



Compartment Review Presentation

Cadillac Forest Management Unit

Compartment 63129

Entry Year 2020

Acreage: 2,089

County Wexford

Management Area: Manistee River Valley

Revision Date: 2018-06-14

Stand Examiner: Joe Ventimiglia

Legal Description:

T24N R11W Sections 8, 9, 16, 17, 18.

Identified Planning Goals:

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

Soil and topography:

Mostly Kalkaska Sands. Rubicon and some Histosols. Terrain: The majority of this compartment is flat with some gentle hills in the pine plantations and banks above the creeks.

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

Every section has private land in it with the exception of 16. Lake Gitchegumee subdivision lies north and west, with the town of Buckley north of that. One 40 acre parcel in section 9 with good access. Agriculture land to the west. Pere Marquette plan lists 98 acres in SW of section 18 as acquisition parcel. Some trespassing occurring and illegal sign posting near private parcels in sections 9 and 17. Dump site in section 17 was cleaned up by Adopt-a-Forest in Spring 2007 (still clean).

Unique Natural Features:

Compartment is just north of Manistee River Valley.

Archeological, Historical, and Cultural Features:

Michigan Daughters of American Revolution Memorial Forest Monument located in NW corner of section 18. Old Indian trail in Sec. 16.

Special Management Designations or Considerations:

Maintain integrity of streams. Use of BMP's during any logging activities near streams. Note main travel corridor along M-37, for buffers.

Watershed and Fisheries Considerations:

The East and West Branches of Wheeler Creek flow through Compartment 129. Both are Designated Trout Streams, and both branches support naturally reproducing populations of brook trout.

Wildlife Habitat Considerations:

Featured wildlife species in this Management Area are diverse reflecting the wide range of habitat types present. Featured Species of wildlife include american bittern, american woodcock, beaver, black bear, eastern massasuga rattlesnake, golden-winged warbler, mallard, pileated woodpecker, ruffed grouse, snowshoe hare, white-tailed deer, and wood duck. Most of these species benefit from young forest and open types while some require some old trees for foraging and nest/den sites. Maintaining the opening types and balancing harvests with a diverse assortment of age classes in the timber types will meet the goals for these species.

Mineral Resource and Development Concerns and/or Restrictions

Active sand/gravel pits are located at least four miles away, but there appears to be very good sand & gravel potential within the compartment. The prolific Silurian Guelph (Niagaran) reef trend is located one mile to the northwest. There is

probably limited potential for reefs within the compartment and there is no other known potential for other productive formations. There is no known metallic mineral potential in this part of the state. There is currently no active mineral leasing in the area.

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.

Survey Needs:

None at this time.

Recreational Facilities and Opportunities:

No developed recreation. Dispersed fishing, hunting, trapping. North Country Trail is just south of this compartment.

Fire Protection:

Most of the compartment has good vehicle access for fire equipment. There is many areas next to the compartment that is urban interface. This could increase the potential fire fire escapes. The compartment fire response would come from the Manton Field Office, increasing the fire response. Some of the fuels in the compartment could lead to a larger fire growth if a fire were to start. BET 6-4-18

Additional Compartment Information:

None at this time.

The following reports from the Inventory are attached:

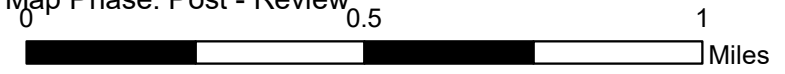
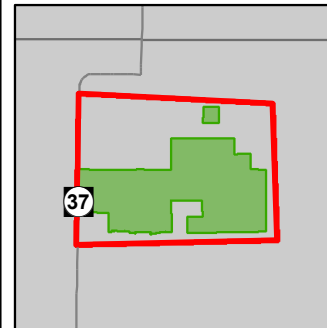
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

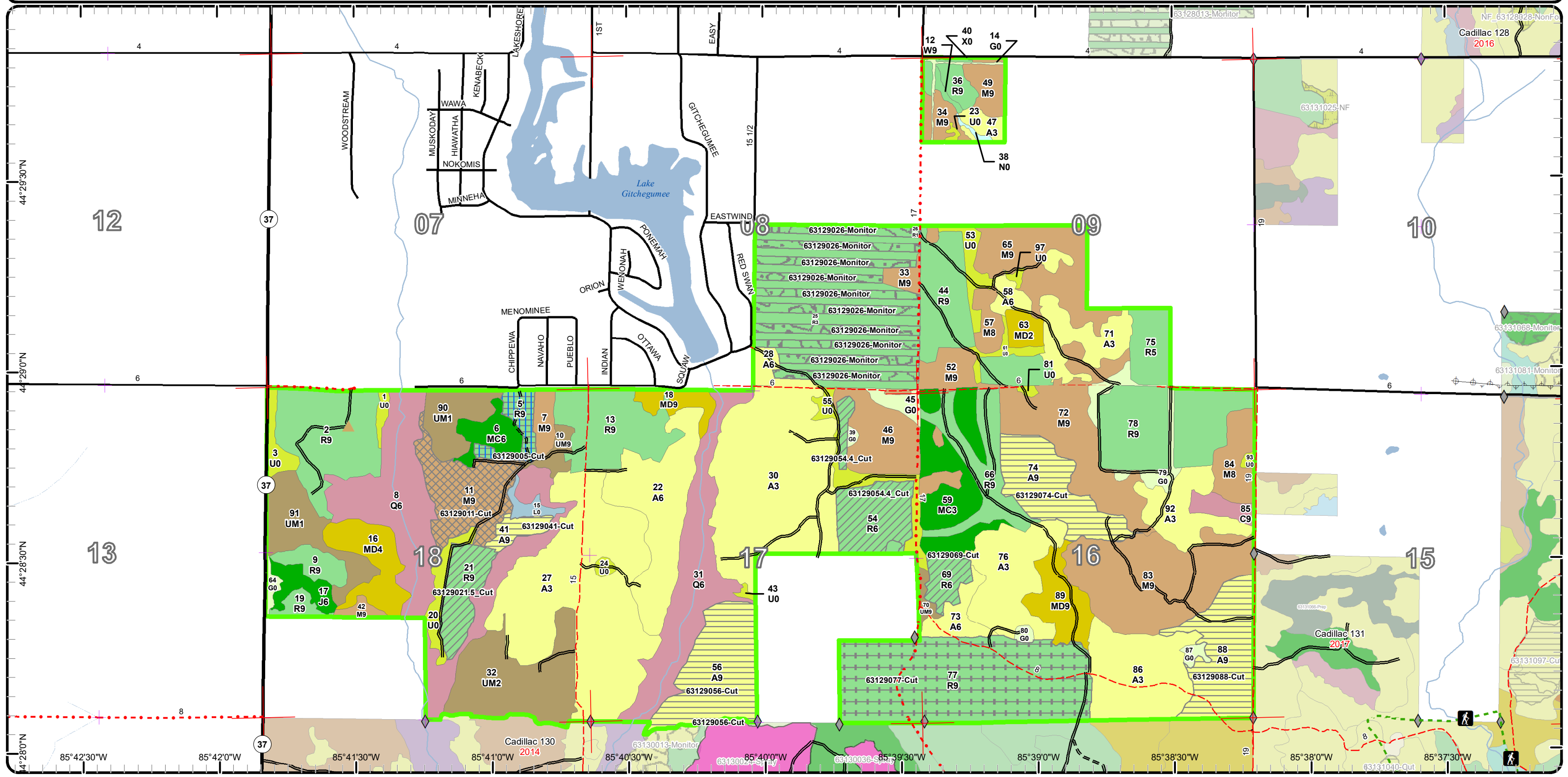
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 129
 T24N - R11W Sec.
 08,09,16,17,18
 County: Wexford
 Unit: Cadillac
 Mgmt Area: Manistee River Valley
 YOE: 2020
 Acres: 2,089 GIS Calculated
 Examiner: Joe Ventimiglia
 Map Revised: 10/23/2018
 Map Phase: Post - Review

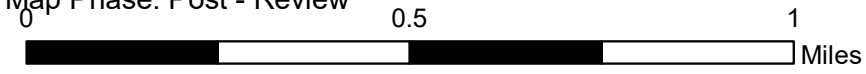


- Miris Corners
- + Remonumented Section Corners
- ◆ Field Grade Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State Highway
- Federal / State / County - Paved Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- ▲ Berms
- Lake/Pond
- Perennial River
- Lakes and Rivers All
- Compartment Boundary
- Selection (Group, Single Tree)
- Clearcut (w/Reserves)
- Harvest, Overstory Removal
- Seed Tree (w/Reserves)
- Thinning (Crown, Low, Systematic)
- Regeneration Survey
- 411 - Northern Hardwood
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 430 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- Lakes

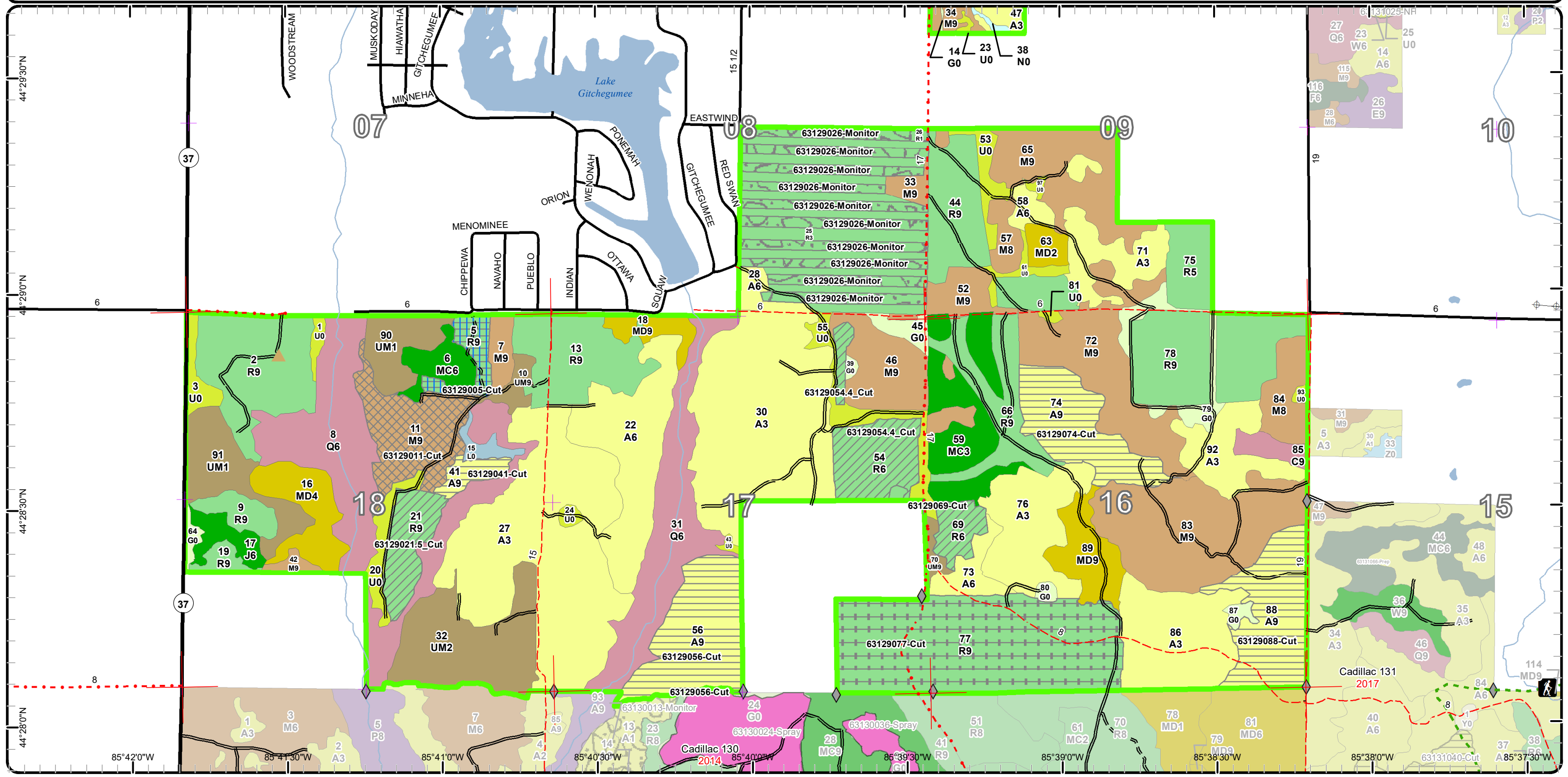


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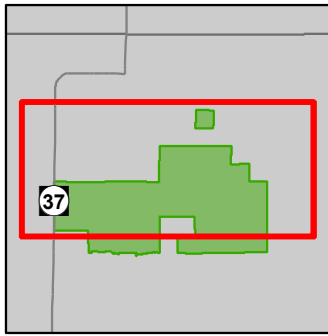
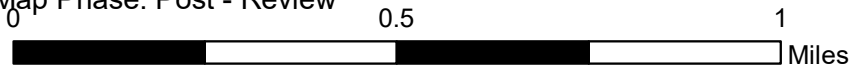


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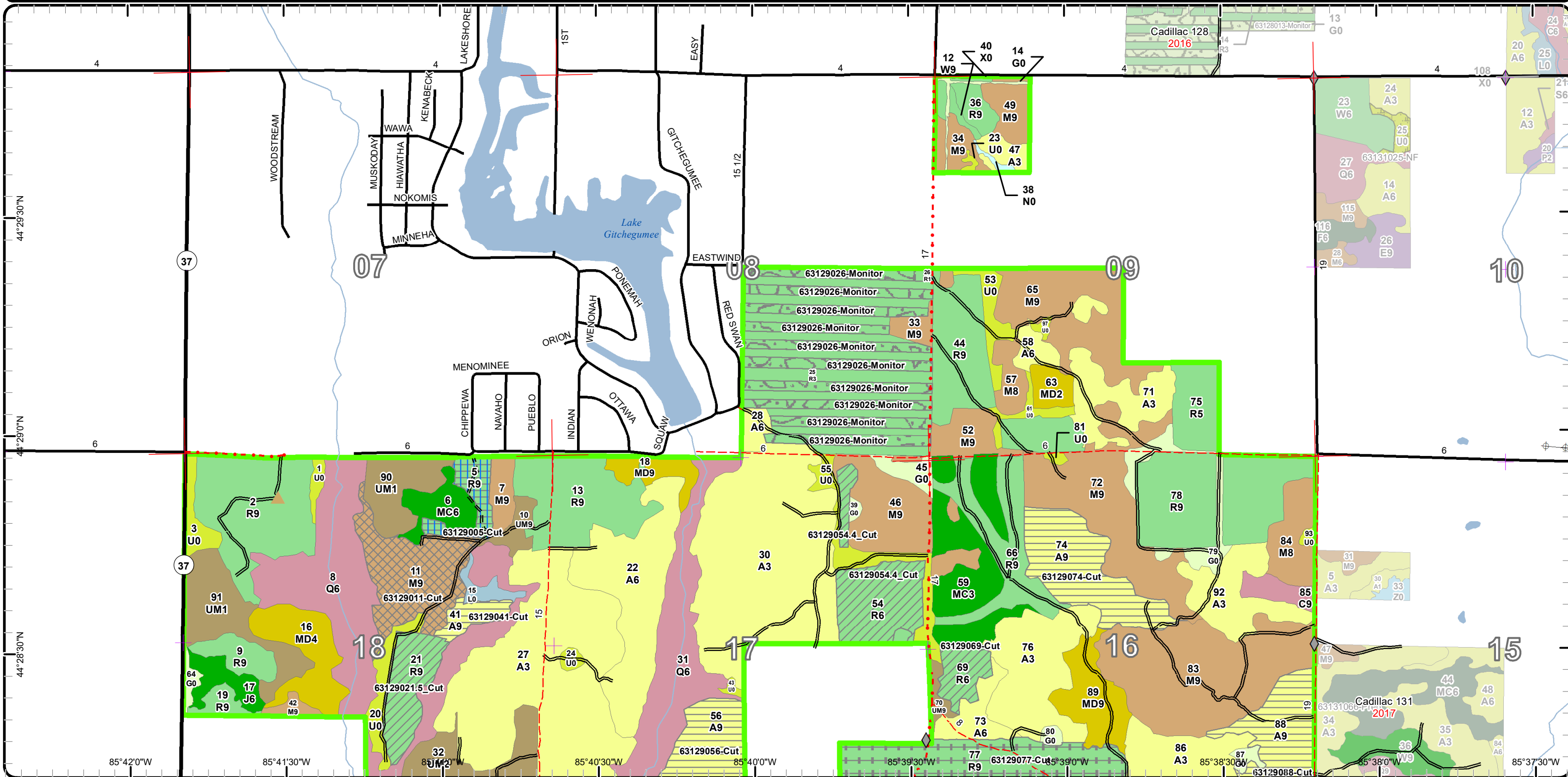


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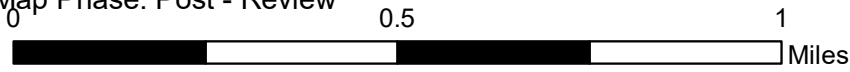


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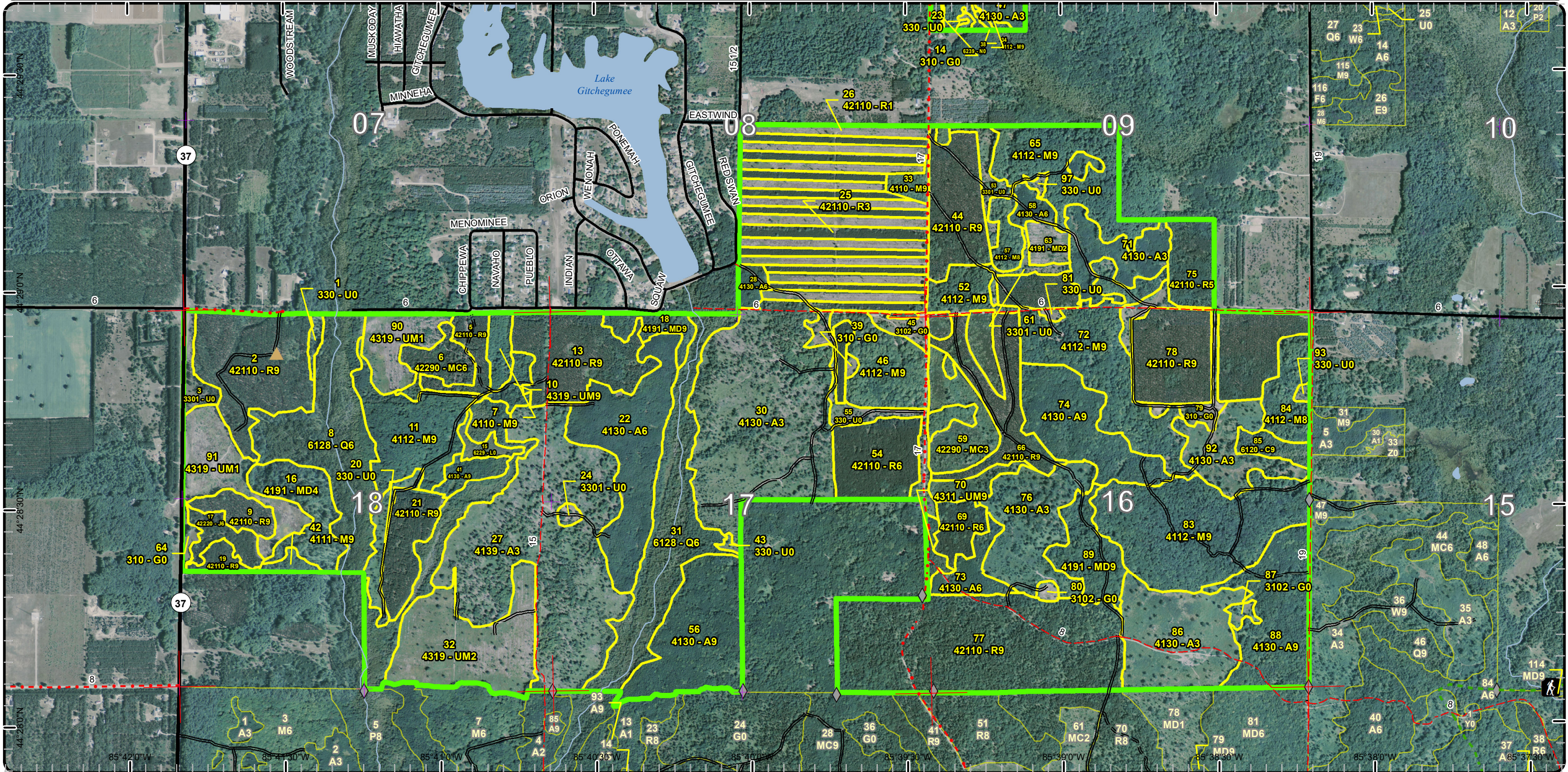


Stand Boundary Map

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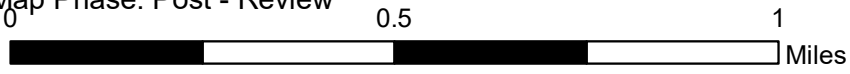


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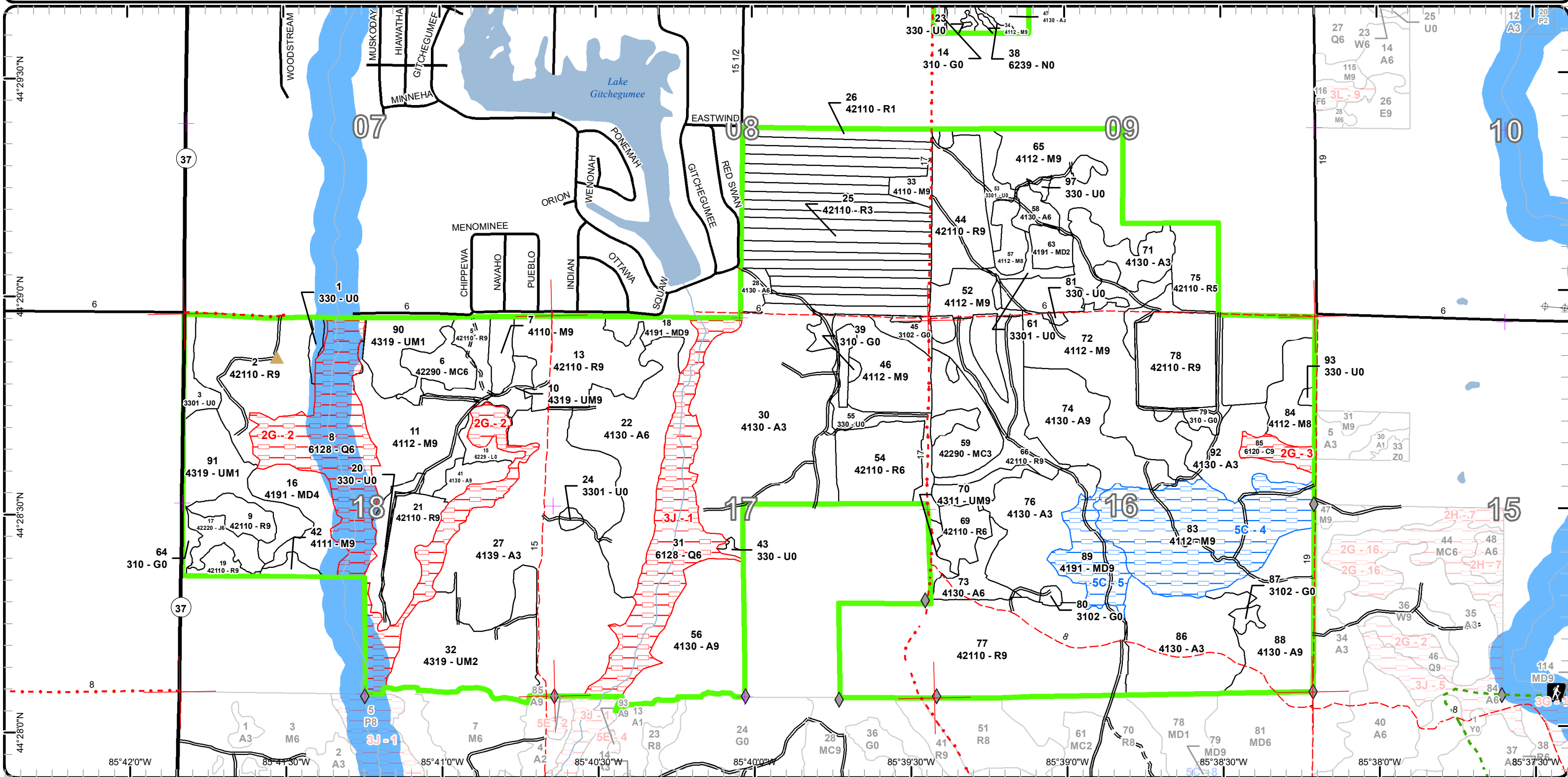


Special Conservation Areas & Site Conditions Map

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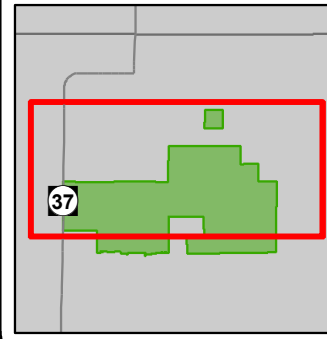
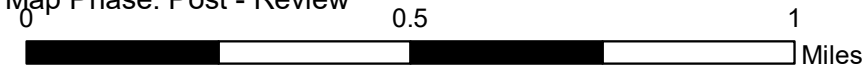


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- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2G: Too wet (sensitive soils, does not include access issues)
- 3J: Water quality / BMPs (stream, river, or lake)
- Stand Boundaries
- Cold Water Streams
- High Priority Trout Stream Buffer

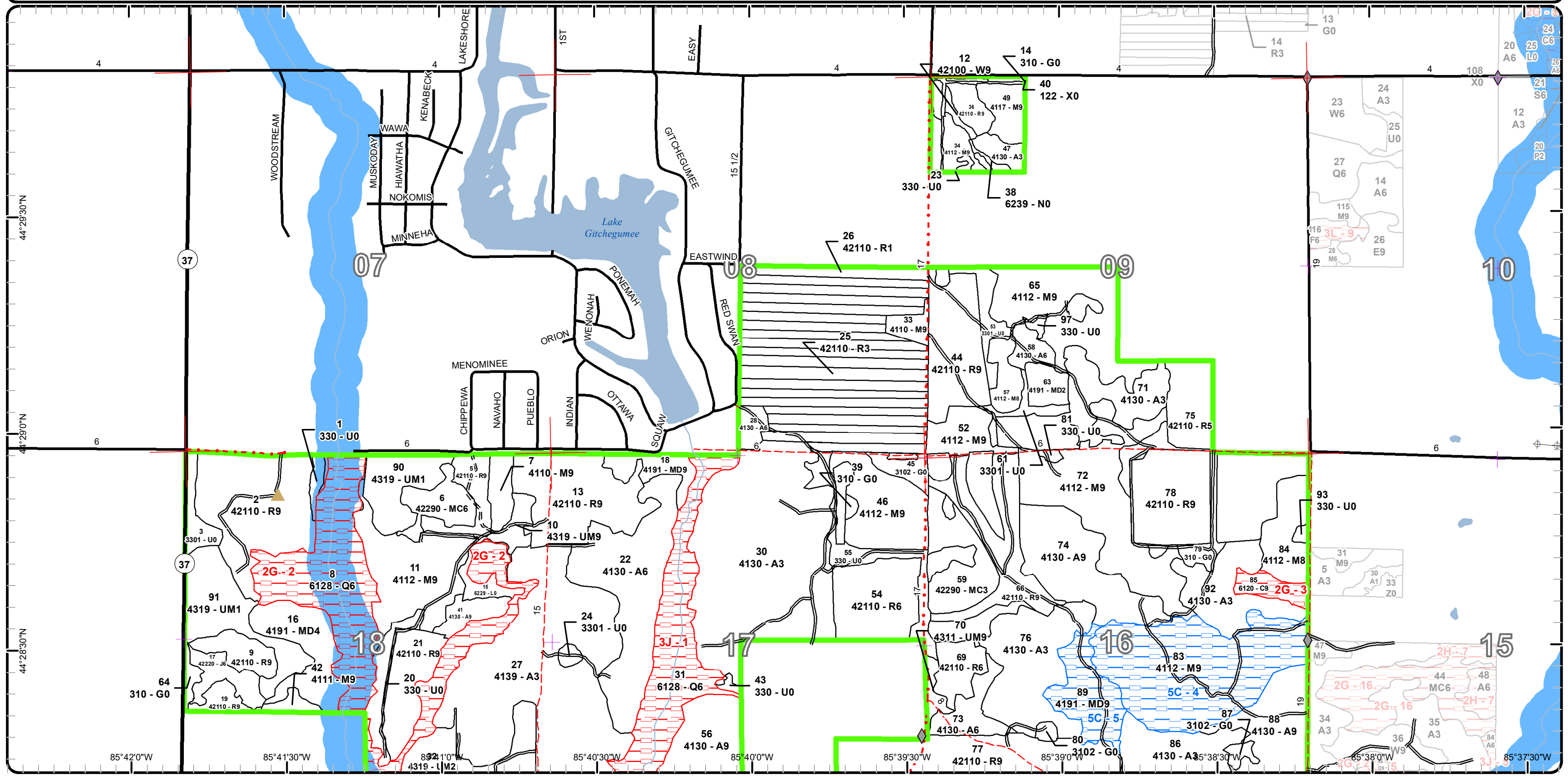


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Report 1 – Total Acres by Cover Type and Age Class

Cadillac Mgt. Unit

Compartment 129 Year of Entry 2020

Joe Ventimiglia : Examiner



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	376	33	80	0	0	146	0	0	0	0	0	0	0	0	0	0	0	635
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7
Herbaceous Openland	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29
Jack Pine	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Low-Density Trees	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56
Lowland Conifers	0	0	0	0	0	0	0	0	0	0	0	162	0	0	0	0	0	0	162
Lowland Shrub	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Marsh	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Mixed Upland Deciduous	0	7	0	25	0	0	0	10	0	0	23	0	0	0	0	0	0	0	64
Natural Mixed Pines	0	0	41	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54
Northern Hardwood	0	0	0	0	0	0	0	26	94	110	103	0	0	0	0	0	0	0	333
Red Pine	0	79	0	66	0	34	29	207	79	121	0	0	0	0	0	0	0	0	615
Upland Mixed Forest	0	103	0	0	0	0	4	7	0	0	0	0	0	0	0	0	0	0	113
Urban	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
White Pine	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
Total	92	565	74	194	0	34	182	250	173	231	126	162	7	0	0	0	0	0	2088



Report 2 – Treatment Summary

Cadillac Mgt. Unit

Year of Entry: 2020

Acres of Harvest

Compartment 129

Total Compartment Acres: 2,089

Commercial Harvest - 383
 Harvests with Site Condition - 0
 Next Step Harvest - 0
 Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	146	0	0	0	0	0	0	0	0	146
Northern Hardwood	0	40	0	0	0	0	0	0	0	40
Red Pine	0	0	0	11	0	65	121	0	0	197
Total	146	40	0	11	0	65	121	0	0	383

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	383	0	0	0	0	0	79	0	0	462
Next Step	0	0	0	0	0	0	318	0	0	318
Total	383	0	0	0	0	0	397	0	0	780



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
5	63129005-Cut	11.2	42110 - Planted Red Pine	Sawtimber Well	78	111- 140	Harvest	Seed Tree	42201 - Natural White Pine, Mixed Deciduous	Even-Aged	Approved Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Seed tree stand. Leave 10 to 20 BA of residual red pine.											
<u>Specs:</u>											
<u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)											
<u>Treatments:</u>											
<u>Acceptable</u> White pine , along with mixed hardwood and a few red pine expected.											
<u>Regen:</u>											
<u>Other</u> Protect white pine understory as much as possible. Seed tree left not so much as seed source just as structural diversity and too maintain some											
<u>Comment:</u> legacy red pine on site.											
<u>Proposed Start Date:</u> 10/1 /2019											
11	63129011-Cut	39.9	4112 - Maple, Beech, Cherry Association	Sawtimber Well	86	111- 140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven- Aged	Approved Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Thin stand to promote growth on best stems in place. Refer to "Complete marker" guidelines for tree selection. Maintain residual BA of around											
<u>Specs:</u> 70 to 80.											
<u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)											
<u>Treatments:</u>											
<u>Acceptable</u> Mixed hardwood most desired.											
<u>Regen:</u>											
<u>Other</u> Protect hemlock by not opening up canopy around the few hemlock too much.											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2019											
21	63129021.5_C ut	21.0	42110 - Planted Red Pine	Sawtimber Well	62	141- 170	Harvest	Low Thinning	4211 - Planted Red Pine	Even-Aged	Approved Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Second thin red pine planation. Traditional second thinning focus on doubles and suppressed red pine to clean up plantation and focus grow on											
<u>Specs:</u> best quality stems.											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u>											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2019											
26	63129026- Monitor	78.7	42110 - Planted Red Pine	Sapling Poor	4	Immatur re	Monitoring	Artificial Regen(3yr)	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription</u> regen check											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> red pine											
<u>Regen:</u>											
<u>Other</u> Percent to Treat = 100%											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/1 /2017											



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
41	63129041-Cut	7.5	4130 - Aspen	Sawtimber Well	58	81-110	Harvest	Clearcut	413 - Aspen	Even-Aged	Approved Proposal

Habitat Cut: No**Site Condition:**

Prescription Final harvest. Leave all hemlock and white pine.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen with minor mix of other species accepted as well. Primary objective of aspen.

Regen:

Other No retention as a result of small size. Add Grouse log spec.

Comment:

Proposed Start Date: 10/1 /2019

54	63129054.4_C ut	32.8	42110 - Planted Red Pine	Poletimber Well	48	171- 200	Harvest	Systematic Thinning	4211 - Planted Red Pine	Even-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription Third row thin plantation. Avoid small hardwood pocket in southeast corner as treatment shape shows.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Blue line south if needed.

Comment:

Proposed Start Date: 10/1 /2019

56	63129056-Cut	51.2	4130 - Aspen	Sawtimber Well	56	81-110	Harvest	Clearcut with Retention	4133 - Aspen, Mixed Pine	Even-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription Final harvest. Leave white pine under 3 inches dbh. As well leave east west linear retention island to serve as retention and travel corridor.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen with mix of white pine, oak, and maple. Mostly aspen.

Regen:

Other Go down to swamp as much as practical. If too steep keep out with red line. Corners are in. Grouse Spec.

Comment:

Proposed Start Date: 10/1 /2019

69	63129069-Cut	11.2	42110 - Planted Red Pine	Poletimber Well	51	141- 170	Harvest	Systematic Thinning	4211 - Planted Red Pine	Even-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription Third row thin red pine plantation. Take any trees within designated rows.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019



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
74	63129074-Cut	40.8	4130 - Aspen	Sawtimber Well	52	111- 140	Harvest	Clearcut with Retention	4133 - Aspen, Mixed Pine	Even-Aged	Approved Proposal

Habitat Cut: No**Site Condition:**

Prescription Final harvest. Leave white pine under 3 inches in diameter. Leave retention island as linear east west island, that will also function as travel
Specs: corridor for wildlife.

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Aspen with minor mix of other species including maple, white pine and oak.
Regen:

Other Add Grouse log spec.
Comment:

Proposed Start Date: 10/1 /2019

77	63129077-Cut	120.8	42110 - Planted Red Pine	Sawtimber Well	82	81-110	Harvest	Overstory Removal	4191 - Mixed Upland Deciduous with Conifer	Even-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription Over story removal. Cut all trees over 6 inches in diameter. Leave retention islands/corridors 3 to 10 percent of total acreage. Forester discretion
Specs: is creating spacing and shape of retention. Protect understory as much as possible.

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Aspen, red maple, oak, with some red and white pine.
Regen:

Other Objective of converting stand to mixed hardwood/aspen and pine.(Much of this is already developed) Maintaining some of the red pine over story
Comment: for combination of structural diversity, potential seed source in areas, and retention guideline reasoning.

Proposed Start Date: 10/1 /2019

88	63129088-Cut	46.6	4130 - Aspen	Sawtimber Well	56	81-110	Harvest	Clearcut with Retention	4133 - Aspen, Mixed Pine	Even-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription Final Harvest. Leave all white pine under 3 inches in diameter. Mark retention island as linear east/west corridor through middle of stand.
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Aspen with mix of white pine, maple and oak.
Regen:

Other Block old breached berm in north end of stand. Make sure road layer is updated to reflect this. Add Grouse log spec.
Comment:

Proposed Start Date: 10/1 /2019

**Total Treatment
Acreage Proposed: 461.7**

Report 4 – Site Conditions

Cadillac Mgt. Unit
Joe Ventimiglia : Examiner

Compartment: 129
Year of Entry: 2020

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	5C	2G	3J
		With Condition	Not Available				
636	636	0	0	Aspen			
7	0	0	7	Cedar		7	
29	29	0	0	Herbaceous Openland			
10	10	0	0	Jack Pine			
56	56	0	0	Low-Density Trees			
161	1	0	161	Lowland Conifers		98	63
5	5	0	0	Lowland Shrub			
1	1	0	0	Marsh			
65	42	22	0	Mixed Upland Deciduous	22		
54	54	0	0	Natural Mixed Pines			
333	253	80	0	Northern Hardwood	80	0	
616	616	0	0	Red Pine			
113	113	0	0	Upland Mixed Forest			
1	1	0	0	Urban			
3	3	0	0	White Pine			
2,090	1,819	102	168	Total Forested Acres	102	105	63
	87%	5%	8%	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	3J: Water quality / BMPs (stream, river, or lake)	63	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	97	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments: Buffer for wheeler creek.							

Report 4 – Site Conditions

Cadillac Mgt. Unit

Compartment: 129

Joe Ventimiglia : Examiner

Year of Entry: 2020

3	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	80	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Likely look at treating next YOE.							
5	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	23	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				



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.

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

Conservation Area	Type	Description
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	42110 - Planted Red Pine	Sawtimber Well	52.9	79	81-110	Stand was third row thinned in 1991. Second thinned in 2001. Marked thinned and cut again in 2013. Good quality red pine recently thinned, hardwood encroachment in pockets of stand, other areas are clean in understory. Stand appears to have been planted by DAR organization in 1939.
5	42110 - Planted Red Pine	Sawtimber Well	11.2	78	111-140	Stand was third row thinned in 1991. Stand was thinned again in 2011. North end of stand appears to not have been thinned as much? (May have something to do with proximity to homes) Significant white pine understory.
6	42290 - Natural Mixed Pine	Poletimber Well	12.8	27	Immature	Stand was final harvested in 1991, was mostly jack pine, some red pine were left in the over story. Came back to thick mix of jack, white, red pine as well as some cherry and maple. Over story pine concentrated in east end.
7	4110 - Sugar Maple Association	Sawtimber Well	7.6	85	81-110	Medium to low quality stand of hardwood..Stand was thinned in 2001. Stand degrades in quality as you go south.
8	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	98.4	104	81-110	Large lowland conifer complex along branch's of Wheeler Creek. Mix of cedar, aspen, balsam fir, and white pine. Likely deer yarding area in winter.
9	42110 - Planted Red Pine	Sawtimber Well	10.0	79	81-110	Stand was row thinned in 1991. Stand was thinned again in spring 2013.
10	4319 - Mixed Upland Forest	Sawtimber Well	6.5	65	81-110	Mixed small stand of red maple, aspen and pine. Transition area between larger stand that has been avoided in past. Aspen is falling out and being succeeded by maple and pine.
11	4112 - Maple, Beech, Cherry Association	Sawtimber Well	39.9	86	111-140	Decent hardwood stand last thinned in 2001. Mix of sugar and red maple, with limited understory. North tip is over mature aspen missed in last cut. Some portions of stand are good quality while the edges in spots are marginal and lower BA.
12	42100 - Planted White Pine	Sawtimber Well	3.3	57	51-80	Stand was thinned in 2001, all aspen was taken by spec. Small sliver of planted white pine with some hardwood mixed in. Hardwood developing in understory in some areas of stand.
13	42110 - Planted Red Pine	Sawtimber Well	42.5	67	111-140	Stand was third row thinned in 1991. Stand was second thinned in 2002. Stand thinned again in 2011. Stand has maple/aspen pocket in east end, BA falls apart a little on east end. Understory dense in pockets others. Also stand has three different mortality pockets, work with Scott Lint to diagnose these. (HRD?)
16	4191 - Mixed Upland Deciduous with Conifer	Poletimber Poor	25.1	29	1-50	Open stand of cherry, jack pine, white pine, red pine and some maple. Maple is concentrated in the north on a small ridge of hardwood too small to map. Stand is more open in south and better forested in north. Variable open stand.
17	42220 - Natural Jack Pine	Poletimber Well	10.1	25	Immature	Stand was cut in 1993 from records. Small pole stand.
18	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	9.8	65	51-80	Small mixed stand that borders subdivision to the north and wheeler creek to the east.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
19	42110 - Planted Red Pine	Sawtimber Well	5.3	79	141-170	Stand was row thinned in 1991.
21	42110 - Planted Red Pine	Sawtimber Well	21.0	62	141-170	Stand was planted in 1960. Stand was third row thinned in 2002. Ready for a second thinning.
22	4130 - Aspen	Poletimber Well	57.3	27	Immature	Stand was final harvested in 1991. Nearing pole size. Came back well.
25	42110 - Planted Red Pine	Sapling Well	66.2	23	Immature	Old jack pine strips that were final harvested in 1994 and planted to red pine with jack pine recruits from previous harvest. In some areas the red pine is taking over in others the jack has the advantage. Stand was planted in spring of 1995. 6 by 6 spacing. 3-0 stock.
26	42110 - Planted Red Pine	Sapling Poor	78.7	4	Immature	Stand was final harvested in 2011, stand was later roller chopped to deal with slash load, eventually trenched in 2014 was planted in 2015.
27	4139 - Aspen, Mixed Deciduous	Sapling Well	137.1	5	1-50	Stand was cut by spec in 2013. All red maple, aspen, cherry were cut with all other trees being left. (Mostly sugar maple and oak) Some pockets have heavier residual maple and oak than others. Some pockets where mostly aspen while others had more sugar maple. Not worth attempting to go after pockets where hardwood is more concentrated, will need to wait until aspen matures. Cut with sale #63-047-10-01 Buckley Big Dog
28	4130 - Aspen	Poletimber Well	5.1	27	1-50	Aspen was final harvested in 1991.
30	4130 - Aspen	Sapling Well	118.2	5	1-50	Stand was cut by spec in 2013. All red maple, aspen, cherry were cut with all other trees being left. (Mostly sugar maple and oak) Some pockets have heavier residual maple and oak than others. Some pockets where mostly aspen while others had more sugar maple.
31	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	63.1	106	51-80	Lowland conifer complex along the east branch of wheeler creek. Good deer yarding and buffer to protect creek.
32	4319 - Mixed Upland Forest	Sapling Medium	54.3	6	Immature	Stand final harvested in 2011. Planted in 2013 802 TPA red pine and 310 TPA other species noted in regen check. Red pine doing ok in most spots, some hardwood competition in areas but not overwhelming. Will be mix of planted pine and hardwood at current rate.
33	4110 - Sugar Maple Association	Sawtimber Well	6.2	82	81-110	Stand was thinned in 2001. Decent quality small acreage sugar maple stand. Sugar maple is good shape and just barely into overall log stand. Limited understory once you get into stand.
34	4112 - Maple, Beech, Cherry Association	Sawtimber Well	8.7	87	81-110	Stand was thinned in 2001, all aspen was taken by spec. Hardwood stand that degrades in quality and spacing as you go to the east. White pine and more red maple to east.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
36	42110 - Planted Red Pine	Sawtimber Well	6.9	62	81-110	Stand was thinned in 2001, and thinned again in 2011, all red maple and white pine were cut by spec. Crowns of residual trees are not competing hardwood developing in understory.
41	4130 - Aspen	Sawtimber Well	7.5	58	81-110	Pocket of aspen with a little hardwood mixed in, stand lies on ridge surrounded by wet on 3 sides.
42	4111 - S.Maple, Hard Mast Association	Sawtimber Well	3.5	77	81-110	Isolated ridge of moderate quality hardwood. Limited understory.
44	42110 - Planted Red Pine	Sawtimber Well	45.1	63	111-140	Stand was third row thinned in 1992. Stand was thinned again in 2012, marked thinning. Significant beech/hardwood under story. Southwest corner has mature white pine and maple grove.
46	4112 - Maple, Beech, Cherry Association	Sawtimber Well	34.4	82	81-110	Low to med quality hardwood with aspen on the fringes of stand. Low BA and quality.
47	4130 - Aspen	Sapling Well	6.1	17	Immature	Stand was final harvested in 2001. Looks to have been mostly hardwood before.
49	4117 - Mixed N. Hardwood - Pine	Sawtimber Well	10.7	72	81-110	Stand was thinned in 2001, marked thinning with any aspen cut but spec. Hardwood stand with fingers of planted red and white pine throughout stand. Lower quality stand.
52	4112 - Maple, Beech, Cherry Association	Sawtimber Well	12.8	86	81-110	Stand was thinned in 2001. All aspen removed and hardwood thinned
54	42110 - Planted Red Pine	Poletimber Well	33.8	48	171-200	Never thinned red pine stand. Southeast corner is small pocket of hardwood and oak.
56	4130 - Aspen	Sawtimber Well	51.3	56	81-110	Nice solid block of rolling terrain aspen. Scattered oak, maple and a few beech. Slopes down on west line.
57	4112 - Maple, Beech, Cherry Association	Sawtimber Medium	8.4	64	51-80	Small low quality pocket of mixed hardwood with a clone of over mature aspen on south end. Variable stand with limited BA and stocking.
58	4130 - Aspen	Poletimber Well	6.0	27	Immature	Aspen stand cut in 1991. Regenerating well. Between sap and pole stage.
59	42290 - Natural Mixed Pine	Sapling Well	41.0	19	Immature	Stand is the remains of a seed tree Jack Pine cut with the natural jack pine regen and mixed hardwood. Stand was cut in 2001. Green marked jack were left along with any oak or red and white pine.
63	4191 - Mixed Upland Deciduous with Conifer	Sapling Medium	7.3	6	Immature	Stand final harvested in 2011 and planted in 2015 to red pine. Regen check one performed in 2016. Needs three year check in 2018. Mostly failed pine plantation. Some areas of planting are doing ok but significant hardwood completion.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
65	4112 - Maple, Beech, Cherry Association	Sawtimber Well	44.6	95	81-110	Stand was thinned in 2002 last all aspen was cut at that time as well. Mix of sugar and red maple. Slight rolling hills, variable stand with some portions being decent quality and socking with others being marginal. Marginal end is on the far west side.
66	42110 - Planted Red Pine	Sawtimber Well	32.3	64	81-110	Red pine planted in 1956. Row thinned in 1992. Stand was thinned again in 2012, marked thinning. Good quality and spacing. Stand has some hardwood encroaching in areas but overall limited understory.
69	42110 - Planted Red Pine	Poletimber Well	11.2	51	141-170	Red pine planted in 1971 and replanted again in 1973. Stand has a few hardwoods pockets mixed in.
70	4311 - Pine, Aspen Mix	Sawtimber Well	4.0	56	51-80	Small less than 4 acre stand along road that was left as buffer from cut in previous entry. Mix of mature aspen and white pine
71	4130 - Aspen	Sapling Well	26.8	16	Immature	Aspen sapling stand regenerated from a 2002 harvest. A few oaks were left.
72	4112 - Maple, Beech, Cherry Association	Sawtimber Well	58.4	97	81-110	Lower end hardwood stand with one small clone of aspen in the middle of the stand that was missed with last entry. Oak along the fringes. Stand was marked thinned in 2001.
73	4130 - Aspen	Poletimber Well	12.0	27	Immature	Stand was final harvested in 1991. White pine has come up thick in pockets with the aspen.
74	4130 - Aspen	Sawtimber Well	40.8	52	111-140	Aspen stand with mix of lower quality hardwood and a few oak. Slight rolling terrain.
75	42110 - Planted Red Pine	Poletimber Medium	17.8	59	81-110	Stand was cut in 2002. Pine was row thinned and all other species were removed. This has created scattered pockets of plantation pine surrounded by aspen/maple regeneration. Some pockets of stand are pure red pine while others have scattered white pine over aspen/maple.
76	4130 - Aspen	Sapling Well	43.7	6	81-110	Stand was final harvested in 2012, whole tree operation and chipped. All oak was left by spec. Oak concentrated in ridge too small to map on its own and not worth going after with re
77	42110 - Planted Red Pine	Sawtimber Well	120.8	82	81-110	Stand was planted in 1939, to mix of red pine, jack pine and white pine....Stand had all aspen, jack pine and maple removed in 2001. Now residual red pine/white pine and some scattered oaks surrounding pockets of aspen/HW regen from the 2001 cut. Red pine dense in some spots and no as much in others.
78	42110 - Planted Red Pine	Sawtimber Well	59.1	63	111-140	Red pine planted in 1959...Stand was third row thinned in 2001. Thinned again in 2012, marked thinning. Limited beech understory at this time.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
83	4112 - Maple, Beech, Cherry Association	Sawtimber Well	80.0	72	111-140	Decent quality red maple dominate hardwood stand. Oak concentrated on west edge of stand. Stand was last thinned in 2001, with all aspen taken by spec. Old skid trails throughout, look to block with future sale.
84	4112 - Maple, Beech, Cherry Association	Sawtimber Medium	17.8	61	81-110	Stand was thinned last in 2002. All aspen was taken by spec. Resulted in pockets of stand primarily being aspen regeneration from last cut, while others are more concentrated hardwood.
85	6120 - Lowland Cedar	Sawtimber Well	7.3	111	51-80	Lowland conifer with aspen on the side slopes, stand surrounding a small drainage.
86	4130 - Aspen	Sapling Well	50.8	6	Immature	Stand was Final Harvested in Spring of 2012. Green ringed oak was left as retention. (Chipping operation) Issue with illegal fire wood activity, cutting up wood left on the ground for grouse and woody biomass.
88	4130 - Aspen	Sawtimber Well	46.6	56	81-110	Decent block of aspen mixed with scattered oak, red maple, white pine and a few beech. White pine mostly in two pockets. Some pockets of stand are more clonal aspen while others have more of a mix. Breeched berms as well, address with timber sale or sooner with fire dozer.
89	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	22.5	93	1-50	Mixed variable stand of mostly large wolfy oak and white pine with low quality hardwood mixed in. Slight hills. Portion of stand was cut in 2001, just the aspen and jack it appears.
90	4319 - Mixed Upland Forest	Sapling Poor	19.6	6	Immature	Stand final harvested in 2011. Was originally planted red pine and was never re- planted. Has come back to a open mix of red pine, cherry, oak and maple. Considerable open in spots, slight rolling terrain.
91	4319 - Mixed Upland Forest	Sapling Poor	29.2	4	Immature	Stand was final harvest in 2012. Stand was trenched in 2014, planted in 2015 and 1 year regeneration check was performed in 2016. 907 TPA red pine and 3143 TPA of other non target species. Decision was made to not spray completion and let stand come back to a mix. Not all of stand was planted. Southern end was not trenched and planted. THREE year check showed over 80 percent survival of planted tree. Planted stock not free to grow, but small site and decision made to allow mix at one year.
92	4130 - Aspen	Sapling Well	26.6	6	Immature	Stand was Final Harvested in Summer of 2012. All sugar maple and oak was left. (Chipping operation) Problem with fire wooders taking wood left for woody biomass and grouse.



Stand	Cover Type	Acres	Managed Site	General Comments:
1	330 - Low-Density Trees	2.7	No	
3	3301 - Low Density Deciduous Tree	7.4	No	
14	310 - Herbaceous Openland	1.9	No	Power line right of way.
15	6229 - Mixed lowland shrub	4.6	No	
20	330 - Low-Density Trees	9.9	No	Noted some potential illegal deer blind shacks.
23	330 - Low-Density Trees	0.9	No	
24	3301 - Low Density Deciduous Tree	1.9	No	Small filling in opening surrounded by recent cut.
38	6239 - Mixed Emergent Wetland	1.2	No	Open wet drainage.
39	310 - Herbaceous Openland	1.0	No	
40	122 - Road/Parking Lot	1.0	No	
43	330 - Low-Density Trees	1.0	No	
45	3102 - Grass	5.7	No	Illegal hill clime area which has been attempted to be blocked with logs placed by the county Road Commission working with the DNR.
53	3301 - Low Density Deciduous Tree	8.5	No	
55	330 - Low-Density Trees	15.6	No	Mix of open trees and grass. Roads through most.
61	3301 - Low Density Deciduous Tree	4.7	No	
64	310 - Herbaceous Openland	2.9	No	Opening next to main road.
79	310 - Herbaceous Openland	13.0	No	
80	3102 - Grass	1.7	No	



Stand	Cover Type	Acres	Managed Site	General Comments:
81	330 - Low-Density Trees	1.0	No	
87	3102 - Grass	2.4	No	
93	330 - Low-Density Trees	1.1	No	Small opening.
97	330 - Low-Density Trees	1.2	No	