

Compartment Review Presentation

Cadillac Forest Management Unit

Compartment 63036 Entry Year 2020

Acreage: 1,933
County Osceola

Management Area: Evart Block

Revision Date: 2018-06-11

Stand Examiner: Cheryl Nelson

Legal Description:

T17N R07W, Sections 1, 2 T17N R08W, Sections 8, 17, 18

T18N R07W, Sections 1, 2, 11, 12, 13, 24

T19N R10W, Section 5

T20N R10W, Sections 1, 2, 8, 11, 32

Identified Planning Goals:

Vegetation management in the Evart Block 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 this 10-year planning period years will focus on balancing the age-class distributions for aspen and regenerating 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 the need to regenerate oak, the need to continue to balance aspen age classes, the need to diversify forest cover types and an increase in recreation pressure.

Soil and topography:

The topography in this compartment ranges from rolling hills to flat marshland. Soils in this area are Mcbride, Montcalm and Kalkaska.

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

This compartment is scattered throughout Osceola County and has private land around all sides of the various blocks of state land. There are three exceptions in which state land adjoins compartment 36, in the northwest a chunk of compartment 36 adjoins compartment 142 in Wexford County. On the east side of Osceola County two areas of the compartment border state land in Clare County.

Unique Natural Features:

Blanding's turtle have been documented to the East and Northeast. Red-shouldered hawk have been seen to the west and north. Grasshopper sparrows have been documented to the south. Other species spotted near the compartment include Northern goshawk to the west and northwest, Loon to the east and southeast, Bald eagle to the southeast, Wood turtle to the northwest. The compartment has potential for red-shouldered hawk and goshawk. There also is potential for ebony boghaunter and secretive locust in bogs. The compartment also has potential for Blanding's turtle, eastern Massasauga, eagle, osprey, and great blue heron rookery.

Archeological, Historical, and Cultural Features:

None known

Special Management Designations or Considerations:

Visual management is important in this compartment due to large frontages on major highways. Age class distribution can not be developed in most areas because of there small size and isolated nature of most of the compartment.

Watershed and Fisheries Considerations:

The Pine River and Muskegon River watersheds are within this compartment. No known problems or special considerations.

Wildlife Habitat Considerations:

Featured wildlife species in this Management Area are pileated woodpecker, ruffed grouse, and white-tailed deer. All three may be found in this compartment and a compatible with existing management on the unit which results in a diversity of age classes and habitat types. Treatment decisions should be made with the current habitat conditions on the adjacent private land taken into consideration as this compartment is made up of many small parcels surrounded by private lands.

Mineral Resource and Development Concerns and/or Restrictions

Sand/ gravel pits are not located in this area. There appears to be some sand potential within the compartment on the uplands. The nearest oil & gas production, past or present, is located more than three miles away. There is currently no active mineral leasing in the area and oil & gas potential is considered low at this time. There is no known metallic mineral potential in this part of the state. The state does not own all of the mineral rights within Sec 11. Private mineral rights owners must be provided reasonable access to the land should they choose to explore and/or develop the minerals.

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:

Recreational Facilities and Opportunities:

Most of this compartment has water frontage along rivers and lakes as a result these areas are used as undeveloped access sites. The compartment is also used for hunting, fishing and trapping as well.

Fire Protection:

Some areas have limited county road access, but most of the terrian is favorable for fire equipment access. There are numerous urban interface areas within the compartment. BET 6-4-2018

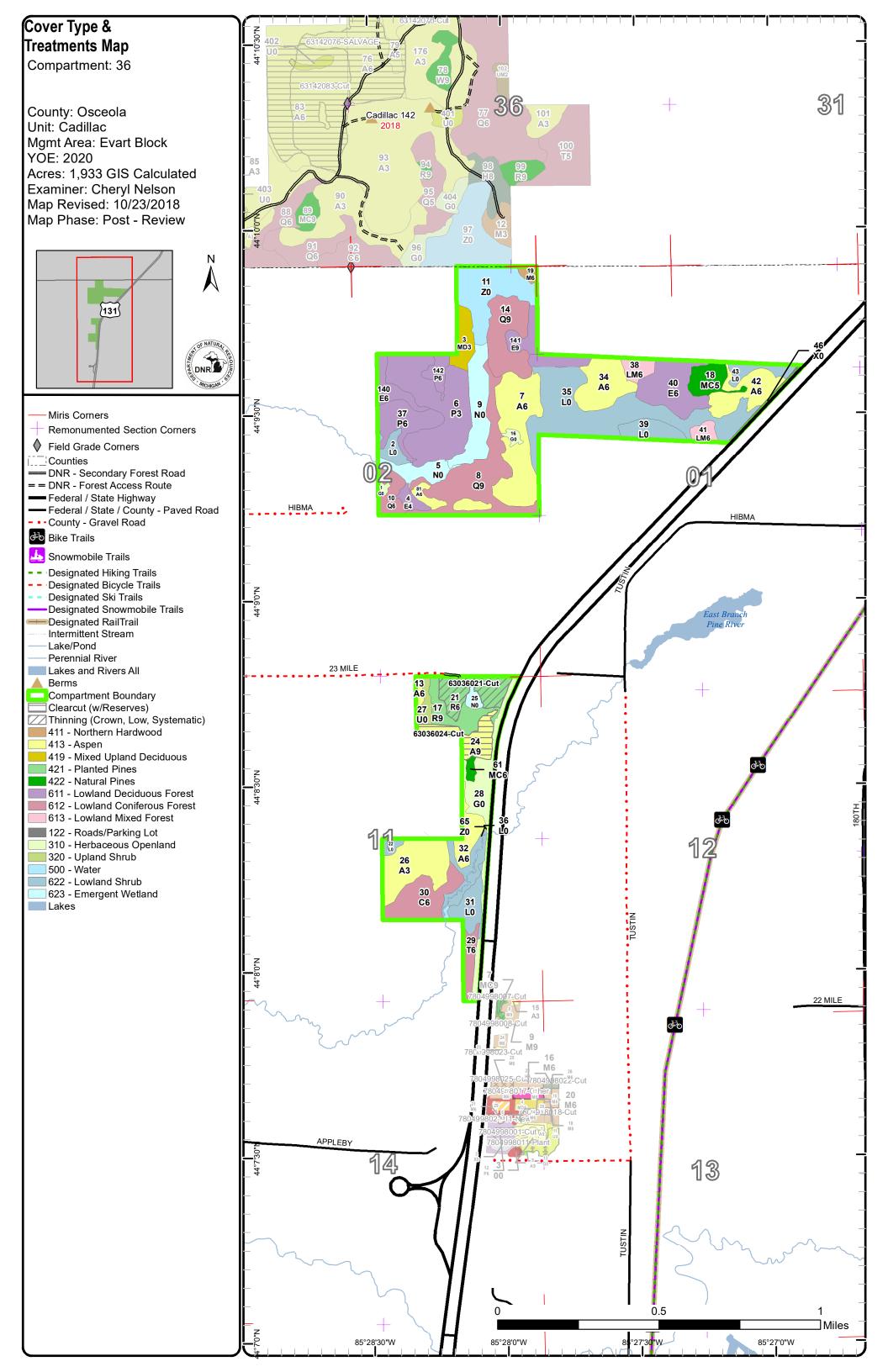
Additional Compartment Information:

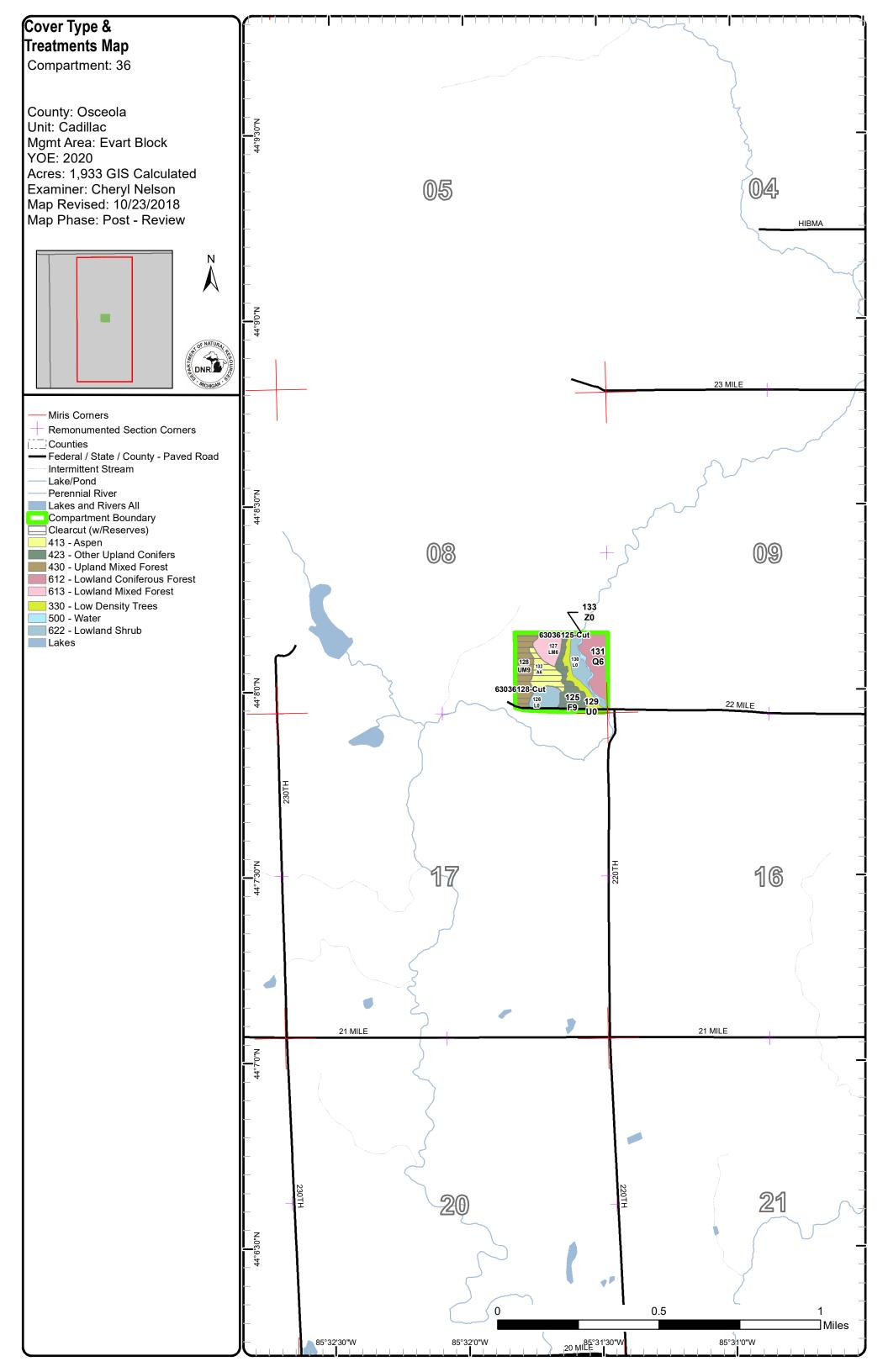
The following reports from the Inventory are attached:

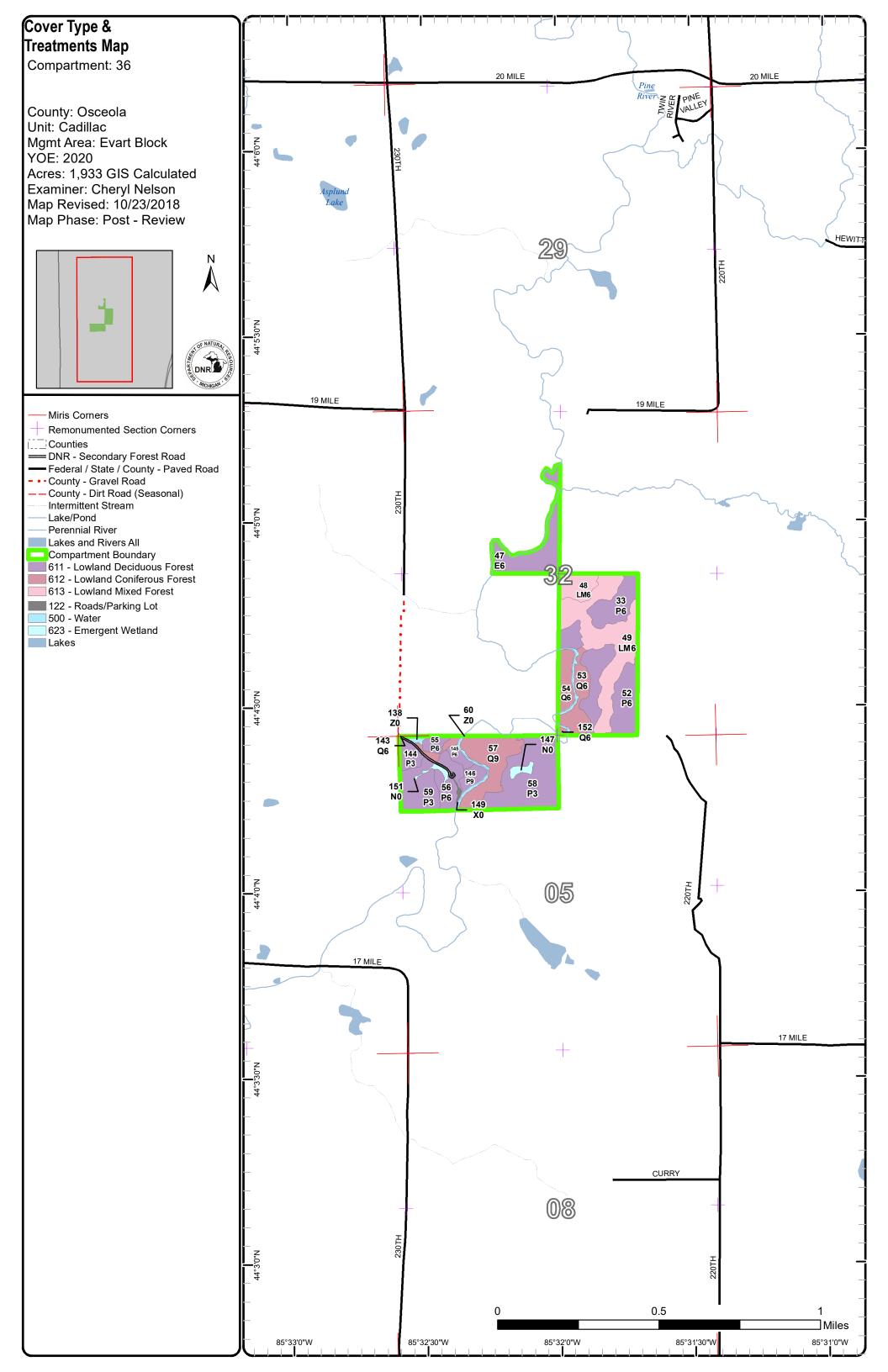
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

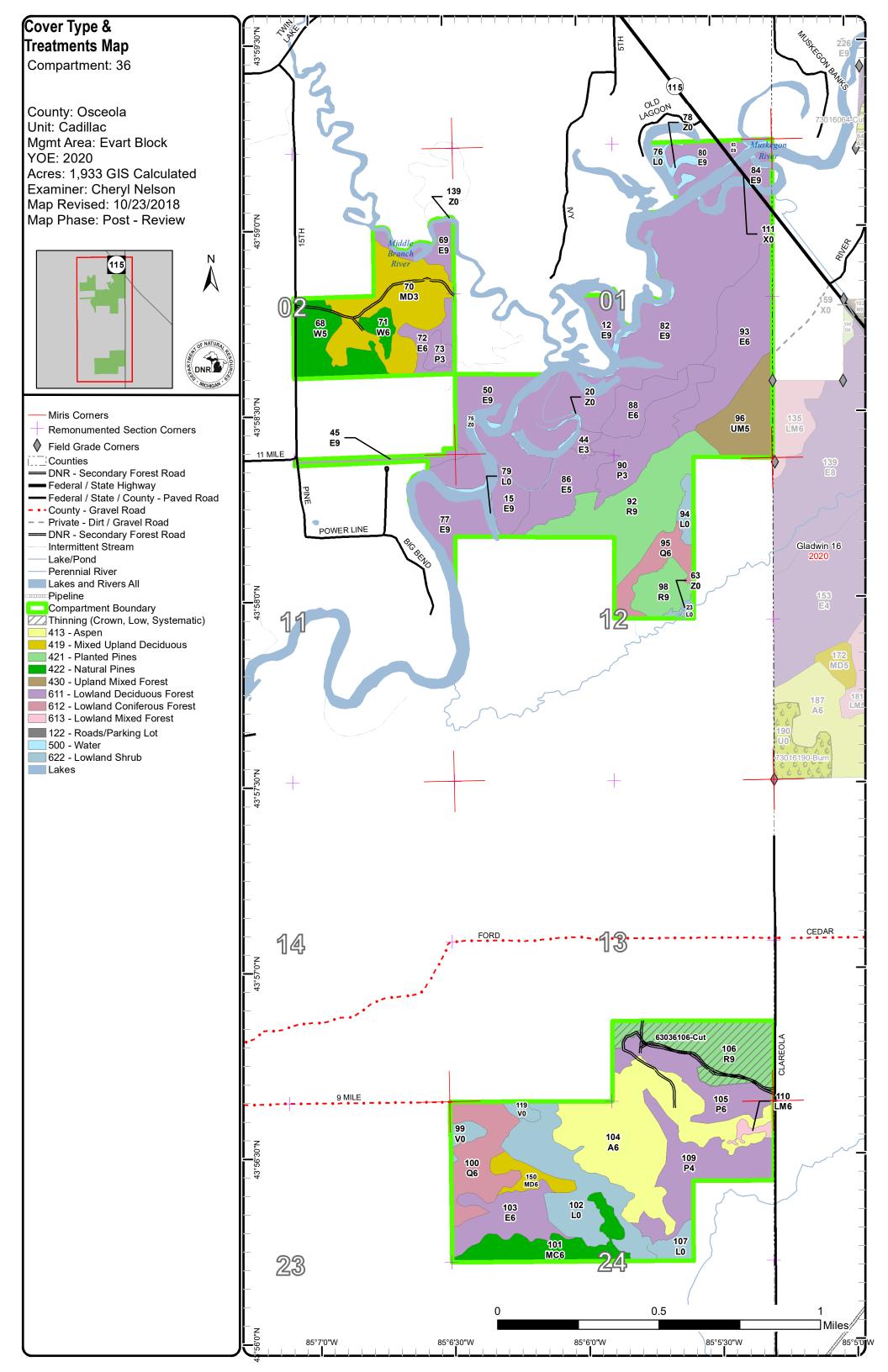
The following information is displayed, where pertinent, on the attached compartment maps:

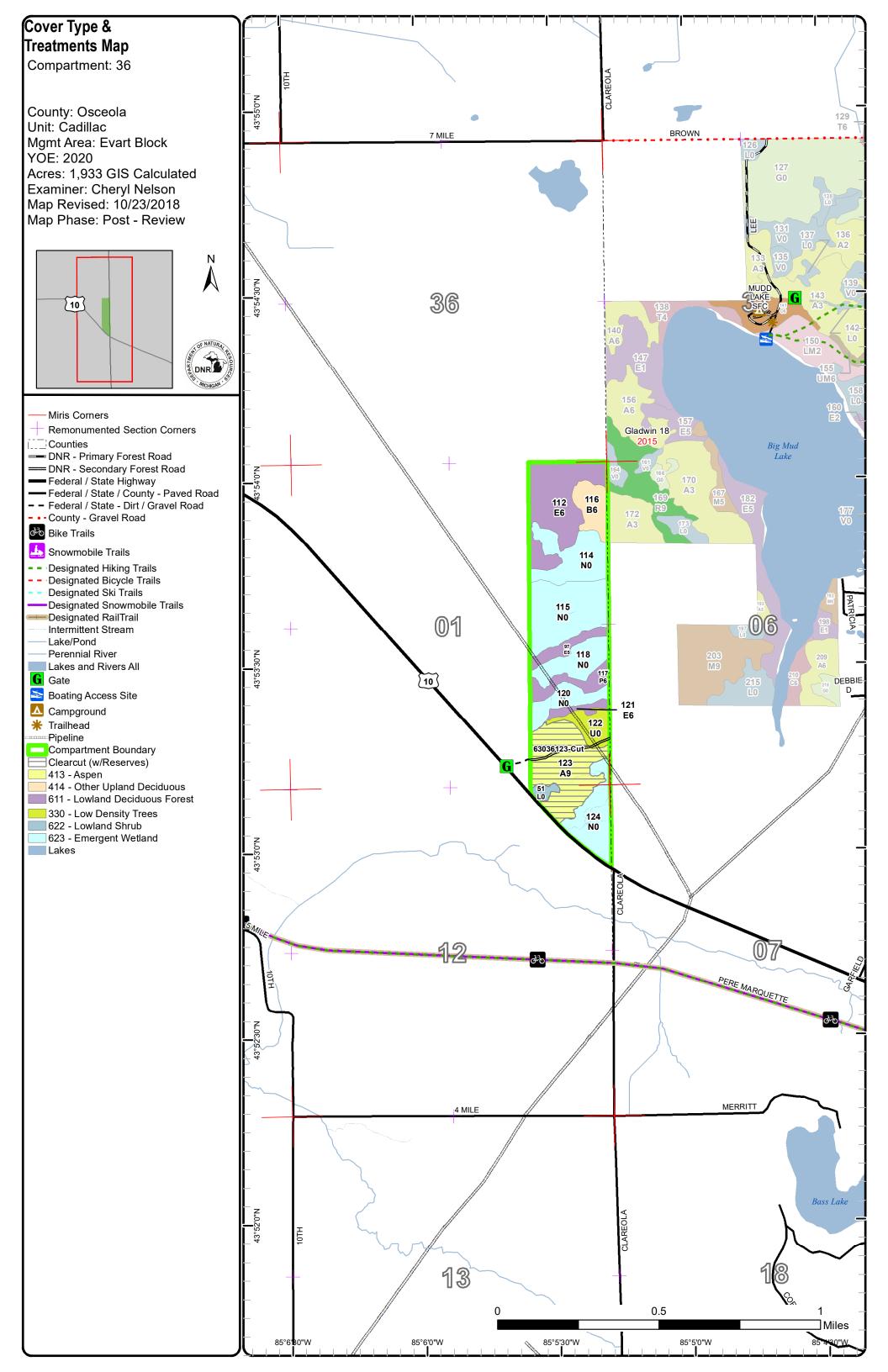
Base feature information, stand boundaries, cover types, and numbers Proposed treatments
Site condition boundaries
Details on the road access system

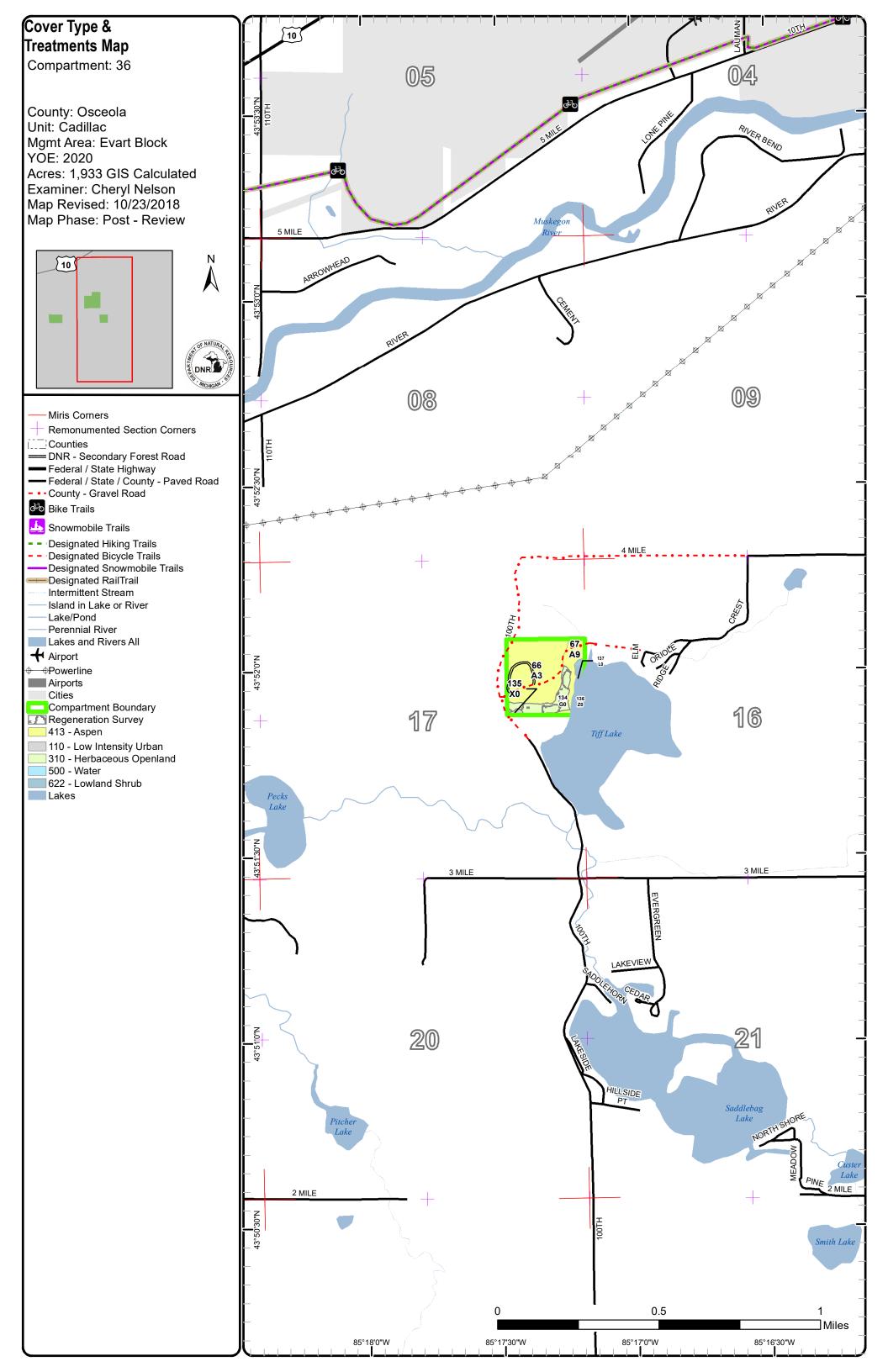


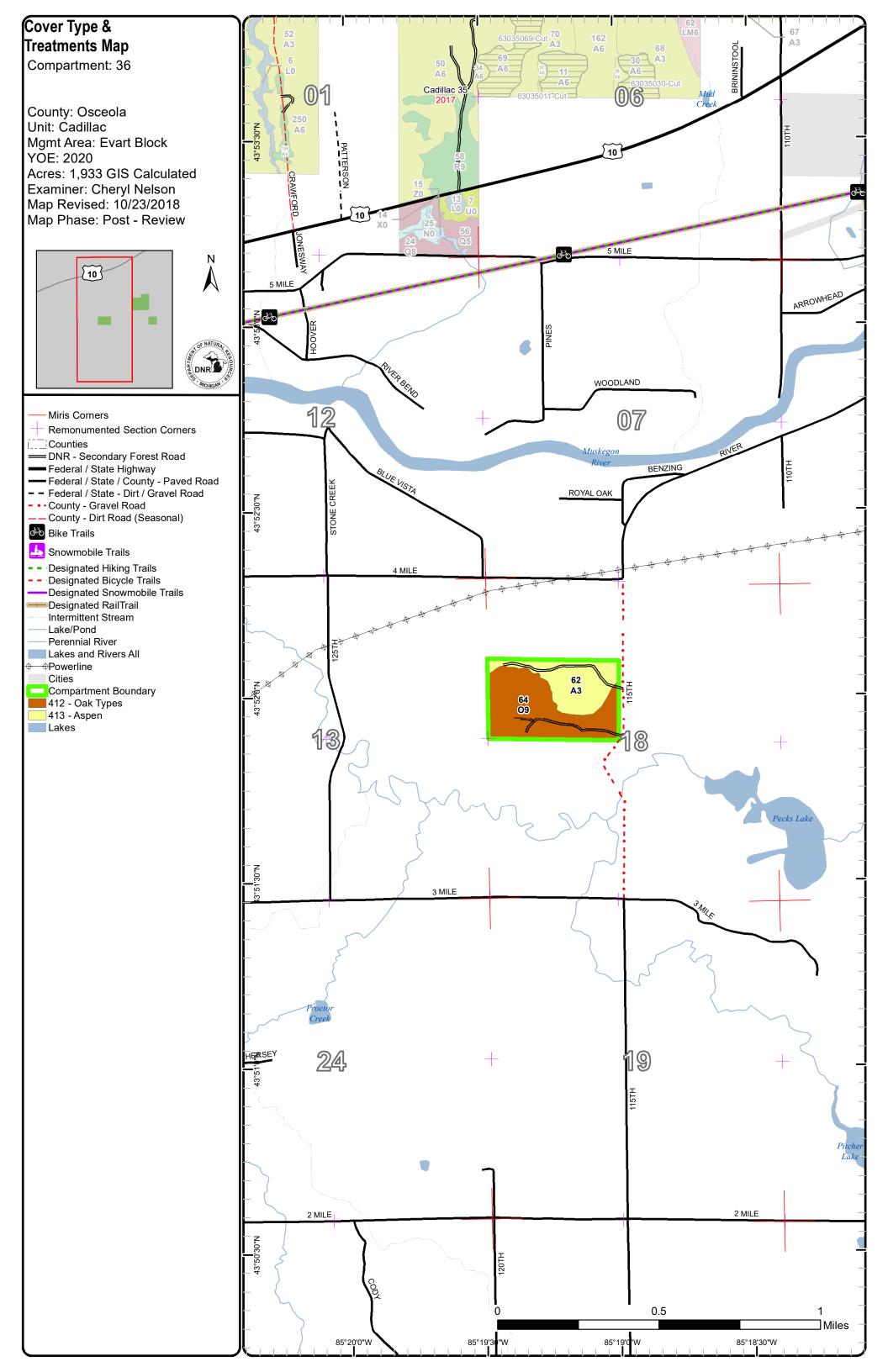


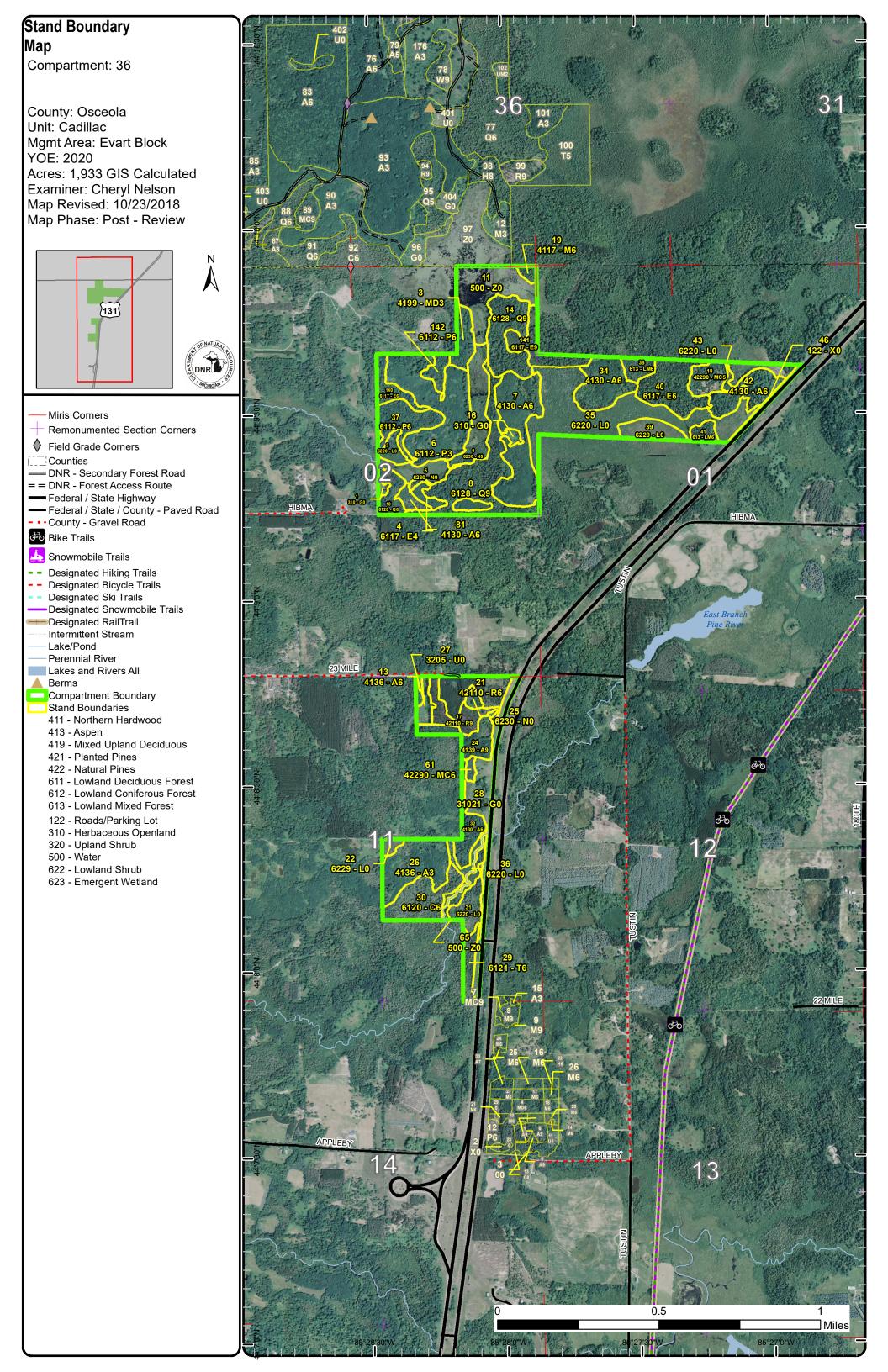


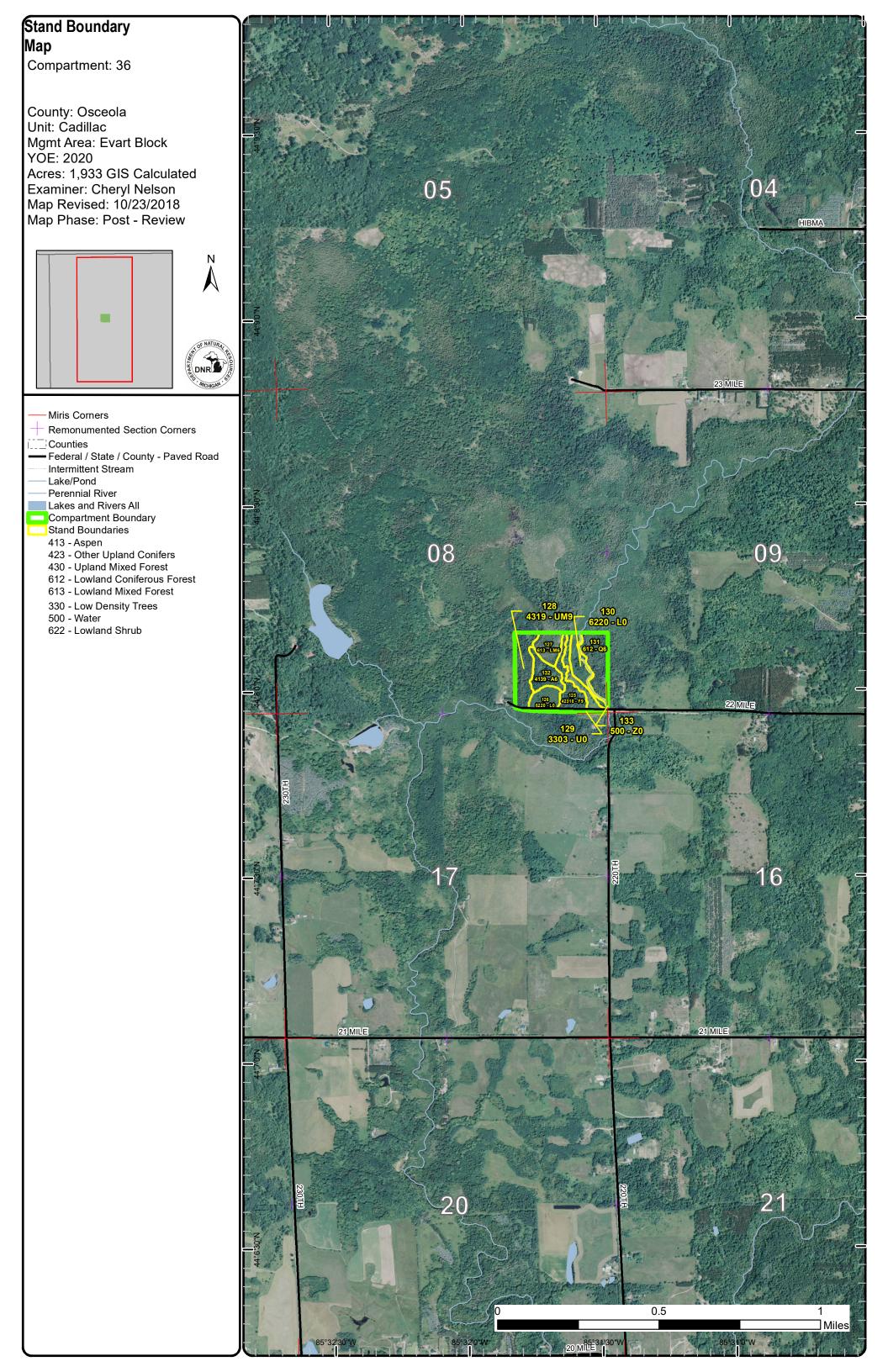


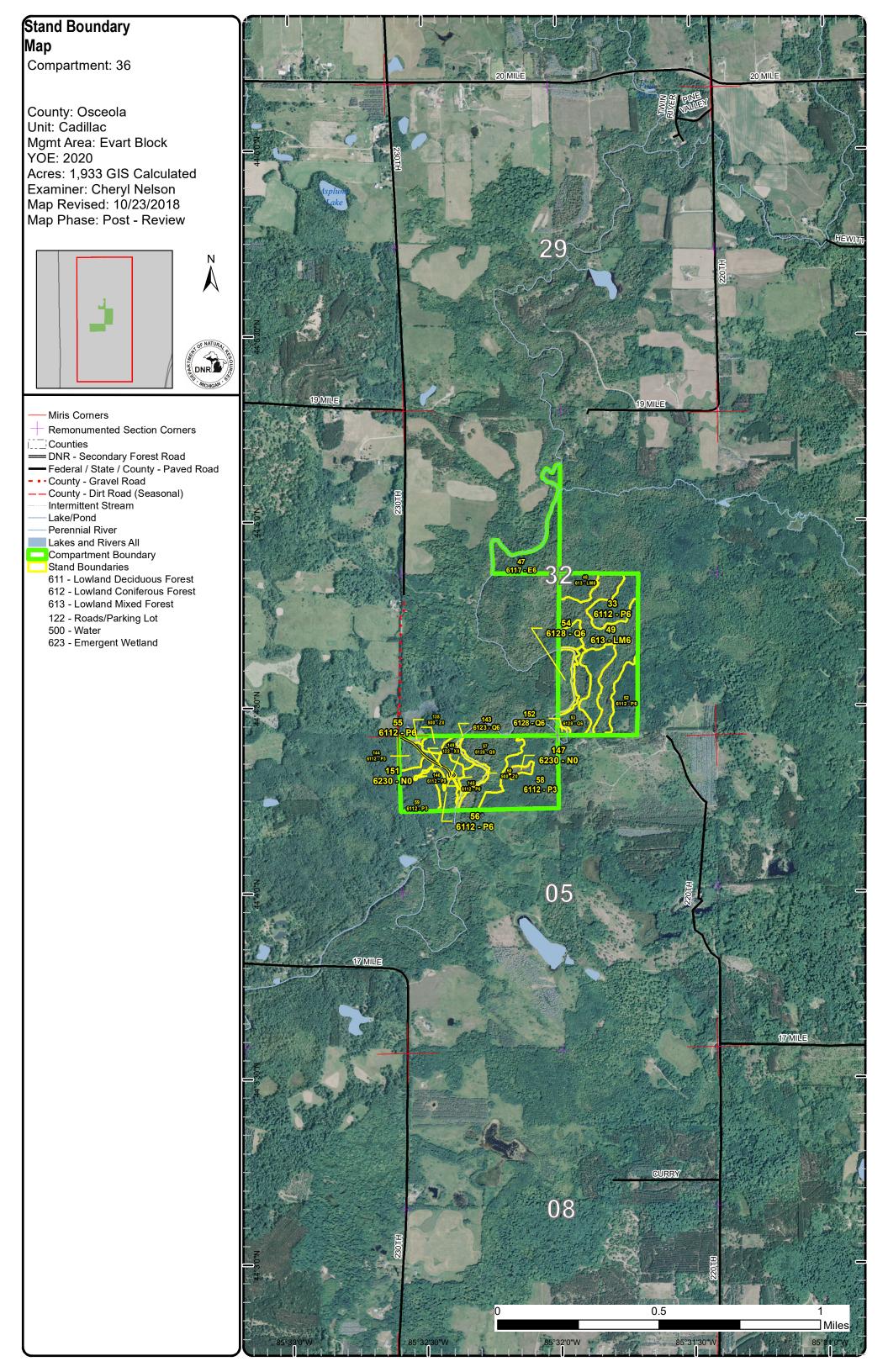


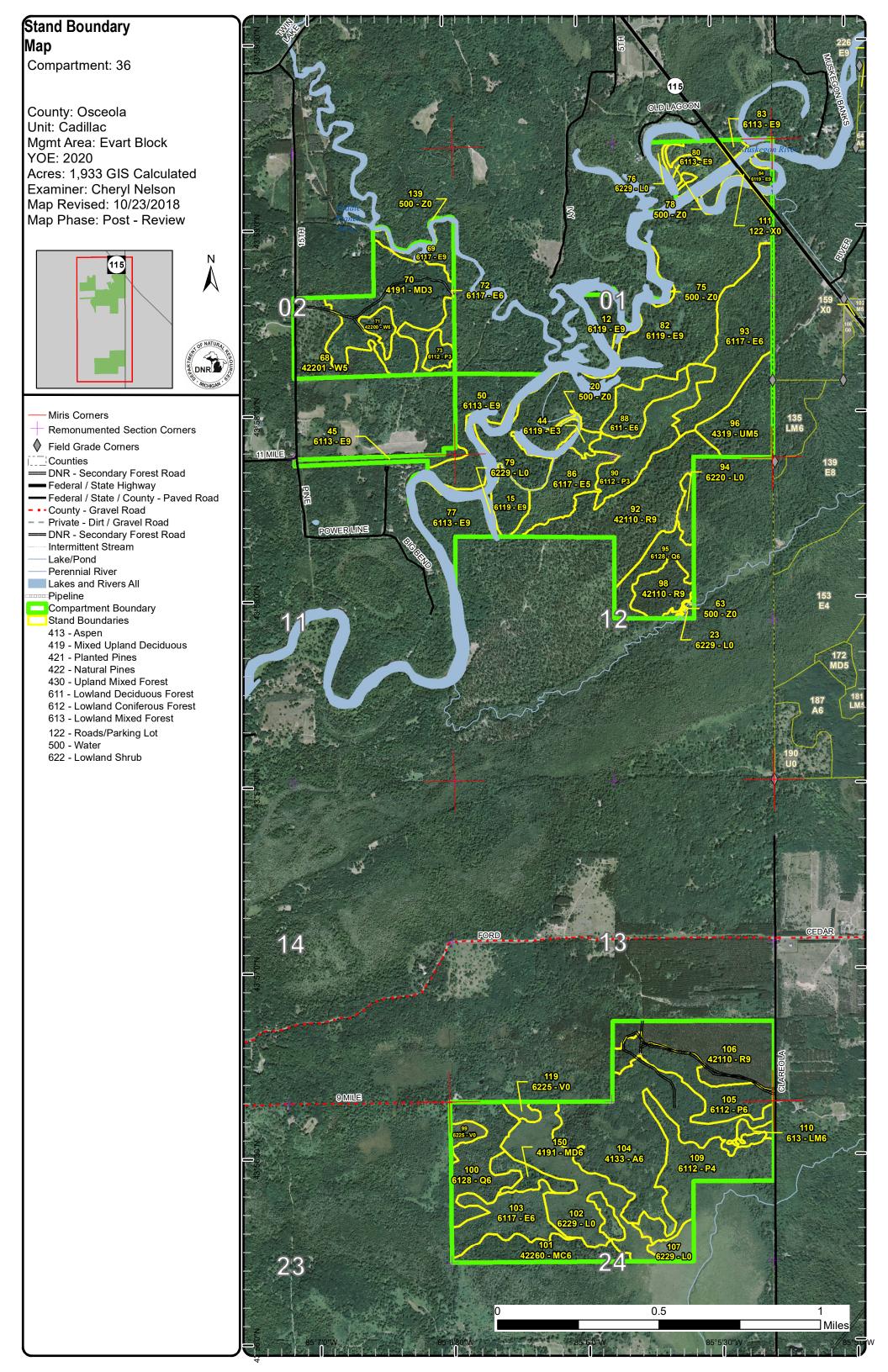


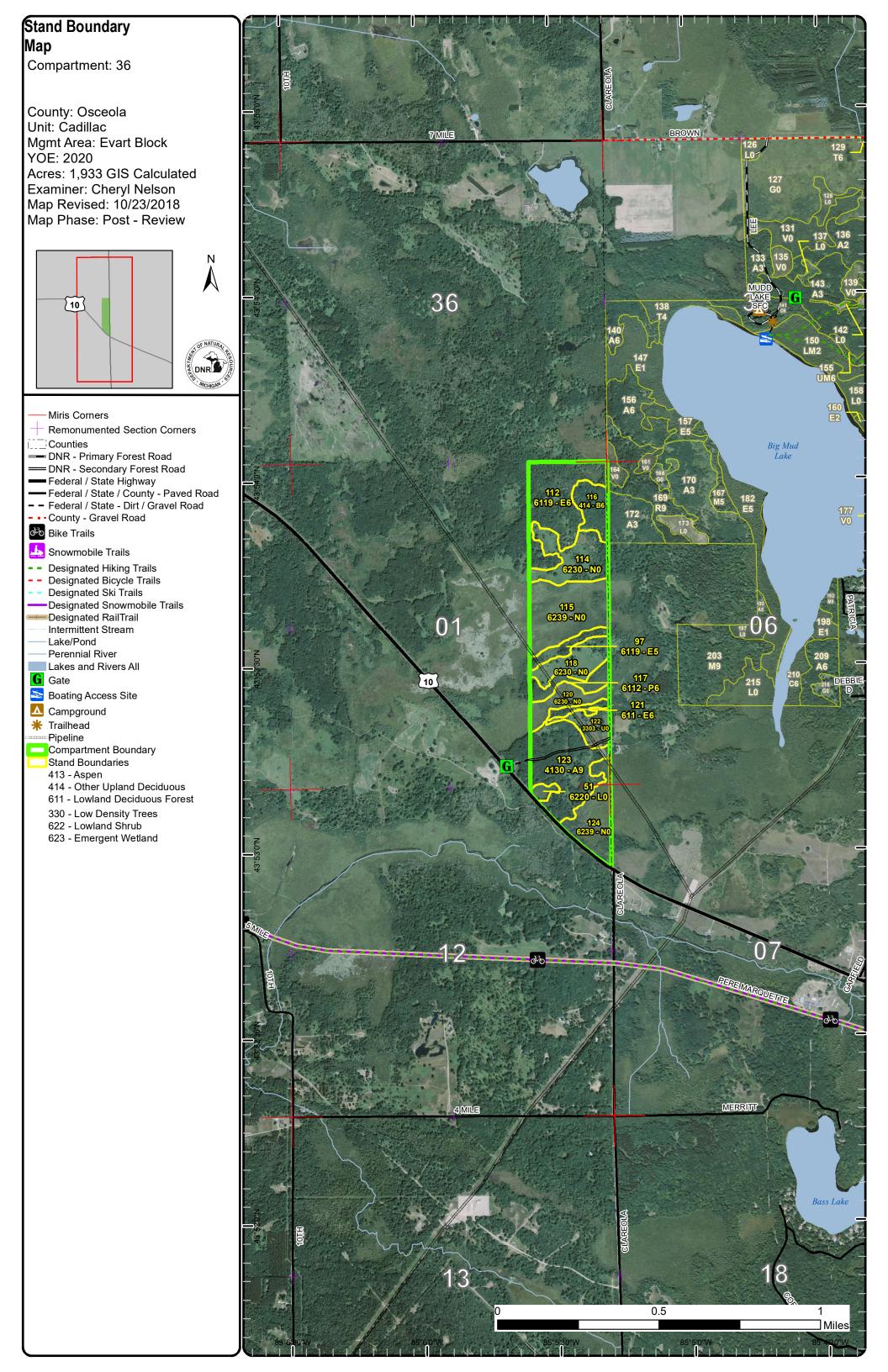


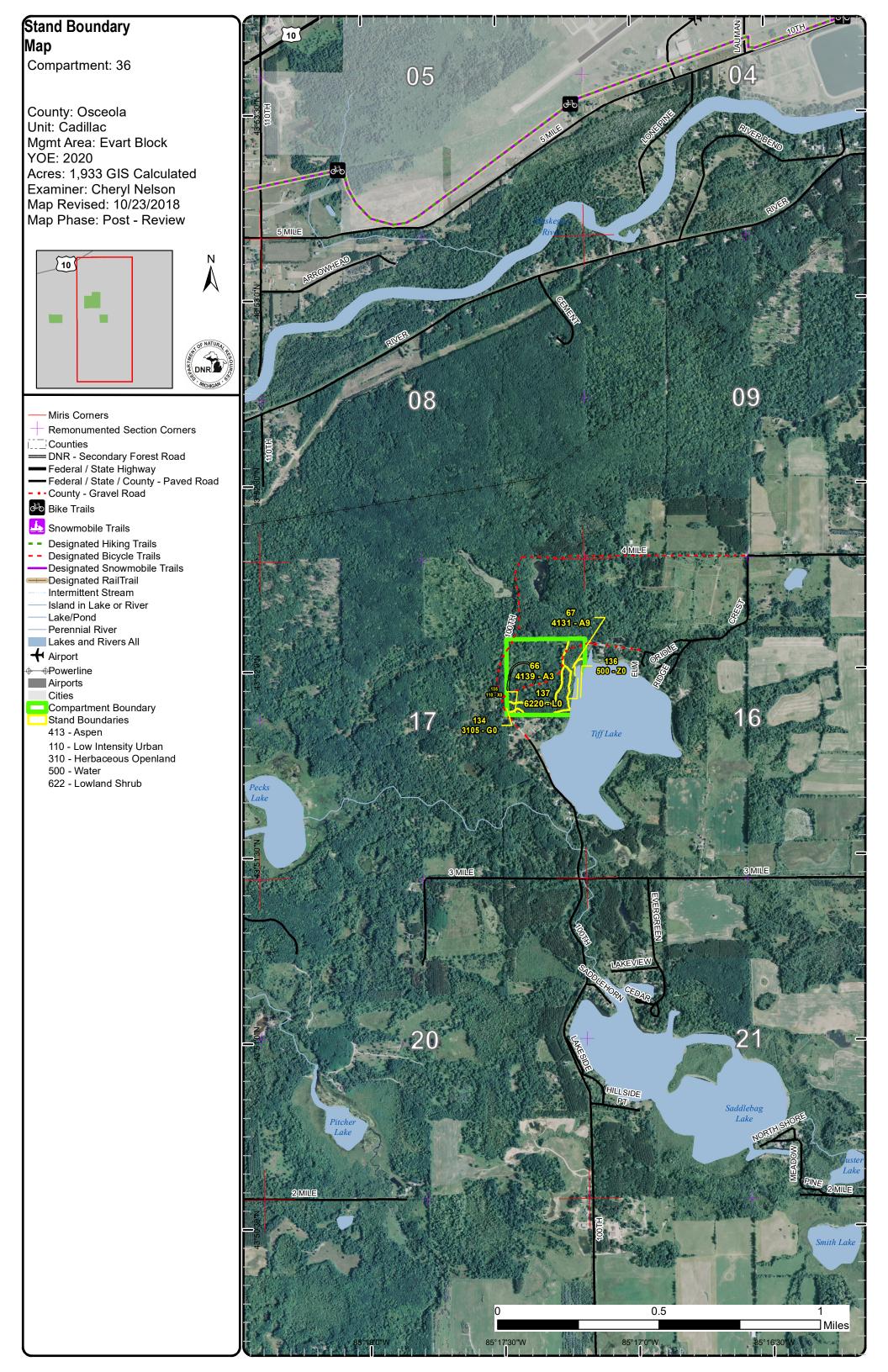


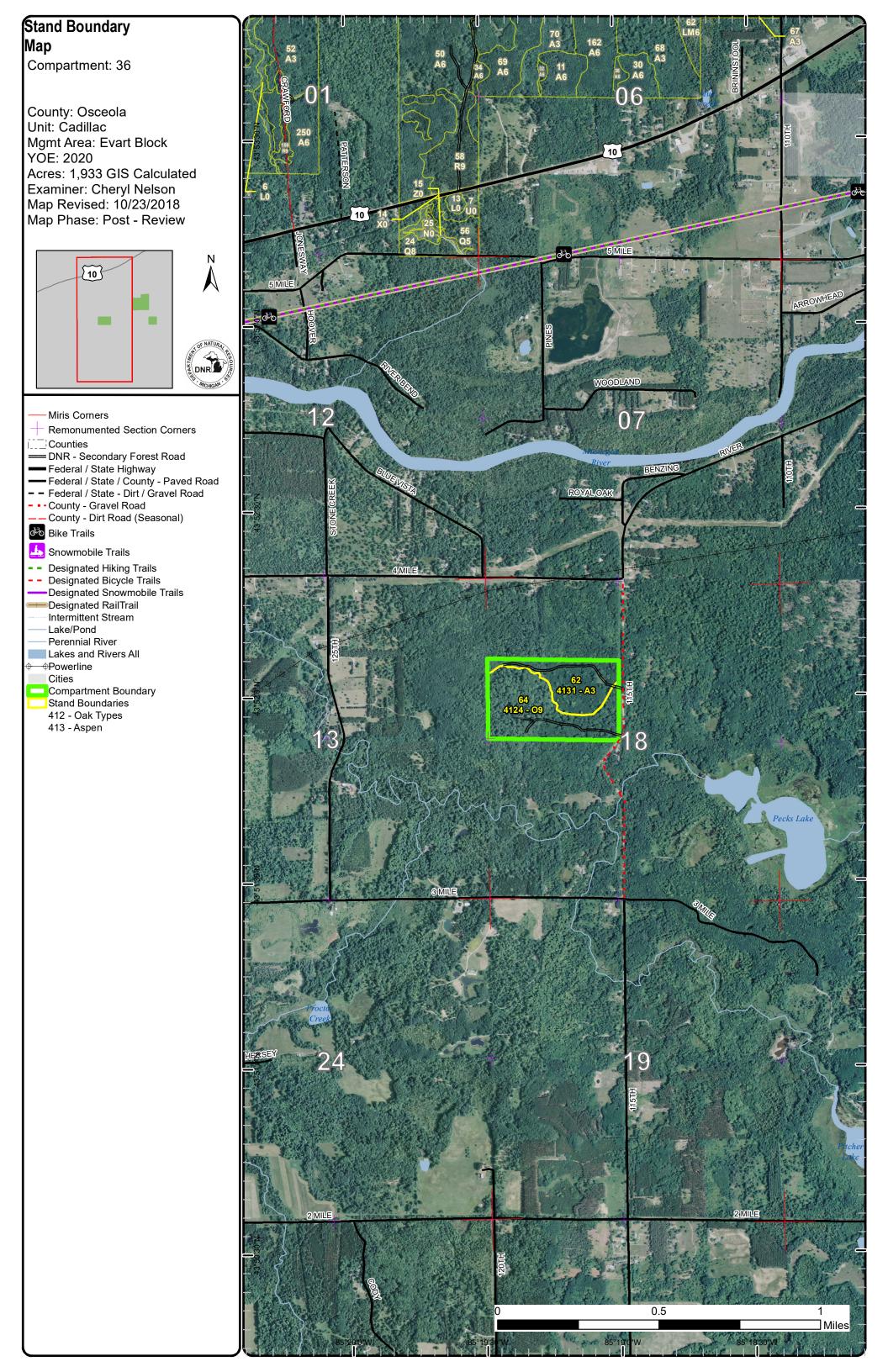


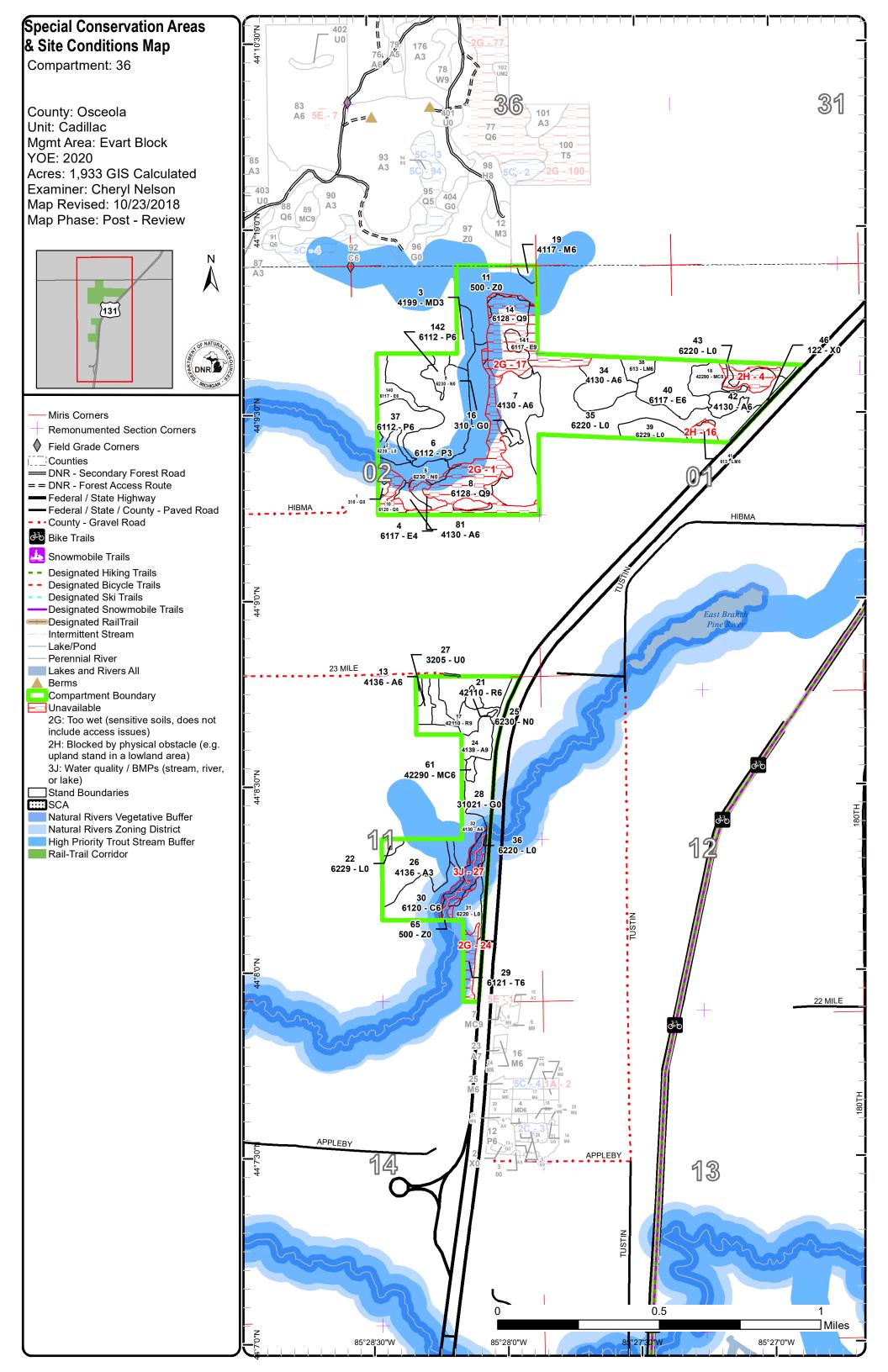


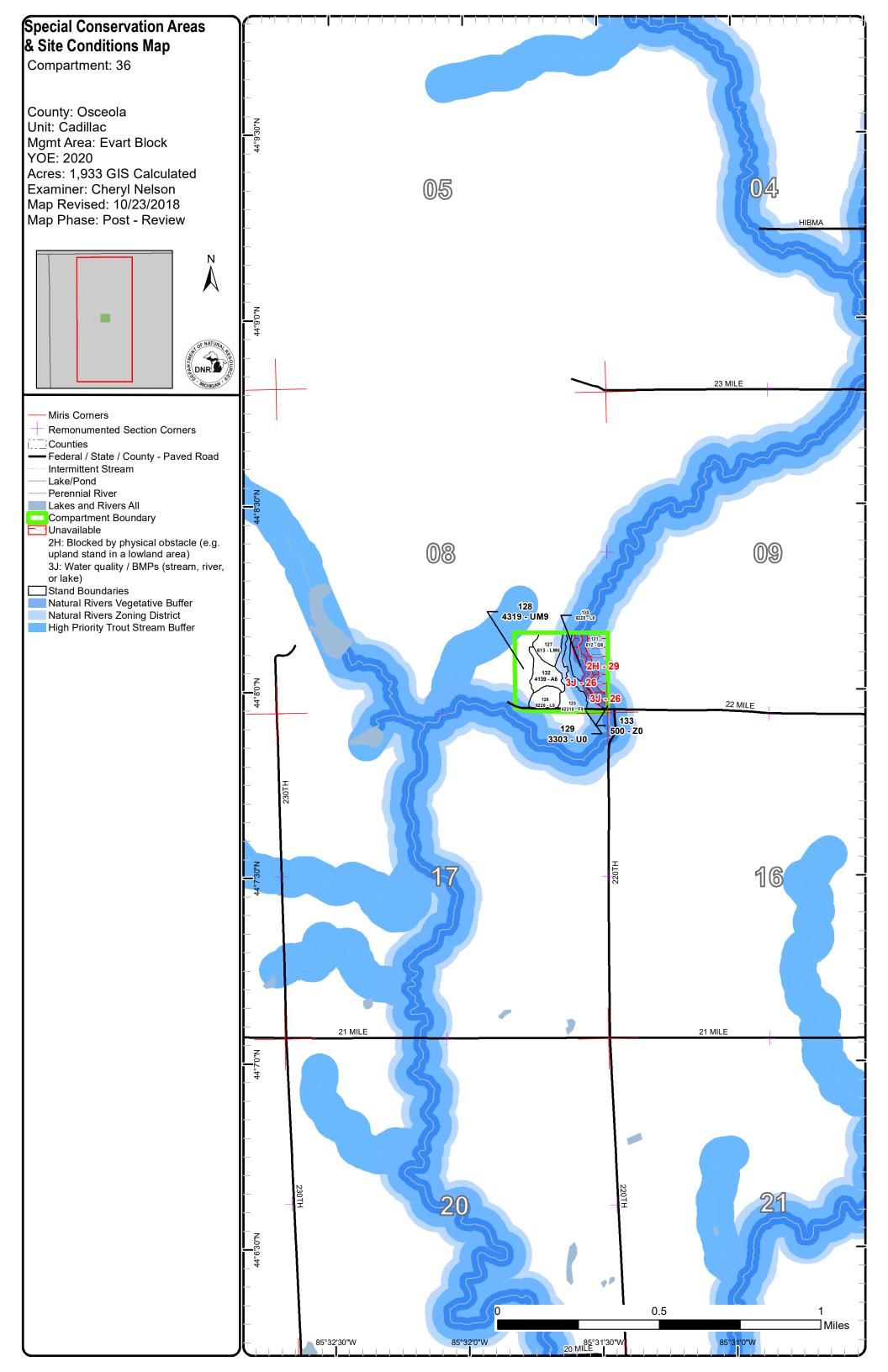


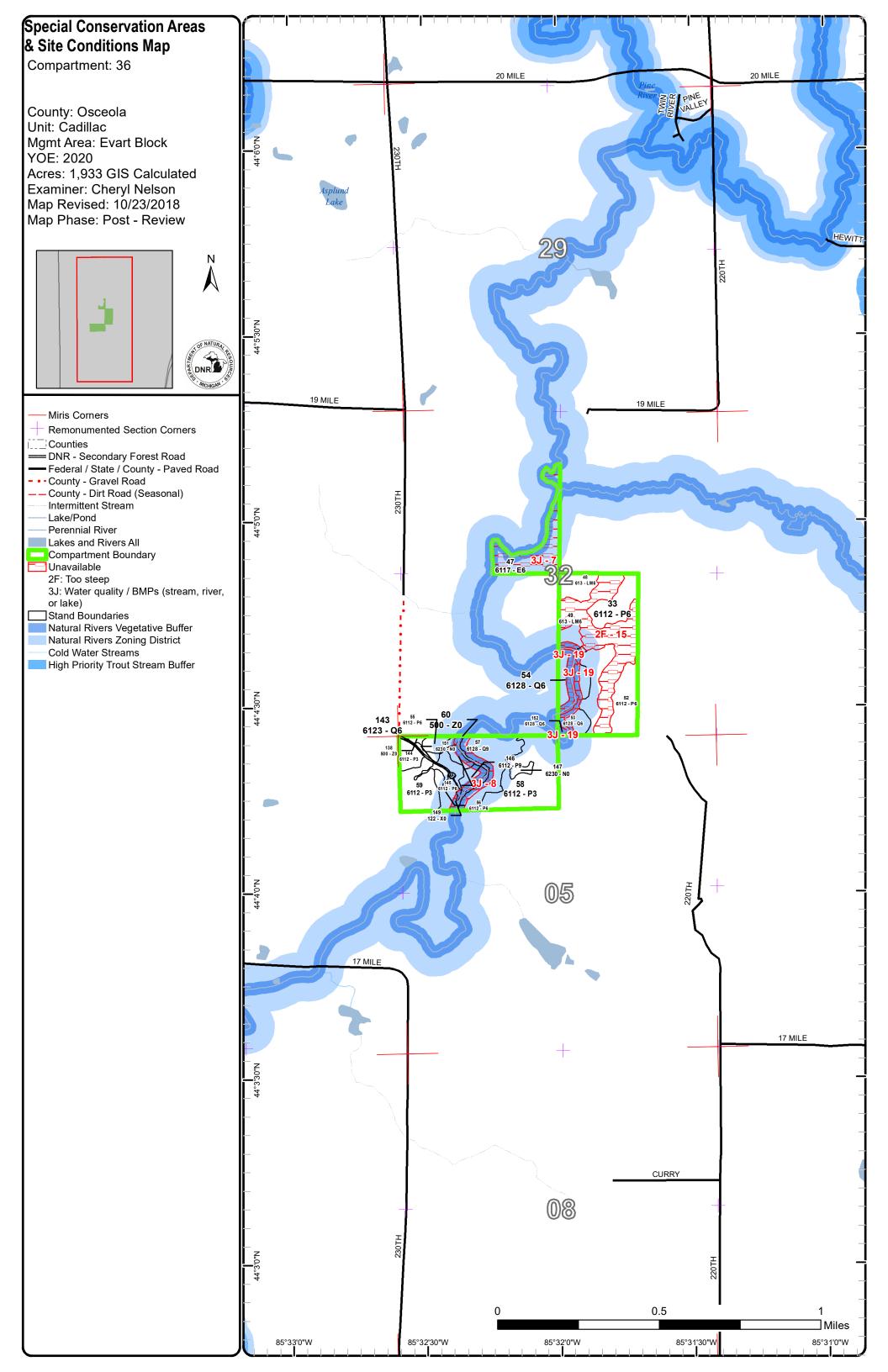


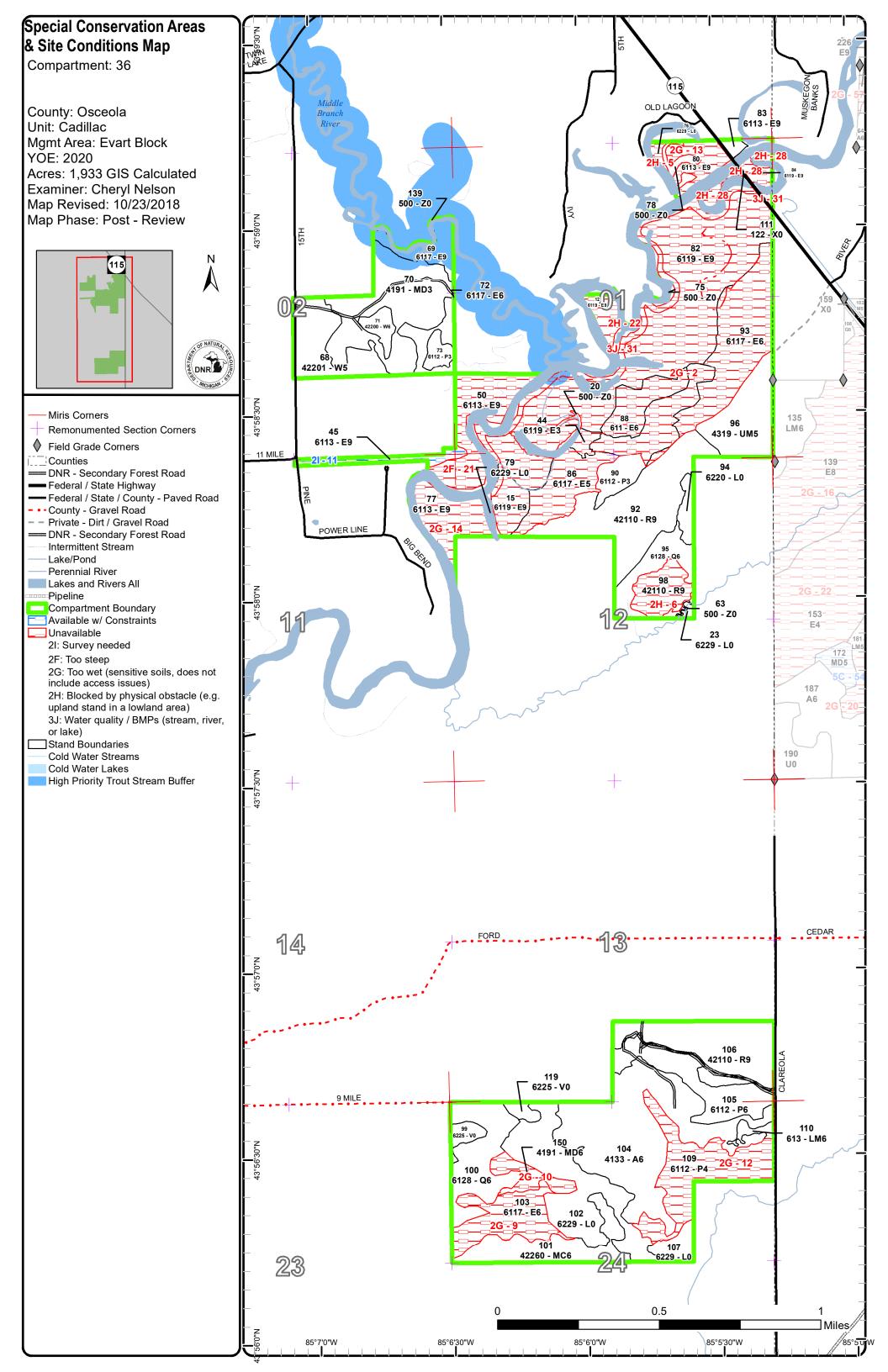


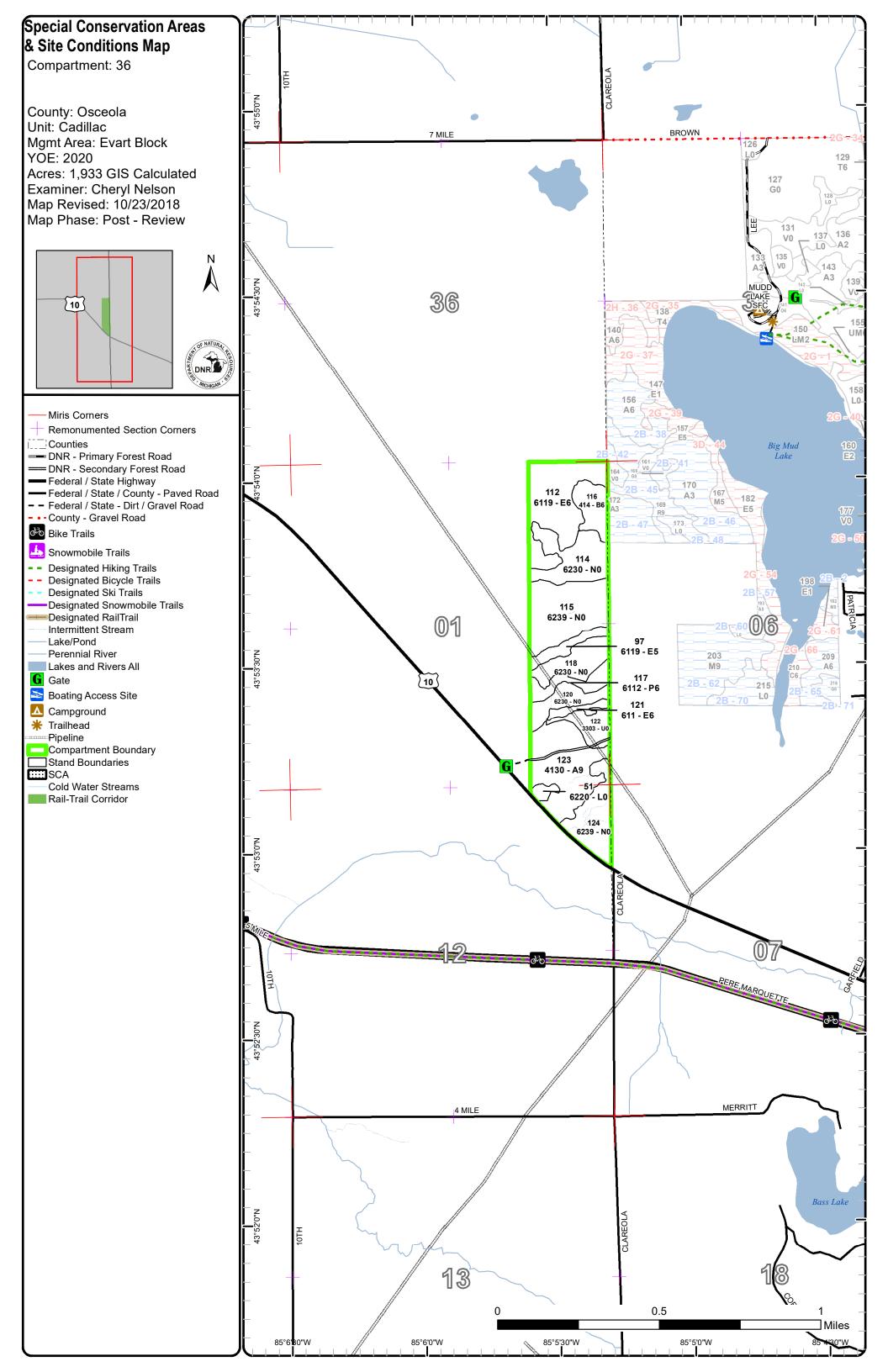


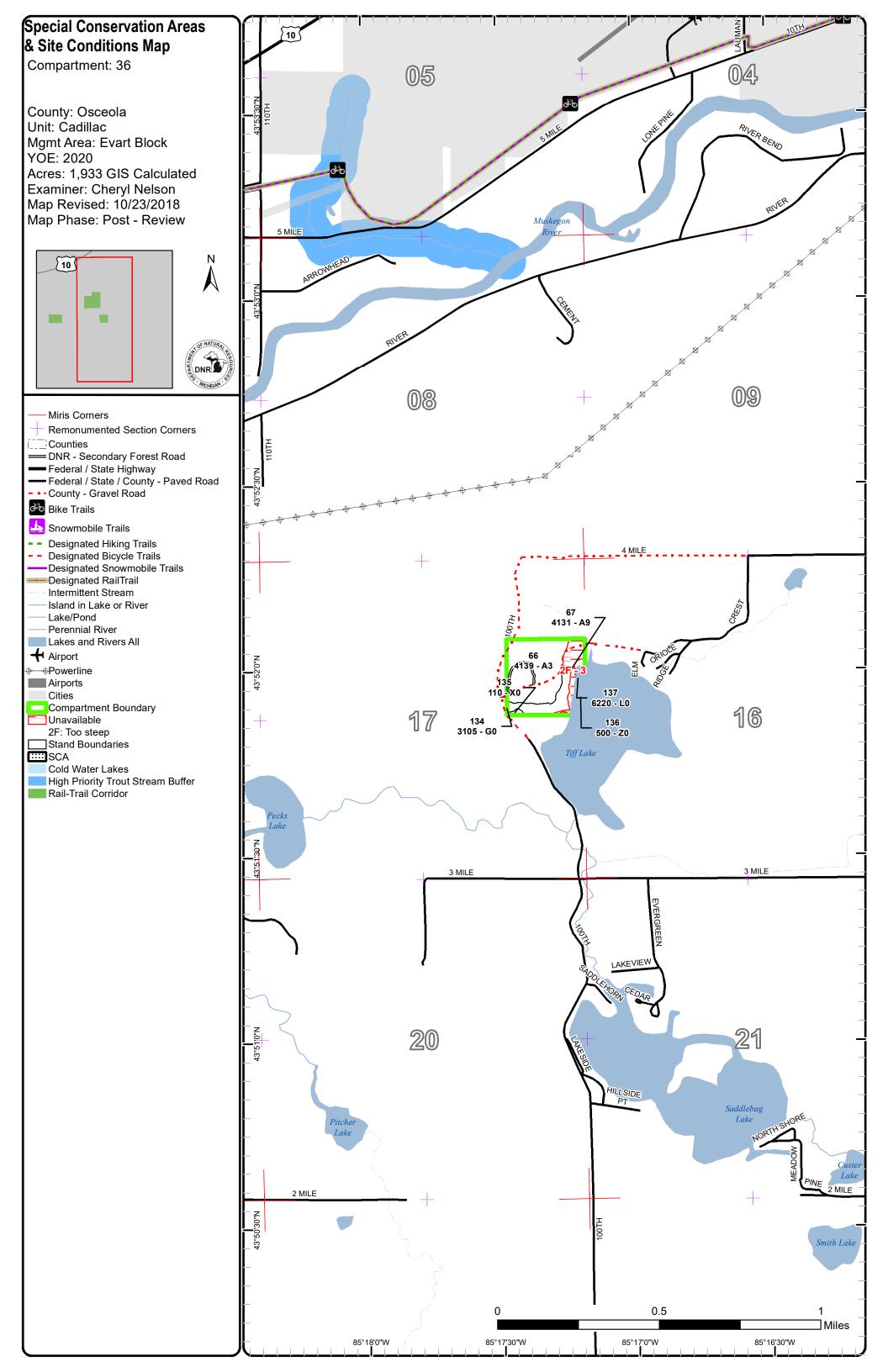


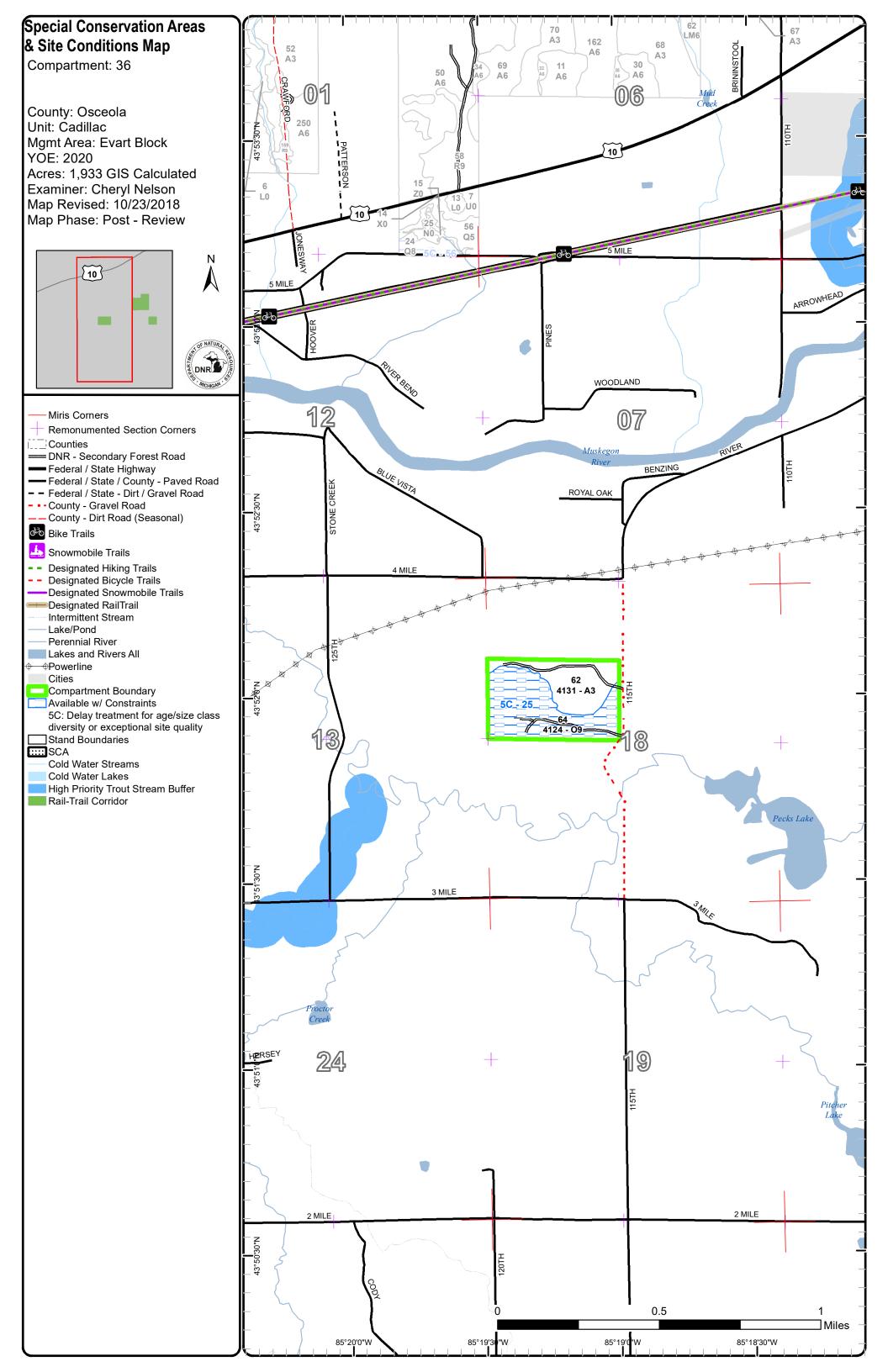












Compartment 36

Year of Entry 2020

Cadillac Mgt. Unit
Cheryl Nelson : Examiner



Age Class

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	, John	do C	, 2, 2,	0. / v	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	S / &		/ % /&		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		\$ \\ \gamma'\	70,	\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		No. No.	St Just	No.
Aspen	0	0	109	87	0	17	31	22	0	0	0	0	0	0	0	0	0	0	266
Bog	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Cedar	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	14
Herbaceous Openland	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
Low-Density Trees	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Lowland Aspen/Balsam Poplar	0	0	44	71	0	36	54	7	0	0	0	0	0	0	0	0	0	31	242
Lowland Conifers	0	0	0	0	0	33	0	37	0	51	14	0	0	0	0	0	0	0	135
Lowland Deciduous	0	0	0	0	0	0	51	37	83	34	115	0	0	0	0	0	0	153	473
Lowland Mixed Forest	0	0	0	0	0	0	3	17	0	27	0	0	0	0	0	0	0	0	47
Lowland Shrub	153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	153
Marsh	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110
Mixed Upland Deciduous	0	0	51	0	0	6	0	0	0	9	0	0	0	0	0	0	0	0	66
Natural Mixed Pines	0	0	0	0	1	7	0	0	0	27	0	0	0	0	0	0	0	0	35
Northern Hardwood	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
Oak	0	0	0	0	0	0	0	0	0	40	0	0	0	0	0	0	0	0	40
Paper Birch	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Red Pine	0	0	0	0	12	0	0	51	56	0	15	0	0	0	0	0	0	0	134
Tamarack	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5
Upland Mixed Forest	0	0	0	0	0	0	0	37	0	0	0	0	0	0	0	0	0	0	36
Upland Shrub	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Upland Spruce/Fir	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6
Urban	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Water	73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73
White Pine	0	0	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0	0	32
Total	388	0	213	158	13	99	139	247	139	207	146	0	0	0	0	0	0	184	1930



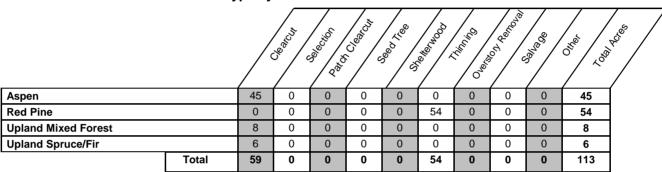
Report 2 – Treatment Summary

Cadillac Mgt. Unit

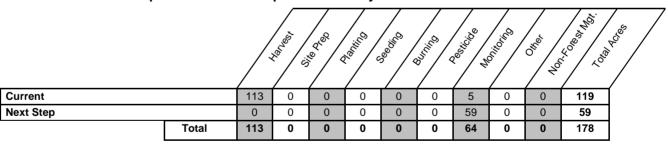
Compartment 36 Year of Entry: 2020 **Total Compartment Acres: 1,933 Acres of Harvest**

> Commercial Harvest - 113 Harvests with Site Condition - 0 Next Step Harvest - 0 Habitat Cut - 0

Cover Type by Harvest Method



Proposed and Next Step Treatments by Method



Cadillac Mgt. Unit Report 3 -- Treatments Compartment: 36 s Year of Entry: 2020 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 Systematic 63036021-Cut 42110 - Planted Poletimber 201+ 4221 - Natural Even-Aged 21 11.7 36 Harvest Approved Red Pine Well Thinning Red Pine Proposal **Habitat Cut: No Site Condition:** Prescription Remove approximately 1/3rd of basal area. Specs: Next Step **Treatments:** Acceptable Planted red pine Regen: Other Comment: **Proposed Start Date:** 10/1 /2019 4139 - Aspen, Unspec 24 63036024-Cut 8.9 Sawtimber 60 Harvest Clearcut with 4136 - Aspen, Even-Aged Approved Mixed Deciduous Well ified Retention Mixed Conifer Proposal **Habitat Cut: No Site Condition:** Prescription Cut all aspen and red maple. Use grouse spec in timber sale. Retention focused along drainage that separates the stand north and south. Crane mat or portable bridge will be necessary to access southern portion of stand. Specs: Next Step Monitoring, Natural Regen (Re-Inventory) **Treatments:** Acceptable Aspen and other upland deciduous species with a conifer component. Regen: Other Comment: **Proposed Start Date:** 10/1 /2019 106 63036106-Cut 42110 - Planted Low Thinning 42110 - Planted 42.6 Sawtimber 64 171-Even-Aged Approved Harvest Red Pine 200 Red Pine Proposal Well **Habitat Cut: No Site Condition:** Prescription Remove approximately 1/3rd of the existing basal area. Specs: Next Step **Treatments:** Acceptable Planted red pine

Regen:

Other Comment:

Proposed Start Date: 10/1 /2019

123 63036123-Cut 31.2 4130 - Aspen Sawtimber 57 141-Clearcut with Harvest 413 - Aspen Even-Aged Approved Well 170 Retention Proposal

Habitat Cut: No Site Condition:

Prescription Cut all species. Focus retention along drainage and stand 51. If access is denied across private a portable bridge would be needed to cross the

Specs: ditch along US-10.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen with a component of other deciduous species.

Regen:

Other Comment:

Proposed Start Date: 10/1 /2019

s		Ca	adillac Mgt. Unit		Re	eport 3	Treatme	nts	_	ment: 36 Entry: 2020	DUR DUR
t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
Habi Preso		5.7 species.	42310 - Planted Spruce Site Condition Focus retention alo			81-110 as to the w	Harvest vest of stand.	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Approved Proposal
Spec Next Treat	_	ring, Natu	ral Regen (Intermed	diate)							
Acce Rege	•	aspen, red	d maple, and other o	deciduous s _l	pecies	with a con	ifer component	i.			
Other Com	<u>r</u> ment:										
Propo	osed Start Date	<u>:</u> 10/1	/2019								
128	63036128-Cut	8.1	4319 - Mixed Upland Forest	Sawtimber Well	60	51-80	Harvest	Clearcut	4191 - Mixed Upland Deciduous with Conifer	Even-Aged	Approved Proposal
		ut. No rete	Site Condition ention due to small a	=').						
Next Treat	Step Monito	ring, Natu	ral Regen (Intermed	diate)							
Acce Rege		of upland	deciduous and conit	ferous speci	es.						
Other Com	<u>r</u> Use un ment:	derstory	shrub protection and	d grouse spe	ec in tim	ber sale.					
Propo	osed Start Date	<u>:</u> 10/1	/2019								
132	63036132-Cut	5.0	4139 - Aspen, Mixed Deciduous	Poletimber Well	45	51-80	Harvest	Clearcut	4139 - Aspen, Mixed Deciduous	Even-Aged	Approved Proposal
		ut. No ret	Site Condition ention due to small		⊖.						
Next Treat	Step Monito	ring, Natu	ral Regen (Re-Inver	ntory)							
Acce Rege		of aspen v	vith other deciduous	species. S	ome co	onifer com	ponent is acce	ptable.			
Other Comm	r Use un ment:	derstory	shurb protection and	d grouse spe	c in tim	ber sale.					
Propo	osed Start Date	<u>:</u> 10/1	/2019								
134	63036134- Monitor	5.4	3105 - Mixed Upland Herbaceous	Nonstocke 3	d 0	Unspec ified	Monitoring	Natural Regen (Re-Inventory)	4191 - Mixed Upland Deciduous with Conifer	Two-Aged	Draft Field Boundary
	itat Cut: No cription s:		Site Condition	i							
Next Treat	Step ments:										
Acce Rege		with mixe	d upland species.								

Percent to Treat = 100%

10/3 /2022

Other Comment:

Proposed Start Date:

Cadillac Mgt. Unit

Stand

CoverType

Size

Density Age

Stand

ВА

Range

Report 3 -- Treatments

Treatment

Type

Treatment

Method

Compartment: 36 Year of Entry: 2020

> Age Structure

Cover Type Objective Approval Status

Total Treatment Acreage Proposed:

Treatment

Name

s

t a

n

118.6

Acres

Compartment: 36

Cadillac Mgt. Unit

Cheryl Nelson : Examiner Year of Entry: 2020

Availa	ability for	Managemer	nt							
Total	Acres	Acres Avail	Acres	De	omina	nt Site	e Cond	ditions	8	
Acres	Available	With Condition	Not Available		21	5C	2F	2G	2H	3J
266	230	0	36	Aspen			5	4	26	1
7	7	0	0	Bog						
14	13	0	1	Cedar						1
25	25	0	1	Herbaceous Openland						1
12	11	0	1	Low-Density Trees						1
243	131	0	111	Lowland Aspen/Balsam Poplar				108		3
136	68	0	68	Lowland Conifers				50	6	12
473	69	8	397	Lowland Deciduous	8		30	298	32	37
47	17	0	30	Lowland Mixed Forest			27		3	
153	95	0	58	Lowland Shrub				0	50	9
110	89	0	21	Marsh				21		
67	57	0	9	Mixed Upland Deciduous				9		
35	28	0	7	Natural Mixed Pines					7	
2	0	0	2	Northern Hardwood				2		
40	0	40	0	Oak		40				
9	9	0	0	Paper Birch						
133	117	0	16	Red Pine				1	15	
5	0	0	5	Tamarack				5		
37	37	0	0	Upland Mixed Forest						
3	3	0	0	Upland Shrub						
6	6	0	0	Upland Spruce/Fir						
5	5	0	0	Urban						0
73	51	0	22	Water				20		2
32	32	0	0	White Pine						
1,933	1,101	48	784	Total Forested Acres	8	40	62	519	137	65
	57%	2%	41%	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)	34	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						

Cadillac Mgt. Unit Cheryl Nelson : Examiner

2	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	249	2F: Too steep	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	Unspecified	Unspecified
	Comments:						
3	Unavailable	2F: Too steep	5	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
	Comments:						
4	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	7	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
5	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	2	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
	Comments:						
6	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	15	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						

Cadillac Mgt. Unit Cheryl Nelson : Examiner

Comments: Walter quality / BMPs for the Pine River. No legal access. 8	Water quality / BMPs stream, river, or lake) 8 5F: Evaluated for Forest Health Considerations Unspecified			3J: Water quality / BMPs (stream, river, or lake)	15	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified
Comments: Walter quality / BMPs for the Pine River. 9	Health Considerations If the Pine River. G: Too wet (sensitive poils, does not include access issues) Unspecified			Ps for the Pine River. No legal	acces	3.			
Walter quality / BMPs for the Pine River. 9	G: Too wet (sensitive polls, does not include access issues) G: Too wet (sensitive polls, does not include access issues) 9 Unspecified	8	Unavailable		8		Unspecified	Unspecified	Unspecified
Soils, does not include access issues) Comments: Unspecified	G: Too wet (sensitive poils, does not include access issues) 9			Ps for the Pine River.					
10 Unavailable 2G: Too wet (sensitive soils, does not include access issues) Comments: 11 Available 2I: Survey needed 8 5C: Delay treatment for age/size class diversity or exceptional site quality Unspecified Unspecifie	2I: Survey needed 8 5C: Delay treatment for age/size class diversity or exceptional site quality Unspecified Unsp	9	Unavailable	soils, does not include	26	Unspecified	Unspecified	Unspecified	Unspecified
Soils, does not include access issues) Comments: 11 Available 2I: Survey needed 8 5C: Delay treatment for unspecified unspecified age/size class diversity or exceptional site quality	2I: Survey needed 8 5C: Delay treatment for age/size class diversity or exceptional site quality Unspecified Unsp		Comments:						
11 Available 2I: Survey needed 8 5C: Delay treatment for Unspecified Unspecified age/size class diversity or exceptional site quality	age/size class diversity or exceptional site quality	10) Unavailable	soils, does not include	9	Unspecified	Unspecified	Unspecified	Unspecified
age/size class diversity or exceptional site quality	age/size class diversity or exceptional site quality		Comments:						
	side of the Muskegon River.	11	Available	2l: Survey needed	8	age/size class diversity or exceptional site	Unspecified	Unspecified	Unspecified
	side of the Muskegon River.		Comments:						
Walk in access to west side of the Muskegon River.			Walk in access to v	vest side of the Muskegon Rive	er.				

Cadillac Mgt. Unit Cheryl Nelson : Examiner

12	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	41	Unspecified	Unspecified	Unspecified	Unspecified
C	Comments:						
13	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	11	2F: Too steep	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	Unspecified	Unspecified
C	Comments:						
14	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	25	Unspecified	Unspecified	Unspecified	Unspecified
(Comments:						
15	Unavailable	2F: Too steep	27	2G: Too wet (sensitive soils, does not include access issues)	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	Unspecified	Unspecified
	Comments: No legal access.						
16	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	3	Unspecified	Unspecified	Unspecified	Unspecified
(Comments:						

Cadillac Mgt. Unit Cheryl Nelson : Examiner

17	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	27	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified	Unspecified
	Comments:						
19	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	7	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Walter quality / BM	Ps for the Pine River.					
21	Unavailable	2F: Too steep	30	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
	Comments:						
22	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	9	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
	Comments: Inaccessible due to	being an island surrounded by	the M	uskegon River.			
24	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	5	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	Unspecified	Unspecified	Unspecified
	Comments:						
25	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	40	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Stand treated in 2001. Basal area between 1-50, allow regeneration to grow.						

Cadillac Mgt. Unit Cheryl Nelson : Examiner

26	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	6	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Walter quality / BM	Ps for the Pine River.					
27	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	8	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Walter quality / BM	Ps for the Pine River.					
28	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	7	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Stand blocked by M	luskegon River.					
29	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	6	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
31	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	22	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						

Mgt. Unit

Compartment: #Type! Year of Entry:

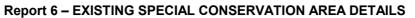


Report 5 - PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* 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: 36
Year of Entry 2020





* 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.

Conservati Area	on Type	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area			
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen condition stocked trout populations and those of other coldwater fish specific conditions for coldwater fishes may occur in Michigan lakes if the groundwater inflows, or are located in colder (northern) areas of Director's action and designated as trout resources by Fisheries	es to persist from year to year. Suitable by are relatively deep, have substantial the state. Such lakes are established by			
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.	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 of communities are ecologically and socially significant in their effect as aesthetics, habitat, bank stability, timber production, and their	e unique conditions adjacent to lakes, liversity 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 sp approved 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.	Zoning District is a 400 foot buffer for 00 feet. To view specific Zoning Districts			

S t	Cadilla	Mgt. Unit		Report 7 – Forested Stands		Stands Compartment: 36 Year of Entry: 2020
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
3	4199 - Other Mixed Upland Deciduous	Sapling Well	6.3	45	1-50	Hardwoods with conifer component. Small lowland component to southwest.
4	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Poor	2.6	55	Unspecified	
6	6112 - Lowland Aspen	Sapling Well	33.8	13	Unspecified	Stand treated timber sale #63-035-04-01, "Habitat Aspen". Corduroy road was used to cross low, wet area.
7	4130 - Aspen	Poletimber Well	26.8	16	1-50	Stand treated wildlife habitat cut #W-63-494 in 2002. Specs were to cut all trees 2" and over within boundary line. Cutting of cedar, hemlock, and large white pine was not allowed.
8	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Well	28.4	82	Unspecified	
10	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	5.7	80	81-110	
12	6119 - Mixed Lowland Deciduous Forest	Sawtimber Well	8.5	90	51-80	
13	4136 - Aspen, Mixed Conifer	Poletimber Well	1.2	60	51-80	A couple of scotch pine in stand.
14	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Well	16.8	80	141-170	
15	6119 - Mixed Lowland Deciduous Forest	Sawtimber Well	10.7	90	51-80	
17	42110 - Planted Red Pine	Sawtimber Well	8.2	60	141-170	Stand treated timber sale #63-015-10-01. C36 Red Pine & Oak".
18	42290 - Natural Mixed Pine	Poletimber Medium	7.0	40	1-50	
19	4117 - Mixed N. Hardwood - Pine	Poletimber Well	1.6	90	81-110	
21	42110 - Planted Red Pine	Poletimber Well	11.7	36	201+	FTP could not be found. Rows are straight.
24	4139 - Aspen, Mixed Deciduous	Sawtimber Well	8.9	60	Unspecified	
26	4136 - Aspen, Mixed Conifer	Sapling Well	18.0	16	Immature	Stand habitat cut in winter of 2002/2003.
29	6121 - Tamarack	Poletimber Well	5.1	80	Unspecified	Appears to have most of the same qualities as stand 30.

S t	Cadillac Mgt. Unit			Report 7	- Forested	Stands Compartment: 36 Year of Entry: 2020
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
30	6120 - Lowland Cedar	Poletimber Well	14.4	80	51-80	
32	4130 - Aspen	Poletimber Well	7.0	60	51-80	
33	6112 - Lowland Aspen	Poletimber Well	11.9	26	51-80	
34	4130 - Aspen	Poletimber Well	13.9	16	1-50	Stand treated wildlife habitat cut per FTP# W-63-499 in 2002. Specs were to cut all trees 2" and over within boundary line. Cutting of cedar, hemlock, and large white pine was not allowed.
37	6112 - Lowland Aspen	Poletimber Well	11.5	50	Unspecified	
38	613 - Lowland Mixed Forest	Poletimber Well	4.0	60	1-50	
40	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	16.3	60	Unspecified	
41	613 - Lowland Mixed Forest	Poletimber Well	2.8	60	1-50	
42	4130 - Aspen	Poletimber Well	12.0	40	1-50	
44	6119 - Mixed Lowland Deciduous Forest	Sapling Well	3.2	13	Immature	Stand treated per Wildlife habitat cut #W-63-511 in winter 2004/2005.
45	6113 - Lowland Maple	Sawtimber Well	7.6	95	51-80	Hardwoods with occasional conifer.
47	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	15.3	65	51-80	
48	613 - Lowland Mixed Forest	Poletimber Well	5.7	65	1-50	
49	613 - Lowland Mixed Forest	Poletimber Well	27.3	80	81-110	Old railroad grade runs through stand.
50	6113 - Lowland Maple	Sawtimber Well	29.8	95	51-80	
52	6112 - Lowland Aspen	Poletimber Well	18.8	25	51-80	Stand treated timber sale #63-008-92-01, "Pine River Bluffs". Cut in 1993.
53	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	7.5	60	51-80	

S t	Cadillad		Report 7	- Forested	Stands Compartment: 36 Year of Entry: 2020	
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
54	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	5.4	60	Unspecified	
55	6112 - Lowland Aspen	Poletimber Well	2.2	26	1-50	Stand was treated in 1992. Good regeneration. Few white pine.
56	6112 - Lowland Aspen	Poletimber Well	4.0	24	1-50	
57	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Well	14.4	90	81-110	
58	6112 - Lowland Aspen	Sapling Well	23.6	25		Stand treated timber sale #63-008-92-01, "Pine River Bluffs". Cut in 1993.
59	6112 - Lowland Aspen	Sapling Well	10.2	28	Immature	Stand was treated commercially in 1990. Paperwork was found but there were no sale numbers available.
61	42290 - Natural Mixed Pine	Poletimber Well	1.2	35	51-80	
62	4131 - Aspen, Oak	Sapling Well	23.9	17	Immature	Stand treated timber sale #63-041-00-01, "Crying Hawk Aspen". Sale cut in 2001.
64	4124 - Red with White Oak	Sawtimber Well	40.4	80	1-50	Stand treated per timber sale #63-045-00-01, "Big Stone Thinning". Cut in 2001.
66	4139 - Aspen, Mixed Deciduous	Sapling Well	21.6	17	Unspecified	Occasional overstory white pine. Stand treated timber sale #63-095-01-01, "Tiff Lake Aspen".
67	4131 - Aspen, Oak	Sawtimber Well	5.0	65	51-80	Diameters become slightly smaller south of road.
68	42201 - Natural White Pine, Mixed Deciduous	Poletimber Medium	26.5	65	1-50	Stand treated timber sale #63-015-10-01, "C36 Red Pine & Oak".
69	6117 - Lowland Deciduous, Mixed Coniferous	Sawtimber Well	10.5	75	51-80	
70	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	51.0	18	1-50	Stand treated timber sale #63-057-00-01, "Middle Branch Aspen". Cut in 2001.
71	42200 - Natural White Pine	Poletimber Well	5.5	65	81-110	Stand treated timber sale #63-015-10-01, "C36 Red Pine & Oak".
72	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	9.5	50	Unspecified	
73	6112 - Lowland Aspen	Sapling Well	4.7	18	Unspecified	

S t	Cadillad	Cadillac Mgt. Unit			- Forested	Stands Compartment: 36 Year of Entry: 2020	
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	
77	6113 - Lowland Maple	Sawtimber Well	24.8	95	51-80		
80	6113 - Lowland Maple	Sawtimber Well	11.3	90	51-80		
81	4130 - Aspen	Poletimber Well	4.5	16	1-50	Stand treated wildlife habitat cut #W-63-488 in 2002. Specs were to cut all trees 2" and over within boundary line. Cutting of cedar, hemlock, and large white pine was not allowed.	
82	6119 - Mixed Lowland Deciduous Forest	Sawtimber Well	150.1	90	141-170	Stand is a lowland complex with upland areas scattered throughout.	
83	6113 - Lowland Maple	Sawtimber Well	1.8	87	81-110		
84	6119 - Mixed Lowland Deciduous Forest	Sawtimber Well	6.8	85	Unspecified		
86	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Medium	22.4	96	51-80		
88	611 - Lowland Deciduous Forest	Poletimber Well	15.8	70	81-110	Very hilly terrain.	
90	6112 - Lowland Aspen	Sapling Well	30.8	15	Immature	Stand treated wildlife habitat cut per FTP# W-63-511 in winter 2004/2005. Specs: Cut all trees to a 2" dbh. Do not cut oak or cedar.	
92	42110 - Planted Red Pine	Sawtimber Well	55.7	76	111-140	Stand treated timber sale #63-015-10-01, "C36 Red Pine & Oak". Previous: Stand treated timber sale #63-044-00-01, "Muskegon Ridges". Cut in 2003. Specs: Cut only aspen, red maple, balsam fir, paper birch, and jack pine tree species.	
93	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	46.7	70	81-110		
95	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	15.9	60	51-80		
96	4319 - Mixed Upland Forest	Poletimber Medium	28.5	60	51-80		
97	6119 - Mixed Lowland Deciduous Forest	Poletimber Medium	5.4	60	Unspecified		
98	42110 - Planted Red Pine	Sawtimber Well	14.9	95	111-140	2008 Comment: This stand is inaccessible for harvest. It is an island in the marsh that makes up the majority of this compartment. Also there is privately held land on three sides the amount of line work coupled with size and wetness of the surrounding swamp make a harvest on this site impractical.	

S t	Cadillac		Report 7	' – Forested S	Stands Compartment: 36 Year of Entry: 2020	
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
100	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	31.2	45	Unspecified	
101	42260 - Natural Pine, Mixed Deciduous	Poletimber Well	26.8	85	Unspecified	
103	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	25.7	85	Unspecified	
104	4133 - Aspen, Mixed Pine	Poletimber Well	86.6	26	1-50	Stand treated timber sale #63-007-92-01, "Dog Leg". Cut in 1992.
105	6112 - Lowland Aspen	Poletimber Well	28.7	46	81-110	
106	42110 - Planted Red Pine	Sawtimber Well	42.6	64	171-200	Stand treated timber sale #63-015-10-01, "C36 Red Pine & Oak".
109	6112 - Lowland Aspen	Poletimber Poor	41.0	50	1-50	Dead and dying ash and elm.
110	613 - Lowland Mixed Forest	Poletimber Well	2.9	50	1-50	
112	6119 - Mixed Lowland Deciduous Forest	Poletimber Well	30.2	50	Unspecified	
116	414 - Other Upland Deciduous	Poletimber Well	9.3	16	51-80	Treated in 2002.
117	6112 - Lowland Aspen	Poletimber Well	7.3	45	51-80	
121	611 - Lowland Deciduous Forest	Poletimber Well	3.0	50	51-80	
123	4130 - Aspen	Sawtimber Well	31.2	57	141-170	
125	42310 - Planted Spruce	Sawtimber Well	5.7	60	81-110	Ring count = 48 (~10" dbh), added 12 years to reach dbh on average site.
127	613 - Lowland Mixed Forest	Poletimber Well	4.4	60	51-80	
128	4319 - Mixed Upland Forest	Sawtimber Well	8.1	60	51-80	
131	612 - Lowland Coniferous Forest	Poletimber Well	8.3	60	81-110	
132	4139 - Aspen, Mixed Deciduous	Poletimber Well	5.0	45	51-80	

S t	Cadillad	c Mgt. Unit		Report 7	– Forested S	Stands	Compartment: 36 Year of Entry: 2020	
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range		General Comments:	MICHIGAN
140	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	5.7	55	51-80			
141	6117 - Lowland Deciduous, Mixed Coniferous	Sawtimber Well	9.6	70	141-170			
142	6112 - Lowland Aspen	Poletimber Well	3.8	68	1-50			
143	6123 - Lowland Fir	Poletimber Well	2.0	45	Unspecified			
144	6112 - Lowland Aspen	Sapling Well	5.9	14	Unspecified	Stand treated tim	ber sale #63-048-05-01, "Shoele Cut in 2006.	ss Aspen".
145	6112 - Lowland Aspen	Poletimber Well	1.8	50	81-110			
146	6112 - Lowland Aspen	Sawtimber Well	2.7	65	Unspecified			
150	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	9.2	85	51-80			
152	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	0.4	78	Unspecified			

Report 8 - Nonforested Stands



Stand	Cover Type	Acres	Managed Site	General Comments:
1	310 - Herbaceous Openland	0.8	No	
2	6220 - Alder/willow	3.8	No	
5	6230 - Cattail	6.5	No	
9	6230 - Cattail	14.4	No	
11	500 - Water	19.9	No	Water with cattails.
16	310 - Herbaceous Openland	1.2	No	
20	500 - Water	3.8	No	
22	6229 - Mixed lowland shrub	1.7	No	
23	6229 - Mixed lowland shrub	2.0	No	Mixed lowland brush with areas of lowland hardwoods.
25	6230 - Cattail	1.7	No	
27	3205 - Mixed Upland Shrub	3.2		Stand treated timber sale #63-015-10-01. "C36 Red Pine & Oak"
28	31021 - Cool Season Grass	17.6	No	Occasional tree/shrub. Two small pockets of quaking aspen, balsam fir, and black cherry. Autumn olive planted per Wildlife FTP# W-63-372 in the early 1990's.
31	6220 - Alder/willow	7.1	No	
35	6220 - Alder/willow	42.8	No	
36	6220 - Alder/willow	6.7	No	
39	6229 - Mixed lowland shrub	6.7	No	
43	6220 - Alder/willow	4.8	No	
46	122 - Road/Parking Lot	2.2	No	US-31 and road edge.

Report 8 - Nonforested Stands



Stand	Cover Type	Acres	Managed Site	General Comments:
51	6220 - Alder/willow	2.0	No	
60	500 - Water	3.3	No	Pine River
63	500 - Water	0.3	No	This stand is inaccessible for harvest. It is an island in the marsh that makes up the majority of this compartment. Also there is privately held land on three sides the amount of line work coupled with size and wetness of the surrounding swamp make a harvest on this site impractical.
65	500 - Water	1.1	No	East Branch of the Pine River
75	500 - Water	34.9	No	Muskegon River
76	6229 - Mixed lowland shrub	2.0	No	
78	500 - Water	4.3	No	
79	6229 - Mixed lowland shrub	2.4	No	
94	6220 - Alder/willow	5.5	No	Occasional hardwood and conifer species.
99	6225 - Bog	4.3	No	
102	6229 - Mixed lowland shrub	48.7	No	
107	6229 - Mixed lowland shrub	7.1	No	
111	122 - Road/Parking Lot	1.6	No	M-115
114	6230 - Cattail	18.5	No	
115	6239 - Mixed Emergent Wetland	28.4	No	
118	6230 - Cattail	12.2	No	
119	6225 - Bog	3.0	No	

Report 8 - Nonforested Stands



Stand	Cover Type	Acres	Managed Site	General Comments:
120	6230 - Cattail	9.3	No	
122	3303 - Mixed Low Density Trees	7.9	No	
124	6239 - Mixed Emergent Wetland	17.1	No	
126	6220 - Alder/willow	4.0	No	
129	3303 - Mixed Low Density Trees	3.8	No	
130	6220 - Alder/willow	4.2	No	
133	500 - Water	1.0	No	North Branch Pine River
134	3105 - Mixed Upland Herbaceous	5.8		Stand treated timber sale #63-012-17-01, "Tiff Lake Aspen". Cut by Lutke F.P. in January/February of 2018.
135	110 - Low Intensity Urban	0.5	No	House and garage in trespass. Trespass is in database.
136	500 - Water	2.0	No	Tiff Lake. Cattails on edge.
137	6220 - Alder/willow	1.6	No	
138	500 - Water	0.7	No	
139	500 - Water	1.4	No	Middle Branch River
147	6230 - Cattail	1.2	No	
149	122 - Road/Parking Lot	0.8	No	
151	6230 - Cattail	1.0	No	