



Compartment Review Presentation

Cadillac Forest Management Unit

Compartment 63098

Entry Year 2017

Acreage: 1,646

County Missaukee

Management Area: Upper Muskegon

Revision Date: 2015-06-12

Stand Examiner: Jim Malloy

Legal Description:

Sections 1-4, T21N R5W, Missaukee County

Identified Planning Goals:

Vegetation management in the Upper Muskegon 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 period will focus on harvesting older jack pine and balancing age class distributions of oak, aspen and red pine. Wildlife habitat management objectives include perpetuating early-successional communities for species adapted to young forests for hunting and other wildlife-related recreation. Expected trends within this 10-year planning period are the need to manage exotic species (especially Phragmites and glossy buckthorn), the need to continue to manage cover types for a balanced age-class distribution and an expected increase in recreation pressure.

Soil and topography:

Sandy areas contain Rubicon, Croswell, and Kalkaska soils. Wet areas are composed of Histosols and Lupton muck. Compartment is mostly level with numerous wet areas and includes a portion of the Muskegon River.

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

Solid state ownership in section 1 and partial state ownership in the other sections. Surrounding private land is mostly seasonal homes and recreational properties. Some farmland exists to the west of this compartment.

Unique Natural Features:

Osprey and eastern massasauga have been identified in areas near the eastern portion of the compartment. A Great Blue Heron rookery was past identified in the dead cedar flooding, but it is no longer present. Eagles are present to the east and northeast and wood turtles are present to the southeast.

Archeological, Historical, and Cultural Features:

Indian cemetery, mounds, and prehistoric pits are located in this compartment. Several old homesteads with intact foundations are still present.

Special Management Designations or Considerations:

The Muskegon River runs through the compartment. Considerations for BMP and RMZ management must be taken into account when prescribing treatments near the river or its tributaries.

Watershed and Fisheries Considerations:

The Muskegon River runs southerly through the center of this compartment. The fishery is primarily walleye and northern pike. The standard buffer of 100 feet is requested.

Wildlife Habitat Considerations:

This compartment contains a variety of wildlife habitats, numerous deer yard areas, and numerous wetland complexes. Maintaining this variety of habitats at various age classes will continue to provide valuable habitat to numerous game and non-game species. Featured species of particular interest in this compartment are deer, ruffed grouse, woodcock, bear and snowshoe hare. It is important to retain the oak component in this compartment for mast production. 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

Sections 1-4, T21N R5W, Missaukee County

Surface sediments consist of ice-contact outwash, glacial outwash sand and gravel and postglacial alluvium, and fine- and coarse-textured till. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift is the Pennsylvanian Saginaw Formation. The Saginaw is quarried for clay/shale in other parts of the state. A gravel pit is located

just to the west in Section 5 and another to the northwest in Section 32 (T22N R5W). Potential is considered to be good on the uplands. The Prosper fields are located three miles to the northwest. The fields have produced almost 3 million bbls oil from the Devonian Richfield, Dundee, and Traverse as well as over 155 MMcf gas from the Stray. Oil and gas leases are currently pending for the majority of 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. There is minimal vehicle access through this compartment. The Muskegon river also causes access issues as the only place to cross the river is on Cadillac Rd along the northern edge of the compartment. Other access is via seasonal county roads and scattered forest two-tracks.

Survey Needs:

No additional surveys are needed at this time.

Recreational Facilities and Opportunities:

A section of Snowmobile Trail 6/7 (Stratford-Higgins snowmobile trail) is located in the southwest portion of this compartment. Specifically, appropriate measures identified in DNR Policy & 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 in this compartment. Hunting, fishing, and dispersed camping opportunities are also available within this compartment. (T.M.N. 12/16/14).

Fire Protection:

Access for fire equipment is limited to the higher lands within the compartment. The Muskegon River causes access concerns for the east side of the compartment. Dispersed camping and river users can increase the potential for fire causes within the unit.

Additional Compartment Information:

The following reports from the Inventory are attached:

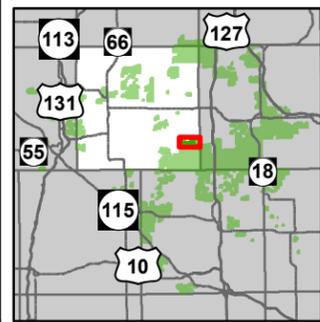
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

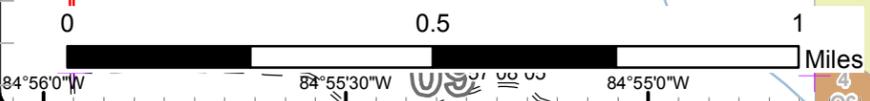
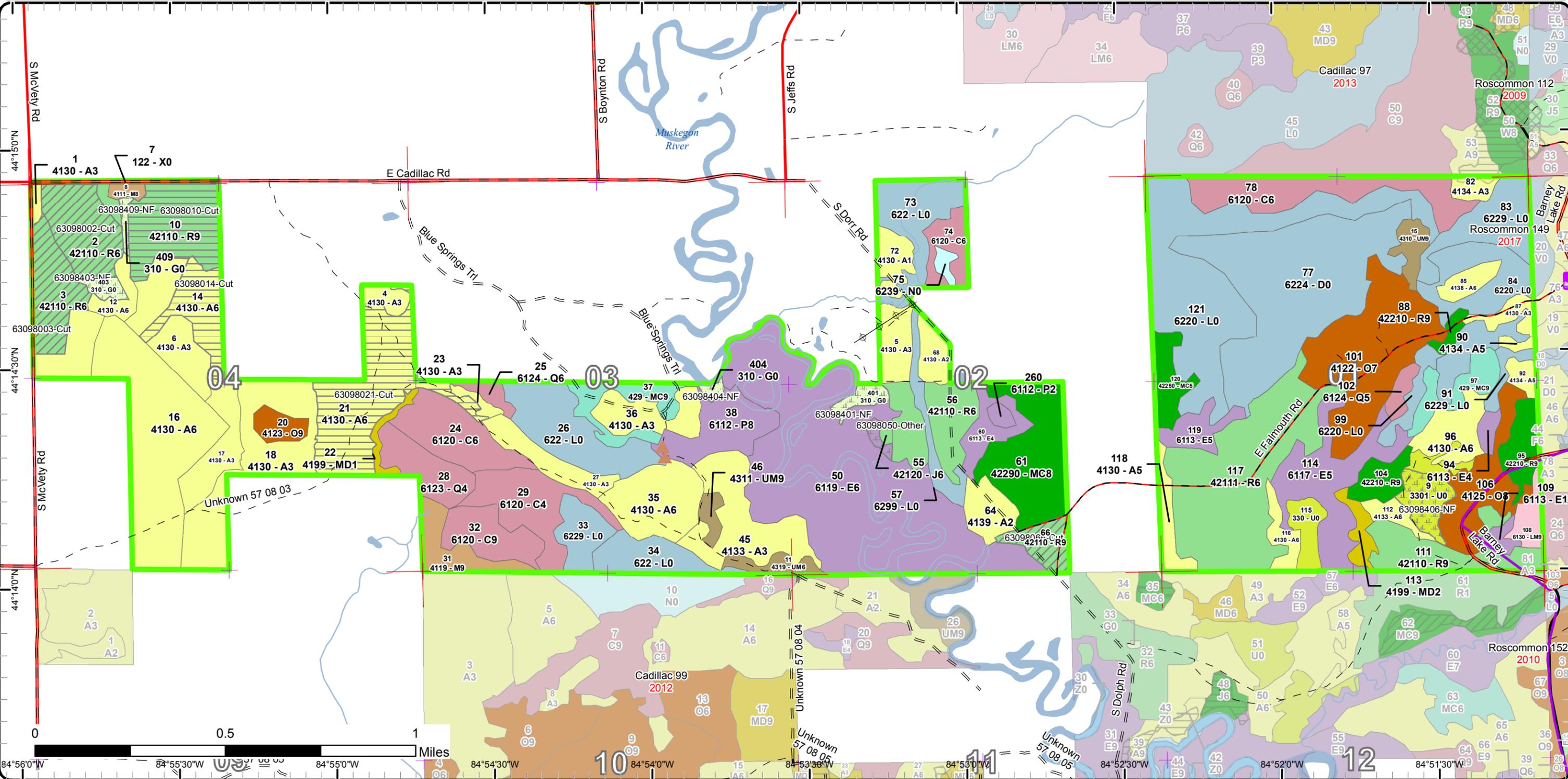
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments

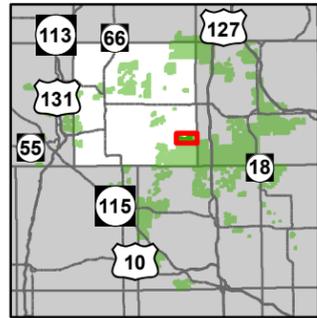
Compartment: 98
 T21N, R05W, Sec. 01-04
 County: Missaukee
 Unit: Cadillac
 Mgmt Area: Upper Muskegon
 YOE: 2017
 Acres: 1646 GIS Calculated
 Examiner: Jim Malloy
 Map Revised: 7/14/2015
 Map Phase: Pre-Review



- ✚ Remonumented Section Corners
- Miris Corners
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- ▲ Berms
- ▲ Campground
- ▲ Snowmobile Trails
- Designated Snowmobile Trails
- Rivers
- Lakes
- Powerline
- Treatments
- Clearcut (w/Reserves)
- Other Treatment - See Comments
- Thinning (Crown, Low, Systematic)
- Non-Forest Covertype
- Forest Covertype
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Fores
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 622 - Lowland Shrub
- 623 - Emergent Wetland

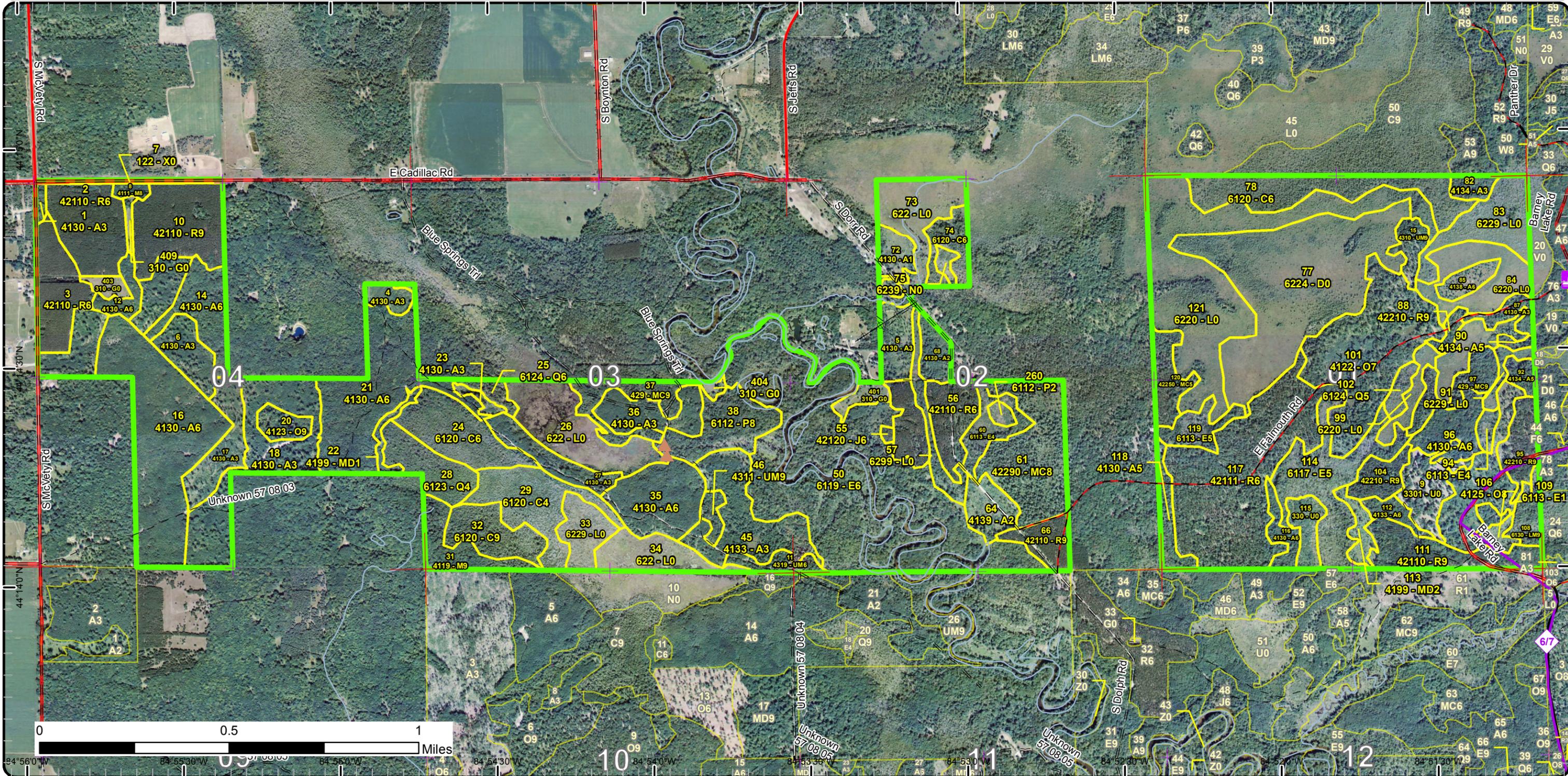


Stand Boundary Map



Compartment: 98
 T21N, R05W, Sec. 01-04
 County: Missaukee
 Unit: Cadillac
 Mgmt Area: Upper Muskegon
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Report 1 – Total Acres by Cover Type and Age Class



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	58	144	109	15	76	5	18	0	0	0	0	0	0	0	0	0	0	425
Cedar	0	0	0	0	0	0	0	0	0	0	44	25	43	0	0	0	0	0	112
Herbaceous Openland	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Jack Pine	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Low-Density Trees	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
Lowland Aspen/Balsam Poplar	0	2	0	0	0	0	0	0	22	0	0	0	0	0	0	0	0	0	24
Lowland Conifers	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	17	25
Lowland Deciduous	0	4	0	0	0	36	0	0	21	3	0	0	0	0	0	0	0	157	221
Lowland Mixed Forest	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7
Lowland Shrub	244	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	244
Marsh	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Mixed Upland Deciduous	0	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Natural Mixed Pines	0	0	0	0	11	0	0	0	39	0	0	0	0	0	0	0	0	0	50
Northern Hardwood	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	2	16
Oak	0	0	0	0	0	0	0	0	0	25	6	58	0	0	0	0	0	0	89
Red Pine	0	0	0	0	26	0	95	43	79	0	0	0	0	0	0	0	0	0	243
Treed Bog	94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94
Upland Conifers	0	0	0	0	0	0	0	12	14	0	0	0	0	0	0	0	0	0	26
Upland Mixed Forest	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	6	17
Urban	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	377	70	148	109	57	112	100	88	182	42	50	83	43	0	0	0	0	182	1643



Report 2 – Treatment Summary

Cadillac Mgt. Unit

Year of Entry: 2017

Acres of Harvest

Compartment 98

Total Compartment Acres: 1,646

Commercial Harvest - 0
 Harvests with Site Condition - 0
 Next Step Harvest - 0
 Habitat Cut - 24

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	67	0	0	0	0	0	0	0	0	67
Red Pine	32	0	0	0	0	57	0	0	0	88
Total	99	0	0	0	0	57	0	0	0	155

Proposed and Next Step Treatments by Harvest Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	155	0	0	0	0	0	2	22		180
Next Step	0	63	63	0	0	32	162	0	0	320
Total	155	63	63	0	0	32	162	2	22	500



S 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
2	63098002-Cut	24.4	42110 - Planted Red Pine	Poletimber Well	35	141- 170	Harvest	Systematic Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
Habitat Cut: No		Site Condition:									
<u>Prescription</u> Thin pine to 100-110 BA											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u>											
<u>Regen:</u>											
<u>Other</u> Old next step comments:											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2016											
3	63098003-Cut	22.0	42110 - Planted Red Pine	Poletimber Well	58	141- 170	Harvest	Low Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
Habitat Cut: No		Site Condition:									
<u>Prescription</u> Thin pine to 120 BA											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u>											
<u>Regen:</u>											
<u>Other</u> Old next step comments:											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2016											
10	63098010-Cut	31.7	42110 - Planted Red Pine	Sawtimber Well	60	141- 170	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Proposal
Habitat Cut: No		Site Condition:									
<u>Prescription</u> Final Harvest, no retention due to restart.											
<u>Specs:</u>											
<u>Next Step</u> Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); Monitoring, Herbicide Use; Planting, Replant; SitePrep, Roller Chopping											
<u>Treatments:</u>											
<u>Acceptable</u> Red Pine											
<u>Regen:</u>											
<u>Other</u> Old next step comments:											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2016											
14	63098014-Cut	17.9	4130 - Aspen	Poletimber Well	68	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal
Habitat Cut: No		Site Condition:									
<u>Prescription</u> Final harvest aspen and maple.											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> Aspen, maple, oak											
<u>Regen:</u>											
<u>Other</u> Old next step comments:											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2016											



S 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
21	63098021-Cut	49.1	4130 - Aspen	Poletimber Well	48	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription Final harvest aspen and maple. Mark oak to leave (10BA)

Specs:

Next Step

Treatments:

Acceptable Aspen, maple, oak, balsam fir.

Regen:

Other Multiple private lines necessary. Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

50	63098050- Other	2.3	6119 - Mixed Lowland Deciduous Forest	Poletimber Well	76	51-80	Other	Other	6229 - Mixed lowland shrub		Proposal
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Habitat Cut: Yes**Site Condition:**

Prescription Maintain as an opening. May include mowing, disking, fertilizing, planting, cutting brush or trees, brush pile creation, planting shrubs or other

Specs: mast/cover species.

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

66	63098066-Cut	10.1	42110 - Planted Red Pine	Sawtimber Well	53	141- 170	Harvest	Low Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Thin pine to 100-110 BA

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

401	63098401-NF	4.5	310 - Herbaceous Openland	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal
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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: 1 /1 /2016



S 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
403	63098403-NF	3.4	310 - Herbaceous Openland	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal

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: 1 /1 /2016

404	63098404-NF	1.5	310 - Herbaceous Openland	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal
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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

9	63098406-NF	10.8	3301 - Low Density Deciduous Trees	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal
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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

409	63098409-NF	1.8	310 - Herbaceous Openland	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal
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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: 1 /1 /2016

**Total Treatment
 Acreage Proposed: 179.5**

Report 5 – Site Conditions

Cadillac Mgt. Unit
Jim Malloy : Examiner

Compartment: 98
Year of Entry: 2017

Availability for Management

Total Acres	Acres		Dominant Site Conditions	1C	2G	5B
	Available	Not Available				
424	413	11	Aspen	5	6	
112	80	32	Cedar		32	
11	11	0	Herbaceous Openland			
1	1	0	Jack Pine			
23	23	0	Low-Density Trees			
24	2	22	Lowland Aspen/Balsam Poplar		22	
25	25	0	Lowland Conifers			
221	66	155	Lowland Deciduous		155	
7	0	7	Lowland Mixed Forest		7	
244	99	145	Lowland Shrub		145	
2	2	0	Marsh			
10	10	0	Mixed Upland Deciduous			
50	50	0	Natural Mixed Pines			
16	16	0	Northern Hardwood			
90	0	90	Oak			90
244	244	0	Red Pine			
94	0	94	Treed Bog		94	
26	26	0	Upland Conifers			
17	17	0	Upland Mixed Forest			
3	3	0	Urban			
1,646	1,089	556	Total Forested Acres	5	462	90
	66%	34%	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 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)	22	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 5 – Site Conditions

Cadillac Mgt. Unit
Jim Malloy : Examiner

Compartment: 98
Year of Entry: 2017

2	Available	5B: Maintain for regeneration purposes	58	Unspecified	Unspecified	Unspecified	Unspecified
Comments: overstory oak over young aspen							
3	Available	5B: Maintain for regeneration purposes	25	Unspecified	Unspecified	Unspecified	Unspecified
Comments: overstory oak over young aspen							
4	Unavailable	1C: Other dept or div proc/practices	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments: if harvested stand would expand into managed wildlife opening.							
5	Available	5B: Maintain for regeneration purposes	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments: overstory oak over young aspen							
6	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	155	3D: Recreational / Scenic values	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified
Comments:							
7	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	245	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 5 – Site Conditions

Cadillac Mgt. Unit
Jim Malloy : Examiner

Compartment: 98
Year of Entry: 2017

8	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Portions accessible commercially wet harvested last entry.							
9	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	32	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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
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Comments



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.

ERA = Ecological Reference Area
HCVA = High Conservation Value Area
SCA = Special Conservation Area

Conservation Area	Type	Description
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	Sapling Well	1.8	28	51-80	Has some residual mature oak. If stand was harvested aspen would spread into adjacent RP plantation causing increased competition for the planted pine.
2	42110 - Planted Red Pine	Poletimber Well	26.4	35	141-170	Per previous inventory: Burned in 1968 and was replanted. R3 last time. Scattered codominant oak competing for canopy space. Contains pockets of a few mature red pine that weren't killed in the fire.
3	42110 - Planted Red Pine	Poletimber Well	22.0	58	141-170	
4	4130 - Aspen	Sapling Well	4.7	6	Immature	harvested last YOE
5	4130 - Aspen	Sapling Well	12.2	6	Immature	Treated acres with sale # 50-07
6	4130 - Aspen	Sapling Well	35.1	16	1-50	harvested last entry. Aspen/red maple with residual over story oak.
8	4111 - S.Maple, Hard Mast Association	Sawtimber Medium	2.2	94	1-50	Old homestead site. Old silo foundation evident. ash is dead standing.
10	42110 - Planted Red Pine	Sawtimber Well	31.7	60	141-170	
11	4319 - Mixed Upland Forest	Poletimber Well	6.4	72	51-80	stand gets wetter to the south as you get closer to stream.
12	4130 - Aspen	Poletimber Well	6.3	44	51-80	birch, sugar maple, and oak present to the north of stand.
14	4130 - Aspen	Poletimber Well	17.9	68	81-110	
15	4310 - Pine, Oak Mix	Sawtimber Well	6.7	68	51-80	This stand serves as retention to the stands to the south and west as it is remote and wet.
16	4130 - Aspen	Poletimber Well	69.2	28	1-50	Stand was harvested in 1987. Growing very well.
17	4130 - Aspen	Sapling Well	16.4	6	1-50	Cut last entry. young aspen with residual over story oak.
18	4130 - Aspen	Sapling Well	40.7	16	1-50	some residual oak in the over story.
20	4123 - Red Oak	Sawtimber Well	6.3	95	1-50	Stand located in middle of A3. Overstory oak with aspen/maple understory as aspen was harvested in 1999. Minimal oak regen. Wet area in the west 1/2 of stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
21	4130 - Aspen	Poletimber Well	49.1	48	81-110	contains a hwd transition along the southern edge. Balsam fir occurs along transition to cedar stand in the SE of stand. Scattered white pine.
22	4199 - Other Mixed Upland Deciduous	Sapling Poor	3.7	15	Immature	Transition from upland to lowland. Harvested in 2000 by habitat cut.. contains scattered sprouts of black ash, aspen, alder, rm, etc. very sparse. Mostly raspberry.
23	4130 - Aspen	Sapling Well	2.4	6	Immature	small stand that was cut commercially northern portion was to wet for harvesting. Previous inventory discussed habitat cut, but no evidence of activity.
24	6120 - Lowland Cedar	Poletimber Well	25.2	104	1-50	Strips cut in 1970 do not contain cedar regen. Very thick balsam understory throughout stand. Some cedar is dying. Maple along edge of stand.
25	6124 - Lowland Spruce- Fir	Poletimber Well	4.2	67	51-80	Stand was to wet to be treated commercially. Keep as future retention area.
27	4130 - Aspen	Sapling Well	13.0	15	Immature	Stand is starting to fill in better. Transition to lowland complex to the north and south.
28	6123 - Lowland Fir	Poletimber Poor	16.8	78	1-50	Stand was predominantly black ash last entry, but much of the ash has died due to EAB and the stand is being overtaken by Balsam Fir. Cedar occurs on transition to NW.
29	6120 - Lowland Cedar	Poletimber Poor	27.4	95	1-50	mostly dead cedar filling in with spruce and fir in some areas.. salvage of cedar was attempted in N of stand with little success. No cedar regen and seems to flood at times.
31	4119 - Mixed Northern Hardwoods	Sawtimber Well	13.6	85	81-110	Hardwood stand with numerous ash snags throughout. Access through state land to the south.
32	6120 - Lowland Cedar	Sawtimber Well	17.1	95	81-110	Previous inventory suggested a harvest, but that is no longer recommended due to lack of successful regeneration in previous local harvests and poor access due to wet location. Cedar starting to die in NE of stand
35	4130 - Aspen	Poletimber Well	26.2	27	1-50	
36	4130 - Aspen	Sapling Well	15.4	15	Immature	Aspen stand with scattered jack pine and balsam fir in the understory.
37	429 - Mixed Upland Conifers	Sawtimber Well	13.9	75	51-80	Center portion of original stand was cut during previous entry. Remaining portion of stand serves as buffer along lowland complex and private to North.
38	6112 - Lowland Aspen	Sawtimber Medium	22.1	70	51-80	swamp aspen - commercial sale would be very difficult. There are pockets of more upland islands. Potential for future habitat cutting on north side. Stream with bluffs runs through south end. Ash in stand is dying.

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Cadillac Mgt. Unit

Report 8 – Forested Stands

Compartment: 98
Year of Entry: 2017

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
45	4133 - Aspen, Mixed Pine	Sapling Well	31.8	15	Immature	Stand was harvested in 2000. Much of the overstory non aspen species were left from the previous stand.
46	4311 - Pine, Aspen Mix	Sawtimber Well	4.0	60	51-80	piece left for last time due to age/ size. Hold until stand to the east closes in.
50	6119 - Mixed Lowland Deciduous Forest	Poletimber Well	157.5	76	51-80	Contains Muskegon rive and many old oxbows of the river. Floods seasonally. Most of the ash is dead/dying.
55	42120 - Planted Jack Pine	Poletimber Well	0.8	37	51-80	Harvest next YOE
56	42110 - Planted Red Pine	Poletimber Well	26.6	53	141-170	Thinned with sale #009-07
60	6113 - Lowland Maple	Poletimber Poor	10.5	74	1-50	merchantable portion of stand was habitat cut. wet with a lot of dead ash snags.
61	42290 - Natural Mixed Pine	Sawtimber Medium	39.2	76	51-80	Stand is becoming two ages with a pine oak overstory and a pine, maple, oak understory developing from the previous cut. open growing pine and oak, with maple and oak understory.
64	4139 - Aspen, Mixed Deciduous	Sapling Medium	10.9	6	Immature	some rutting from previous sales has not filled in. Aspen and red maple are growing well, and residual oak have not produced much regeneration.
66	42110 - Planted Red Pine	Sawtimber Well	10.1	53	141-170	Thinned with sale # 009-07
68	4130 - Aspen	Sapling Medium	7.7	15	Immature	scattered overstory oak along western edge of stand.
72	4130 - Aspen	Sapling Poor	7.4	6	Immature	transitions to lowland to the east. Historic trespass along west was corrected during trespass initiative and resulted in sale of state land to landowner. Aspen starting to fill in stand.
74	6120 - Lowland Cedar	Poletimber Well	10.6	114	81-110	
78	6120 - Lowland Cedar	Poletimber Well	32.2	114	1-50	Cedar stand with maple and BF. Balsam Fir is starting to overtake the understory.
82	4134 - Aspen, Spruce/Fir	Sapling Well	4.5	2	Immature	stand was treated with sale in compartment 897 to the north. Edge was left along lowland.
85	4138 - Aspen (OI)	Poletimber Well	6.1	24	Immature	aspen and black spruce stand surrounded by water.
87	4130 - Aspen	Sapling Well	5.7	24	1-50	OPIC - FMD: OI Stand Year Origin was 1991

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Cadillac Mgt. Unit

Report 8 – Forested Stands

Compartment: 98
Year of Entry: 2017

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
88	42210 - Natural Red Pine	Sawtimber Well	3.1	59	51-80	small pocket of pine left as buffer between previous cut and lowland complex.. Stand is bisected by road.
90	4134 - Aspen, Spruce/Fir	Poletimber Medium	1.7	49	1-50	Aspen and oak with wet areas. Understory starting to fill in with balsam fir.
92	4134 - Aspen, Spruce/Fir	Poletimber Medium	4.1	49	51-80	harvest stand with adjacent larger portion to the east in Roscommon county.
94	6113 - Lowland Maple	Poletimber Poor	3.1	82	1-50	mostly dead ash snags and red maple with a drainage through the middle of the stand.
95	42210 - Natural Red Pine	Sawtimber Well	11.7	65	81-110	treated last entry, aspen starting to encroach on edges.
96	4130 - Aspen	Poletimber Well	14.3	46	51-80	Aspen will hold until next YOE. Very heavy red maple understory but all under 10' in height.
97	429 - Mixed Upland Conifers	Sawtimber Well	12.1	65	51-80	Could be treated with aspen to the south next YOE. Stand transitions from upland to the south to lowland to the north. Scattered pockets of wet mixed in throughout. Some oak in NE corner.
101	4122 - Oak, Pine	Sawtimber Poor	57.8	103	1-50	Treated with sale #067-07. Stand contains a small wet area just north of road in NE of stand. Pine and oak removed last entry, goal is a pine/oak mix.
102	6124 - Lowland Spruce-Fir	Poletimber Medium	4.3	38	1-50	stand transitions to lowland to the southeast. Left as edge following adjacent harvest.
104	42210 - Natural Red Pine	Sawtimber Well	8.8	56	111-140	stand was thinned last entry. aspen pocket in middle of stand. Wait to thin until pine crowns close in, likely next YOE.
106	4125 - Black, N. Pin Oak	Sawtimber Medium	25.4	87	1-50	harvested last entry. Pin oak with aspen understory.
108	6130 - Fir, Aspen, Maple	Sawtimber Well	7.0	71	1-50	stand was too wet to harvest last entry with stand to the west. Lowland conifer with scattered maple and dead ash.
109	6113 - Lowland Maple	Sapling Poor	3.7	5	1-50	OPIC - FMD: same sale with stand 108. Mark to cut hwdws Treated with sale # 13-07
111	42110 - Planted Red Pine	Sawtimber Well	24.5	56	111-140	Thinned out of entry with stand to the south.
112	4133 - Aspen, Mixed Pine	Poletimber Well	4.9	55	51-80	Stand is a mix of aspen maple and conifer. Treatment of stand would likely result in aspen encroaching into managed opening to the east. Discuss treatment with wildlife division.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
113	4199 - Other Mixed Upland Deciduous	Sapling Medium	6.0	6	Immature	stand was final harvested last entry with residual cedar (along west) and oak.
114	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Medium	36.3	42	51-80	Lowland maple with numerous drains running thorough stand.
116	4130 - Aspen	Poletimber Well	6.6	39	51-80	Small pole sized aspen stand with an oak log component;
117	42111 - Planted Red Pine, Mixed Deciduous	Poletimber Well	79.5	74	81-110	Stand was treated last entry. Currently being managed for an oak/pine mix.
118	4130 - Aspen	Poletimber Medium	8.3	30	1-50	Sparse stand bordering private to the west. Mix of aspen, maple, cherry and a few JP.
119	6113 - Lowland Maple	Poletimber Medium	9.5	75	51-80	All ash in stand is dead due to EAB. Stand is seasonally flooded.
120	42250 - Pine, Oak	Poletimber Medium	11.0	39	51-80	Final harvest next YOE. Natural Jack pine and maple that transitions to a lowland type to the east.
260	6112 - Lowland Aspen	Sapling Medium	2.1	4	Immature	stand was habitat cut



Stand	Cover Type	Acres	Managed Site	General Comments:
7	122 - Road/Parking Lot	2.8	No	Cadillac Rd
9	3301 - Low Density Deciduous Tree	15.2	No	Wildlife would prefer to maintain as opening but is starting to fill in with trees. Was managed in the past but not currently.
26	622 - Lowland Shrub	31.6	No	Contains some L-type along the edges.
33	6229 - Mixed lowland shrub	12.7	No	contains some dead cedar that has been picked through in past salvage cuts.
34	622 - Lowland Shrub	17.0	No	past salvage cut cleared the dead cedar from this stand. It is water during some times of year and contains more marsh grass in other times.
57	6299 - Lowland Shrub (OI)	9.5	No	wet drainage dominated by alder. Has a few aspen, rm, and oak scattered throughout.
73	622 - Lowland Shrub	24.0	No	contains drainage to Muskegon River
75	6239 - Mixed Emergent Wetland	2.3	No	black ash sprouts with heave deer browse. stand was previously habitat cut.
77	6224 - Treed Bog	94.1	No	small aspen stand in NE of stand.
83	6229 - Mixed lowland shrub	22.2	No	
84	6220 - Alder/willow	33.2	No	small upland area in middle of stand contains scattered aspen.
91	6229 - Mixed lowland shrub	4.0	No	
99	6220 - Alder/willow	6.8	No	
115	330 - Low-Density Trees	8.2	No	Habitat cut in 2008. Just starting to fill in with aspen.
121	6220 - Alder/willow	82.8	No	
401	310 - Herbaceous Openland	4.5	No	Should not burn for opening maintenace with proximity to nearby homes. There is a need to control illegal ORV traffic and other persistant illegal uses such as brush dumping. Trench and plant to red pine.
403	310 - Herbaceous Openland	3.4	No	Stand serves as good landing site for future pine thinning.



Stand	Cover Type	Acres	Managed Site	General Comments:
404	310 - Herbaceous Openland	1.5	No	potential trespass from neighbor to the north mowing across line.
409	310 - Herbaceous Openland	1.8	No	opening along two track through red pine plantations.