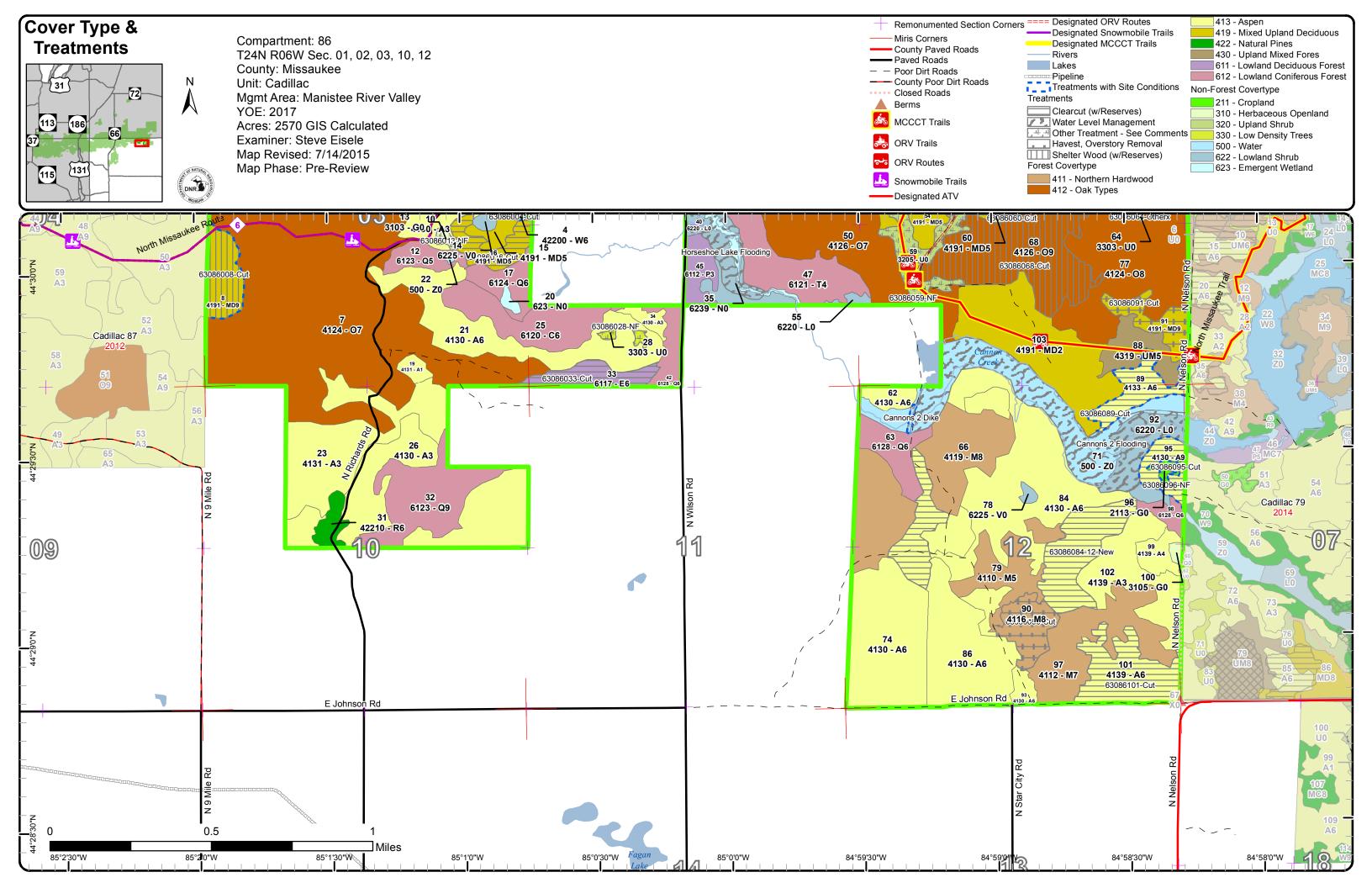
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

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 612 - Lowland Coniferous Forest Remonumented Section Corners Snowmobile Trails Non-Forest Covertype Compartment: 86 - Miris Corners ● ORV License & Trail Permit Paved Roads County Gravel Roads Poor Dirt Roads County Poor Dirt Roads Trail (Non-Recreation) Closed Roads 211 - Cropland 310 - Herbaceous Openland 320 - Upland Shrub 330 - Low Density Trees 500 - Water Map Designated ATV Designated ORV Routes Designated Snowmobile Trails T24N R06W Sec. 01, 02, 03, 10, 12 County: Missaukee Unit: Cadillac Designated MCCCT Trails Mgmt Area: Manistee River Valley Rivers 622 - Lowland Shrub Stand Boundaries YOE: 2017 623 - Emergent Wetland Motorcycle Trails (DNR License) Forest Covertype 113 Acres: 2570 GIS Calculated 411 - Northern Hardwood 412 - Oak Types 413 - Aspen 419 - Mixed Upland Deciduous 422 - Natural Pines MCCCT Trails Examiner: Steve Eisele Map Revised: 7/14/2015 ORV Trails Map Phase: Pre-Review 115 (131) DNR ORV Routes 430 - Upland Mixed Fores 611 - Lowland Deciduous Forest 0.5

# Stand Boundary Map

113 115 (131) Compartment: 86

T24N R06W Sec. 01, 02, 03, 10, 12

County: Missaukee Unit: Cadillac

Mgmt Area: Manistee River Valley

YÖE: 2017

Acres: 2570 GIS Calculated Examiner: Steve Eisele Map Revised: 7/14/2015 Map Phase: Pre-Review

=== Designated ORV Routes Remonumented Section Corners Designated Snowmobile Trails - Miris Corners Designated MCCCT Trails County Paved Roads
Paved Roads
Poor Dirt Roads
County Poor Dirt Roads
Closed Roads Rivers Pipeline

▲ Berms

MCCCT Trails

ORV Trails

ORV Routes

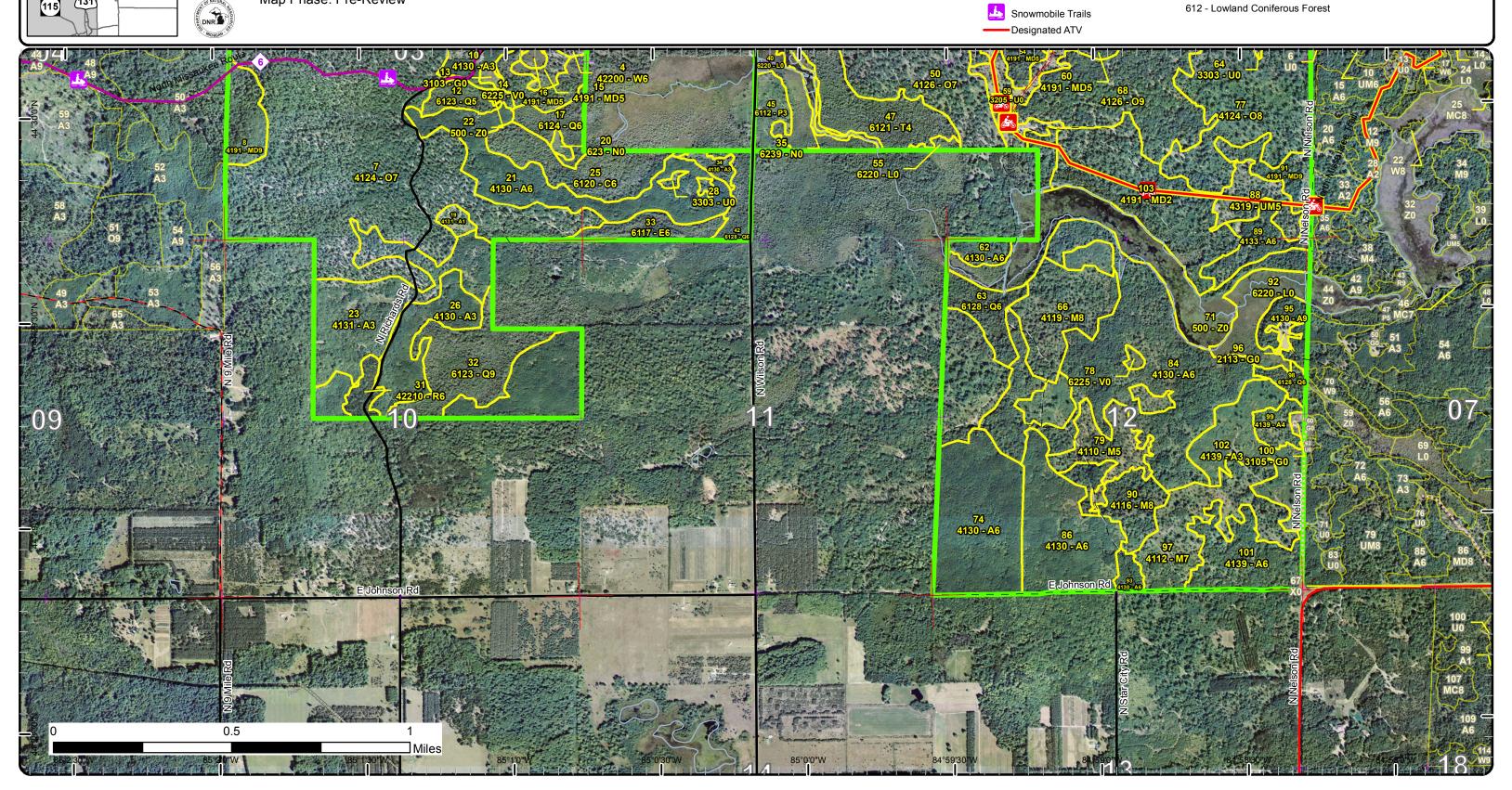
Stand Boundaries Forest Covertype 411 - Northern Hardwood

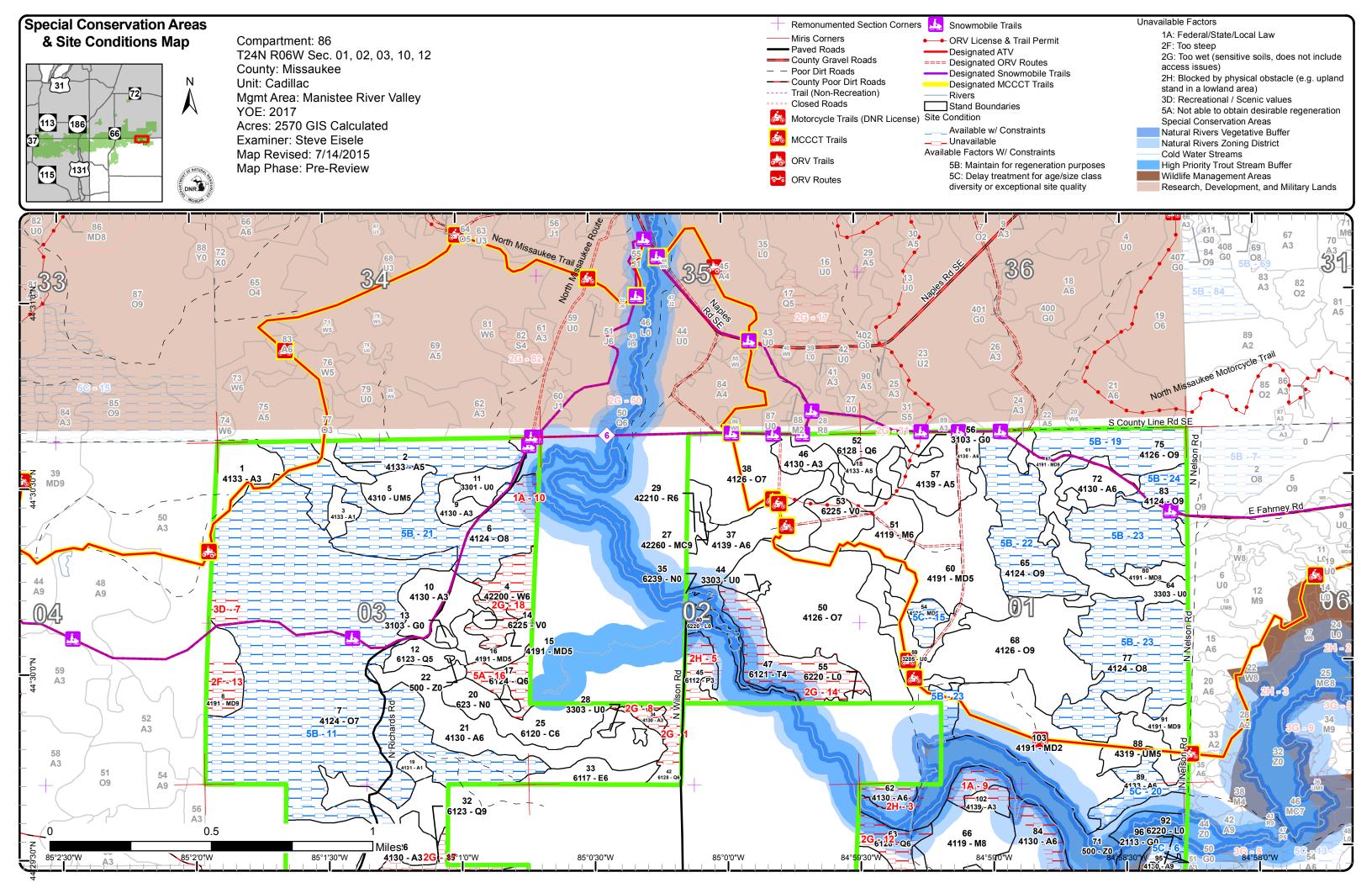
411 - Northern Hardwood 412 - Oak Types 413 - Aspen 419 - Mixed Upland Deciduous 422 - Natural Pines 430 - Upland Mixed Fores 611 - Lowland Deciduous Forest

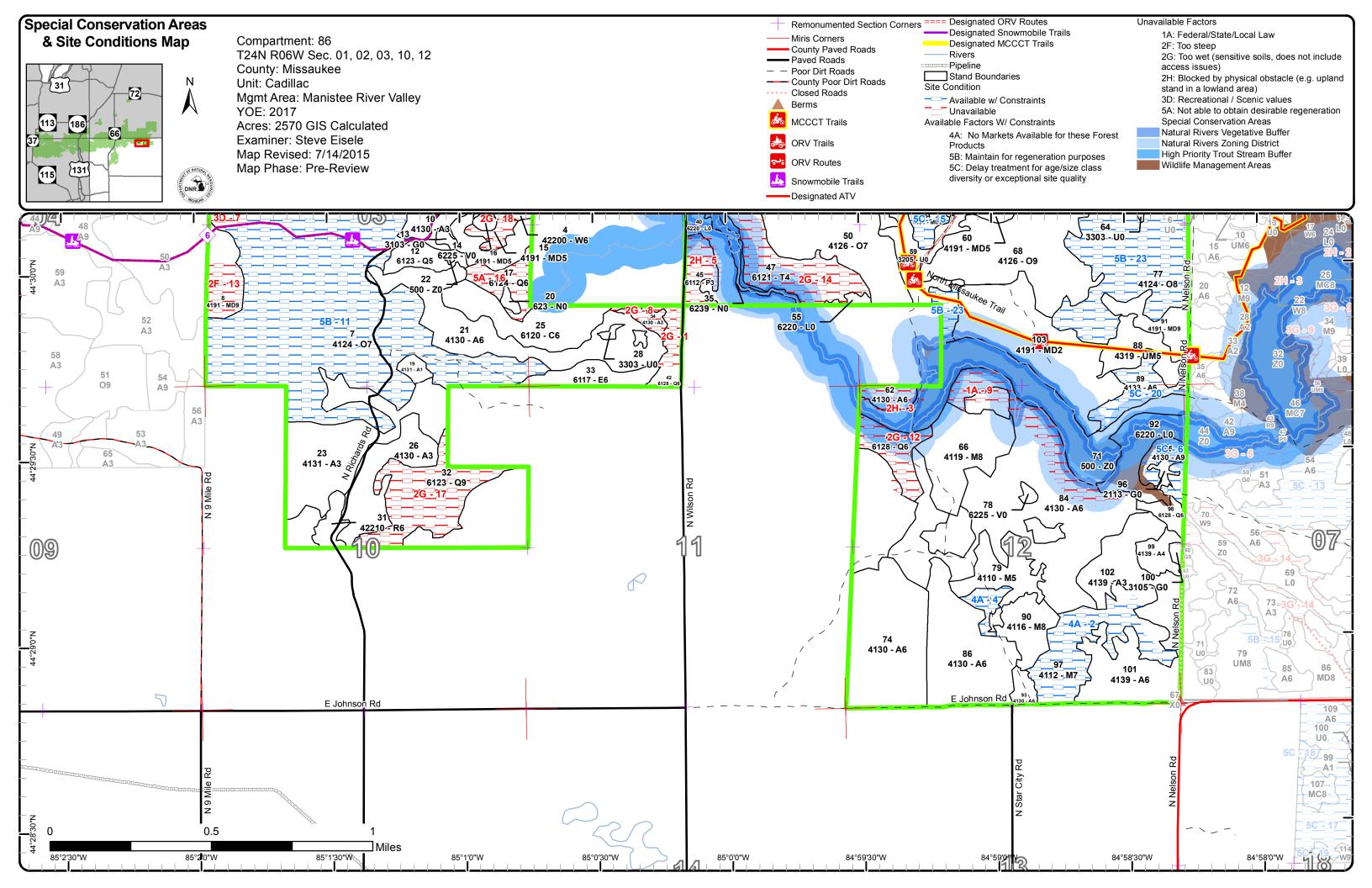
612 - Lowland Coniferous Forest

211 - Cropland 310 - Herbaceous Openland 320 - Upland Shrub 330 - Low Density Trees 500 - Water 622 - Lowland Shrub 623 - Emergent Wetland

Non-Forest Covertype







Compartment 86

Year of Entry 2017

DNR DNR

Cadillac Mgt. Unit
Steve Eisele : Examiner

#### Age Class

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	/	LOS C	/ 6 /	/ & /	/ & /	/ g /	\ \&\ \	, s /	/ & /	/ ~ /	/ & /	, 8 /	\ &\.	o /	/ & /	/ % /	/ \$2 /		N. A.
	<b>₹</b> og	<i>*</i> /	3 / 5		in de	, / ½		§   		8			, Z Z Z	,	, S. S.	N. LE		2. \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Notice Land
Aspen	0	75	128	269	0	65	180	29	0	0	0	0	0	0	0	0	0	0	746
Bog	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	33
Cropland	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Herbaceous Openland	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Low-Density Trees	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48
Lowland Aspen/Balsam Poplar	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Lowland Conifers	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	98	114
Lowland Deciduous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	15
Lowland Shrub	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48
Marsh	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Mixed Upland Deciduous	0	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	170	236
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
Northern Hardwood	0	0	0	0	0	65	17	47	0	0	0	0	0	0	0	0	0	70	199
Oak	0	0	0	0	0	0	0	0	0	12	651	0	0	0	0	0	0	248	911
Red Pine	0	0	4	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	11
Tamarack	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	39
Upland Mixed Forest	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	17	30
Upland Shrub	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
Water	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62
White Pine	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	15
Total	202	153	132	269	0	137	226	91	0	12	651	0	0	0	0	0	0	695	2568



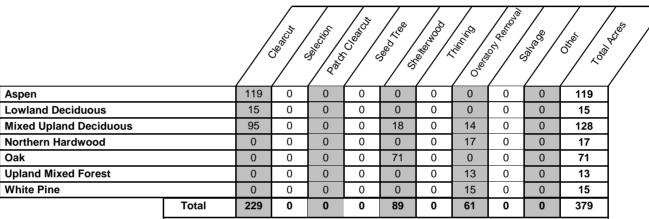
#### **Report 2 – Treatment Summary**

# Cadillac Mgt. Unit

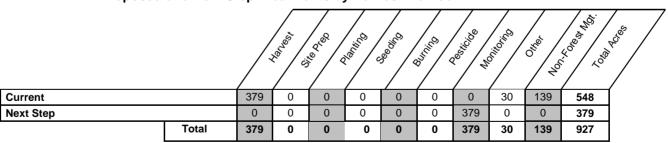
Compartment 86 Year of Entry: 2017 **Acres of Harvest** Total Compartment Acres: 2,570

> Commercial Harvest - 0 Harvests with Site Condition - 62 Next Step Harvest - 0 Habitat Cut - 169

#### **Cover Type by Harvest Method**



#### **Proposed and Next Step Treatments by Harvest Method**



Cadillac Mgt. Unit Report 4 -- Treatments Compartment: 86 s Year of Entry: 2017 t а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type** Age **Approval** n Name CoverType Density Age Range Type Method Objective Structure **Status** d 63086004-Cut 15.3 42200 - Natural Poletimber 65 81-110 42290 - Natural Even-Aged Harvest Overstory Proposal White Pine Well Removal Mixed Pine **Habitat Cut: No** Site Condition: Too Wet Prescription Overstory removal of log size pine, regen is well established Specs: Next Step Treatments: Acceptable Natural mixed pine Regen: Hummocky ground Old next step comments: Other Comment: **Proposed Start Date:** 10/1 /2016 63086005-Cut 4310 - Pine, Oak Overstory 42250 - Pine. 13.4 Poletimber 55 81-110 Harvest Uneven-Proposal Mix Medium Removal Oak Aged **Habitat Cut: No** Site Condition: Prescription Do an overstory removal of mature pine and oak. Mark a few mast oak to leave. regen is well established. Specs: Next Step Treatments: Acceptable Pine oak mix Regen: Other Old next step comments: Comment: **Proposed Start Date:** 10/1 /2016 63086008-Cut 85 17.7 4191 - Mixed Sawtimber 81-110 Harvest Shelterwood 4122 - Oak, Pine Uneven-Proposal Upland Deciduous \/\ell Aged with Conifer **Habitat Cut: No** Site Condition: Too Steep Prescription Do an oak shelterwood leave 70-80 ba. May want to cut with adjoining compartment due to small acreage Specs: **Treatments:** Acceptable Oak, Pine Regen:

Next Step

Filling in with white pine. Old next step comments: **Other** 

Comment:

10/1 /2016 **Proposed Start Date:** 

63086011-NF 15.1 3301 - Low Density Nonstocked 310 -Unspec NonForestMgt Other - Specify Proposal **Deciduous Trees** ified Herbaceous Openland

**Habitat Cut: Yes Site Condition:** 

Prescription Maintain as an opening. May include mowing, disking, fertilizing, planting, cutting brush, planting shrubs or other mast/cover species.

Specs:

Next Step Treatments:

<u>Acceptable</u>

Regen:

Other Old next step comments:

Comment:

Cadillac Mgt. Unit Report 4 -- Treatments Compartment: 86 s Year of Entry: 2017 t а **Treatment** Stand Size Stand BA **Treatment Treatment Cover Type** Acres Age **Approval** n Name CoverType Density Age Range Type Method Objective Structure **Status** d 63086013-NF 1.8 3103 - Rubus-Fern Nonstocked Unspec NonForestMgt Other - Specify 310 -13 Proposal ified Herbaceous Openland **Habitat Cut: Yes Site Condition:** Prescription Maintain as an opening. May include mowing, disking, fertilizing, planting, cutting brush, planting shrubs or other mast/cover species. Specs: Next Step Treatments: <u>Acceptable</u> Regen: Other Old next step comments: Comment: **Proposed Start Date:** 10/1 /2015 63086016-Cut 14.1 4191 - Mixed Poletimber 85 51-80 Clearcut with 4319 - Mixed Proposal Harvest Two-Aged **Upland Deciduous** Medium Retention **Upland Forest** with Conifer **Habitat Cut: No Site Condition:** Prescription 2 inch spec on all species except oak. Leave oak less than 8 inch dbh Specs: Next Step **Treatments:** Acceptable Mixed upland forest Regen: Other Old next step comments: Comment: **Proposed Start Date:** 10/1 /2016 18 63086018-Cut 4133 - Aspen, Poletimber 1-50 Harvest 4136 - Aspen, 5.8 50 Clearcut Even-Aged Proposal Mixed Pine Medium Mixed Conifer **Habitat Cut: No Site Condition:** Prescription Clearcut, leave a few pine along wet edge. Specs: Next Step Treatments: Acceptable Aspen mixed conifer Regen: Other Comment: winter harvest Old next step comments: **Proposed Start Date:** 10/1 /2016 63086028-NF 2.2 3303 - Mixed Low Nonstocked Unspec NonForestMgt Other - Specify 310 -Proposal **Density Trees** ified Herbaceous Openland **Habitat Cut: Yes Site Condition:** Prescription Maintain as an opening. May include mowing, disking, fertilizing, planting, cutting brush, planting shrubs or other mast/cover species. Specs:

Next Step

Treatments:

<u>Acceptable</u>

Regen: Other

Old next step comments:

Comment:

Cadillac Mgt. Unit Report 4 -- Treatments Compartment: 86 s Year of Entry: 2017 t а **Treatment** Stand Size Stand BA **Treatment Treatment Cover Type** Acres Age **Approval** n Name CoverType Density Age Range Type Method Objective Structure **Status** d 63086033-Cut 6117 - Lowland 1-50 Clearcut with 6118 - Lowland 33 14.6 Poletimber 75 Harvest Uneven-Proposal Deciduous, Mixed Well Retention Deciduous with Aged Coniferous Cedar **Habitat Cut: No Site Condition:** Prescription final harvest, leave cedar and low areas Specs: Next Step Treatments: Acceptable lowland deciduous with cedar Regen: Other Old next step comments: Comment: 10/1 /2016 **Proposed Start Date:** 63086044-NF 1.1 3303 - Mixed Low Nonstocked Unspec NonForestMgt Other - Specify 310 -Proposal **Density Trees** ified Herbaceous Openland **Habitat Cut: Yes Site Condition:** Prescription Maintain as an opening. May include mowing, disking, fertilizing, planting, cutting brush, planting shrubs or other mast/cover species. Specs: Next Step **Treatments:** Acceptable Regen: Other Old next step comments: Comment: **Proposed Start Date:** 10/1 /2016 63086056-NF 2.7 3103 - Rubus-Fern Nonstocked 310 -Unspec NonForestMqt Other - Specify Proposal ified Herbaceous Openland **Habitat Cut: Yes Site Condition:** Prescription Maintain as an opening. May include mowing, disking, fertilizing, planting, cutting brush, planting shrubs or other mast/cover species. Specs: Next Step **Treatments:** <u>Acceptable</u> Regen: **Other** Old next step comments: Comment: 10/1 /2015 **Proposed Start Date:** 63086059-NF 21.0 3205 - Mixed Unspec NonForestMgt Other - Specify 310 -Proposal Nonstocked Upland Shrub ified Herbaceous Openland **Habitat Cut: Yes Site Condition:** Prescription Maintain as an opening/upland shrub. May include mowing, disking, fertilizing, planting, cutting brush, planting shrubs or other mast/cover Specs: species.

Next Step **Treatments:** 

<u>Acceptable</u>

Regen:

Other

Old next step comments:

Comment:

10/1 /2016

**Proposed Start Date:** 

63086068-Cut 71.3 4126 - White, Sawtimber 90 51-80 4199 - Other Uneven-Proposal Harvest Shelterwood Black, N. Pin Oak Well Mixed Upland Aged

Deciduous

**Habitat Cut: No Site Condition:** 

Prescription Leave approx. 30-40 ba of oak. Do not cut any oak less than 8 inch dbh

Specs:

Next Step **Treatments:** 

Acceptable mixed upland deciduous

Regen:

Other Regen well established Old next step comments:

Comment:

Other Leave small island areas for retention. Regen well established but patchy in some areas Old next step comments:

Comment:

**Proposed Start Date:** 10/1 /2016

Sawtimber 63086091-Cut 14.5 4191 - Mixed 85 81-110 4122 - Oak, Pine Uneven-Proposal Harvest Overstory

> Upland Deciduous Well Removal Aged

with Conifer

**Habitat Cut: No Site Condition:** 

Prescription Remove oak and pine. Leave a few mast oak

Specs:

Next Step **Treatments:** 

Acceptable oak pine mix

Regen:

Other Old next step comments:

Comment:

Cadillac Mgt. Unit Report 4 -- Treatments Compartment: 86 s Year of Entry: 2017 t а **Treatment** Stand Size Stand BA **Treatment Treatment Cover Type** Acres Age **Approval** n Name CoverType Density Age Range Type Method Objective Structure **Status** d 63086095-Cut 11.5 4139 - Aspen, 95 4130 - Aspen Sawtimber 60 Unspec Harvest Clearcut with Even-Aged Proposal Well ified Retention Mixed Deciduous **Habitat Cut: No** Site Condition: Age-Class or Site Quality Prescription Clear cut areas you can get to. There will be a natural buffer just due to the wet edge. Also buffer rye field and Cannon flooding. Leave oak. Specs: Next Step Treatments: Acceptable Aspen mixed deciduous Regen: Other Old next step comments: Comment: Proposed Start Date: 10/1 /2016 63086096-NF 310 -2.4 2113 - Forage Crops Nonstocked Unspec NonForestMgt Other - Specify Proposal Herbaceous ified Openland **Habitat Cut: Yes Site Condition:** Prescription Maintain as an opening. May include mowing, disking, fertilizing, planting, cutting brush, planting shrubs or other mast/cover species. Specs: Next Step **Treatments:** <u>Acceptable</u> Regen: Other Old next step comments: Comment: **Proposed Start Date:** 10/1 /2015 101 63086101-Cut 33.6 4139 - Aspen, Poletimber 58 Unspec Harvest Clearcut with 4139 - Aspen, Two-Aged Proposal Mixed Deciduous Mixed Well ified Retention Deciduous **Habitat Cut: No** Site Condition: Prescription Clear cut solid aspen areas. Mark some larger oak for mast. Do not cut any oak less than 8 inch dbh Winter or Summer cut for Massasauga Specs: Next Step **Treatments:** Acceptable Aspen Mixed deciduous Regen: Other Old next step comments: Comment:

**Proposed Start Date:** 10/1 /2016

71 Cannons 2 0.7 500 - Water Nonstocked Unspec NonForestMgt Other - Specify 6239 - Mixed Proposal Emergent Dike ified

Wetland

**Habitat Cut: Yes** Site Condition: Blocked by Obstacle

Prescription Maintain dike and structure. Clear trees and brush using mechanical or chemical means.

Specs:

Next Step Treatments:

<u>Acceptable</u>

Regen:

Other Old next step comments:

Comment:

**Proposed Start Date:** 9 /9 /2015

Cadillac Mgt. Unit Report 4 -- Treatments Compartment: 86 s Year of Entry: 2017 t а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type Approval** Age n Objective CoverType Method d Name Density Age Range Type Structure **Status** 6239 - Mixed 71 Cannons 2 70.1 500 - Water Nonstocked Unspec NonForestMgt Water Level Proposal Emergent Flooding ified Management Wetland **Habitat Cut: Yes Site Condition:** Prescription Temporary or sustained drawdowns as needed for structure and habitat management. Dam name Cannons #2. Seeding possible in needed. Specs: Next Step Treatments: <u>Acceptable</u> Regen: <u>Other</u> Old next step comments: Comment: **Proposed Start Date:** 10/1 /2015 35 22.2 6239 - Mixed Unspec NonForestMgt 623 - Emergent Proposal Horseshoe Nonstocked Water Level **Emergent Wetland** ified Management Wetland Lake Flooding **Habitat Cut: Yes Site Condition:** Prescription This area is subject to water level manipulations at the private dam on Horseshoe lake to the northwest. Specs:

Next Step

Treatments:

<u>Acceptable</u> Regen:

Other Old next step comments:

Comment:

**Proposed Start Date:** 10/1 /2016

**Total Treatment** Acreage Proposed:

547.9

Compartment: 86

Cadillac Mgt. Unit

Steve Eisele : Examiner Year of Entry: 2017

Availa	ability for I	<b>Management</b>										
Total	Acres	Acres	D	omina	nt Site	e Con	dition	s				
Acres	Available	Not Available		1A	2F	2G	2H	3D	4A	5A	5B	5C
748	670	78	Aspen	31		4	7		6			29
6	6	0	Bog									
33	33	0	Cedar									
2	2	0	Cropland									
6	6	0	Herbaceous Openland									
48	48	0	Low-Density Trees									
12	0	12	Lowland Aspen/Balsam Poplar				12					
114	32	82	Lowland Conifers			69				13		
15	15	0	Lowland Deciduous									
48	46	2	Lowland Shrub				2					0
9	9	0	Marsh									
235	208	27	Mixed Upland Deciduous		12	8		0				8
5	5	0	Natural Mixed Pines									
198	158	40	Northern Hardwood			1			39			
911	215	697	Oak	5				5			686	
11	11	0	Red Pine									
39	0	39	Tamarack			39						
30	30	0	Upland Mixed Forest									
21	21	0	Upland Shrub									
62	60	3	Water				3					
15	0	15	White Pine			15						
2,569	1,575	995	Total Forested Acres	36	12	136	23	5	45	13	686	37
•	61%	39%	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.

	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	7	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						

Cadillac Mgt. Unit

Steve Eisele : Examiner

Compartment: 86 Year of Entry: 2017

	for these Forest Products	39	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Gather information	necessary to decide whether to	plant wh	nite pine, and where to pu	ıt it. Timber Mangement Sp	pecialist will survey	
Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	10	Unspecified	Unspecified	Unspecified	Unspecified
			uch and where) POS	T STAGE 2 ANALYSIS DE	EMED THAT INCREASIN	G WHITE PINE WAS
Available	4A: No Markets Available for these Forest Products	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Unit manager and	wildlife biologist concur no furth	er data n	eeded NO TREATMEN	IT AT THIS TIME.		
Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	14	Unspecified	Unspecified	Unspecified	Unspecified
Comments:						
Available	5C: Delay treatment for age/size class diversity or exceptional site quality	12	Unspecified	Unspecified	Unspecified	Unspecified
Comments: No further data nee	eded DECISION WAS MADE	AFTER	STAGE 2 ANALYSIS TC	HOLD THIS STAND.		
Unavailable	3D: Recreational / Scenic values	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Data gathered for I	arge stand to the east will be su	fficeint.	No treatment at this time.			
	Gather information Unavailable  Comments: Gather info necess NOT AN OBJECTI Available  Comments: Unit manager and Unavailable  Comments: Available  Comments: No further data necess Unavailable  Comments:	Unavailable 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)  Comments: Gather info necessary to decide to plant white pine NOT AN OBJECTIVE FOR THIS COMPARTMEN'  Available 4A: No Markets Available for these Forest Products  Comments: Unit manager and wildlife biologist concur no furthed by the stand in a lowland area)  Comments:  Available 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)  Comments:  Available 5C: Delay treatment for age/size class diversity or exceptional site quality  Comments:  No further data needed DECISION WAS MADE  Unavailable 3D: Recreational / Scenic values  Comments:	Unavailable 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)  Comments: Gather info necessary to decide to plant white pine (how me NOT AN OBJECTIVE FOR THIS COMPARTMENT.  Available 4A: No Markets Available for these Forest Products  Comments: Unit manager and wildlife biologist concur no further data no obstacle (e.g. upland stand in a lowland area)  Comments:  Available 5C: Delay treatment for 12 age/size class diversity or exceptional site quality  Comments:  No further data needed DECISION WAS MADE AFTER  Unavailable 3D: Recreational / Scenic 5 values  Comments:	Gather information necessary to decide whether to plant white pine, and where to pure the provided obstacle (e.g. upland stand in a lowland area)  Comments: Gather info necessary to decide to plant white pine (how much and where) POS NOT AN OBJECTIVE FOR THIS COMPARTMENT.  Available 4A: No Markets Available 6 Unspecified for these Forest Products  Comments: Unit manager and wildlife biologist concur no further data needed NO TREATMEN  Unavailable 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)  Comments:  Available 5C: Delay treatment for age/size class diversity or exceptional site quality  Comments:  No further data needed DECISION WAS MADE AFTER STAGE 2 ANALYSIS TO Unavailable 3D: Recreational / Scenic 5 Unspecified values  Comments:	Gather information necessary to decide whether to plant white pine, and where to put it. Timber Mangement Sp.  Unavailable 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)  Comments:  Gather info necessary to decide to plant white pine (how much and where) POST STAGE 2 ANALYSIS DENOT AN OBJECTIVE FOR THIS COMPARTMENT.  Available 4A: No Markets Available for these Forest Products  Comments:  Unit manager and wildlife biologist concur no further data needed NO TREATMENT AT THIS TIME.  Unavailable 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)  Comments:  Available 5C: Delay treatment for age/size class diversity or exceptional site quality  Comments:  No further data needed DECISION WAS MADE AFTER STAGE 2 ANALYSIS TO HOLD THIS STAND.  Unavailable 3D: Recreational / Scenic values  Unspecified  Unspecified	Gather information necessary to decide whether to plant white pine, and where to put it. Timber Mangement Specialist will survey—  Unavailable 2H: Blocked by physical obstacle (e.g., upland stand in a lowland area)  Comments: Gather info necessary to decide to plant white pine (how much and where) POST STAGE 2 ANALYSIS DEEMED THAT INCREASIN NOT AN OBJECTIVE FOR THIS COMPARTMENT.  Available 4A: No Markets Available for these Forest Products  Comments: Unit manager and wildlife biologist concur no further data needed NO TREATMENT AT THIS TIME.  Unavailable 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)  Comments:  Available 5C: Delay treatment for age/size class diversity or exceptional site quality  Comments:  No further data needed DECISION WAS MADE AFTER STAGE 2 ANALYSIS TO HOLD THIS STAND.  Unavailable 3D: Recreational / Scenic values  Comments:

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Cadillac Mgt. Unit

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8	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	7	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Make determination	during stage 2 if accesable a	nd if not to	o wet.			
9	Unavailable	1A: Federal/State/Local Law	31	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Only a portion of thi	s stand will be treated. No furt	her datat n	eeded.			
10	Unavailable	1A: Federal/State/Local Law	5	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Use stand 7 as an e	example of site and timber type	e after trea	tment.			
11	Available	5B: Maintain for regeneration purposes	343	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Oak overstory over	regen.					
12	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	18	Unspecified	Unspecified	Unspecified	Unspecified
(	Comments:						
13	Unavailable	2F: Too steep	12	Unspecified	Unspecified	Unspecified	Unspecified
(	Comments:						

Compartment: 86

Cadillac Mgt. Unit

Steve Eisele : Examiner Year of Entry: 2017

14	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	39	Unspecified	Unspecified	Unspecified	Unspecified
C	comments:						
15	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	8	Unspecified	Unspecified	Unspecified	Unspecified
C	comments:						
16	Unavailable	5A: Not able to obtain desirable regeneration	13	Unspecified	Unspecified	Unspecified	Unspecified
C	comments:						
17	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	43	Unspecified	Unspecified	Unspecified	Unspecified
C	comments:						
18	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	23	Unspecified	Unspecified	Unspecified	Unspecified
C	comments:						
19	Available	5B: Maintain for regeneration purposes	33	Unspecified	Unspecified	Unspecified	Unspecified
C	Comments:						

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20	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	18	Unspecified	Unspecified	Unspecified	Unspecified
C	Comments:						
21	Available	5B: Maintain for regeneration purposes	119	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Dak overstory ove	r regen.					
22	Available	5B: Maintain for regeneration purposes	54	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Dak overstory ove	r regen.					
23	Available	5B: Maintain for regeneration purposes	125	Unspecified	Unspecified	Unspecified	Unspecified
_	Comments: Dak overstory ove	r regen.					
24	Available	5B: Maintain for regeneration purposes	12	Unspecified	Unspecified	Unspecified	Unspecified
_	Comments: Dak overstory ove	r regen.					

Mgt. Unit

Compartment: #Type! Year of Entry:



#### 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: 86
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# 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.

Conservation Area	n Type	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen cond 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.	ies (e.g., slimy sculpin) to persist from see conditions due to substantial
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated fo include the 5,847 acre Forest Fire Experiment Station, the 12,00 Area, the Beaver Islands Archipelago Wildlife Research Area (th High and Hog Islands, all state owned land on Beaver, South Fo Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Re Nursery, and over 144,000 acres of Military Lands.	0 acre Houghton Lake Wildlife Research at includes most of Garden Island, all of x and North Fox Islands), the Cusino
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 communities are ecologically and socially significant in their efferas aesthetics, habitat, bank stability, timber production, and their	e unique conditions adjacent to lakes, diversity of plants and wildlife. Riparian cts on water quality and quantity, as well
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spapproved distance from the river centerlines. The Natural Rivers most Natural Rivers. The Vegetative Buffer ranges from 25 to 10 and Vegetative Buffers for each Natural River see the table locat folder.	S Zoning District is a 400 foot buffer for 00 feet. To view specific Zoning Districts

S	Cadillad	: Mgt. Unit		Report 8	- Forested	Stands Compartment: 86 Year of Entry: 2017
t a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4133 - Aspen, Mixed Pine	Sapling Well	19.9	26	Immature	Some open areas. Cut in 89, getting to pole size.
2	4133 - Aspen, Mixed Pine	Poletimber Medium	5.4	26	Unspecified	Same as 1 and 3
3	4133 - Aspen, Mixed Pine	Sapling Poor	6.3	26	Unspecified	Same as 1 and 2
4	42200 - Natural White Pine	Poletimber Well	15.3	65	81-110	
5	4310 - Pine, Oak Mix	Poletimber Medium	13.4	55	81-110	Do an overstory removal or diameter cut. Remove all log size trees marking a few mast oak to leave. Release established regen. Stand is going to white pine
6	4124 - Red with White Oak	Sawtimber Medium	124.3	90	1-50	Treated with sale 63-047-07-01 Residual oak looks healthy.
7	4124 - Red with White Oak	Sawtimber Poor	348.2	90	51-80	Regen finally coming in with some patches of solid oak.  Overstory residual oak still looks healthy with a few being stolen for firewood. Look at an overstory removal next time when regen is well established.
8	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	17.7	85	81-110	Do an oak shelterwood leave 70 to 80 ba. This stand is a hillside will have to build a road or skid trail in to it. May treat with adjoining compartment due to small acreage.
9	4130 - Aspen	Sapling Well	8.6	4	Immature	Bottom of hill, but not wet. Treated with sale 63-043-07-01
10	4130 - Aspen	Sapling Well	25.8	17	Unspecified	Cut in 98 came back mostly solid but a few patchy spots.  Scattered red oak log trees left.
12	6123 - Lowland Fir	Poletimber Medium	10.3	50	51-80	
15	4191 - Mixed Upland Deciduous with Conifer	Poletimber Medium	7.7	50	1-50	
16	4191 - Mixed Upland Deciduous with Conifer	Poletimber Medium	14.1	85	51-80	
17	6124 - Lowland Spruce- Fir	Poletimber Well	13.2	90	51-80	Very wet, low coniferious, deer yard area. High amount of Balsam/ spruce
18	4133 - Aspen, Mixed Pine	Poletimber Medium	5.8	50	1-50	Some scattered monarch pine. Winter final harvest to promote better sprouting. leave some larger pine for retention.
19	4131 - Aspen, Oak	Sapling Poor	3.8	18	Unspecified	Final harvest area from previous oak sale. Almost non forested, just enough coming back in to have canopy. Patchy regen

s t	Level 4	Mgt. Unit		Report 8	- Forested	Stands Compartment: 86 Year of Entry: 2017
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
21	4130 - Aspen	Poletimber Well	57.9	26	Unspecified	cut in 89 just getting to pole size came back solid
23	4131 - Aspen, Oak	Sapling Well	95.1	26	Immature	Cut in 89 just getting to pole size. Good mix of species. Some open areas
25	6120 - Lowland Cedar	Poletimber Well	32.6	100	81-110	West end not as much subcanopy and more log size trees.
26	4130 - Aspen	Sapling Well	37.4	18	Unspecified	Cut in 97 solid aspen getting to pole size
27	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	5.3	60	81-110	Natural pine stand, I small acreage.
29	42210 - Natural Red Pine	Poletimber Well	3.8	18	51-80	
31	42210 - Natural Red Pine	Poletimber Well	7.3	42	81-110	
32	6123 - Lowland Fir	Sawtimber Well	43.2	70	141-170	Deer yard.
33	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	14.6	75	1-50	Some low spots with humocky ground. Thick Balsam understory. A few Wp super canopy. Deer yard. Some blowdown.
34	4130 - Aspen	Sapling Well	4.4	5	Immature	Final harvested with sale # 008-09-02
37	4139 - Aspen, Mixed Deciduous	Poletimber Well	24.6	45	Unspecified	Some areas solid aspen. East end solid black cherry.
38	4126 - White, Black, N. Pin Oak	Sawtimber Poor	47.4	90	1-50	Salvaged dead and dying oak.Stand was cut with sale #63- 027-09-01
42	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	11.7	90	81-110	Varies alot. Cedar patchs, alder patchs, mix hdwd areas, old over topping aspen. alot of dead and down-hard to walk thru. All low and wet. Deer yard under cedar spots. small flowing creek near main rd. on east side.
45	6112 - Lowland Aspen	Sapling Well	11.9	5	Unspecified	Treated with sale #008-09-02
46	4130 - Aspen	Sapling Well	9.9	5	Immature	Cut in 2010 came back pretty solid.
47	6121 - Tamarack	Poletimber Poor	38.7	85	1-50	Wet Tamarack/conifer sparse canopy, multi layers
50	4126 - White, Black, N. Pin Oak	Sawtimber Poor	93.4	90	1-50	Stand was cut with sale #63-027-09-01

S t	Cadillac	: Mgt. Unit		Report 8	- Forested	Stands Compartment: 86 Year of Entry: 2017
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
51	4119 - Mixed Northern Hardwoods	Poletimber Well	38.9	45	51-80	Recovering "upland brush." Lot of poor quality scattered black cherry ploles along with scattered aspen clones.
52	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	12.9	90	81-110	Large diameter Wp with areas of alder, low, wet. Some areas of solid cedar. Ridge areas have the pine.
54	4191 - Mixed Upland Deciduous with Conifer	Poletimber Medium	15.1	80	51-80	Hilltop/ridge surrounded by open, shallow valleys.
57	4139 - Aspen, Mixed Deciduous	Poletimber Medium	27.2	45	Unspecified	
60	4191 - Mixed Upland Deciduous with Conifer	Poletimber Medium	81.3	55	Unspecified	A difficult stand to categorize. A recovering upland brush area.  Mostly smallish aspen growing amidst black cherry.
61	4130 - Aspen	Poletimber Well	5.6	45	Unspecified	Still healthy and growing well, leave until next year of entry
62	4130 - Aspen	Poletimber Well	6.9	15	Immature	Stand treated and closed in 2000
63	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	17.0	55	111-140	
65	4124 - Red with White Oak	Sawtimber Well	54.0	90	51-80	Treated with sale #39-07 Left pole size maple along with sawlog oak marked green to leave. Good regen of aspen, maple and oak coming in.
66	4119 - Mixed Northern Hardwoods	Sawtimber Medium	69.5	45	51-80	Very patchy. Open savannah areas
67	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	12.5	65	81-110	Very mixed stand of sizes and species. Good corridor stand right now between recent cuts. Treat next yoe
68	4126 - White, Black, N. Pin Oak	Sawtimber Well	71.3	90	51-80	
72	4130 - Aspen	Poletimber Well	15.1	27	Unspecified	Transitioning to pole size aspen stand
74	4130 - Aspen	Poletimber Well	65.6	27	Unspecified	
75	4126 - White, Black, N. Pin Oak	Sawtimber Well	35.3	90	51-80	Very low quality overall. Some super canopy pine. Filling in with wp saps.
77	4124 - Red with White Oak	Sawtimber Medium	125.1	90	1-50	Treated with sale # 39-07 Left sawlog oak and pine. Good regen of maple aspen and oak coming in
79	4110 - Sugar Maple Association	Poletimber Medium	25.8	40	51-80	Savannah type open stand with mostly black cherry trees.

S t	Cadillad	: Mgt. Unit		Report 8	- Forested	Stands Compartment: 86 Year of Entry: 2017
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
80	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Medium	6.5	65	51-80	Scattered open pockets of wp /bc. some sawlog oak.
83	4124 - Red with White Oak	Sawtimber Well	12.3	80	81-110	Stand recently thinned (1999 permit). Oak was thinned aspen and maple removed.
84	4130 - Aspen	Poletimber Well	140.6	55	Unspecified	Treat whole stand but leave some islands of smaller diameter areas. There are some open areas that naturally won't be treated. Site condition along flooding is buffer area, do not treat.
86	4130 - Aspen	Poletimber Well	54.0	16	Unspecified	Cut in 99
88	4319 - Mixed Upland Forest	Poletimber Medium	16.9	45	1-50	Multiple Hawthorne beds, good for wildlife. White pine filling in.
89	4133 - Aspen, Mixed Pine	Poletimber Well	17.6	60	Unspecified	Treat leaving smaller diameter oak. Buffer flooding on south
90	4116 - Mixed N. Hardwood - Aspen	Sawtimber Medium	17.3	55	51-80	Similar to stand 101. Open areas through out stand Maple is Clumpy with multiple stems
91	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	14.5	85	81-110	Do an overstory removal of oak and pine. Regen well established
93	4130 - Aspen	Poletimber Well	4.7	27	Immature	
95	4130 - Aspen	Sawtimber Well	11.5	60	Unspecified	Kind of an edge stand along flooding also borders rye field.
97	4112 - Maple, Beech, Cherry Association	Sawtimber Poor	46.6	60	1-50	Open savannah type stand
98	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	5.7	55	Unspecified	Wet.
99	4139 - Aspen, Mixed Deciduous	Poletimber Poor	8.3	45	Unspecified	Open scattered, kind of a retention stand left from adjoining recent cut.
101	4139 - Aspen, Mixed Deciduous	Poletimber Well	33.6	58	Unspecified	A lot of open areas Low quality timber.
102	4139 - Aspen, Mixed Deciduous	Sapling Well	52.6	6	Unspecified	Treated with sale #63-032-07-01 Came back thick to aspen and maple Some scattered saw log oak left.
103	4191 - Mixed Upland Deciduous with Conifer	Sapling Medium	65.8	7	1-50	Treated with sale #59-07 Solid buffer left along flooding.

## Report 9 - Nonforested Stands

Compartment: 86 Year of Entry: 2017



Stand	Cover Type	Acres	Managed Site	General Comments:
11	3301 - Low Density Deciduous Tree	15.1	No	Still open but filling in with mostly white pine. Could be a wildlife opening with a little effort. Slight hill
13	3103 - Rubus-Fern	1.8	No	
14	6225 - Bog	2.0	No	
20	623 - Emergent Wetland	1.7	No	Creek running through, some cattails. Interesting to see cedar seedlings not browsed.
22	500 - Water	0.3	No	vernal pond
28	3303 - Mixed Low Density Trees	2.2	No	Grassy openings within an aspen stand, old turn around area from previous sale.
35	6239 - Mixed Emergent Wetland	7.6	No	Cannon creek/flooding
40	6220 - Alder/willow	23.1	No	
44	3303 - Mixed Low Density Trees	1.1	No	
53	6225 - Bog	2.0	No	Leather leaf hummocky
55	6220 - Alder/willow	2.2	No	
56	3103 - Rubus-Fern	2.7	No	Mostly bracken fern, some sweet fern. Could be a wildlife opening with some work.
59	3205 - Mixed Upland Shrub	21.0	No	Good candidate to make some wildlife openings. Easy access
64	3303 - Mixed Low Density Trees	29.7	No	Open area but starting to fill in with black cherry and oak
71	500 - Water	62.1	No	Cannons Flooding number 2.
78	6225 - Bog	1.6	No	Low area in middle of aspen stand
92	6220 - Alder/willow	22.9	No	Creek runs through
96	2113 - Forage Crops	2.4	Yes	Ruthann's rye field.

Cadillac Mgt. Unit

## Report 9 - Nonforested Stands

Compartment: 86 Year of Entry: 2017



Stand	Cover Type	Acres	Managed Site	General Comments:
100	3105 - Mixed Upland Herbaceous	1.6	No	Old norwich dump. (abandoned)