

Compartment Review Presentation

Cadillac Forest Management Unit

Compartment 63015 Entry Year 2019 Acreage: 2,288 County Lake

Management Area: Lake County Moraines

Revision Date: 07/06/2017

Stand Examiner: Ryan Adamczyk

Legal Description:

T19 R12W, Sections 25, 26, 35, 36

Identified Planning Goals:

Vegetation management in the Lake county Moraines management area 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:

Generally rolling to hilly. The soils are Mostly Montcalm-Greycalm, and Rubicon sands.

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

State land around the compartment on all sides except the north where there is private ownership.

Unique Natural Features:

Eastern box turtle historically present in the area; extant records to W, SE, and SW. Eastern massasauga located just outside compartment in NE 1/4 of section 20; additional records to N. Wood turtle to S and SW and spotted turtle to W. Blanding's turtle to SW. Bald eagle to W and SW. Common loon to N and W. Historical great blue heron rookeries to N and NE. Great plains spittlebug to S and W. Historical Karner blue record to SW.

Archeological, Historical, and Cultural Features:

None

Special Management Designations or Considerations:

Visual management techniques shall be followed where necessary with respect to the ORV trail and horse trail.

Watershed and Fisheries Considerations:

Wildlife Habitat Considerations:

Featured wildlife species include deer, bear, ruffed grouse, woodcock, and turkey. Other species utilizing early-successional communities and young forests will benefit from management for these species. Management objective is to maintain diversity of cover types and age classes as well as maintain and/or enhance habitat including work on openings and edges for wildlife species. Retain soft and hard mast sources where applicable to preserve wildlife hunting and viewing opportunities. (A. Herban 6/07/17)

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 400 and 800 feet. Beneath the glacial drift is the Mississippian Bayport Limestone and Pennsylvanian Saginaw Formation. The Bayport is quarried for limestone and the Saginaw for brick making clay in other areas of the State. A gravel pit is located in Section 27 and potential is good. The nearest oil and gas production is the one well abandoned Luther Field located two miles to the north. The Field produced over 28,000 BO from the Traverse Limestone. The compartment is not currently leased for oil and gas exploration.

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

Recreational Facilities and Opportunities:

The Tin Cup ORV Route, and Tin Cup ORV single track motorcycle trail are located within this compartment. Policy and Procedure 32.22-01 (Best Management Practices for Forest and Wildlife Management Adjacent to Recreational Trails).should be considered if forest treatments impact these motorized recreational trails. A horse trail used solely for an annual event permit is also located within this compartment. Hunters and trappers utilize this compartment. (T.M.N. 12/1/16).

Fire Protection:

Initial Attack for this compartment is from the Baldwin Office. This compartment has few roads, but terrain would allow for good access for equipment. There is a potential for fire growth, due to the lack of natural barriers.

Additional Compartment Information:

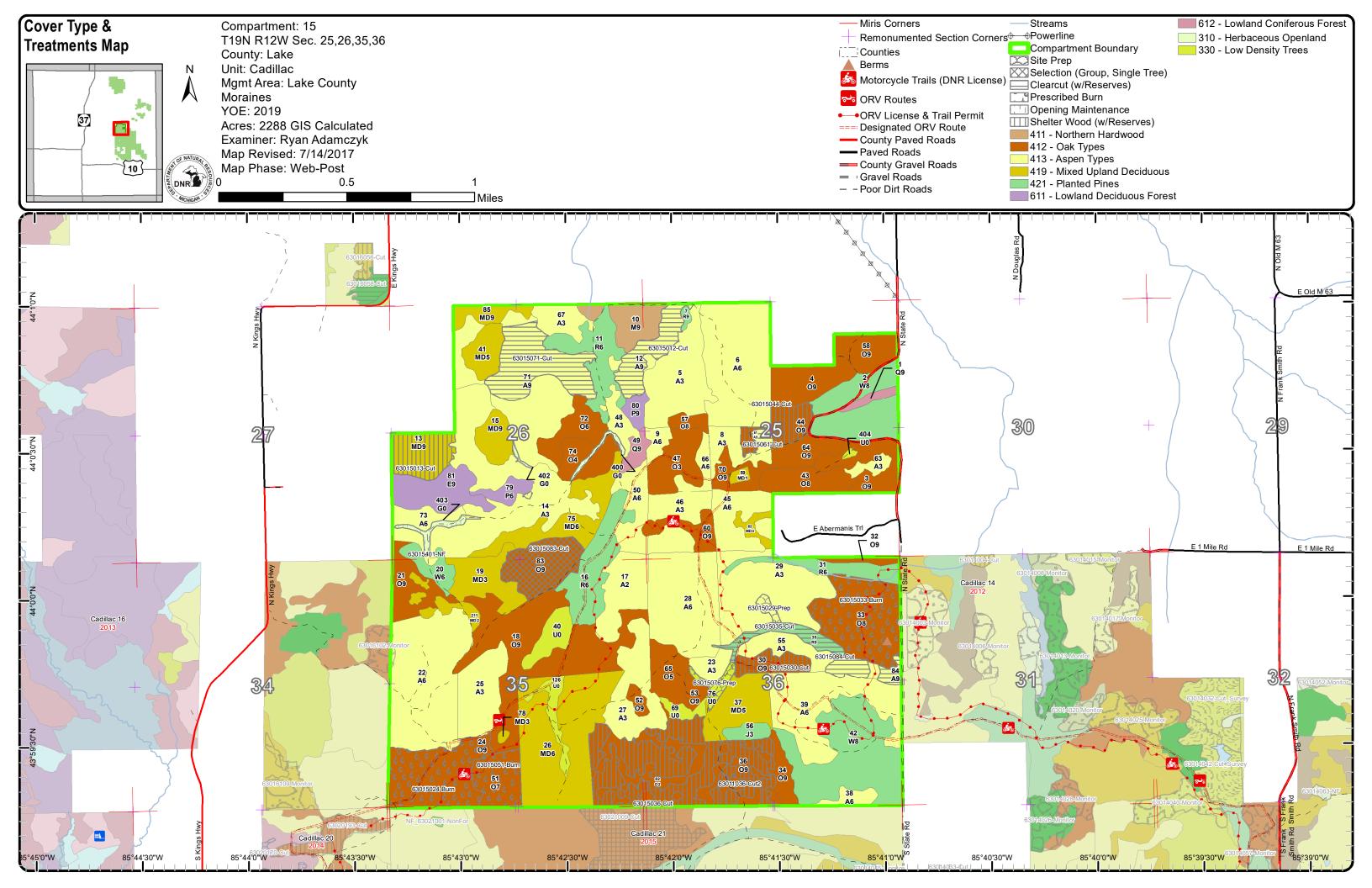
None

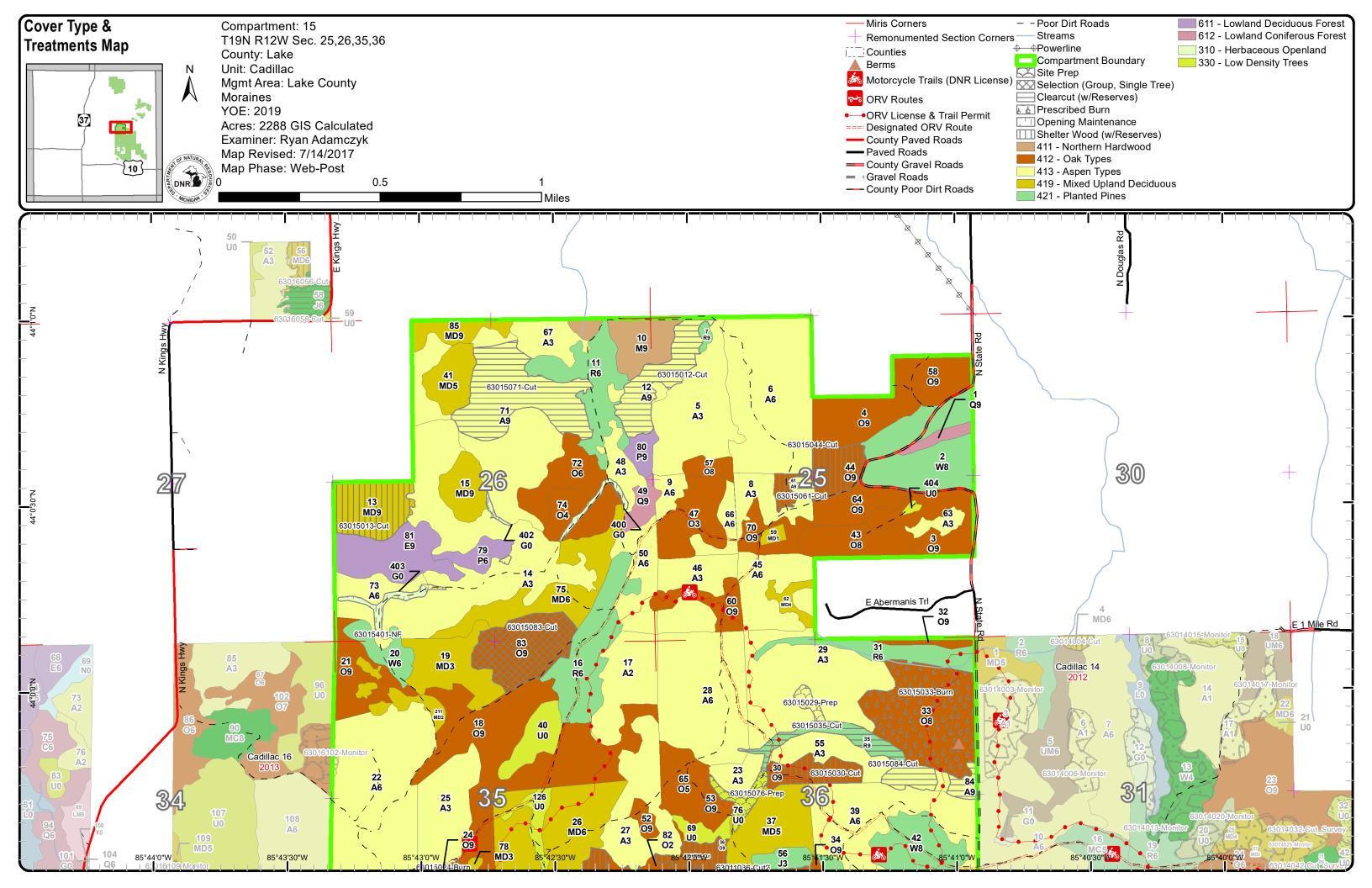
The following reports from the Inventory are attached:

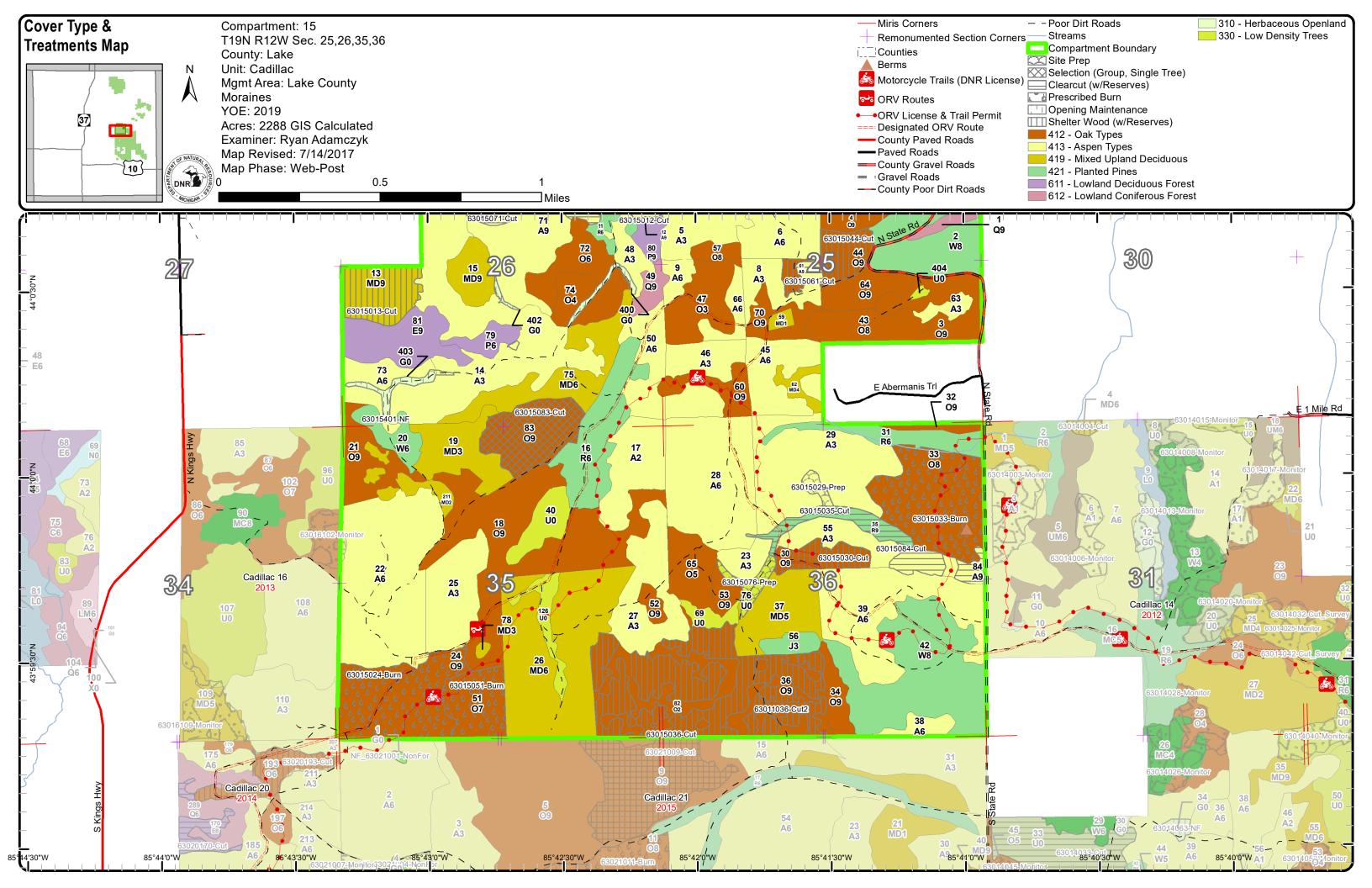
Total Acres by Cover Type and Age Class Cover Type by Harvest Method Proposed Treatments – No Limiting Factors Proposed Treatments – With Limiting Factors Stand Details (Forested and Nonforested) Dedicated and Proposed Special Conservation Areas Site Condition Details

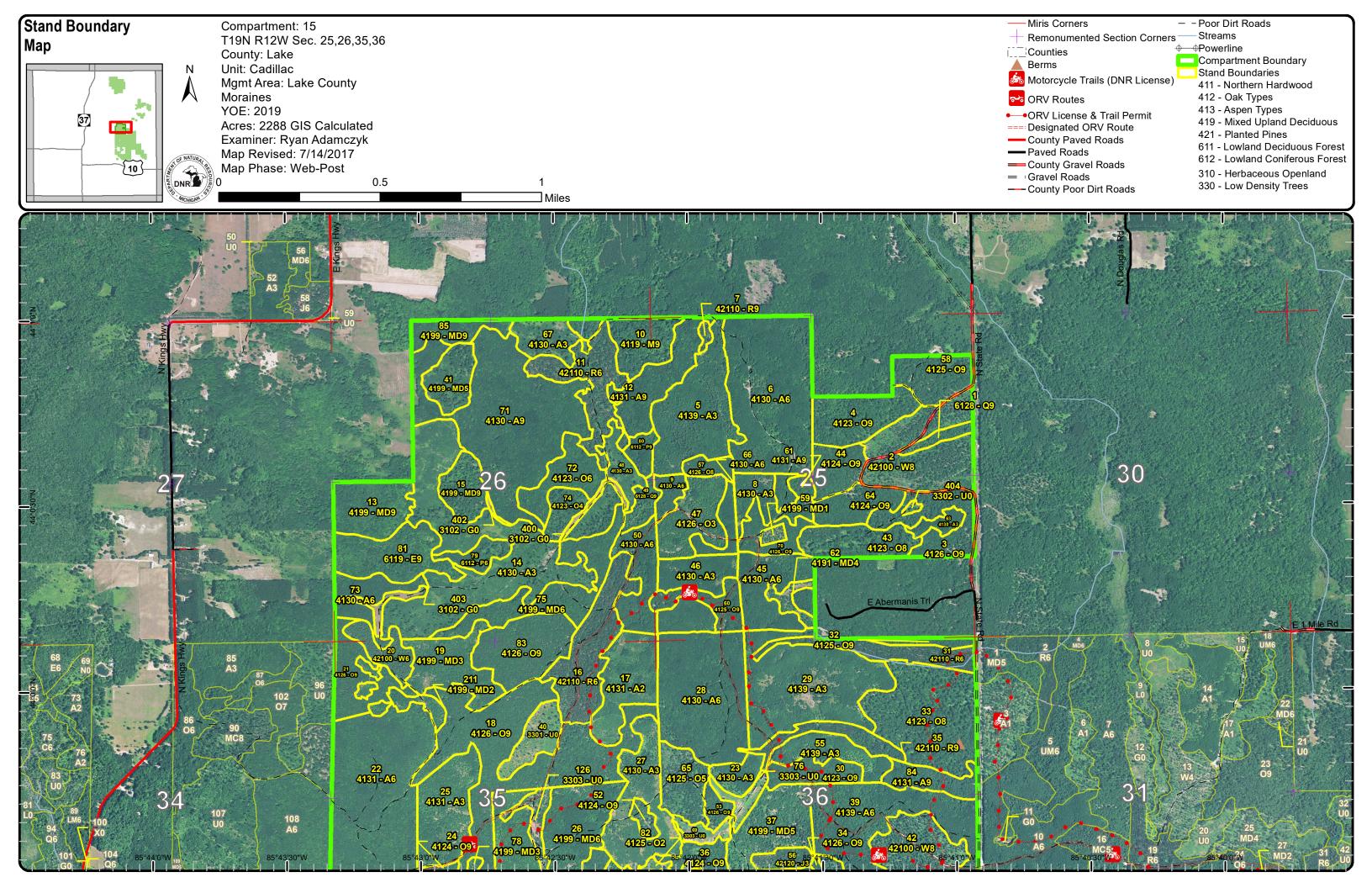
The following information is displayed, where pertinent, on the attached compartment maps:

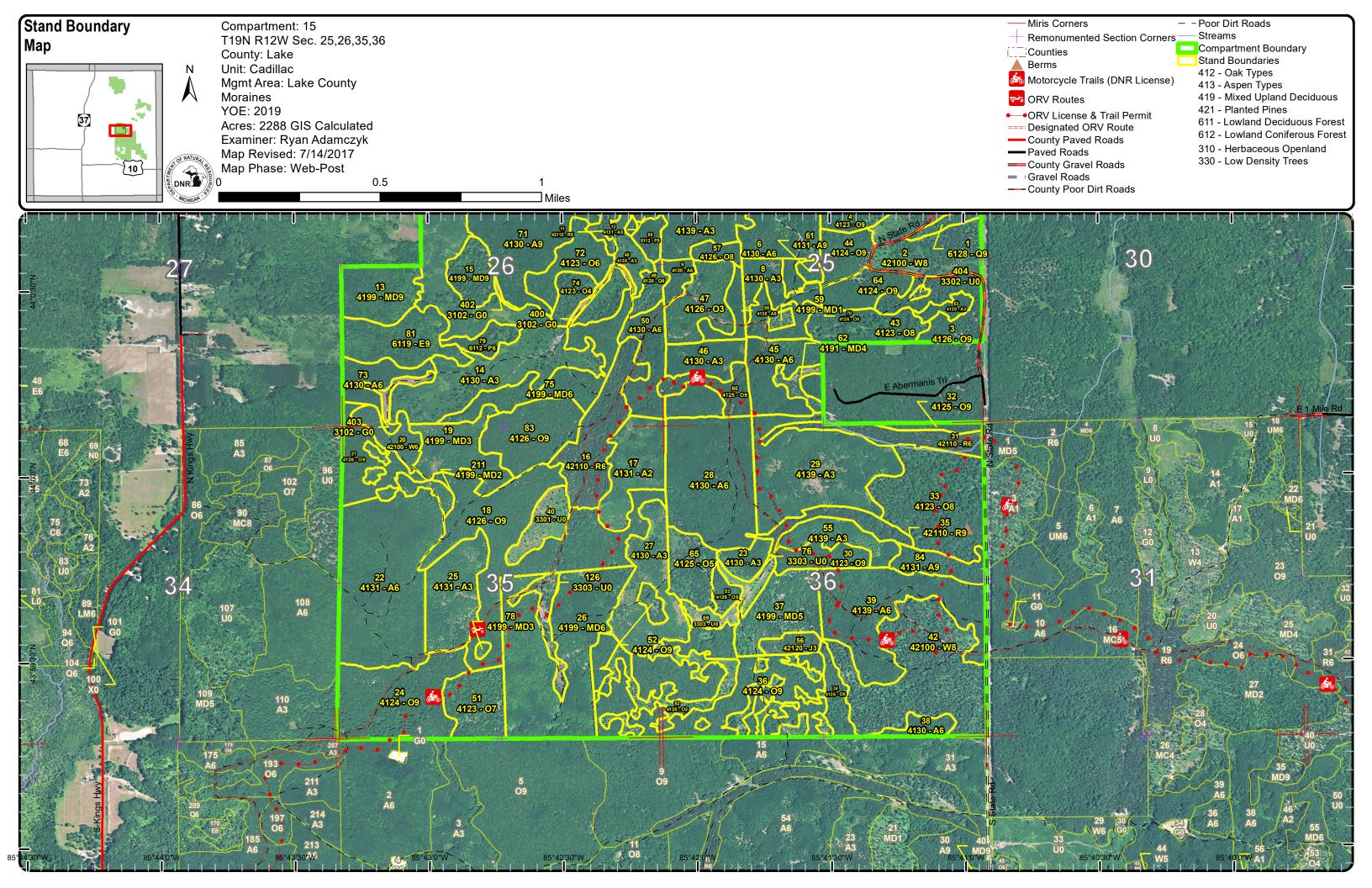
Base feature information, stand boundaries, cover types, and numbers Proposed treatments
Site condition boundaries
Details on the road access system

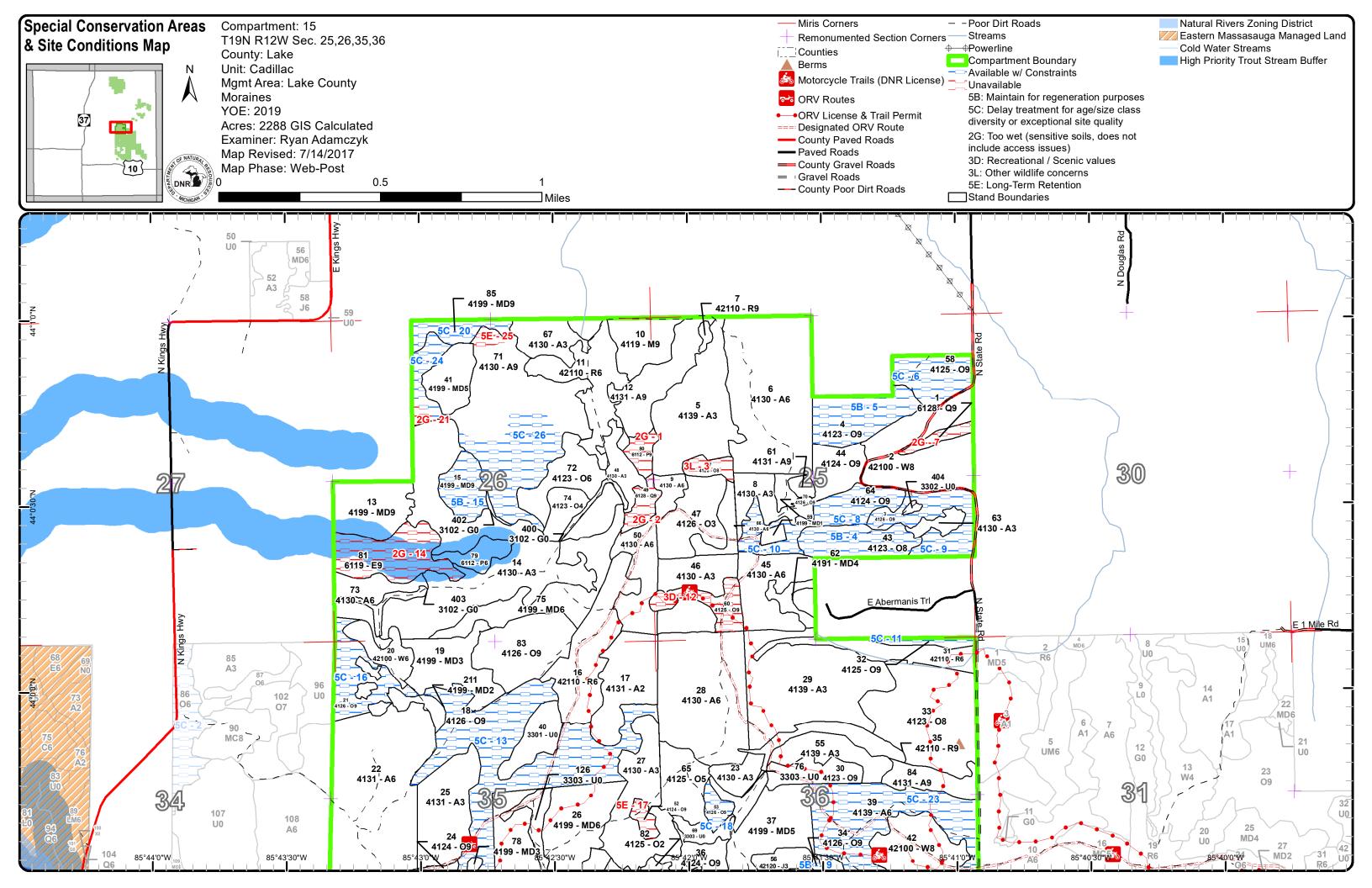


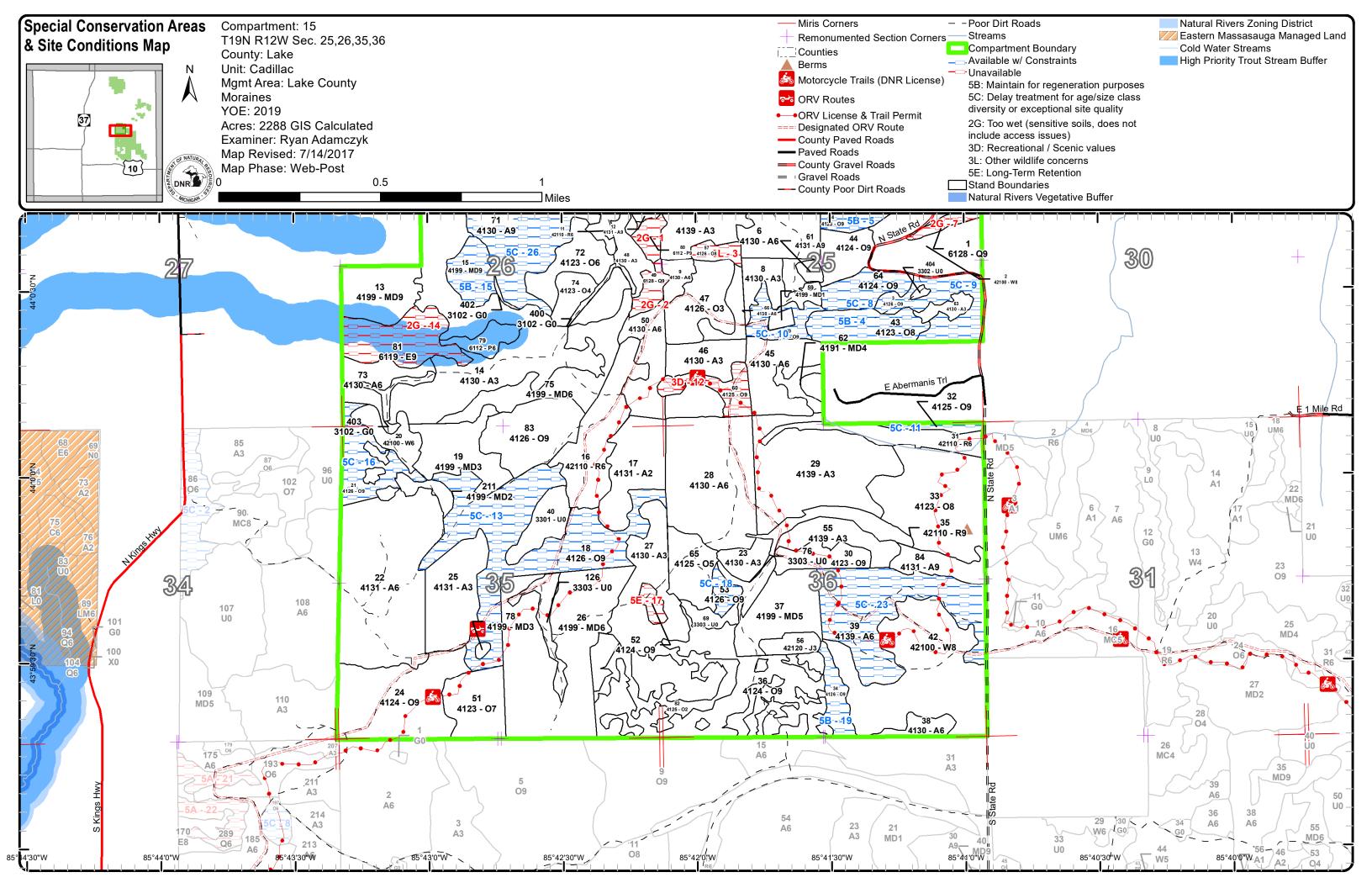












Compartment 15 Year of Entry 2019

Ryan Adamczyk: Examiner

Cadillac Mgt. Unit



Age Class

	¥or	LA S	3/2		\$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\$ /\$) } / &	\$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	80 80	\$ /%	70,	S. / &	\$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	85 / 15 N	N. S.	Or July	N. A.
Aspen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	947
Herbaceous Openland	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Jack Pine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Low-Density Trees	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37
Lowland Aspen/Balsam Poplar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Lowland Conifers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Lowland Deciduous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	270
Northern Hardwood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
Oak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	698
Red Pine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103
White Pine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	141
Total	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	2289



Report 2 – Treatment Summary

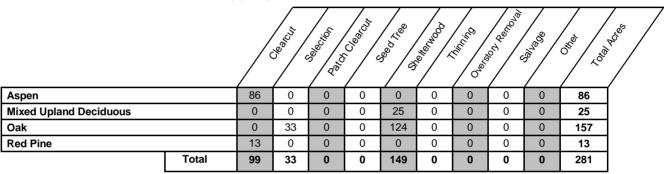
Cadillac Mgt. Unit Year of Entry: 2019

Acres of Harvest

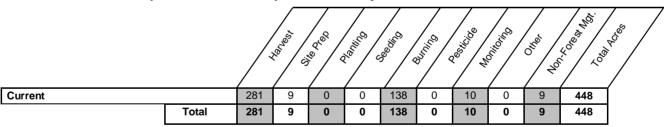
Compartment 15
Total Compartment Acres: 2,288

Commercial Harvest - 281 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: 15 s Year of Entry: 2019 а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type** Approval n Age Method Objective Name Structure **Status** d CoverType Density Aae Range Type 63011036-4124 - Red with 4124 - Red with 36 20.9 Sawtimber 104 81-110 Harvest Shelterwood Two-Aged Proposal White Oak Cut2 White Oak Well **Habitat Cut: No** Site Condition: Prescription Cut the stand to 40-60 BA depending on quality, focusing retention on northern red oak. Do not cut any pine. Mark leave trees in pockets in order to Specs: maximize the amount of edge. Next Step Treatments: Acceptable oak sp., aspen, white pine Regen: Other Comment: Proposed Start Date: 10/01/2018 12 63015012-Cut 23.6 4131 - Aspen, Oak Sawtimber 111-Harvest Clearcut with 4119 - Mixed Two-Aged Proposal Northern Well 140 Retention Hardwoods **Habitat Cut: No Site Condition:** Prescription Cut all aspen, beech, and red maple. Orange mark to cut trees around high quality red oak and sugar maple in order to release them. Orange mark any low quality non spec species. Mark red pine to 20 BA where applicable. Specs: Next Step Treatments: Acceptable aspen, sugar maple, red oak, beech Regen: Other Comment: **Proposed Start Date:** 10/02/2019 63015013-Cut 25.1 4199 - Other Mixed Sawtimber 108 111-Harvest Shelterwood 411 - Northern Two-Aged Proposal **Upland Deciduous** Well 140 Hardwood **Habitat Cut: No Site Condition:** Prescription Cut this stand to 80 BA focusing on releasing high quality desirable species. Keep a good buffer against the stream. Do not cut any hemlock. Cut Specs: during winter only to reduce the impact on moist soils. Mats will be needed to access this sale. Treatments:

Next Step

Acceptable red oak, sugar maple, beech, aspen, white oak, ash, basswood

Regen:

Other Comment:

Proposed Start Date: 10/01/2018

63015024-54.9 4124 - Red with 4124 - Red with 24 Sawtimber 51-80 Burn Understory Two-Aged Proposal Burn White Oak Well White Oak

Habitat Cut: No Site Condition:

Prescription Burn this stand to kill off the maple and aspen sprouts and expose a good seed bed for oak regeneration.

Specs:

Next Step Treatments:

Acceptable red oak, white oak, aspen, hybrid oak

Regen:

Other Comment:

Cadillac Mgt. Unit Report 3 -- Treatments Compartment: 15 s Year of Entry: 2019 а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type** Age Approval n Name Method Objective Structure Status CoverType Density Age d Range Type 29 63015029-3.2 4139 - Aspen, Mixed Sapling 4211 - Planted 16 Immatu SitePrep Trenching Even-Aged Proposal Deciduous Red Pine Prep Well re **Habitat Cut:** No **Site Condition:** Prescription Trench old landing and plant to red pine along with stand 35. Specs: Next Step Treatments: Acceptable red pine Regen: Other Comment: Proposed Start Date: 10/01/2018 30 63015030-Cut 4123 - Red Oak 111-4124 - Red with Sawtimber Harvest Shelterwood Two-Aged Proposal White Oak Well 140 **Habitat Cut: No Site Condition:** Prescription Cut this stand 40-60 ba focusing retention on quality northern red oak and white oak. Do not cut any pine. Burn post harvest to control maple sprouts. Specs: Use orv spec and cycle spec. Next Step Treatments: Acceptable oak sp, aspen Regen: Other Comment: **Proposed Start Date:** 10/01/2019 63015033-59.7 4123 - Red Oak Sawtimber 104 51-80 Burn Understory 4129 - Mixed Two-Aged Proposal Oak Medium Burn **Site Condition: Habitat Cut: No** Prescription Burn to kill off maple and aspen sprouts. Do not exclude areas with aspen regen. Burn the entire stand to promote oak regen. Specs: Next Step Treatments: Acceptable oak species Regen: Other

Comment:

Proposed Start Date:

10/01/2018

63015035-Cut 13.0 42110 - Planted Sawtimber 60 141-Harvest Clearcut 4211 - Planted Even-Aged Proposal Red Pine Red Pine Well 170

Habitat Cut: No Site Condition:

Prescription Cut all species. Trench and re-plant to red pine along with stand 76. Use ORV and cycle trail spec.

Specs:

Next Step **Treatments:**

Acceptable red pine

Regen:

Other

Comment:

Cadillac Mgt. Unit Report 3 -- Treatments Compartment: 15 s Year of Entry: 2019 а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type** Approval n Age Method Objective Status Name Density Age Structure d CoverType Range Type 63015036-Cut 4124 - Red with Shelterwood 4124 - Red with 36 71.1 Sawtimber 104 81-110 Harvest Two-Aged Proposal White Oak White Oak Well Site Condition: **Habitat Cut: No** Prescription Cut the stand to 40-60 BA depending on quality, focusing retention on northern red oak. Mark a few pines throughout the stand for diversity. Mark leave trees in pockets in order to maximize the amount of edge. Specs: Next Step Treatments: Acceptable oak sp., aspen, white pine Regen: Other Comment: Proposed Start Date: 10/01/2018 44 63015044-Cut 4124 - Red with 18.8 Sawtimber 89 81-110 Harvest Shelterwood 4124 - Red with Two-Aged Proposal White Oak Well White Oak **Site Condition: Habitat Cut: No** Prescription Cut this stand to 50-60 BA with a high focus on retaining red oak. Do not cut any aspen. Do not cut red oak that is less than 8" DBH. Focus on cutting Specs: hybrid oak and poor quality white oak. Burn post harvest to control maple sprouts. Next Step Treatments: Acceptable oak sp., red maple, white pine Regen: Other Comment: **Proposed Start Date:** 10/01/2018 63015051-23.8 4123 - Red Oak Sawtimber 1-50 Burn Understory 4124 - Red with Two-Aged Proposal White Oak Poor Burn Site Condition: **Habitat Cut: No** Prescription Burn this stand to kill of maple and aspen sprouts to promote oak regeneration. Burn this stand with stand 24. Specs:

Next Step Treatments:

Acceptable oak sp., aspen, mixed pine

Regen:

Other Comment:

Proposed Start Date: 10/01/2018

63015061-Cut 2.8 4131 - Aspen, Oak Sawtimber 89 81-110 Harvest Clearcut with 4139 - Aspen, Even-Aged Proposal

Well

Retention

Mixed Deciduous

Habitat Cut: No Site Condition:

Prescription Cut all species. Do not cut red or white oak greater than 14" DBH.

Specs:

Next Step **Treatments:**

Acceptable aspen, red maple, oak sp.

Regen:

Other

Comment:

Cadillac Mgt. Unit Report 3 -- Treatments Compartment: 15 s Year of Entry: 2019 а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type** Approval n Age Method Status Name Objective Structure d CoverType Density Age Range **Type** 63015071-Cut 71 47.4 4130 - Aspen Sawtimber 63 141-Harvest Clearcut with 413 - Aspen Even-Aged Proposal Well 170 Retention **Habitat Cut: No Site Condition:** Prescription Cut all species. Do not cut sugar maple >8" DBH. Retention will be in the form of residual trees and the small area Specs: Next Step Treatments: Acceptable aspen, sugar maple, red oak, pine sp., beech Regen: Other Comment: Proposed Start Date: 10/01/2019 63015076-6.2 3303 - Mixed Low 4211 - Planted Nonstocked SitePrep Trenchina Even-Aged Proposal Prep **Density Trees** Red Pine **Habitat Cut: No Site Condition:** Prescription Trench and plant to red pine. This stand was clearcut last yoe due to fire damage. Natural regen has failed. Specs: Next Step Treatments: Acceptable red pine Regen: Other Comment: **Proposed Start Date:** 10/01/2018 63015083-Cut 32.9 4126 - White, Black, Sawtimber 81-110 Harvest Single Tree 4126 - White, Two-Aged Proposal Black, N. Pin N. Pin Oak Well Selection Oak **Habitat Cut: No Site Condition:** Prescription Cut all aspen and red maple. Cut the oak to 30-40 BA focusing retention on white oak and the few red oaks that are present. Specs: Next Step **Treatments:**

Acceptable oak sp., aspen, red maple, white pine

Regen:

Other Comment:

Proposed Start Date: 10/01/2019

63015084-Cut 11.7 4131 - Aspen, Oak Sawtimber 111-Clearcut with 4131 - Aspen, Harvest Even-Aged Proposal Well 140 Retention Oak

Habitat Cut: No Site Condition:

Prescription Mark a few high quality red/white oak to leave per acre. There will be a 100 Ft buffer along the cycle trail as retention. Cut in winter only.

Specs:

Next Step **Treatments:**

Acceptable aspen, oak sp, white pine, red maple

Regen:

Other Comment:

Cadillac Mgt. Unit Report 3 -- Treatments

Compartment: 15 Year of Entry: 2019

DNR DNR
nproval

a n d	Treatment Name	Acres	Stand CoverType	Size Stand Density Age	I BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
403	63015401-NF	9.1	3102 - Grass	Nonstocked	Unspec ified	NonForestMgt	Herbaceous/Crop/ Grass Planting	310 - Herbaceous Openland		Proposal

Habitat Cut: No Site Condition:

<u>Prescription</u> Specs: Maintain in open state. Brushing, tree cutting, as well as annual or rotational tillage and planting of forage species. May convert to perennial mix or plant mast producing shrubs or trees. Treatment of invasive species as needed.

Next Step Treatments:

s

Acceptable Regen:

Other Comment:

Proposed Start Date: 10/01/2008

Total Treatment Acreage Proposed:

437.6

Cadillac Mgt. Unit

Ryan Adamczyk: Examiner

Availa	ability for	Managemer	nt							
Total	Acres	Acres Avail	Acres	D	omina	nt Site	e Con	dition	s	
Acres	Available	With Condition	Not Available		5B	5C	2G	3D	3L	5E
947	829	113	5	Aspen		113	2			3
8	8	0	0	Herbaceous Openland						
7	7	0	0	Jack Pine						
37	37	0	0	Low-Density Trees						
14	8	0	6	Lowland Aspen/Balsam Poplar			6			
12	0	0	12	Lowland Conifers			12			
30	0	0	30	Lowland Deciduous			30			
270	228	26	16	Mixed Upland Deciduous	15	11	16			
22	22	0	0	Northern Hardwood						
697	418	256	23	Oak	59	198		13	6	4
103	103	0	0	Red Pine						
140	140	0	0	White Pine						
2,288	1,801	395	92	Total Forested Acres	73	322	66	13	6	8
	79%	17%	4%	Relative Percent			-			

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

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	6	Unspecified	Unspecified	Unspecified	Unspecified
(Comments:						
2	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	7	Unspecified	Unspecified	Unspecified	Unspecified
(Comments:						

Cadillac Mgt. Unit
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3	Unavailable	3L: Other wildlife concerns	6	3H: Deer Wintering Area - habitat is incompatible with harvest at this time	Unspecified	Unspecified	Unspecified
	Comments:						
4	Available	5B: Maintain for regeneration purposes	22	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
5	Available	5B: Maintain for regeneration purposes	27	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
6	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	20	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
7	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	5	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
8	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	16	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						

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9	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	25	Unspecified	Unspecified	Unspecified	Unspecified
(Comments:						
10	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	12	Unspecified	Unspecified	Unspecified	Unspecified
(Comments:						
11	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5	Unspecified	Unspecified	Unspecified	Unspecified
(Comments:						
12	Unavailable	3D: Recreational / Scenic values	13	Unspecified	Unspecified	Unspecified	Unspecified
(Comments:						
13	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	94	Unspecified	Unspecified	Unspecified	Unspecified
(Comments:						
14	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	31	Unspecified	Unspecified	Unspecified	Unspecified
(Comments:						

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15	Available	5B: Maintain for regeneration purposes	15	Unspecified	Unspecified	Unspecified	Unspecified
C	Comments:						
16	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	21	Unspecified	Unspecified	Unspecified	Unspecified
C	Comments:						
17	Unavailable	5E: Long-Term Retention	4	Unspecified	Unspecified	Unspecified	Unspecified
C	Comments:						
18	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5	Unspecified	Unspecified	Unspecified	Unspecified
C	Comments:						
19	Available	5B: Maintain for regeneration purposes	11	Unspecified	Unspecified	Unspecified	Unspecified
C	Comments:						
20	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	11	Unspecified	Unspecified	Unspecified	Unspecified
C	Comments:						

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21	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	2	Unspecified	Unspecified	Unspecified	Unspecified
C	Comments:						
23	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	65	Unspecified	Unspecified	Unspecified	Unspecified
C	comments:						
24	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	10	Unspecified	Unspecified	Unspecified	Unspecified
C	Comments:						
25	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
C	comments:						
26	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	39	Unspecified	Unspecified	Unspecified	Unspecified
C	comments:						

Mgt. Unit

Compartment: #Type!
Year of Entry:

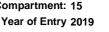


Report 5 - PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* 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: 15





Report 6 - 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 oxyge stocked trout populations and those of other coldwater fis year to year. Coldwater streams in Michigan typically procontributions of groundwater to their stream flows. Such designated as trout resources by Fisheries Order 210.	sh species (e.g., slimy sculpin) to persist from vide these conditions due to substantial
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosys influences the aquatic ecosystem and vice-versa. Becaus streams and open water wetlands, riparian areas harbor communities are ecologically and socially significant in the as aesthetics, habitat, bank stability, timber production, a	se of the unique conditions adjacent to lakes, a high diversity of plants and wildlife. Riparian eir effects on water quality and quantity, as well

S	Cadilla	c Mgt. Unit		Report 7	Forested	Stands Compartment: 15 Year of Entry: 2019
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Well	4.8	110	81-110	This is a mixed conifer stand that has a seasonal creek running through it with lots of hemlock, white pine, cedar, and aspen.
2	42100 - Planted White Pine	Sawtimber Medium	46.8	45	51-80	Stand harvested by Miller Logging (Harrison, MI) as part of sale # 63-041-09-01 Ear Pierce Oak. All hardwoods were cut which allows for dense sprouting of aspen and maple in the southeast corner and along stand 1. Size and quality increase in the ESE portion.
3	4126 - White, Black, N. Pin Oak	Sawtimber Well	24.7	92	81-110	A heavy mix of oak and white pine overstory with maple coming up. The southern portion is better quality oak with less pine.
4	4123 - Red Oak	Sawtimber Well	26.5	92	51-80	Stand harvested by Miller Logging (Harrison, MI) as part of sale # 63-041-09-01 Ear Pierce Oak. Quality of red oak increases to the west. Theres heavy browse on all oak regen and pockets of aspen/maple regen. There's also a low wetland with large white pine and hemlock in the southwest corner.
5	4139 - Aspen, Mixed Deciduous	Sapling Well	47.6	15	Immature	Stand treated as part of "Velvet Rack" sale # 63-055-99-01.
6	4130 - Aspen	Poletimber Well	79.8	28	Immature	Lots of good aspen regeneration. There are mixed pockets dominated mostly by oak and/or white pine. The white pine pockets are planted and vary in size 8"-16"
7	42110 - Planted Red Pine	Sawtimber Well	1.7	56	81-110	Stand was thinned last year of entry. Not much under story other than seedling red pine.
8	4130 - Aspen	Sapling Well	14.9	16	Immature	Stand treated as part of "Opening Day Aspen" sale # 63-063-99-01.
9	4130 - Aspen	Poletimber Well	6.3	26	81-110	
10	4119 - Mixed Northern Hardwoods	Sawtimber Well	22.2	108	81-110	Small marsh towards middle - south side. Stand treated as part of "Luther's Mix" sale # 63-111-01-01.THINNED BY MARKING TO REMOVE.
11	42110 - Planted Red Pine	Poletimber Well	31.2	57	81-110	Stand was 1/3 rd row thinned last yoe.
12	4131 - Aspen, Oak	Sawtimber Well	26.3	63	111-140	Cut all aspen, beech, and red maple. Orange mark to cut trees around high quality red oak and sugar maple in order to release them. Orange mark any low quality non spec species. Mark red pine to 20 BA where applicable.
13	4199 - Other Mixed Upland Deciduous	Sawtimber Well	25.1	108	111-140	Quality increases as you go north. Intermittent stream present. Variety of Northern Hardwood species. This stand should be thinned to 80 ba. Keep a good buffer area around the intermittent stream. Retention will be included in the 80 SF as single trees. The retention will be a mix of the species present in this stand. Site access may be an issue.

Site access may be an issue.

S t	Cadillac Mgt. Unit			Report 7	– Forested	Stands Compartment: 15 Year of Entry: 2019
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
14	4130 - Aspen	Sapling Well	94.3	4	Immature	Stand was cut as part of "Hidden Hardwoods" #63-042-09-01
15	4199 - Other Mixed Upland Deciduous	Sawtimber Well	14.6	90	51-80	Stand was cut as part of "Hidden Hardwoods" #042-09-01
16	42110 - Planted Red Pine	Poletimber Well	38.3	57	81-110	
17	4131 - Aspen, Oak	Sapling Medium	29.9	16	Immature	Stand treated as part of "Re-Route Aspen" sale # 63-044-99-01. This stand was clearcut to expand aspen clones on the area and potentially obtain some oak sprouting as well.
18	4126 - White, Black, N. Pin Oak	Sawtimber Well	93.5	97	81-110	Break this stand up and cut out areas 30-40 ba focusing retention on white oak.
19	4199 - Other Mixed Upland Deciduous	Sapling Well	27.3	16	Immature	Stand treated as part of "Buck Snort Hardwood" sale # 63-057-99-01.
20	42100 - Planted White Pine	Poletimber Well	11.6	44	111-140	Stand treated as part of "Horse Trail Release" sale # 63-056-99-02. All species were cut besides white pine to encourage growth.
21	4126 - White, Black, N. Pin Oak	Sawtimber Well	21.3	87	81-110	Hold for age class diversity
22	4131 - Aspen, Oak	Poletimber Well	93.8	42	111-140	A nice aspen stand with a good mix of red/white/hybrid oak. There are a handful of oak dominated pockets throughout the stand. The horse trail runs through this stand. Stand Year Origin was 1975
23	4130 - Aspen	Sapling Well	8.7	16	Immature	Stand treated 2001 "Godzilla Aspen" sale # 63-043-99-01. Well stocked with aspen, maple, and oak. There are a few mature oaks that were left as part of retention.
24	4124 - Red with White Oak	Sawtimber Well	54.9	94	51-80	This stand is quality red oak and white oak as well as some hybrid black. Red maple and aspen was removed 10 Years ago which is out competing all other species. A burn should help this and the neighboring stand.
25	4131 - Aspen, Oak	Sapling Well	33.7	16	Immature	Stand treated as part of "Buck Snort Hardwood" sale # 63-057-99- 01.
26	4199 - Other Mixed Upland Deciduous	Poletimber Well	92.1	28	Immature	There are large areas of oak dominated portions as well as large areas of aspen clones. Possibly consider breaking this stand into multiple stands.
27	4130 - Aspen	Sapling Well	37.5	16	Immature	Stand treated 2001 "Godzilla Aspen" sale # 63-043-99-01. Well stocked with aspen, maple, and oak. There are a few mature oaks that were left as part of retention.
28	4130 - Aspen	Poletimber Well	67.5	39	141-170	A nice aspen stand with mixed oak. Hold until next year of entry if possible. Southern portion was ravaged by fire.

S t	Cadillac	Mgt. Unit		Report 7	- Forested	Stands Compartment: 15 Year of Entry: 2019
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
29	4139 - Aspen, Mixed Deciduous	Sapling Well	69.8	16	Immature	Stand treated 2001 sale "Godzilla Aspen" sale # 63-043-99-01. Well stocked with aspen, maple, and oak. A few scattered mature red pine and white pine throughout. Possibly trench old landings and plant to red pine. There is retention on this stand along the orv and cycle trails in the form of mature oaks.
30	4123 - Red Oak	Sawtimber Well	13.4	92	111-140	Cut this stand 40-60 ba focusing retention on quality northern red oak and white oak. Do not cut any pine. Burn post harvest to control maple sprouts. Use orv spec and cycle spec.
31	42110 - Planted Red Pine	Poletimber Well	18.5	60	111-140	1/3 Rd row thinned last yoe.
32	4125 - Black, N. Pin Oak	Sawtimber Well	4.9	87	81-110	Thick pole sized white pine understory in the east portion. Possibly cut to 20-30 ba.
33	4123 - Red Oak	Sawtimber Medium	59.7	104	51-80	Stand treated as part of "Yellow Hankie Oak" sale # 63-058-99- 01. Was an atempt at a shelterwood but seems to be more Red maple then Oak. Burn this stand.
34	4126 - White, Black, N. Pin Oak	Sawtimber Well	10.6	104	1-50	Stand was cut ~40 years ago leaving an overstory of mature oak and white pine. It's coming back to mostly oak with maple and aspen mixed in.
35	42110 - Planted Red Pine	Sawtimber Well	13.0	60	141-170	Clearcut this stand. Trench and replant along with stand 76. This is a good site for red pine.
36	4124 - Red with White Oak	Sawtimber Well	92.4	104	81-110	There's higher quality red oak in the Easton 1/3rd. Leave a higher ba here. Cut the stand to 40-60 ba depending on quality, focusing retention on northern red oak. Do not cut any pine east of the forest road. Mark a few throughout the rest of the stand for diversity. The surrounding patch cuts responded well and have lots of good oak regeneration. Stand treated as part of "Rosco Oak" sale # 63-077-99-01.
37	4199 - Other Mixed Upland Deciduous	Poletimber Medium	30.4	28	Immature	A good mix of aspen, maple, and oak with scattered mature white pine.
38	4130 - Aspen	Poletimber Well	7.2	37	111-140	Stand Year Origin was 1980
39	4139 - Aspen, Mixed Deciduous	Poletimber Well	64.5	37	111-140	Aspen mixed with pockets of hardwoods. There are a couple small pockets of planted red/white pine here, <2 acres. Good species diversity and size classes here.
41	4199 - Other Mixed Upland Deciduous	Poletimber Medium	15.7	47	1-50	Stand was cut as part of "Hidden Hardwoods" #042-09 Most of the oak and maple are in the northern section where there is steep topography.
42	42100 - Planted White Pine	Sawtimber Medium	81.8	47	51-80	Stand treated timber sale #63-012-09-01, "C15 State Pine". There's higher quality and size class of white pine located

There's higher quality and size class of white pine located centrally, >16" dbh. There's also good pockets of aspen regeneration and lots of scattered oak saplings. Remove half of white pine overstory next year of entry.

S t	Cadillad	Cadillac Mgt. Unit			– Forested	Stands Compartment: 15 Year of Entry: 2019
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
43	4123 - Red Oak	Sawtimber Medium	21.7	92	51-80	7/6/12 Update: Stand harvested by Miller Logging (Harrison, MI) as part of sale # 63-041-09-01 (Ear Pierce Oak). This stand has a low wetland running down the middle comprising of hemlock, red oak, red maple, cattail, and a few red pine. There's a much heavier mixture of white pine in the understory in the western quarter of the stand where size and quality diminish.
44	4124 - Red with White Oak	Sawtimber Well	18.8	89	81-110	High quality red oak is dominant throughout the stand with a mix of large single tree aspen, and smaller dbh hybrid/white oaks. Possibly cut 40-60 removing all hybrid oak. Treat northern section only. Southern part is lesser ba, bigger dbh, more red maple in over story, no hybrid, few whites
45	4130 - Aspen	Poletimber Well	29.2	26	81-110	A fully stocked aspen stand with good oak regen in pockets. Stand Year Origin was 1991
46	4130 - Aspen	Sapling Well	26.1	16	Immature	A fully stocked young aspen stand. Stand was treated in winter of 2000-2001 as part of "Re-Route Aspen" sale # 63-044-99-01.
47	4126 - White, Black, N. Pin Oak	Sapling Well	24.7	26	Immature	Very good white/hybrid oak regeneration. There's a couple pockets of aspen with a few scattered mature white pine throughout.
48	4130 - Aspen	Sapling Well	10.0	4	Immature	Stand was cut as part of "Hidden Hardwoods" #042-09-01
49	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Well	6.7	110	111-140	Mixed swamp conifers. Wet area.
50	4130 - Aspen	Poletimber Well	21.8	46	111-140	Stand Year Origin was 1971
51	4123 - Red Oak	Sawtimber Poor	23.8	97	1-50	Stand treated as part of "Leaning Oak Aspen" sale # 63-045-99- 01. Lots of red maple stump sprouts. Oak regeneration is being heavily browsed by deer. Burn this stand to knock back maple.
52	4124 - Red with White Oak	Sawtimber Well	4.2	104	81-110	Retention area for stand 27.
53	4126 - White, Black, N. Pin Oak	Sawtimber Well	5.4	104	111-140	Maintain for wildlife and diversity. Oak mast area.
55	4139 - Aspen, Mixed Deciduous	Sapling Well	17.5	16	Immature	Stand treated 2001 "Godzilla Aspen" sale # 63-043-99-01. Well stocked with aspen, maple, and oak. More maple than the stand to the north.
56	42120 - Planted Jack Pine	Sapling Well	6.7	16	Immature	Ftp#63484 trenched then hand planted. 12,000 2-0 jack pine bare root seedlings were planted in 2001. This stand is maturing well.

S t	Cadillac	Cadillac Mgt. Unit			– Forested	Stands Compartment: 15 Year of Entry: 2019
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
57	4126 - White, Black, N. Pin Oak	Sawtimber Medium	5.6	85	111-140	There's mature white pine along the southern edge as well as a dense group of red pine saplings concentrated in the middle of the stand. This stand should be held for a wildlife corridor, biodiversity, and a good seed source.
58	4125 - Black, N. Pin Oak	Sawtimber Well	19.9	89	51-80	Lower quality mixed oak with scattered aspen, white, pine, and beech brush. There's a hemlock cedar lowland in the northwest corner < 1 acre.
59	4199 - Other Mixed Upland Deciduous	Sapling Poor	2.4	16	Immature	Stand treated as part of "Opening Day Aspen" sale # 63-063-99- 01. Stand was clearcut to promote oak regen. Lots of maple stump sprouts.
60	4125 - Black, N. Pin Oak	Sawtimber Well	13.1	97	81-110	The ORV trail runs through this stand. Also, the cycle trail was rerouted through this stand after cutting both of the adjacent aspen stands. The stand is mostly low quality oak with some scattered red oak that are higher quality. There is an abundance of aspen regen occurring in the NE corner, possibly clones from the cut made in stand 45.
61	4131 - Aspen, Oak	Sawtimber Well	2.8	89	81-110	A nice stand with large aspen mixed with red/white/hybrid oak and red maple coming up in the under story. Cut all trees. Do not cut red or white oak >14 dbh.
62	4191 - Mixed Upland Deciduous with Conifer	Poletimber Poor	5.8	26	Immature	SITE TREATED 2001 T-SALE # 63-99-01
63	4130 - Aspen	Sapling Well	5.2	16	Immature	Mostly aspen mixed with some red maple and a few mature white pine. SITE TREATED 2001 T-SALE # 63-99-01
64	4124 - Red with White Oak	Sawtimber Well	15.8	89	111-140	Hold for size class and diversity. The horse trail runs through this stand.
65	4125 - Black, N. Pin Oak	Poletimber Medium	19.1	39	51-80	This stand was hit by a wildfire a few years ago and it killed most of the red maple and aspen. The oak seems to be holding well. There's a small pocket of planted white pine along the southern edge, <1 acre.
66	4130 - Aspen	Poletimber Well	8.2	26	81-110	A well stock young aspen stand
67	4130 - Aspen	Sapling Well	14.3	4	Immature	Stand was cut as part of "Hidden Hardwoods" #63-042-09-01
70	4126 - White, Black, N. Pin Oak	Sawtimber Well	12.0	89	111-140	The orv route runs through this stand. Lower quality and size compared to the adjacent oak stand. Lower quality mixed oak.
71	4130 - Aspen	Sawtimber Well	101.5	63	141-170	Stand Year Origin was 1970
72	4123 - Red Oak	Poletimber Well	19.5	47	51-80	

S t	Cadillac		Report 7	– Forested	Stands Compartment: 15 Year of Entry: 2019	
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
73	4130 - Aspen	Poletimber Well	15.6	47	81-110	A nice mature aspen stand that borders stand 14 which was clearcut last yoe. There's a small red pine plantation mixed in the southeast corner. Hold to cut if possible. Stand Year Origin was 1970
74	4123 - Red Oak	Poletimber Poor	18.5	63	1-50	Cut as par of "Hidden Hardwoods". All species were cut besides oak.
75	4199 - Other Mixed Upland Deciduous	Poletimber Well	34.5	47	51-80	Theres a heavier concentration of aspen in the eastern portion.
78	4199 - Other Mixed Upland Deciduous	Sapling Well	1.1	16	Immature	Stand treated as part of "Leaning Oak Aspen" sale # 63-045-99- 01.
79	6112 - Lowland Aspen	Poletimber Well	8.3	47	111-140	A lowland stand within stand 14 that was left as retention due to a small stream running through it. Mostly mature aspen.
80	6112 - Lowland Aspen	Sawtimber Well	6.1	63	111-140	Cut all aspen, beech, and red maple. Orange mark to cut trees around high quality red oak and sugar maple in order to release them. Orange mark any low quality non spec species. Mark red pine to 20 BA where applicable.
81	6119 - Mixed Lowland Deciduous Forest	Sawtimber Well	30.5	108	81-110	Lowland hardwood stand with nice trees. Too wet to harvest.
82	4125 - Black, N. Pin Oak	Sapling Medium	40.7	15	Immature	Patch cuts from 2002, a mix of oak and red maple regen with a few aspen clones
83	4126 - White, Black, N. Pin Oak	Sawtimber Well	32.9	97	81-110	Broke this stand off of 18. Cut to 30-40 ba focusing retention on white oak. Cut all aspen and red maple. Burn this stand post harvest to promote oak regeneration.
84	4131 - Aspen, Oak	Sawtimber Well	13.3	57	111-140	Mark a few high quality red/white oak to leave per acre. There will be a 100 Ft buffer along the cycle trail as retention. Cut in winter only.

4199 - Other Mixed

Upland Deciduous

4199 - Other Mixed Upland Deciduous

85

211

Sawtimber

Well

Sapling Medium 11.2

9.8

63

15

111-140

Immature

Stand Year Origin was 1970

Stand treated as part of "Open-Up HDWD" sale # 63-078-01-01.

Pockets that were clearcut are coming back to aspen, oak, red maple.

Report 8 - Nonforested Stands



Stand	Cover Type	Acres	Managed Site	General Comments:
40	3301 - Low Density Deciduous Trees			Stand harvested by Miller Logging (harrison, MI) as part of sale # 63-041-09-01 (Ear Pierce Oak). Oak was retained at ~10 BA.
69	3303 - Mixed Low Density Trees	5.6		This red pine was clearcut last yoe. It has good oak regen coming up and should be managed as an oak stand now.
76	3303 - Mixed Low Density Trees	6.2		This red pine was clearcut last yoe and needs to be trenched and replanted along with stand 35. Leave the western side as it has good oak regent throughout.
126	3303 - Mixed Low Density Trees	10.2	No	A long opening through stand 26 with a low stocking of mixed oak, black cherry, and mixed pine.
400	3102 - Grass	2.7	No	Maintained Wildlife grass opening.
402	3102 - Grass	0.7	No	This stand appears to be a wildlife opening but its unkown if its currently managed due to access issues. Road work through stand 14 would be needed, including brush clearing and possible dozer work through a wet area.
403	3102 - Grass	4.5	No	Maintained Wildlife grass opening.
404	3302 - Low Density Conifer Trees	1.0	No	A small opening with scattered white pine and cherry. Possibly used as a hunt camp.