



Compartment Review Presentation

Cadillac Forest Management Unit

Compartment 63088

Entry Year 2018

Acreage: 2,217

County Missaukee

Management Area: Upper Muskegon

Revision Date: 2016-06-14

Stand Examiner: Joe Ventimiglia

Legal Description:

T23N, R6W, Sec. 4, 8, 9, 16, 17, 21, 28, 29

Identified Planning Goals:

Vegetation management in the Upper Muskegon management area (MA) 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:

Montcalm, Augres, Rubicon and Croswell sands. Lupton Mucks. Terrain is mostly flat to slightly rolling with large areas of wet lowland marsh types.

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

Every section has some private ownership with a variety of permanent and seasonal dwellings. Dispersed hunting and fishing within compartment.

Unique Natural Features:

West edge of Haymarsh Swamp. West branch of the Muskegon River in southern portion of compartment. Potential for great blue heron rookery, wood turtle, osprey, eagle, goshawk, massasauga and Blanding's turtle. Potential for ebony bog haunter, spotted turtle, and secretive locust in bogs.

Archeological, Historical, and Cultural Features:

240 acres in section 21 purchased in 1973 for deer yard habitat. No archeological sites listed.

Special Management Designations or Considerations:

None

Watershed and Fisheries Considerations:

The West Branch of the Muskegon River and an unnamed tributary flow through Compartment 88. Both are Designated Trout Streams with populations of self-sustaining brook and/or brown trout.

Wildlife Habitat Considerations:

Featured wildlife species are deer, bear, hare, ruffed grouse, golden-winged warbler, and woodcock. Management emphasis will include maintenance of aspen types and lowland shrub. Timber sale specifications for these featured species (where applicable) will include protection of mast bearing shrubs and ironwood, protection of standing dead snags, creation of drumming logs (1-2 per acre) and woody debris (tops or whole trees) in aspen cuts. (Victory, 5/24/16)

Mineral Resource and Development Concerns and/or Restrictions

Sections 4,8,9,16,17,21,28&29, T23N-R6W, Missaukee Co
Surface sediments consist of coarse-textured till and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift are the Pennsylvanian Grand River and Saginaw Formations. The Saginaw is quarried for clay/shale in other parts of the State. A gravel pit is not located in the area, but there is potential on upland areas. Enterprise Field is located six miles to the east. The field has produced over 4.7 million BO from the Devonian Richfield Formation and is in secondary operations. Most of this Compartment is 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.

Survey Needs:

None at this time.

Recreational Facilities and Opportunities:

There are no designated recreational trails within this compartment. (T.N. 1/29/16)

Fire Protection:

This area is mostly aspen, and low land areas. Access for any fire in this compartment, would be difficult. There is a buildup of urban interface through out the compartment, this will add to the needs during suppression activities.

Additional Compartment Information:**The following reports from the Inventory are attached:**

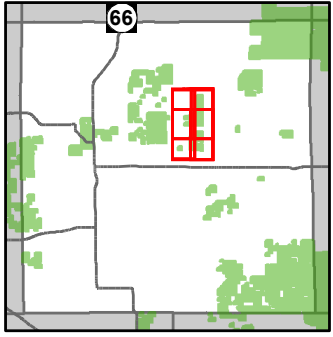
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

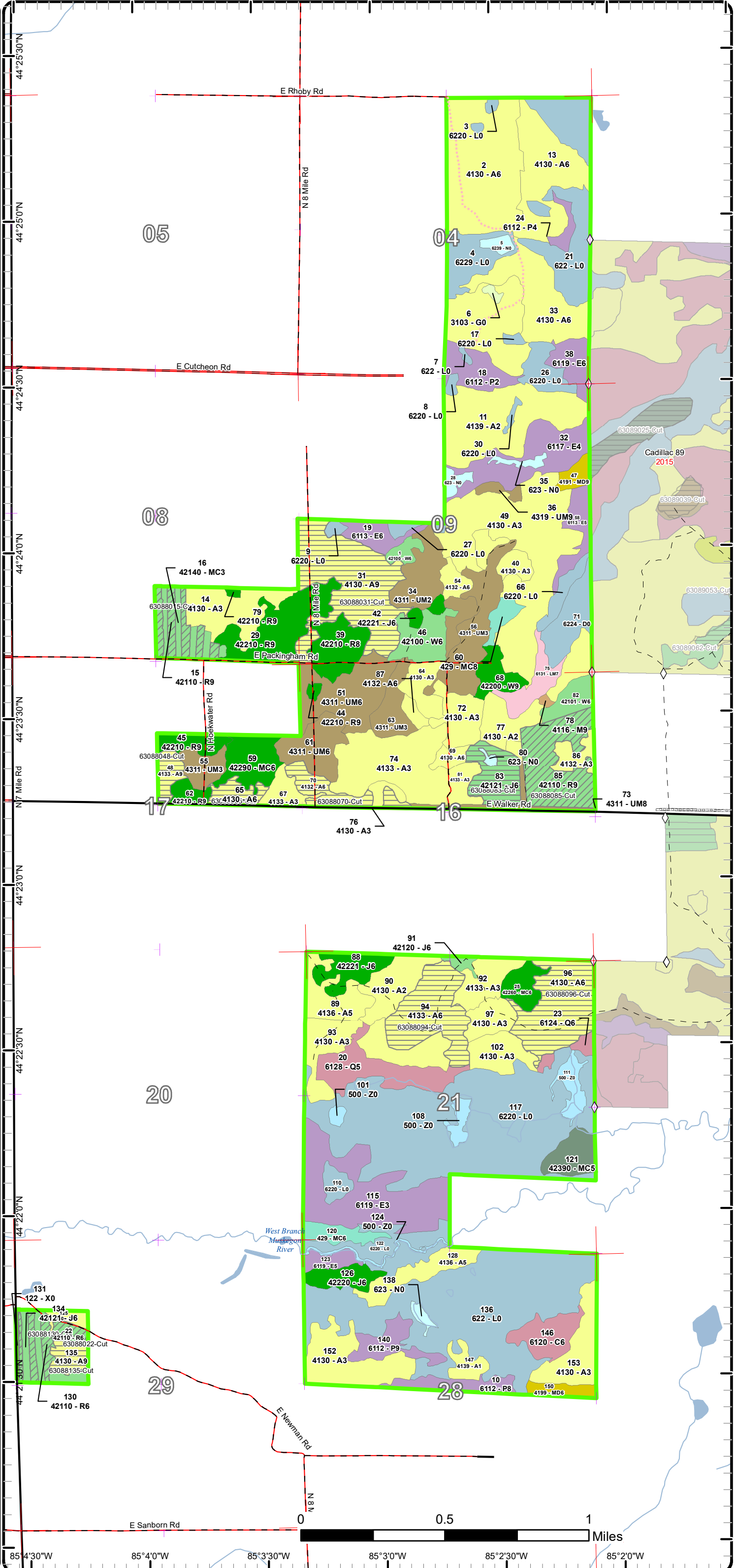
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 88
 T23N, R06W,
 Sec. 04, 08, 09, 16, 17, 21, 28, 29
 County: Missaukee
 Unit: Cadillac
 Mgmt Area: Upper Muskegon
 YOE: 2018
 Acres: 2217 GIS Calculated
 Examiner: Joe Ventimiglia
 Map Revised: 7/5/2016
 Map Phase: Web - Post

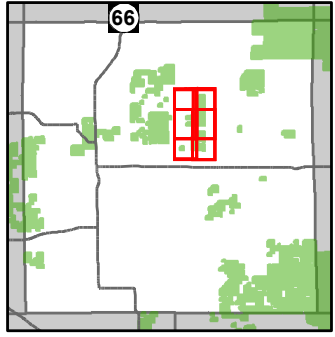


- Miris Corners
- + Remonumented Section Corners
- ◇ Field Grade GPS Corners
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Closed Roads
- Rivers
- Pipeline
- Compartment Boundary
- Clearcut (w/Reserves)
- Thinning (Crown, Low, Systematic)
- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- Lakes

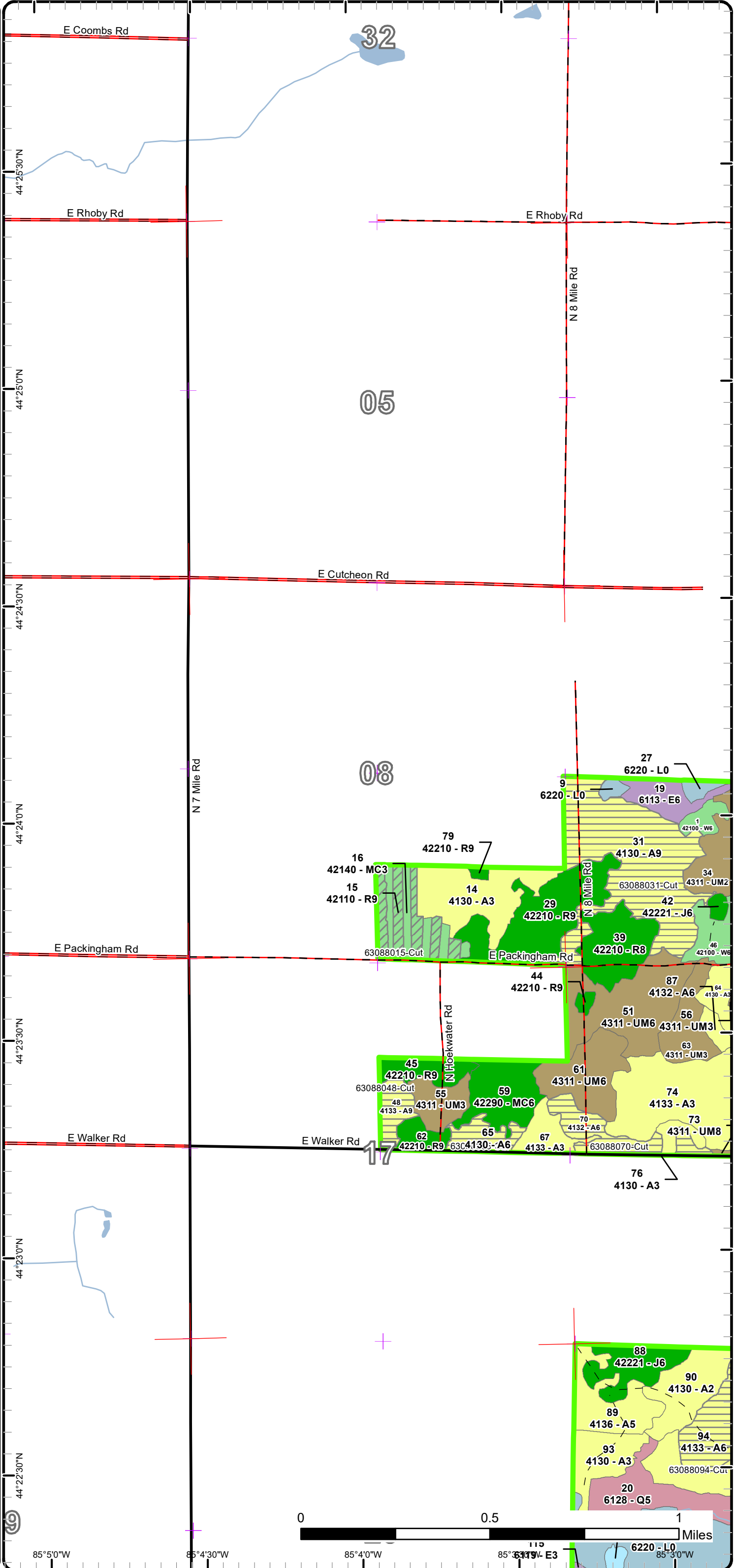


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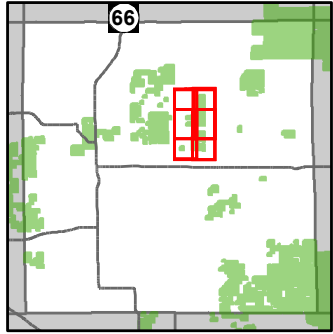


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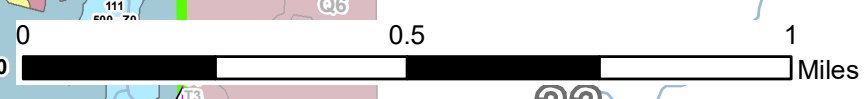
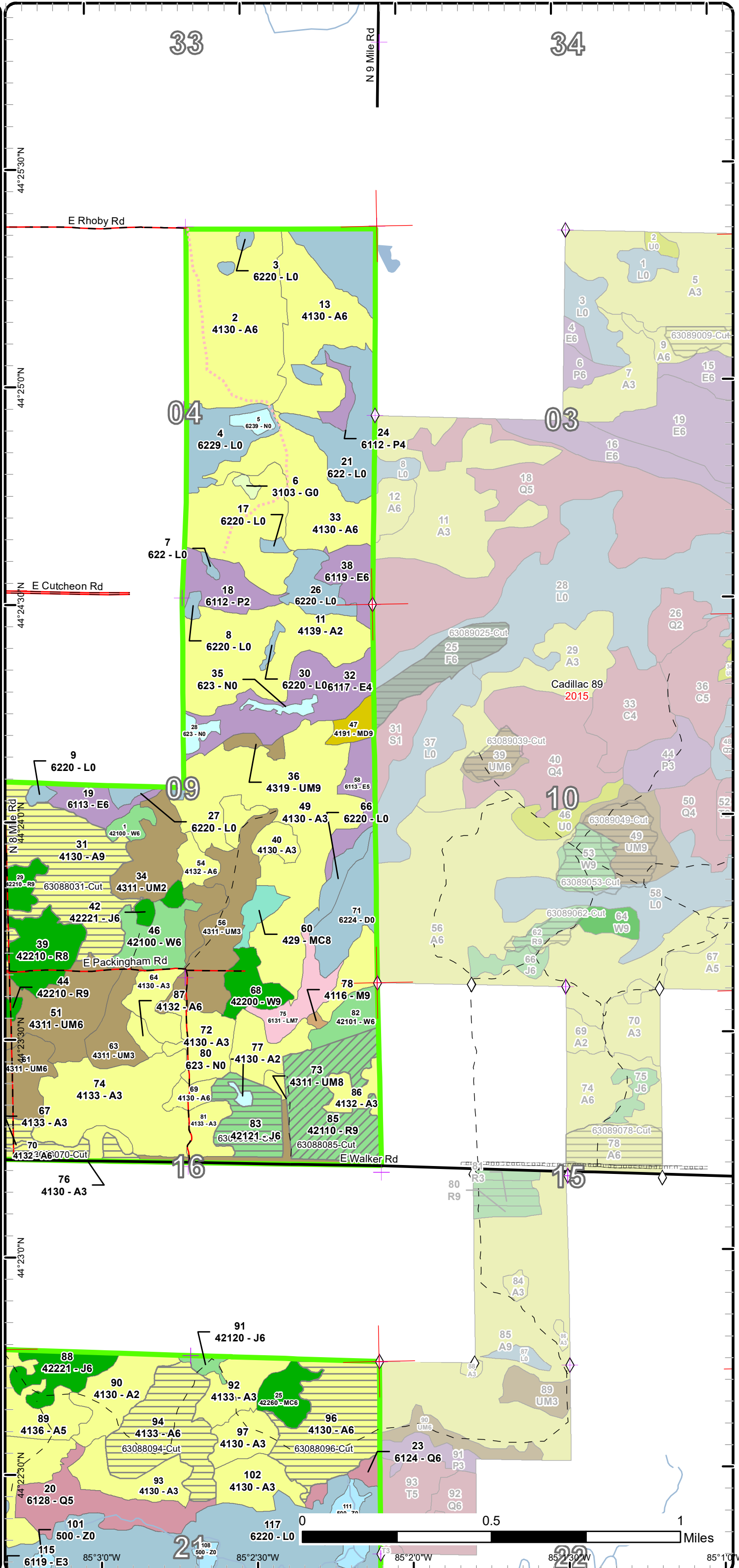


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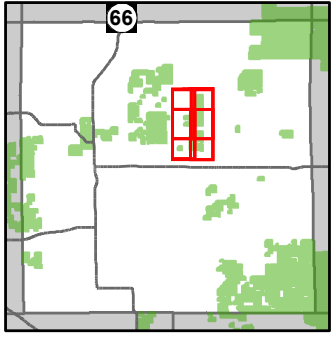


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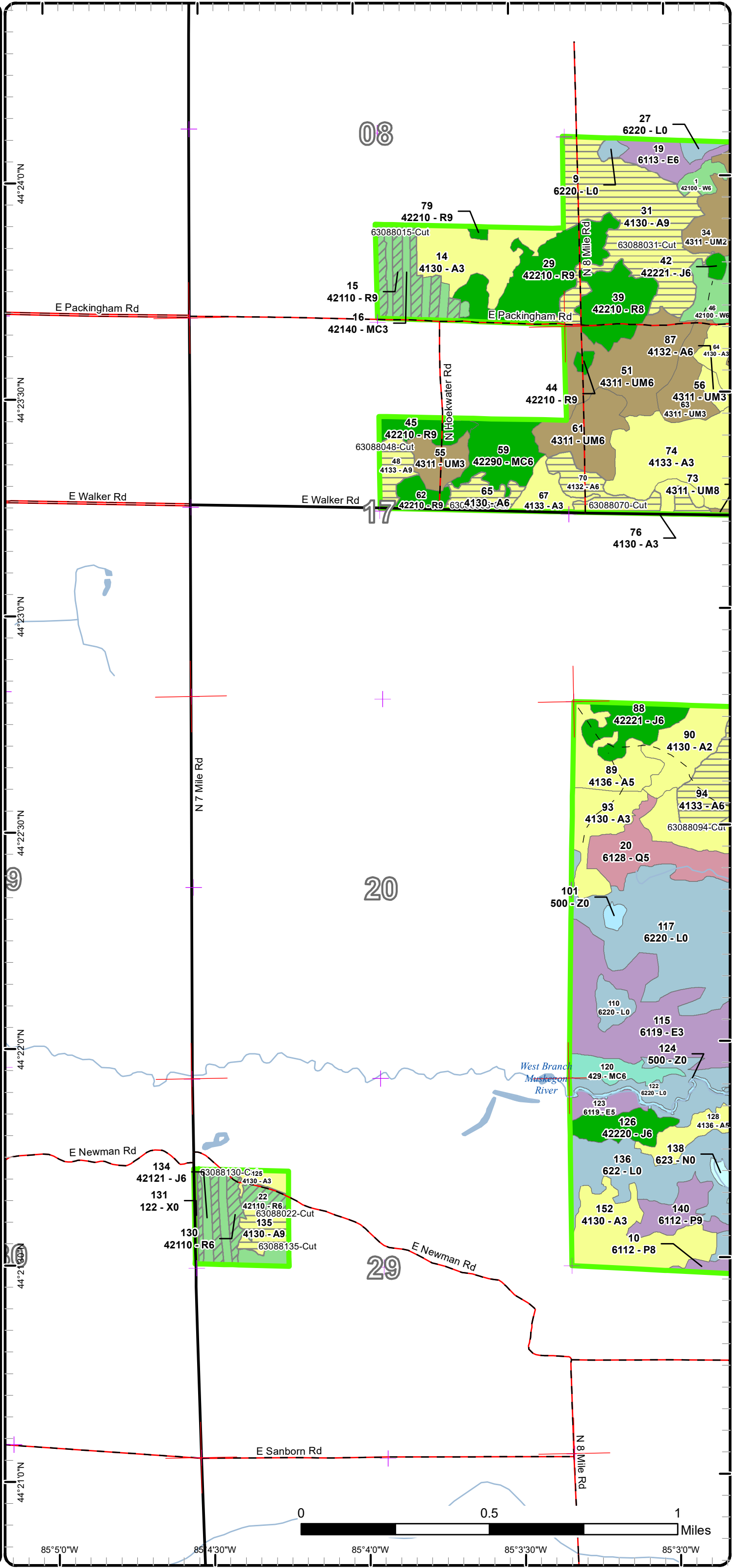


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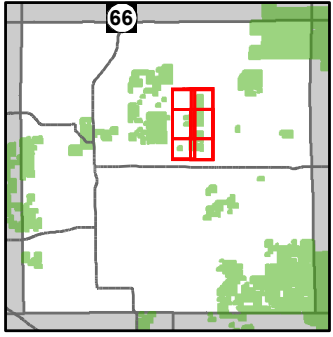


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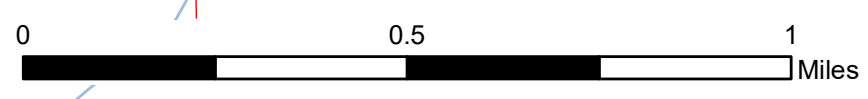
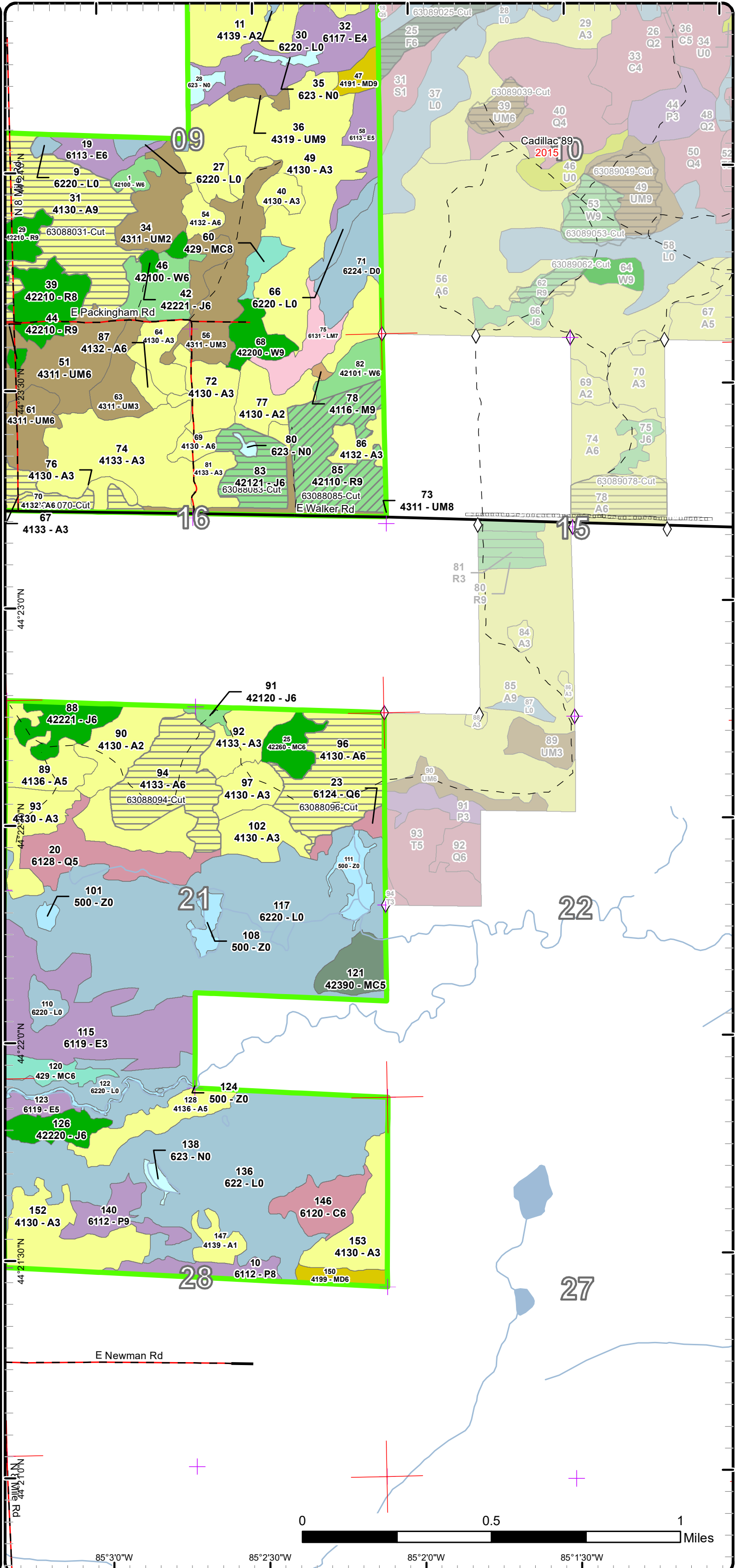


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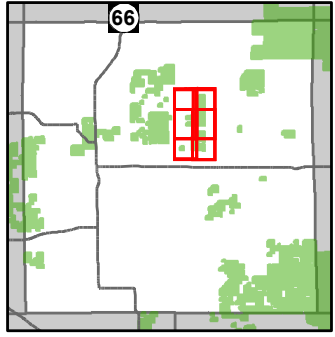
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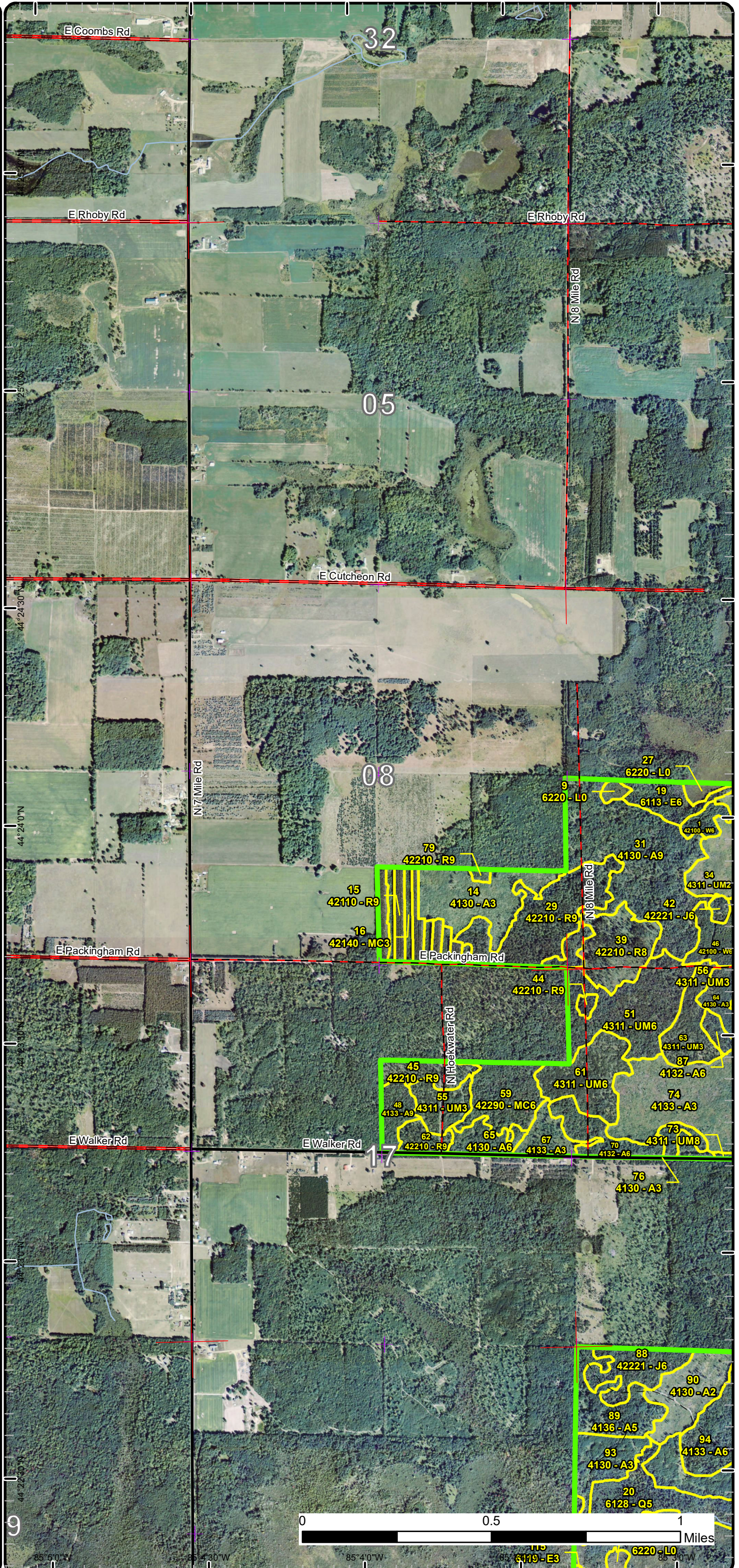
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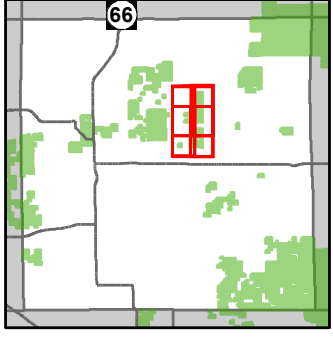


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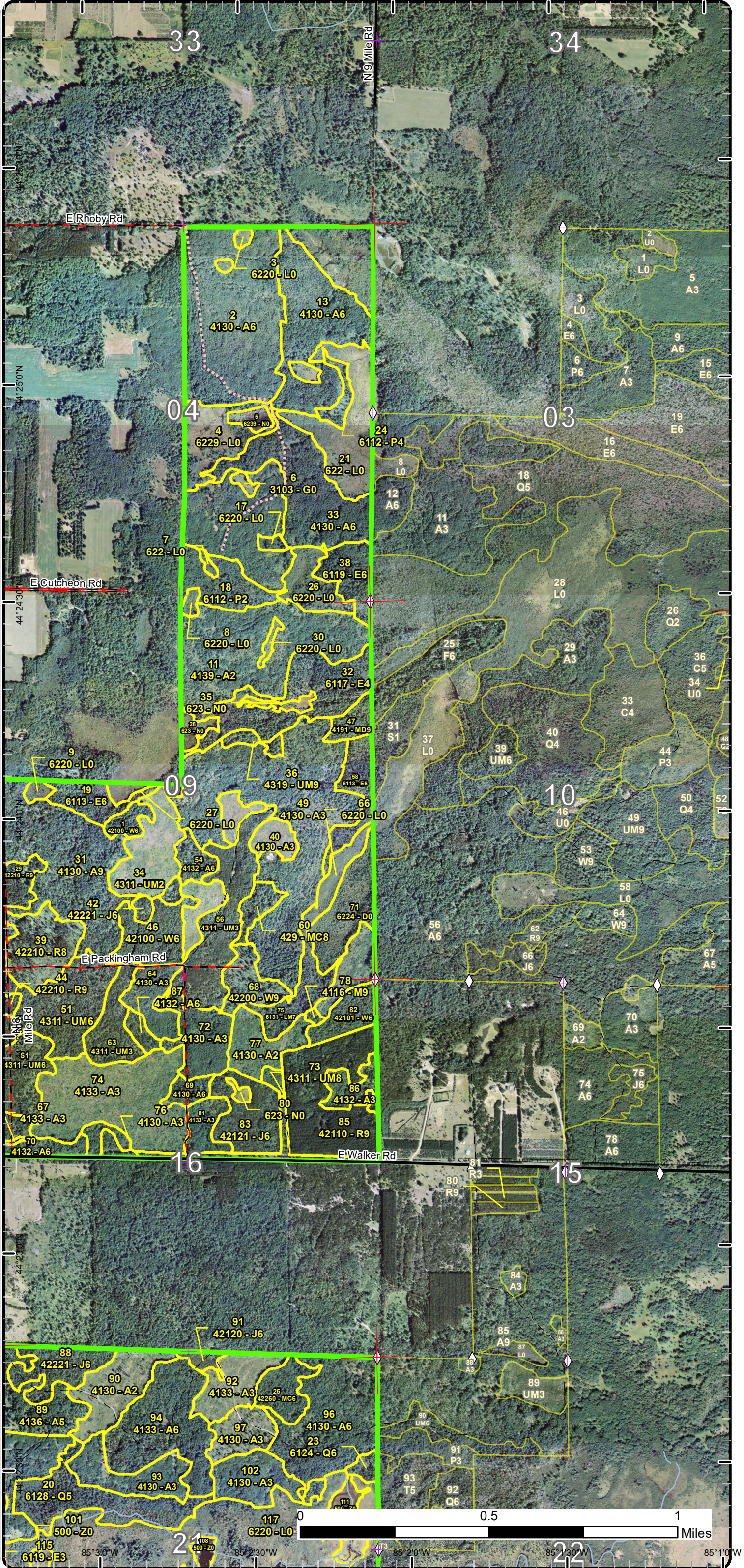


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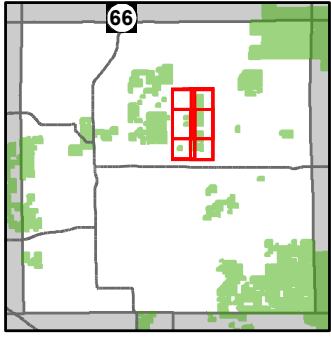


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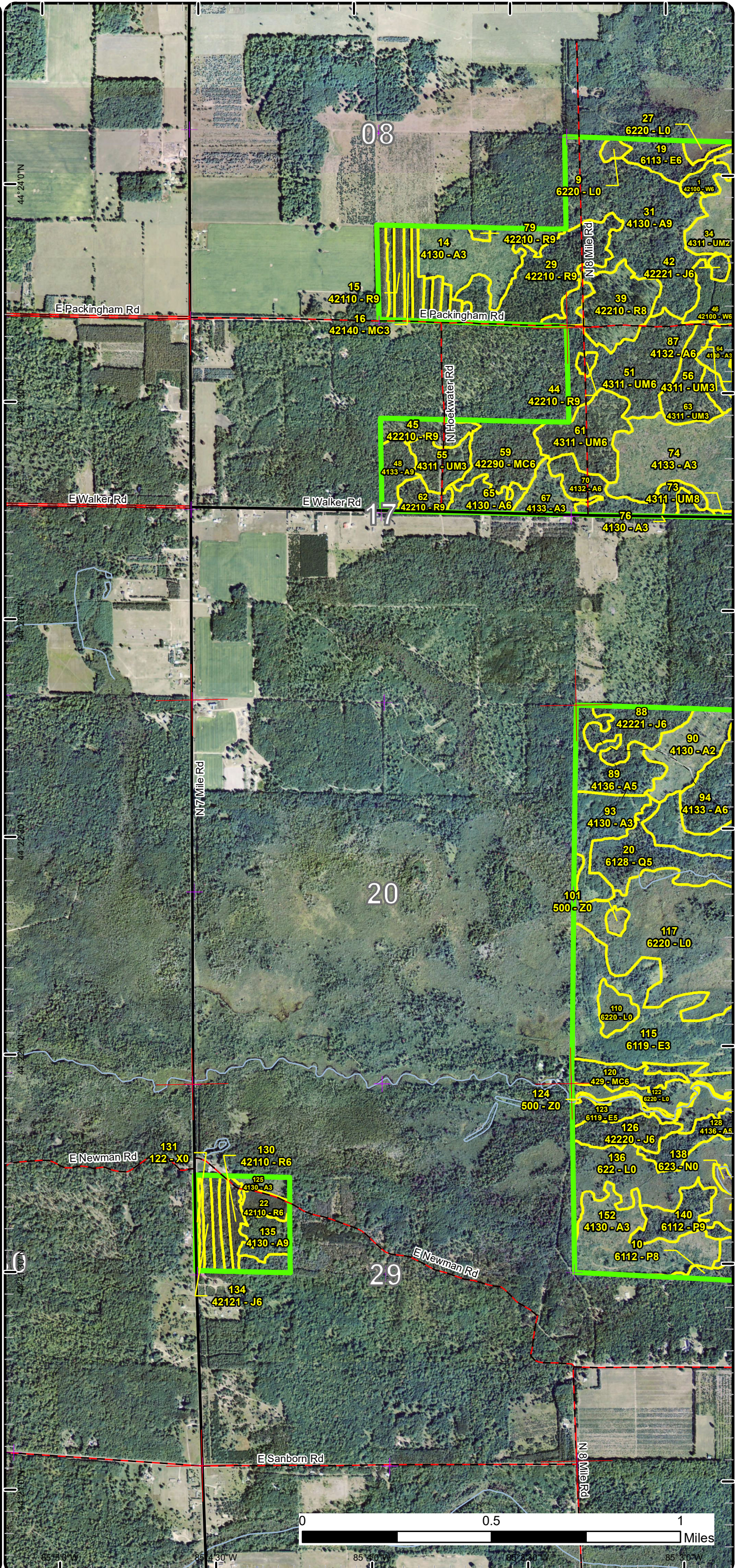


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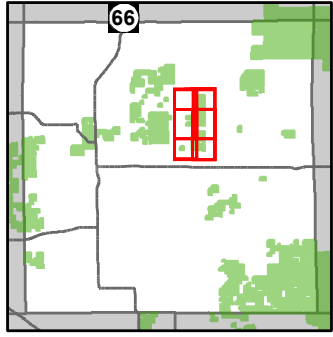


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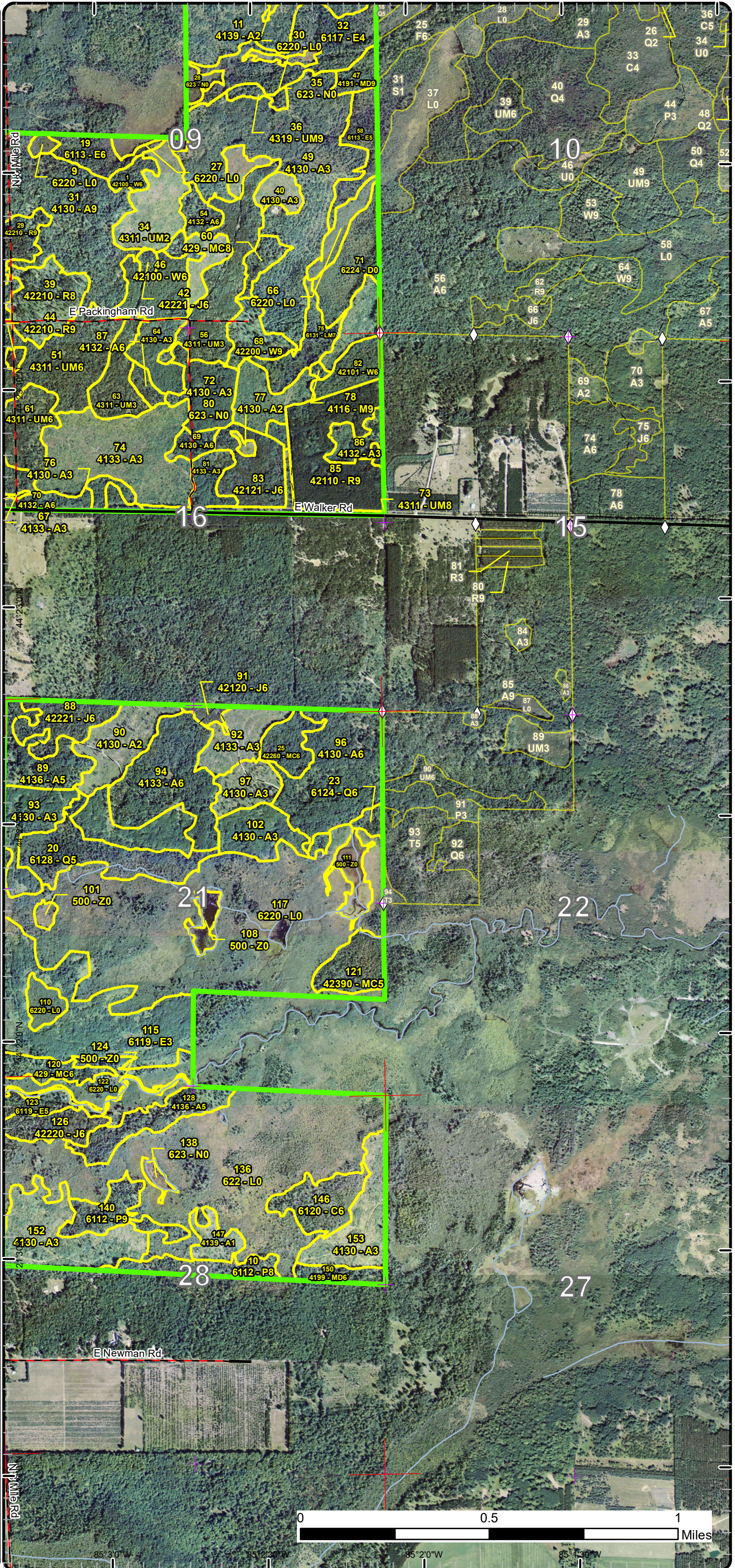


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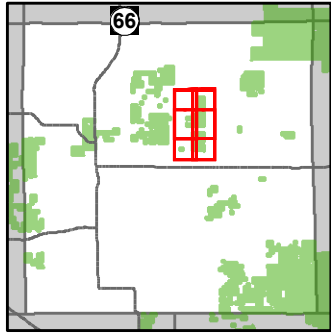


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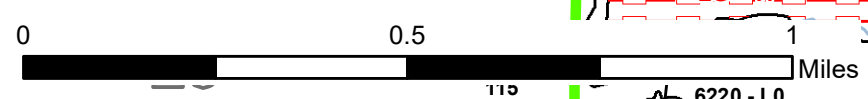
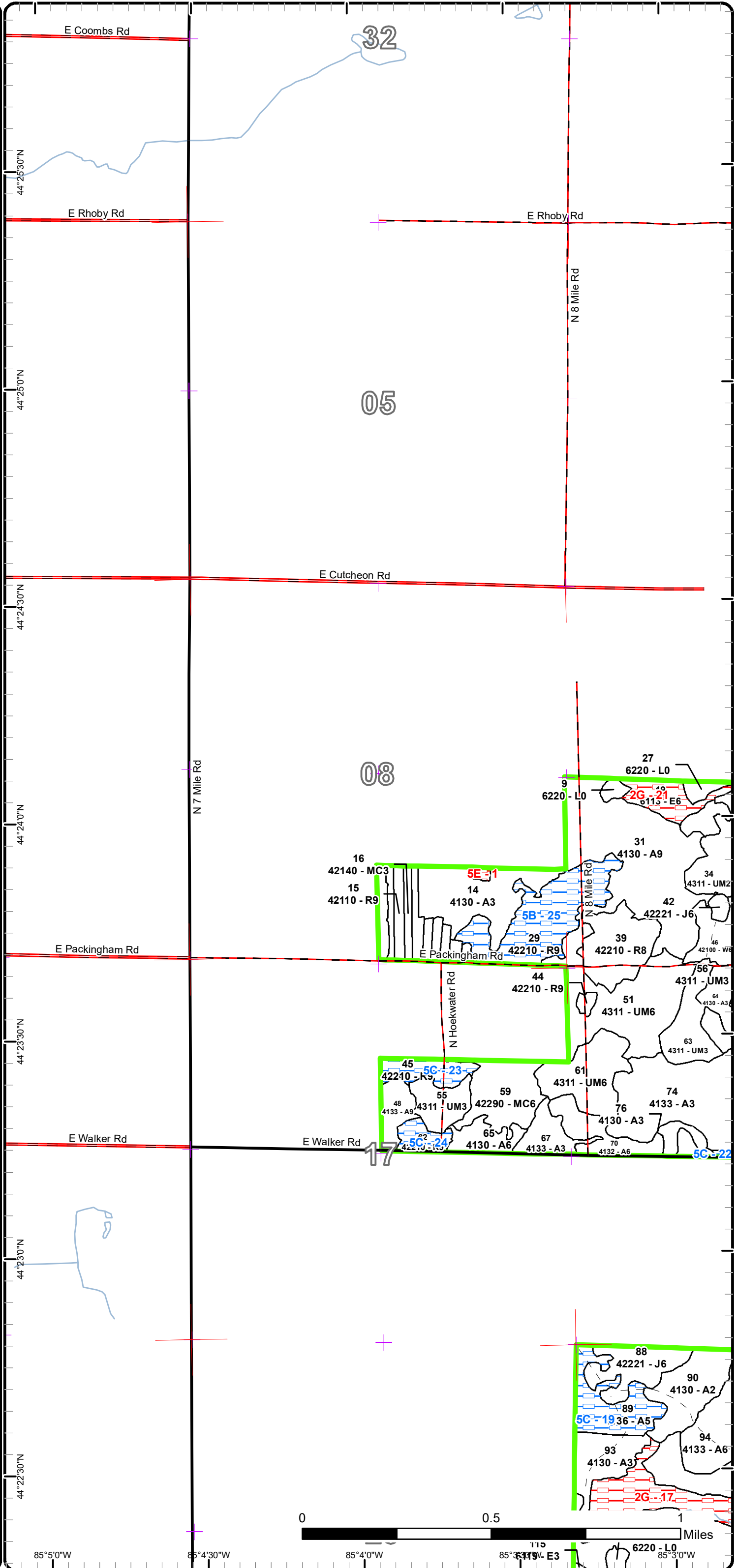


Special Conservation Areas & Site Conditions Map

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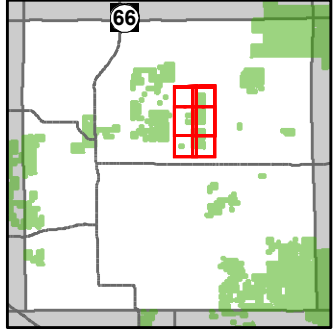
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- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2G: Too wet (sensitive soils, does not include access issues)
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams



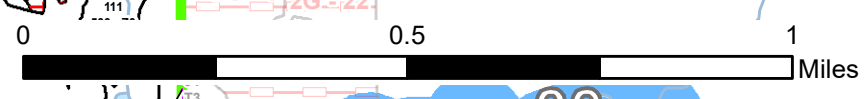
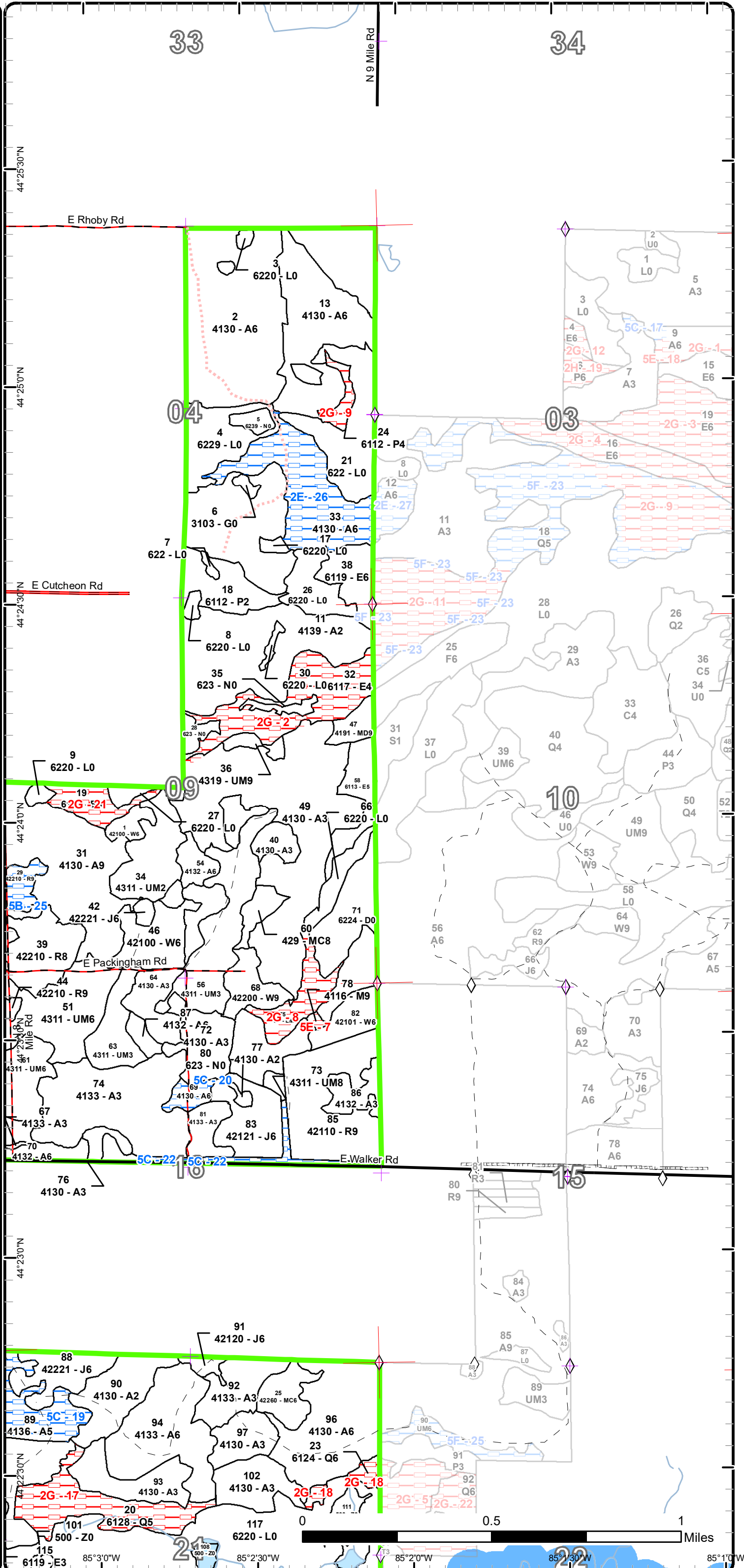
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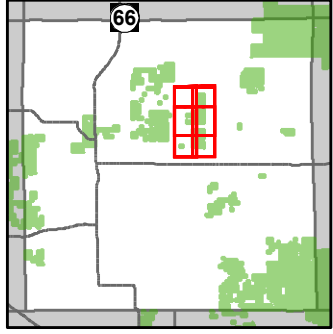
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- 2E: Road needed
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- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2G: Too wet (sensitive soils, does not include access issues)
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer



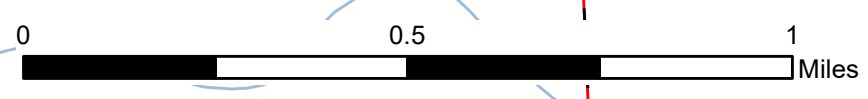
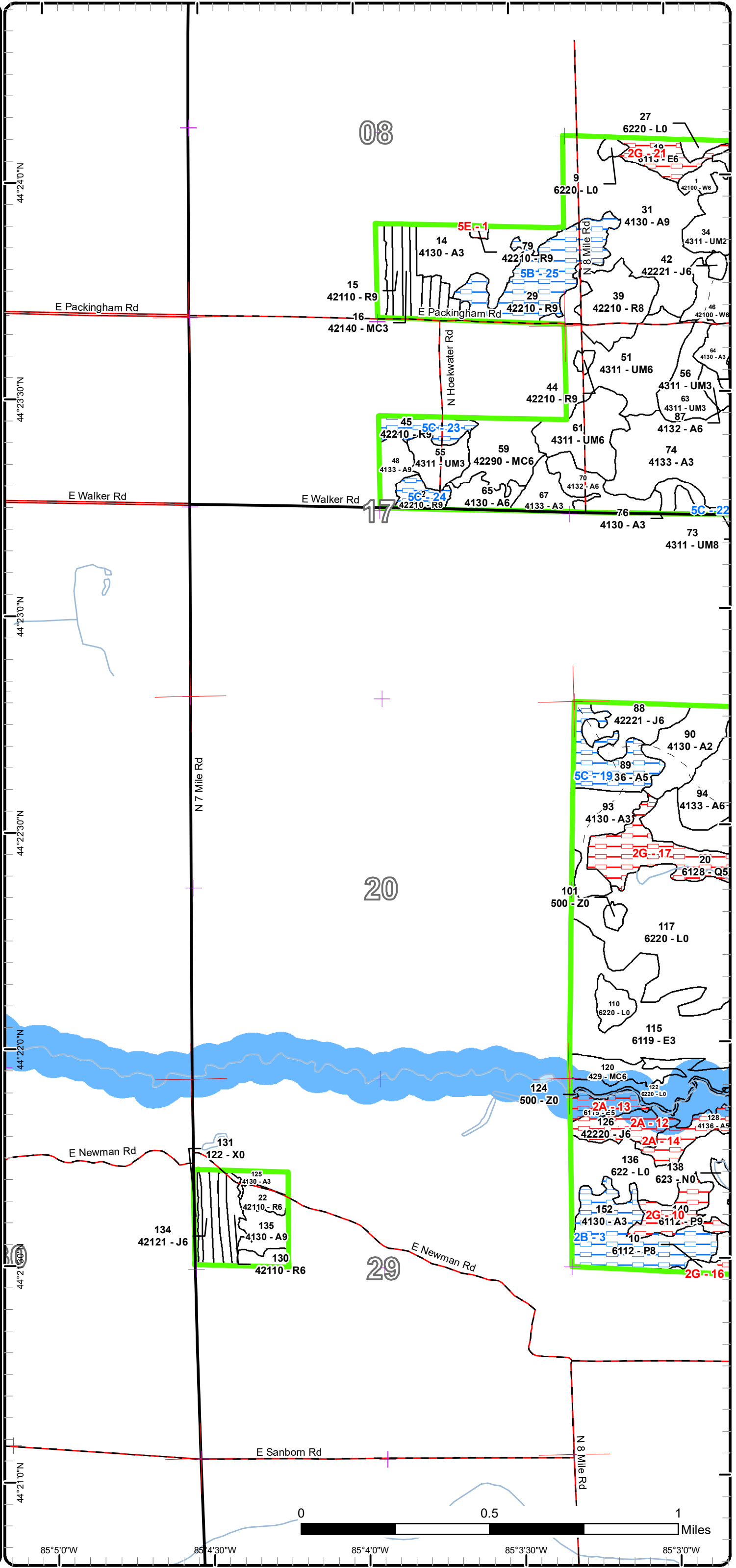
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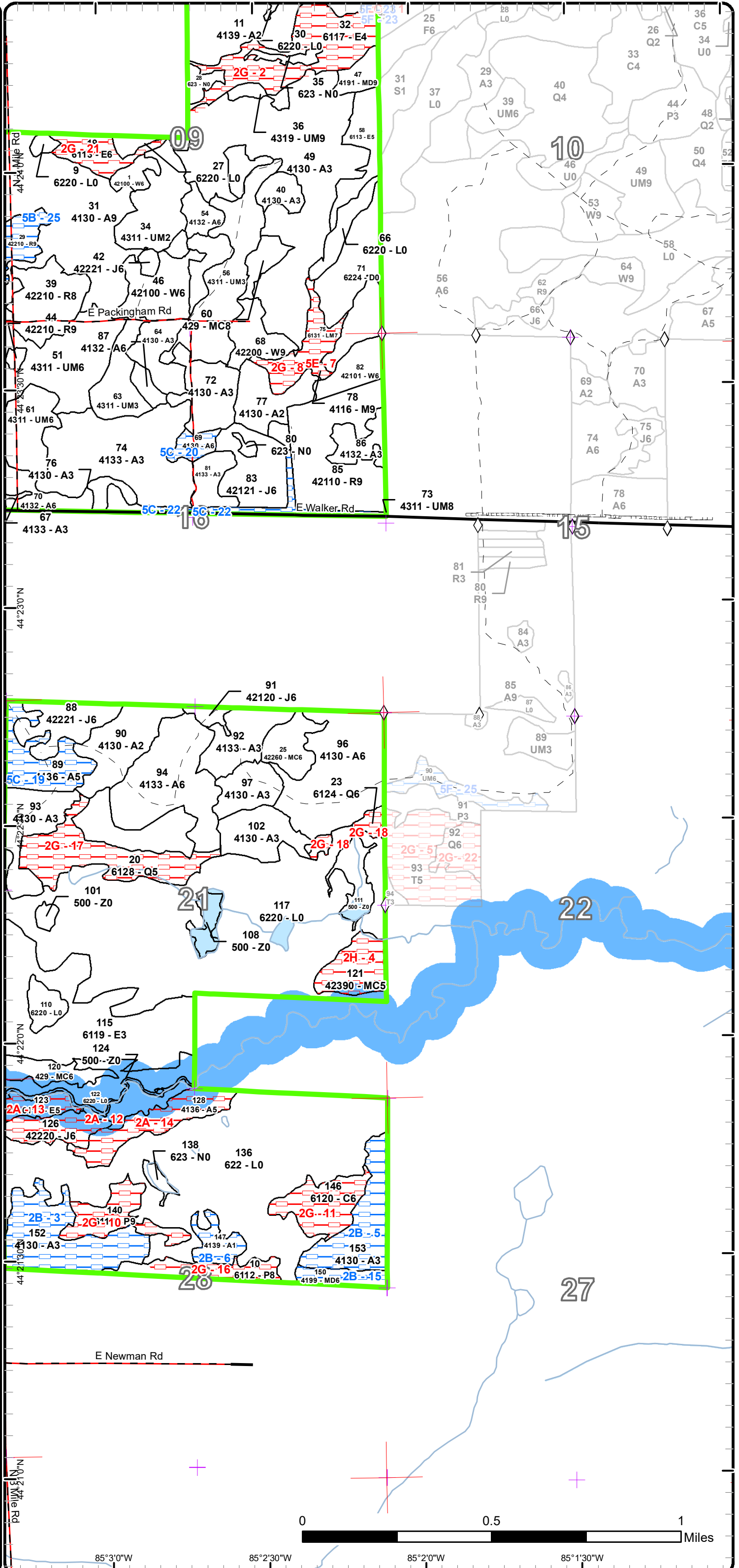
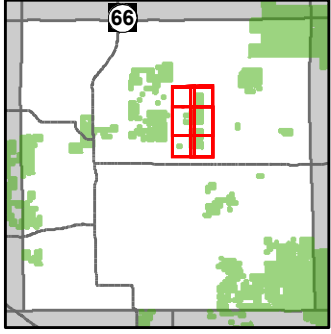
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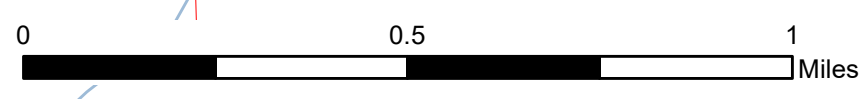
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- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer



85°3'0"W 85°2'30"W 85°2'0"W 85°1'30"W

Report 1 – Total Acres by Cover Type and Age Class

Cadillac Mgt. Unit

Compartment 88

Year of Entry 2018

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	245	293	78	6	109	135	79	0	0	0	0	0	0	0	0	0	0	944
Cedar	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	0	0	0	17
Herbaceous Openland	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Jack Pine	0	0	0	4	0	3	46	12	0	0	0	0	0	0	0	0	0	0	65
Lowland Aspen/Balsam Poplar	0	0	16	0	0	5	0	28	0	0	0	0	0	0	0	0	0	0	48
Lowland Conifers	0	0	0	0	0	0	0	5	30	0	0	0	0	0	0	0	0	0	35
Lowland Deciduous	0	0	65	0	7	0	0	47	13	11	0	0	0	0	0	0	0	0	142
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13
Lowland Shrub	467	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	467
Marsh	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Mixed Upland Deciduous	0	0	0	0	0	0	0	6	7	0	0	0	0	0	0	0	0	0	13
Natural Mixed Pines	0	0	0	0	0	0	11	20	0	0	0	0	0	0	0	0	0	0	31
Northern Hardwood	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Planted Mixed Pines	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Red Pine	0	0	0	0	0	0	56	16	23	50	0	0	0	0	0	0	0	0	145
Treed Bog	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
Upland Conifers	0	0	0	0	0	0	0	0	6	9	14	0	0	0	0	0	0	0	29
Upland Mixed Forest	0	29	0	81	0	0	44	0	4	0	0	0	0	0	0	0	0	0	158
Urban	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Water	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
White Pine	0	0	0	0	0	0	33	0	12	0	0	0	0	0	0	0	0	0	44
Total	525	274	384	163	13	117	325	214	95	87	14	0	0	0	0	0	0	13	2220



Report 2 – Treatment Summary

Cadillac Mgt. Unit

Year of Entry: 2018

Acres of Harvest

Compartment 88

Total Compartment Acres: 2,217

Commercial Harvest - 274
 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	Oversory Removal	Salvage	Other	Total Acres
Aspen	184	0	0	0	0	0	0	0	0	184
Jack Pine	19	0	0	0	0	0	0	0	0	19
Red Pine	0	0	0	0	0	71	0	0	0	71
Total	204	0	0	0	0	71	0	0	0	274

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	274	0	0	0	0	0	0	0	0	274
Next Step	0	0	0	0	0	0	204	0	0	204
Total	274	0	0	0	0	0	204	0	0	478



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
15	63088015-Cut	15.1	42110 - Planted Red Pine	Sawtimber Well	65	141- 170	Harvest	Low Thinning	4211 - Planted Red Pine	Even-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription Perform marked third thinning. Mark for quality and spacing leaving 100 to 110 residual BA.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Stand should be final harvested along with stand 16 next YOE and planted to one solid block of red pine. Get away from strip plantation.

Comment:

Proposed Start Date: 10/01/2017

22	63088022-Cut	4.8	42110 - Planted Red Pine	Poletimber Well	50	171- 200	Harvest	Systematic Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Third row thin stand.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Stand is in rough shape in spots, thinning will hopefully get what appears to be stagnate plantation going.

Comment:

Proposed Start Date: 10/01/2017

31	63088031-Cut	67.3	4130 - Aspen	Sawtimber Well	60	81-110	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Final harvest, leave all red pine. Mark to cut white pine where present. Leave one retention island as long term retention.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen with some other minor mix of conifer and hardwood accepted as well.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

48	63088048-Cut	8.2	4133 - Aspen, Mixed Pine	Sawtimber Well	50	51-80	Harvest	Clearcut	4133 - Aspen, Mixed Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Final harvest no retention as a result of small size. Leave all red pine as well as green ring a few white pine.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen and mixed pine.

Regen:

Other

Comment: Aspen primary objective with scattered pine left to add some structure and diversity.

Proposed Start Date: 10/01/2017



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
65	63088065-Cut	8.4	4130 - Aspen	Poletimber Well	49	Unspec ified	Harvest	Clearcut	413 - Aspen	Even-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription Final harvest no retention as a result of small size. Leave any red and white pine over 6 inch.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

70	63088070-Cut	15.8	4132 - Aspen, Jack Pine	Poletimber Well	45	51-80	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Final Harvest and leave one retention island 3 to 10 percent of acreage. Leave all red pine.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen and mixed deciduous.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

83	63088083-Cut	19.4	42121 - Planted Jack Pine, Mixed Deciduous	Poletimber Well	50	111- 140	Harvest	Clearcut with Retention	42221 - Natural Jack Pine, Mixed Deciduous	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Final harvest leave one retention island in middle of stand. (3 to 10 percent of acreage)

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Jack and aspen/maple.

Regen:

Other 2 inch spec to clean up understory maple.

Comment:

Proposed Start Date: 10/01/2017

85	63088085-Cut	40.5	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 Second thin stand. Mark for quality taking out the poorest formed and suppressed stems.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Traditional pine second thinning.

Comment:

Proposed Start Date: 10/01/2017



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
94	63088094-Cut	40.0	4133 - Aspen, Mixed Pine	Poletimber Well	55	Unspec ified	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription Final Harvest leave all red and white pine as well as retention island. (Place retention island around vernal pond in center of stand)

Specs:

Next Step Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable Aspen with minor mix other species.

Regen:

Other Lump in with sale to east. Berm up roads following sale.

Comment:

Proposed Start Date: 10/01/2017

96	63088096-Cut	44.6	4130 - Aspen	Poletimber Well	55	51-80	Harvest	Clearcut with Retention	4136 - Aspen, Mixed Conifer	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Final harvest, leave all red pine and white pine under 4 inches dbh. Leave one retention island as well.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen dominated with mixed mix and other deciduous.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

130	63088130-Cut	10.2	42110 - Planted Red Pine	Poletimber Well	50	111- 140	Harvest	Low Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Second thin red pine. Open up space for best trees in plantation.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Lump all treatments in this isolated 40 together.

Comment:

Proposed Start Date: 10/01/2017

135	63088135-Cut	8.2	4130 - Aspen	Sawtimber Well	60	81-110	Harvest	Clearcut	413 - Aspen	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Final harvest no retention as a result of small size.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

**Total Treatment
Acreage Proposed: 282.5**

Report 4 – Site Conditions

Cadillac Mgt. Unit

Compartment: 88

Joe Ventimiglia : Examiner

Year of Entry: 2018

Availability for Management

Total Acres	Acres Available	Acres Avail		Acres Not Available		Dominant Site Conditions							
		With Condition				2B	2E	5B	5C	2A	2G	2H	5E
944	796	129		19	Aspen	65	40		24	18	1		
17	0	0		17	Cedar						17		
1	1	0		0	Herbaceous Openland								
65	53	0		12	Jack Pine					12			
48	19	0		29	Lowland Aspen/Balsam Poplar						29		
34	0	0		34	Lowland Conifers						34		
142	90	0		52	Lowland Deciduous					7	45		
13	0	0		13	Lowland Mixed Forest						13		
467	467	0		0	Lowland Shrub								
14	14	0		0	Marsh								
13	6	7		0	Mixed Upland Deciduous	7							
31	31	0		0	Natural Mixed Pines								
1	0	0		1	Northern Hardwood								1
10	10	0		0	Planted Mixed Pines								
144	93	50		1	Red Pine			35	15				1
20	20	0		0	Treed Bog								
30	15	0		14	Upland Conifers							14	
157	149	8		0	Upland Mixed Forest				8				
2	2	0		0	Urban								
20	20	0		0	Water								
44	44	0		0	White Pine								
2,217	1,831	194		193	Total Forested Acres	71	40	35	47	36	140	14	2
	83%	9%		9%	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	Dominant Site Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable		5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified

Comments:

For stand 14.

Report 4 – Site Conditions

Cadillac Mgt. Unit

Compartment: 88

Joe Ventimiglia : Examiner

Year of Entry: 2018

2	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	35	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
3	Available	2B: Unknown if access through adjacent landowner(s) is possible	33	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Access was granted in pass to only on producer(Parks Forest Products) Unknown if this will be allowed again or if others will be allowed.							
4	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	14	2E: Road needed	Unspecified	Unspecified	Unspecified
Comments:							
5	Available	2B: Unknown if access through adjacent landowner(s) is possible	24	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Access was granted in pass to only on producer(Parks Forest Products) Unknown if this will be allowed again or if others will be allowed.							
6	Available	2B: Unknown if access through adjacent landowner(s) is possible	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Access was granted in pass to only on producer(Parks Forest Products) Unknown if this will be allowed again or if others will be allowed.							
7	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Long term retention for stand 77.							

Report 4 – Site Conditions

Cadillac Mgt. Unit
 Joe Ventimiglia : Examiner

Compartment: 88
 Year of Entry: 2018

8	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
9	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
10	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	15	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand also need permission from private and road would have to be made or wood skidded to stand to south. With all issues combined stand should be listed as unavailable.							
11	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	17	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
12	Unavailable	2A: Adjacent landowner denied access	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
13	Unavailable	2A: Adjacent landowner denied access	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Cadillac Mgt. Unit
Joe Ventimiglia : Examiner

Compartment: 88
Year of Entry: 2018

14	Unavailable	2A: Adjacent landowner denied access	18	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Was not able to make contact with landowner.							
15	Available	2B: Unknown if access through adjacent landowner(s) is possible	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
16	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
17	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	30	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
18	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
19	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	19	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Cadillac Mgt. Unit

Compartment: 88

Joe Ventimiglia : Examiner

Year of Entry: 2018

20	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
21	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
22	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Mostly a buffer strip that was left along walker road. Not need to address as this time. May chunk away at it as stand to north are individually cut.							
23	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
24	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
25	Available	5B: Maintain for regeneration purposes	35	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Allow understory to develop more to before addressing pine over story.							

Report 4 – Site Conditions

Cadillac Mgt. Unit
Joe Ventimiglia : Examiner

Compartment: 88
Year of Entry: 2018

26	Available	2E: Road needed	40	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Beaver activity has compromised only road access on State land, work with wildlife and other FMD staff on building road back up or potentially using temp bridge?							

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
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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 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.
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.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42100 - Planted White Pine	Poletimber Well	4.7	56	81-110	Small piece of planted white pine. Rows no longer able to find, planted not strait.
2	4130 - Aspen	Poletimber Well	74.0	25	1-50	Stand was final harvested in 1991.
10	6112 - Lowland Aspen	Sawtimber Medium	12.6	65	1-50	Mostly lowland aspen, one upland piece of good aspen on west tip otherwise stand is too wet for access. Alder and other lowland shrub understory.
11	4139 - Aspen, Mixed Deciduous	Sapling Medium	98.3	14	Immature	Stand was final harvested in 2002. Came back patchy in wet areas, mix of aspen, red maple and a few conifers.
13	4130 - Aspen	Poletimber Well	44.2	45	51-80	Diameters vary, wet on edges. Average to low quality aspen.
14	4130 - Aspen	Sapling Well	28.3	8	Immature	Stand final harvested in 2008. Any oak and pine less than 6 dbh was left. Came back well to aspen and red maple.
15	42110 - Planted Red Pine	Sawtimber Well	15.1	65	141-170	Stand second thinned in 1999. Row thinned before that in 1988. Good looking stand limited to no understory development.
16	42140 - Planted Mixed Pine	Sapling Well	9.8	17	Immature	Old jack pine strips which were final harvested in 1999 and planted to red pine following the sale. Planted Red Pine with Natural Jack seeding in. Some areas red pine doing ok but overall competing vegetation will result in rough time for planted red pine.
18	6112 - Lowland Aspen	Sapling Medium	16.1	15	Unspecified	Recent cut came back patchy in spots. Lower and wetter than adjacent area cut. More conifer
19	6113 - Lowland Maple	Poletimber Well	10.8	83	1-50	Lowland red maple and aspen. Tag alder understory in spots. Overall lowland but not some areas of semi upland.
20	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Medium	29.5	75	Unspecified	Mixed lowland stand, not suitable for commercial operation. Standing water at times.
22	42110 - Planted Red Pine	Poletimber Well	4.8	50	171-200	Small never before thinned red pine in small valley. Red pine not doing well, very small diameter and thin looking crowns.
23	6124 - Lowland Spruce-Fir	Poletimber Well	4.6	65	51-80	Lowland edge stand. Mostly fir and cedar
24	6112 - Lowland Aspen	Poletimber Poor	4.5	40	1-50	Scattered low density trees. wet
25	42260 - Natural Pine, Mixed Deciduous	Poletimber Well	11.0	55	51-80	White pine dominated stand with mix of aspen and some red pine as well. Pine has some time to mature, recent aspen cuts all around this stand provides a bit of break and cover.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
29	42210 - Natural Red Pine	Sawtimber Well	35.2	80	81-110	Stand was last thinned in 2000, all jack and aspen was cut at that time as well. Pine over story denser in spots but overall roughly 80 to 100 BA. Aspen and maple understory well developed.
31	4130 - Aspen	Sawtimber Well	67.3	60	81-110	Mixed aspen stand with small piece of planted white pine. Variable aspen with pockets of better log and some that are more pole size.
32	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Poor	34.3	60		
33	4130 - Aspen	Poletimber Well	40.3	45	51-80	Diameters vary. wet on edges. Access has been compromised due to beaver activity. Access road narrows was under feet of water at time of inventory and will need road work or temp bridge to make access possible in the future.
34	4311 - Pine, Aspen Mix	Sapling Medium	29.2	8	Immature	Stand final harvested in 2010. Will be mix of aspen and jack pine primarily.
36	4319 - Mixed Upland Forest	Sawtimber Well	3.5	73	51-80	Small 3 acre upland piece that was left during the large aspen cut to south. Hummocky ground.
38	6119 - Mixed Lowland Deciduous Forest	Poletimber Well	12.8	75	51-80	
39	42210 - Natural Red Pine	Sawtimber Medium	20.9	75	51-80	Stand was thinned and all aspen, jack pine and maple was spec cut in 2010. Resulted in well spaced red pine over story with thick maple and aspen understory.
40	4130 - Aspen	Sapling Well	11.4	8	Immature	Stand was final harvested in 2010. Came back to mostly aspen.
42	42221 - Natural Jack Pine, Mixed Deciduous	Poletimber Well	3.9	27	Immature	Stand was final harvested in 1989.
44	42210 - Natural Red Pine	Sawtimber Well	1.5	78	111-140	Small isolated piece of log natural red pine.
45	42210 - Natural Red Pine	Sawtimber Well	8.9	80	81-110	Stand was thinned in 2010, all aspen, red maple and jack was cut as well. Good quality what appears to be nice natural red pine stand. No evidence of rows and some variability in diameter leads me to believe it a true natural stand.
46	42100 - Planted White Pine	Poletimber Well	17.4	53	81-110	Rough looking planted white pine stand, mixed with aspen and some jack pine. A few scattered red pine legacy log trees. Rows are hard to find for most part.
47	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	6.0	65	51-80	Small piece that was left from large sale to east. Mix of aspen, red and white pine, balsam and red maple.
48	4133 - Aspen, Mixed Pine	Sawtimber Well	8.2	50	51-80	Mixed of aspen, maple and mixed pine.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
49	4130 - Aspen	Sapling Well	95.3	16	Immature	Stand was final harvested in 2000. Any cedar hemlock or oak was left. Very large stand with southern portion of stand appearing wetter and having most of the concentration of conifer while the north is more upland and strictly aspen. Hummocky ground.
51	4311 - Pine, Aspen Mix	Poletimber Well	36.0	52	81-110	Jack and aspen mix pole stand. Some variability in diameters in stand. Aspen looks rough in pockets, jack pine holding up better.
54	4132 - Aspen, Jack Pine	Poletimber Well	6.1	38	1-50	Aspen, jack pine mixed stand. Very hummocky and seasonally wet it appears. Leatherleaf understory. Sparse stocked low quality stand, may have something to do with seasonally wet nature.
55	4311 - Pine, Aspen Mix	Sapling Well	10.8	27	Immature	Stand was final harvested in 1989.
56	4311 - Pine, Aspen Mix	Sapling Well	33.6	27	Immature	Stand was final harvested in 1989. Aspen and jack pine have taken over stand. Jack pine was broadcast seeded following harvest.
58	6113 - Lowland Maple	Poletimber Medium	12.7	60	1-50	Lowland maple with thick balsam understory. Stand gets wet towards east edge and falls apart on south edge.
59	42290 - Natural Mixed Pine	Poletimber Well	20.3	60	81-110	Mixed white, jack, red pine stand with some aspen filling in as well. White and red pine close to placing as small log stand.
60	429 - Mixed Upland Conifers	Sawtimber Medium	6.0	70	51-80	Small island of mature trees is middle of large final harvests. Mostly white pine with a mix of hardwood scattered. Hardwood could use a little time to mature.
61	4311 - Pine, Aspen Mix	Poletimber Well	21.9	27	Immature	Stand was final harvested in 1989. Came back to a mix of aspen and jack.
62	42210 - Natural Red Pine	Sawtimber Well	6.1	80	81-110	Stand was thinned in 2010, all jack pine and maple was spec cut.
63	4311 - Pine, Aspen Mix	Sapling Well	14.3	27	Immature	Stand was final harvested in 1989. Very close to small pole sized stand.
64	4130 - Aspen	Sapling Well	12.1	16	Immature	Stand final harvested in 2000.
65	4130 - Aspen	Poletimber Well	8.4	49	Unspecified	Average aspen showing signs of age.
67	4133 - Aspen, Mixed Pine	Sapling Well	9.1	6	1-50	Stand was final harvested in 2010, white pine was left. Some log white pine but mostly pole size.
68	42200 - Natural White Pine	Sawtimber Well	11.5	75	1-50	Pine was thinned and all aspen and maple was spec cut in 2010. Over story of mature red and white pine with aspen, maple and a few white pine in understory. Some legacy potential white pine.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
69	4130 - Aspen	Poletimber Well	4.9	50	51-80	Small less than 5 acre piece that was avoided with adjacent cuts. Aspen in rough shape.
70	4132 - Aspen, Jack Pine	Poletimber Well	15.8	45	51-80	Average aspen falling apart in spots with mix of jack and red maple.
72	4130 - Aspen	Sapling Well	16.9	16	Immature	Stand was final harvested in 1990.
73	4311 - Pine, Aspen Mix	Sawtimber Medium	7.9	58	1-50	Old fire break and buffer left along the road. Variable, some areas are younger jack, while others are mature aspen and red and white pine. Above ground power lines as well.
74	4133 - Aspen, Mixed Pine	Sapling Well	51.8	8	Immature	Stand was final harvested in 2008, was typed as jack pine before harvest. Any red and white pine under 6 inches were left.
75	6131 - Hemlock, White Pine, Maple, Birch	Sawtimber Poor	13.4	85	51-80	Mixed stand, far western portion is mire upland red maple and aspen pole with scattered white pine legacy trees, rest of stand is scattered white pine with small pole and sapling lowland hardwood.
76	4130 - Aspen	Sapling Well	3.9	27	Immature	Stand was final harvested in 1989. Came back to aspen and jack pine mix. Almost small pole size.
77	4130 - Aspen	Sapling Medium	25.7	8	Immature	Stand was final harvested in 2008. All red and white pine under 6 dbh was left. Came back well as a whole although there are a few pockets where deer browse appears to have made its mark.
78	4116 - Mixed N. Hardwood - Aspen	Sawtimber Well	1.0	65	51-80	Small retention pocket that was left after 77 was final harvested.
79	42210 - Natural Red Pine	Sawtimber Well	1.0	68	51-80	Retention for large stand to south. Was left for unknown reason but no need to run over regeneration for small red pine stand.
81	4133 - Aspen, Mixed Pine	Sapling Well	10.4	16	Immature	Stand was final harvested in 2000. Some log red pine was left. Small vernal pond in north end.
82	42101 - Planted White Pine, Mixed Deciduous	Poletimber Well	10.4	53	81-110	Mixed aspen and white pine. Appears natural rows are no longer defined.
83	42121 - Planted Jack Pine, Mixed Deciduous	Poletimber Well	19.4	50	111-140	Jack pine stand falling apart. Aspen and maple mixed in.
85	42110 - Planted Red Pine	Sawtimber Well	40.5	53	141-170	Stand was row thinned in 2000. Red pine in good shape, middle of stand has a few acres with thick aspen understory from cut in 2000. Otherwise limited understory.
86	4132 - Aspen, Jack Pine	Sapling Well	8.4	16	1-50	Stand was final harvested in 2000. Scattered red pine left. Came back to mix of aspen and jack pine.

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Cadillac Mgt. Unit

Report 7 – Forested Stands

Compartment: 88
Year of Entry: 2018

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
87	4132 - Aspen, Jack Pine	Poletimber Well	3.6	60	51-80	Small area that was missed from surrounding recent cuts.
88	42221 - Natural Jack Pine, Mixed Deciduous	Poletimber Well	15.5	55	51-80	Mostly Jack pine with some aspen component. A few balsam and maple scattered. Jack pine holding together.
89	4136 - Aspen, Mixed Conifer	Poletimber Medium	19.1	50	51-80	Average Aspen with a few pine and balsam mixed in.
90	4130 - Aspen	Sapling Medium	20.8	5	Immature	Natural red, jack and white pine. Final harvested in 2011, scattered red and white pine were left. CAME back to mostly aspen and maple, Scattered log red and white left. Sparse regeneration on south end.
91	42120 - Planted Jack Pine	Poletimber Well	2.9	48	51-80	Small 3 acre piece of pole jack
92	4133 - Aspen, Mixed Pine	Sapling Well	16.0	5	Immature	Stand was final harvested in 2011. Was primarily jack pine prior to harvest. Came back to Aspen, Jack pine will be smaller component.
93	4130 - Aspen	Sapling Well	36.2	17	Immature	Stand was final harvested in 1999. Swamp aspen cut last time, Came back patchy in spots. Any cedar, oak and hemlock left. Wet area splits stand, with old skid road used to access stand 115 completely flooded out. (At least when checked)
94	4133 - Aspen, Mixed Pine	Poletimber Well	40.0	55	Unspecified	Mature aspen stand-which is showing signs of age. Small vernal pond in middle of stand. Recent treatments surround this stand.
96	4130 - Aspen	Poletimber Well	44.6	55	51-80	Aspen dominated stand with some white pine mixed in. Some more open spots in north side. Variable diameters pole overall. Wet edge on south border.
97	4130 - Aspen	Sapling Well	12.1	5	Immature	Stand was final harvested in 2011, scattered pine were left. All oak as well. Pine concentrated
102	4130 - Aspen	Sapling Well	15.8	17	Immature	Cut in 1999, came back well to aspen, borders wet on south end.
115	6119 - Mixed Lowland Deciduous Forest	Sapling Well	64.5	14	Immature	Wildlife cut that was final harvested commercially in 2002. Came back patchy in spots.
120	429 - Mixed Upland Conifers	Poletimber Well	9.2	85	51-80	upland ridge area surrounded by low wet areas. Muskegon river to south and wet small drainage to north.
121	42390 - Mixed Non-Pine Upland Conifers	Poletimber Medium	14.4	90	51-80	Remote call on upland area of conifers, surrounded by low wet areas. No access for commercial harvest.
123	6119 - Mixed Lowland Deciduous Forest	Poletimber Medium	6.7	35	1-50	Appears to be old wildlife cut? Mostly small pole red maple mostly.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
125	4130 - Aspen	Sapling Well	4.2	8	Immature	Stand was final harvested in 2008.
126	42220 - Natural Jack Pine	Poletimber Well	11.7	65	51-80	No access, except across private. . Mixed stand which transitions to mostly jack pine to the east.
128	4136 - Aspen, Mixed Conifer	Poletimber Medium	18.0	50	1-50	Small isolated ridge of aspen and some open pockets of red pine. Mostly upland although wet on edges in the spring. Illegal ORV activity.
130	42110 - Planted Red Pine	Poletimber Well	10.2	50	111-140	Stand was third row thinned last YOE.
134	42121 - Planted Jack Pine, Mixed Deciduous	Poletimber Well	11.4	50	1-50	Poor quality jack pine with some mortality. Southern edge jack pine completely fell and red maple has taken over.
135	4130 - Aspen	Sawtimber Well	8.2	60	81-110	Log aspen and red maple which is more open to east private line. Private line was recently surveyed wit private survey posts all along line.
140	6112 - Lowland Aspen	Sawtimber Well	14.8	60	51-80	Wet piece of aspen that was left when large sale occurred to south. Seems as if it was left as a result of stand being too wet?
146	6120 - Lowland Cedar	Poletimber Well	17.1	85	51-80	Lowland conifer edge call, too wet. Upland manageable aspen adjacent was cut last YOE.
147	4139 - Aspen, Mixed Deciduous	Sapling Poor	7.6	8	Immature	Stand was final harvested in winter 2008. Was a negotiated sale by Chris Parks as they were the only ones to be able to get access from private.
150	4199 - Other Mixed Upland Deciduous	Poletimber Well	6.7	78	1-50	portion of stand to north that was not cut. Unsure if private line was ran? Need to trespass to access stand.
152	4130 - Aspen	Sapling Well	33.4	8	Immature	Stand was final harvested in winter 2008. Was a negotiated sale by Chris Parks as they were the only ones to be able to get access from private. Stand regenerated well and is upland but appears as if it would be seasonally wet at times.
153	4130 - Aspen	Sapling Well	23.7	8	Immature	Stand was final harvested in winter 2008. Was a negotiated sale by Chris Parks as they were the only ones to be able to get access from private.



Stand	Cover Type	Acres	Managed Site	General Comments:
3	6220 - Alder/willow	2.0	No	Lowland Shrub
4	6229 - Mixed lowland shrub	19.5	No	A few scattered trees otherwise lowland shrub .
5	6239 - Mixed Emergent Wetland	3.4	No	
6	3103 - Rubus-Fern	1.5	No	
7	622 - Lowland Shrub	1.0	No	
8	6220 - Alder/willow	1.7	No	
9	6220 - Alder/willow	2.0	No	Low wet heavy to alder
17	6220 - Alder/willow	1.6	No	
21	622 - Lowland Shrub	50.1	No	Small upland piece in northeast concern too small for management otherwise non forested lowland shrub stand.
26	6220 - Alder/willow	12.4	No	
27	6220 - Alder/willow	3.7	No	
28	623 - Emergent Wetland	3.8	No	
30	6220 - Alder/willow	1.5	No	
35	623 - Emergent Wetland	2.9	No	
66	6220 - Alder/willow	7.7	No	
71	6224 - Treed Bog	20.0	No	A few scattered pockets of more mature lowland conifer on Southern edge otherwise a leather leaf lowland conifer bog type. (Tamarack, white pine, and spruce) Seasonally flooded which I am guessing prevent trees from being able to gain much of any size.
80	623 - Emergent Wetland	1.2	No	Flooded wetland in spring.
101	500 - Water	2.1	No	



Stand	Cover Type	Acres	Managed Site	General Comments:
108	500 - Water	5.5	No	
110	6220 - Alder/willow	6.4	No	
111	500 - Water	9.1	No	
117	6220 - Alder/willow	180.2	No	No canopy but some scattered tamarack. swamp ash, small balsam water flow in middle of stand. Large lowland shrub stand with a few island of scattered trees, nothing manageable.
122	6220 - Alder/willow	24.8	No	
124	500 - Water	3.3	No	
131	122 - Road/Parking Lot	1.7	No	
136	622 - Lowland Shrub	152.7	No	Some scattered island of conifer on small humps, otherwise large wet shrub swamp.
138	623 - Emergent Wetland	2.5	No	