Compartment Review Presentation

Crystal Falls Forest Management Unit

Compartment 12171
Entry Year: 2027
Acreage: 945
County: Iron
Management Area: Brule River

Stand Examiner: Eric Brolin

Legal Description:

T41N-R31W sections 3, 4, 9 and 10

Identified Planning Goals:

Develop age class distribution in aspen type. Develop quality while maintaining diversity in hardwood type. Maintain health of conifer types and increase acreage where possible. Maintain and improve road system.

Soil and topography:

Sarona fine sandy loam. Rolling areas on ground moraines and end morains. Rolling hills with some swamp and drainages.

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

State lands mixed with company lands and private parcels. Land mainly used for hunting and fishing, but some year round residences and camps are present.

Unique Natural Features:

Michigamme Lake. The Menominee River is just to the south of the compartment..

Archeological, Historical, and Cultural Features:

None.

Special Management Designations or Considerations:

None.

Watershed and Fisheries Considerations:

Minimum buffers should be implemented. Streams, regardless of their size or frequency of flow, are connected to downstream waters and strongly influence their function. Additionally, wetlands and open waters in riparian areas and floodplains are physically, chemically, and biologically integrated with rivers via functions that improve downstream water quality. These systems act as effective buffers to protect downstream waters from pollution and are essential components of river food webs. BMP's should be implemented to control sediment sources from adjacent uplands. Fine sediments such as silt and sand negatively affect natural reproduction of fish, decrease the diversity of aquatic invertebrate and fish taxa, and result in lower overall fish populations.

Wildlife Habitat Considerations:

The primary featured species managed for in this compartment include bear and deer. This compartment is greater than 90% aspen and northern hardwood. It has 3 small drainages that provide critical habitat for bears, deer, amphibians and reptile and migrating songbirds. This compartment is part of the historical Camp 5 Deer Wintering Complex. The hemlock, cedar, pine and spruce/fire components of the are are critical to provide winter cover and enable deer to travel along transition zones through the uplands to obtain forage.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of an end moraine of coarse-textured till. The glacial drift thickness varies between 50 and 100 feet. The Proterozoic Michigamme Formation and Archean volcanic and sedimentary rocks subcrop below the glacial drift. There is not a current economic use for these rocks. Abandoned iron mines at Crystal Falls are located ten miles to the northwest. Land near this compartment was previously leased for metallic mineral exploration. There are no visibly active gravel pits in the area, but there is potential. There is no economic oil and gas production in the UP.

Vehicle Access:

Camp 5 Road, Lower Dam Road, Upper Dam Road and woods roads.

Survey Needs:

None.

Recreational Facilities and Opportunities:

Hunting.

Fire Protection:

Additional Compartment Information:

None.

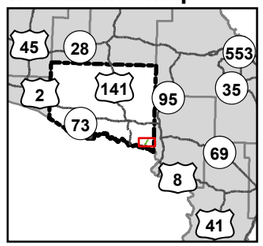
The following reports from the Inventory are attached:

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

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

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

Cover Type & Treatments Map



N

0 0.5 1 Miles

Compartment: 12171
T42N-R31W section 34
County: Iron
Unit: Crystal Falls
Mgmt. Area: Brule River
YOE: 2027
Acres: 945 GIS Calculated
Examiner: Eric Brolin
Date Exported: 04/29/2025
Map Phase: Web Post

- Remonumented Section Corners
- Survey Grade Corners
- DNR - Secondary Forest Road
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- Federal / State / County - Paved Road
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- Private - Dirt / Gravel Road
- DNR - Management Access
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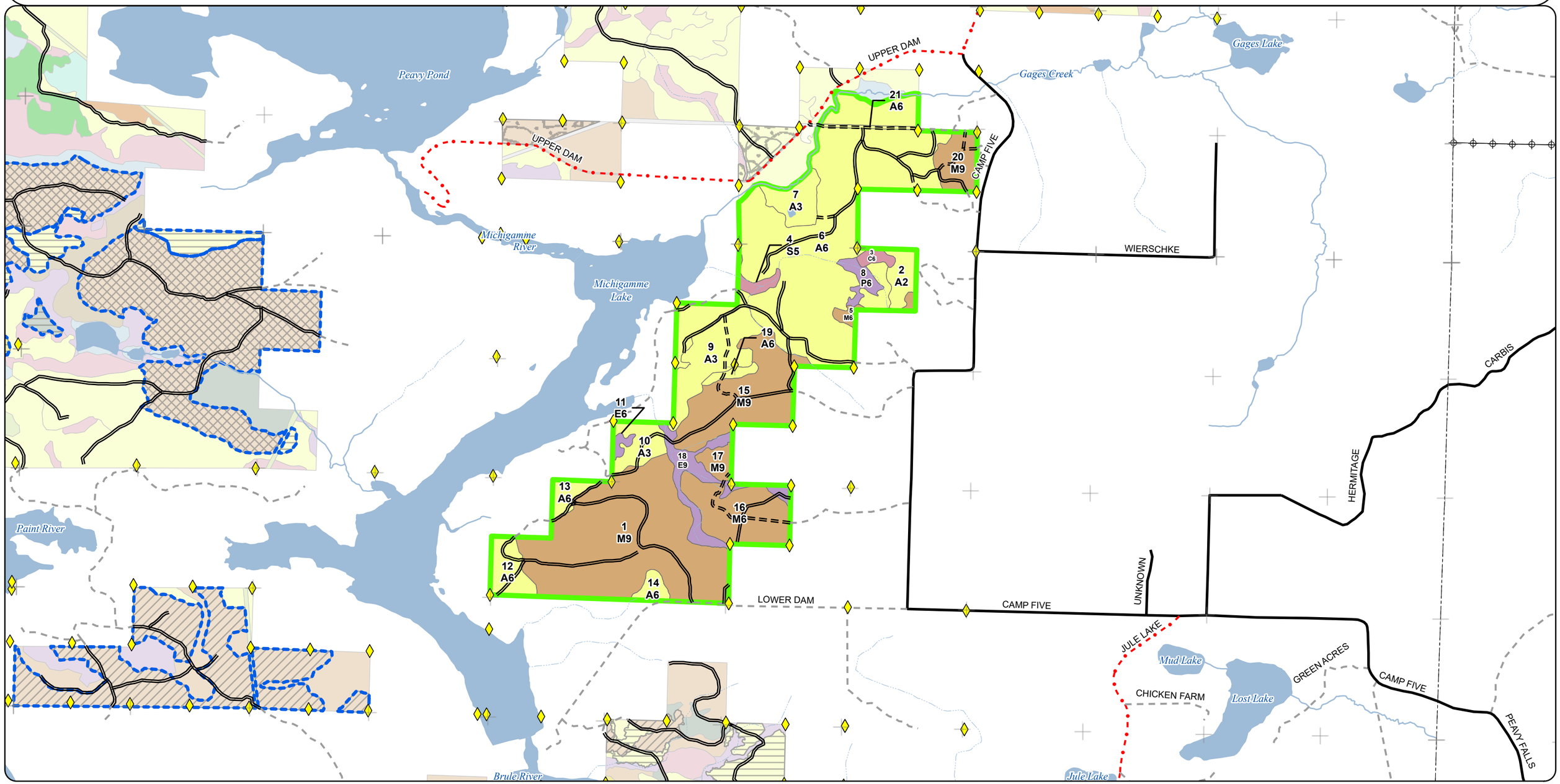
- Perennial River
- Lakes and Rivers
- Counties
- Powerline
- Compartment Boundary
- Treatments with Site Conditions
- 411 - Northern Hardwood
- 413 - Aspen
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest



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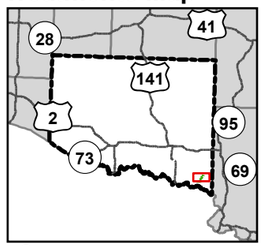

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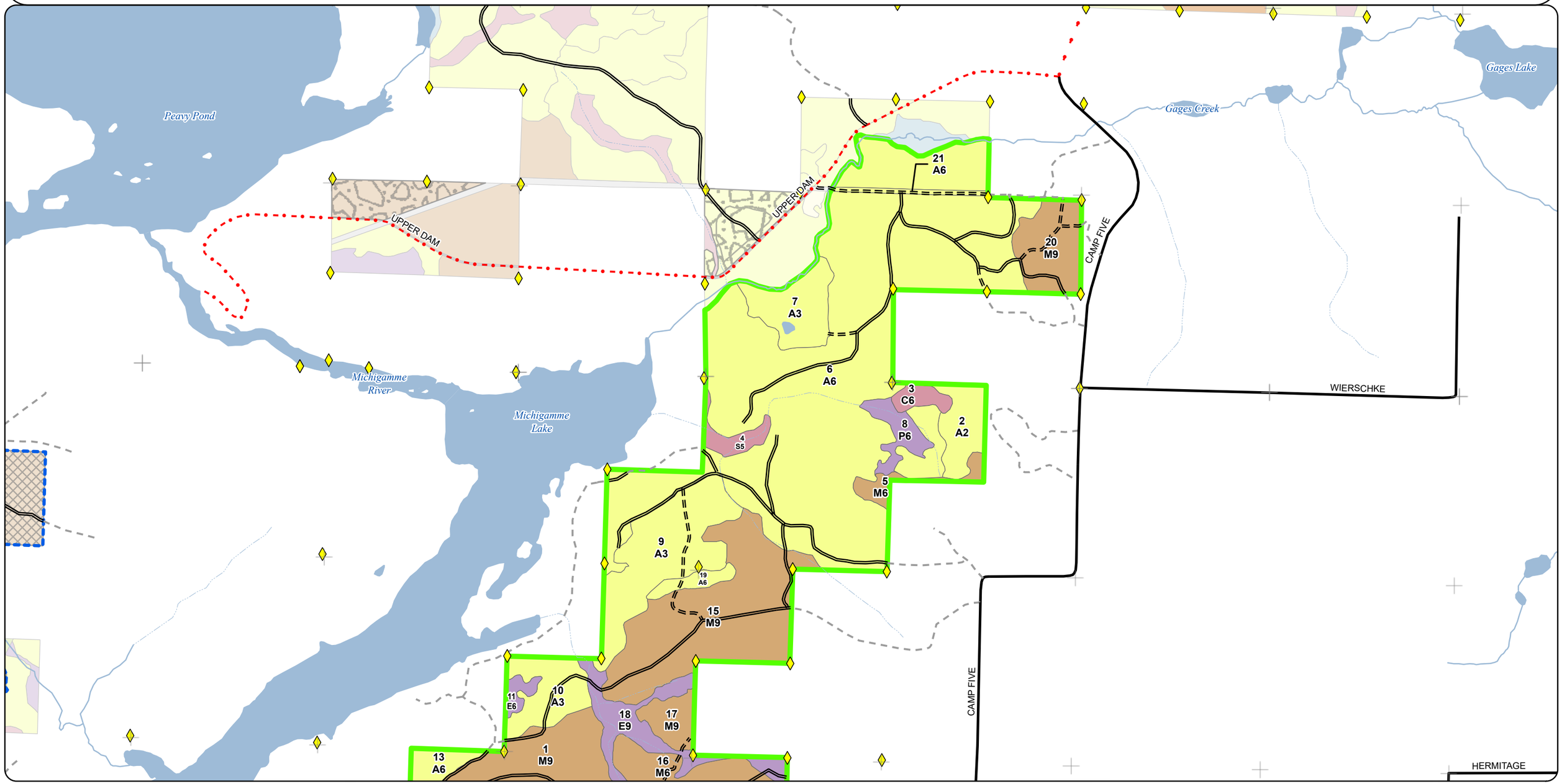

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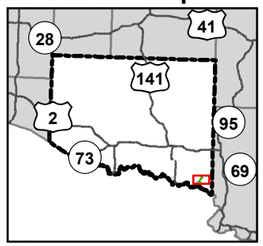

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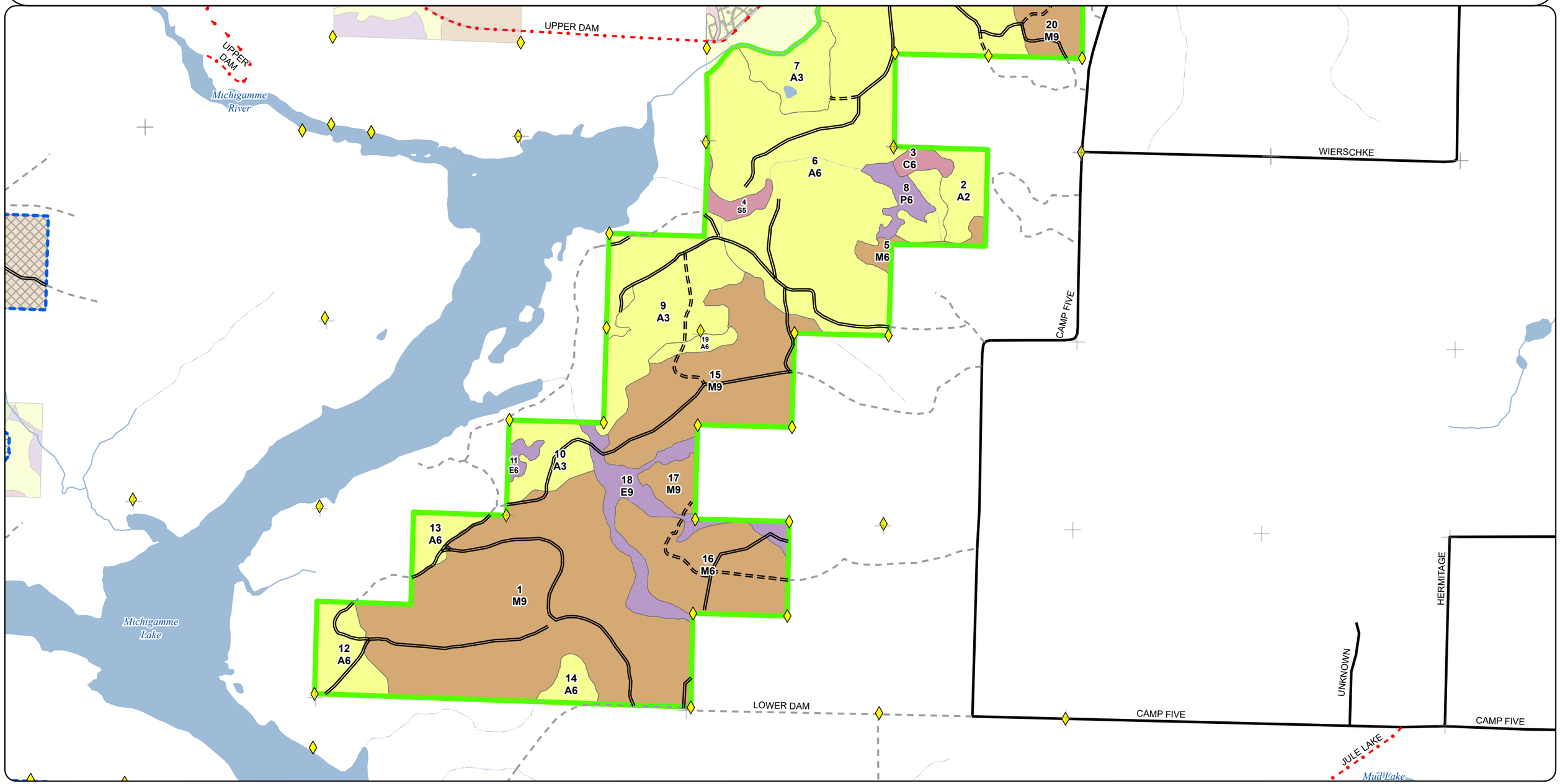
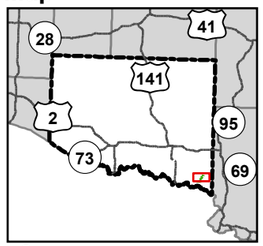


Stand Boundary Map



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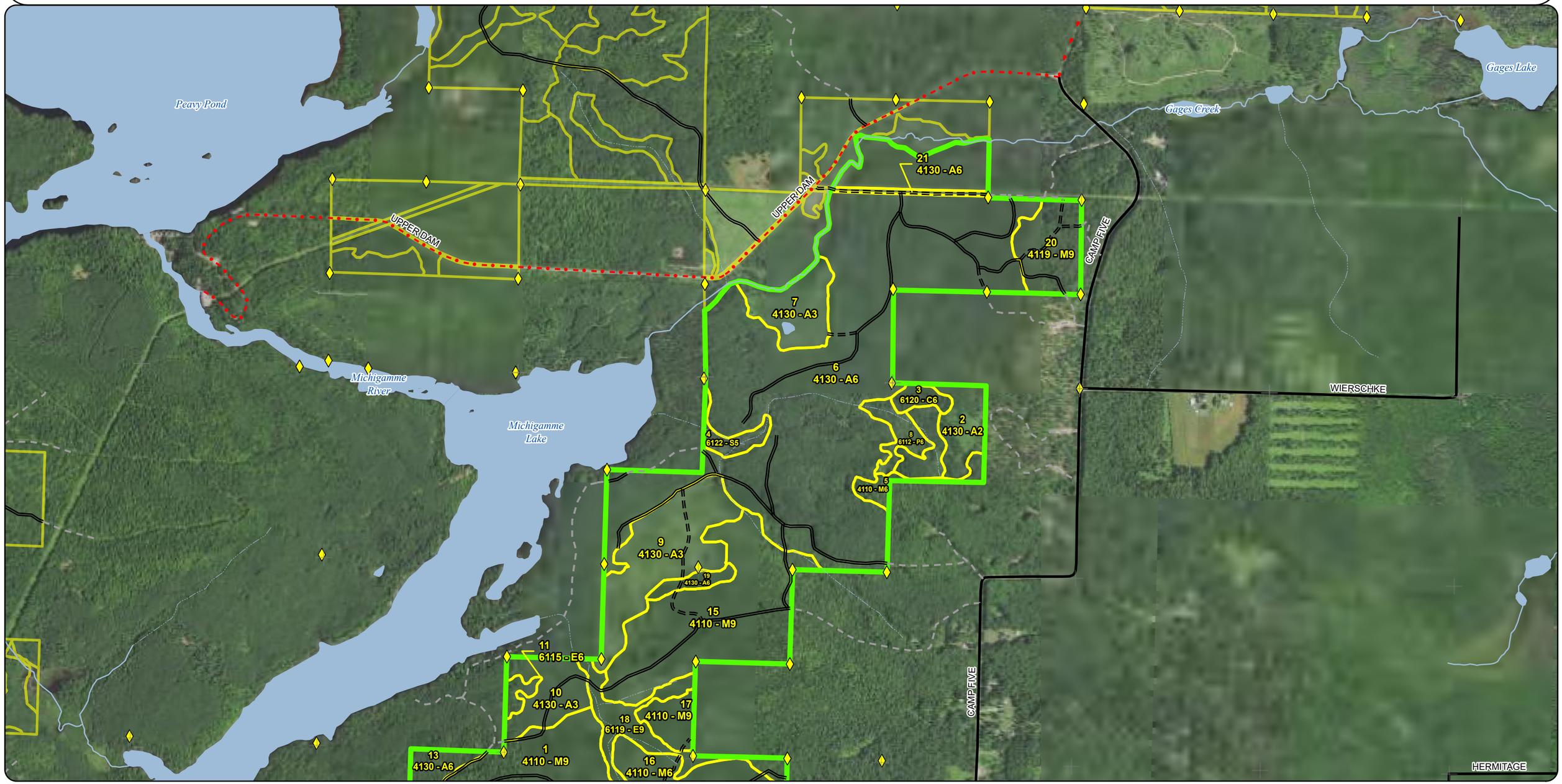

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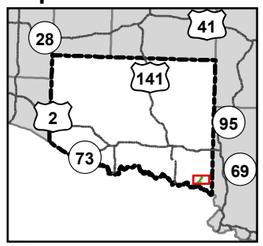

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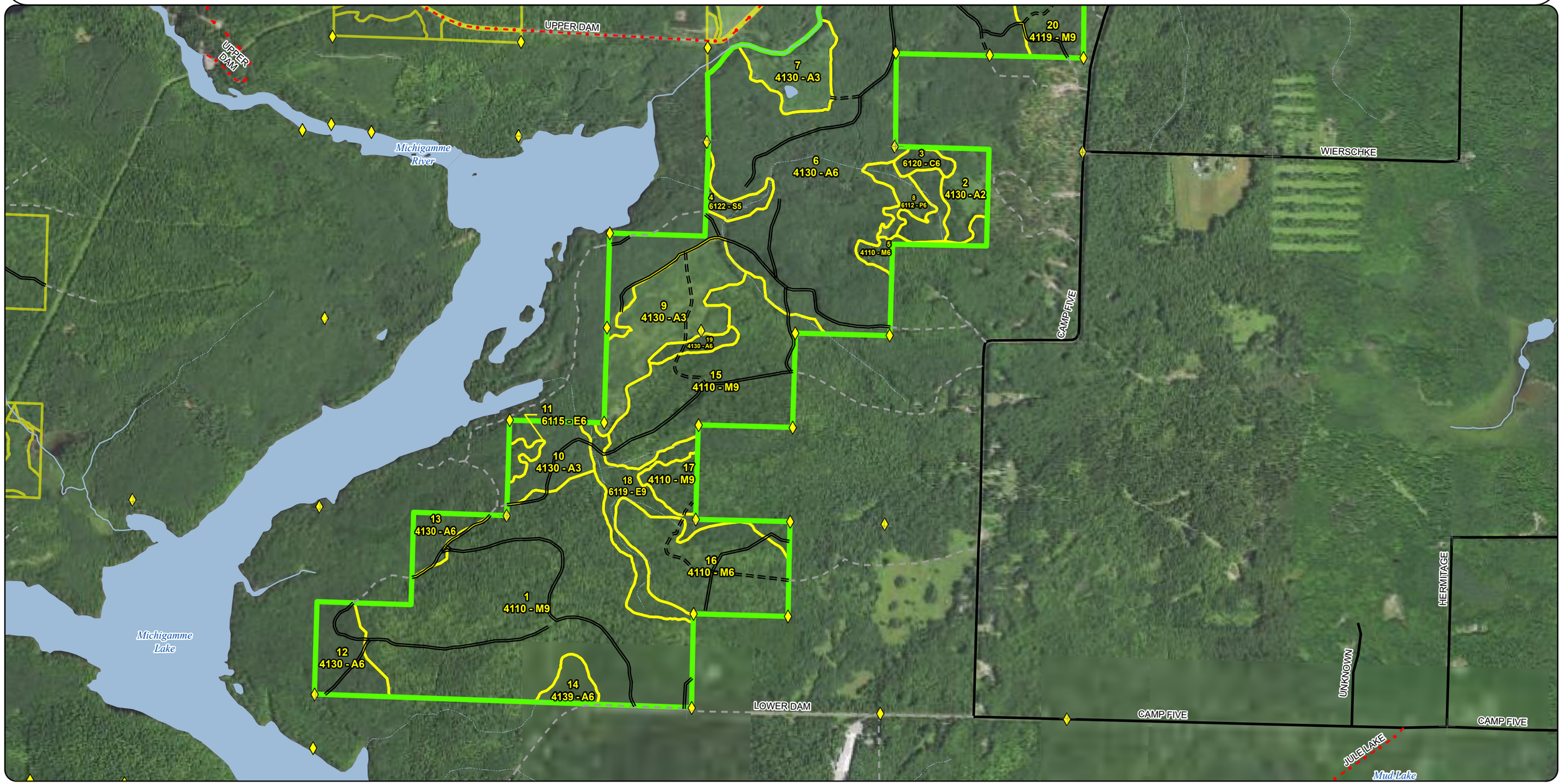
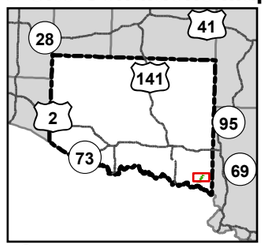


Special Conservation Areas & Site Conditions Map



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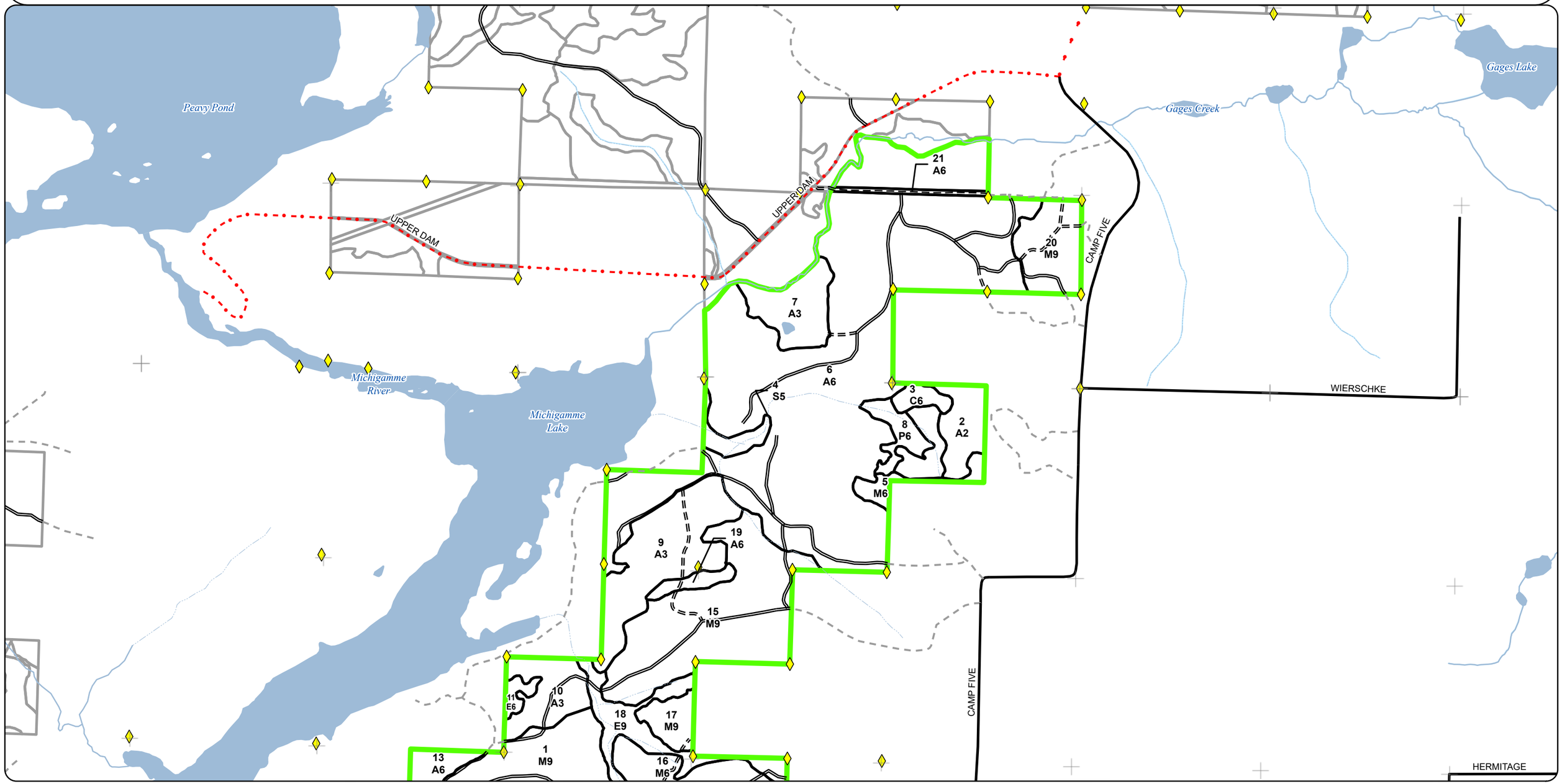
Stand Boundaries
Cold Water Streams



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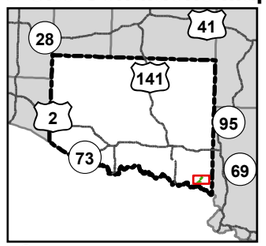

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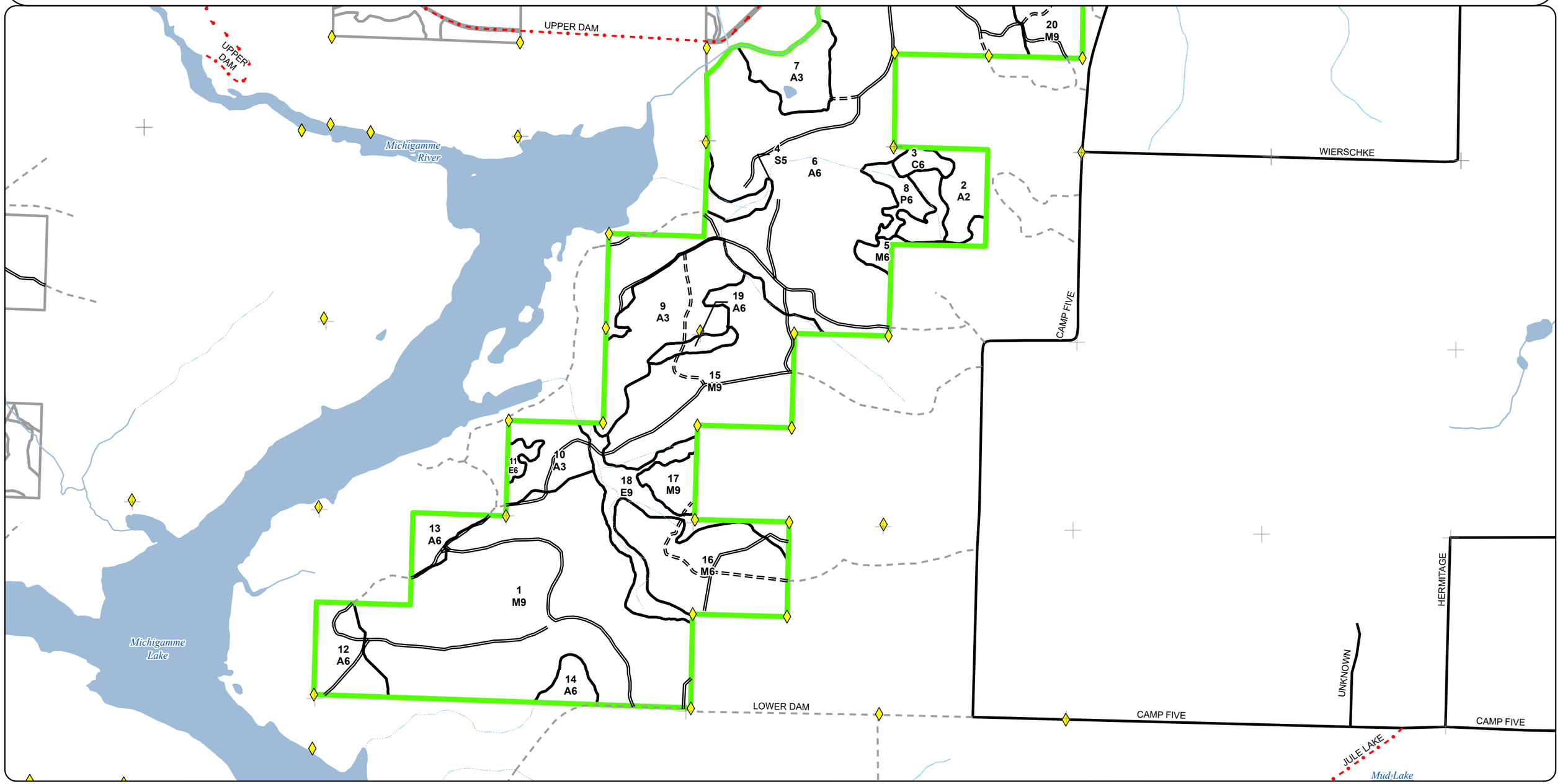

Report 1 – Total Acres by Cover Type and Age Class

Crystal Falls Mgt. Unit **Compartment 171 Year of Entry 2027**

Eric Brolin: 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	50	60	0	333	42	0	0	0	0	0	0	0	0	0	0	0	0	**485**
Cedar	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	**5**
Lowland Aspen/Balsam Poplar	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	**9**
Lowland Deciduous	0	0	0	0	0	0	0	0	0	0	35	0	0	0	0	0	0	0	**35**
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	**7**
Northern Hardwood	0	0	0	0	0	0	0	0	0	0	403	0	0	0	0	0	0	0	**403**
Total	**0**	**50**	**60**	**0**	**342**	**42**	**0**	**0**	**0**	**0**	**450**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**944**

Report 2 – Treatment Summary

Crystal Falls Mgt. Unit
Year of Entry: 2027

Compartment 171
Total Compartment Acres: 945

Acres of Harvest

Commercial Harvest - 169
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	106	0	0	0	0	0	0	0	0	**106**
Northern Hardwood	0	59	0	0	4	0	0	0	0	**63**
Total	**106**	**59**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**169**

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	169	0	0	0	0	0	0	0	0	**169**
Total	**169**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**169**

Proposed Treatments:

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
16	12171016-Selection	58.9	4110 - Sugar Maple Association	6	95	81-110	Harvest	Selection	411 - Northern Hardwood	Current	No

Prescription Specs: Mark stand to 60 - 80 BA. Focus on improving quality and creating canopy gaps to release and/or encourage hardwood regeneration. Remove al merchantable aspen. Leave some large future snag trees for wildlife. Leave all conifers. Favor species diversity while marking.

Next Step Treatments:

Acceptable Regen: Any combination of the current overstory species.

Other Comment:

Site Condition:

Proposed Start Date: 10/01/2026

14	12171014-CC	5.9	4139 - Aspen, Mixed Deciduous	6	44	81-110	Harvest	Clearcut	4139 - Aspen, Mixed Deciduous	Planting Record	No

Prescription Specs: Harvest all merchantable trees to promote aspen regeneration and diversity. Leave all conifer, oak, and yellow birch if present.

Next Step Treatments:

Acceptable Regen: Any combination of the current overstory species.

Other Comment: Retention will include the S/SW area where the ground becomes too saturated for operability.

Site Condition:

Proposed Start Date: 10/01/2026

12	12171012-CC	22.7	4130 - Aspen	6	44	111-140	Harvest	Clearcut	413 - Aspen	Planting Record	No

Prescription Specs: Harvest all merchantable trees to promote aspen regeneration and diversity. Retention should include large diameter, forked crown aspen, and a diverse mix of species. Leave all conifer and oak if present. Leave all hardwood species unless marked with orange paint.

Next Step Treatments:

Acceptable Regen: Any combination of the current overstory species.

Other Comment: South 1/3 of the stand contains a fair amount of hardwood mixed in with a dense understory of large saplings. Use extra caution to avoid damage to areas with dense hardwood saplings. Some hardwood may be marked to cut during sale prep for operability.

Site Condition:

Proposed Start Date: 10/01/2026

6	12171006-CCxx	14.3	4130 - Aspen	6	37	81-110	Harvest	Clearcut	413 - Aspen	Planting Record	No

Prescription Specs: Harvest all merchantable aspen to promote aspen regeneration and species diversity. Retention should include large diameter, forked crown aspen, and a diverse mix of species. Leave all conifer and hardwood trees unless needed for operability.

Next Step Treatments:

Acceptable Regen: Any combination of the current overstory species.

Other Comment: Buffer the trout stream along the north 300'. Excluded area will be used for long term retention. The best access is from the SE, through stand 20, to avoid stream crossings and/or private access.

Site Condition:

Proposed Start Date: 10/01/2019

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
6	12171006-CCx	22.9	4130 - Aspen	6	37	81-110	Harvest	Clearcut	413 - Aspen	Planting Record	No

Prescription Specs: Harvest all merchantable aspen to promote aspen regeneration and species diversity. Retention should include large diameter, forked crown aspen, and a diverse mix of species. Leave all conifer and hardwood trees unless needed for operability.

Next Step Treatments:

Acceptable Regen: Any combination of the current overstory species.

Other Comment: Buffer the lowland drainage along the south edge 100', this will also satisfy long term retention for the stand. Best access will be from the far E/NE, through stand 20, to avoid stream crossings and/or private access.

Site Condition:

Proposed Start Date: 10/01/2026

6	12171006-CC	39.7	4130 - Aspen	6	37	81-110	Harvest	Clearcut	413 - Aspen	Planting Record	No

Prescription Specs: Harvest all merchantable aspen to promote aspen regeneration and species diversity. Retention should include large diameter, forked crown aspen, and a diverse mix of species. Leave all conifer and hardwood trees unless needed for operability. Also, leave any aspen trees 18" or greater.

Next Step Treatments:

Acceptable Regen: Any combination of the current overstory species.

Other Comment: Best access to this area is from the SE through private. Exclude lowland drainages with a 100' buffer, these will also satisfy long term retention.

Site Condition:

Proposed Start Date: 10/01/2026

5	12171005-Shelterwood	4.4	4110 - Sugar Maple Association	6	95	111-140	Harvest	Shelterwood	4199 - Other Mixed Upland Deciduous	Cutting Record	No

Prescription Specs: Harvest to a 2" spec to promote mixed regeneration. Leave all conifer and oak. In combination with leave species, green mark a diverse mix of healthy, wind firm trees to leave while maintaining a residual cover of 40 - 50 BA average across the stand. Also, leave any aspen trees 18" or greater.

Next Step Treatments:

Acceptable Regen: Any combination of the current overstory species.

Other Comment: This shelterwood is to encourage more shade intolerant species regeneration (oak, birch, basswood, cherry). Due to size, terrain, and access, this stand will not be managed on timely, regular intervals. It will be left until the adjacent stand is managed again in the far future.

Site Condition:

Proposed Start Date: 10/01/2026

Total Treatment Acreage Proposed: 0

Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Eric Brolin: Examiner

Compartment: 171

Year of Entry: 2027

Availability for Management

Total Acres	Acres Available	*Acres Avail With Condition*	Acres Not Available		Dominant Site Conditions *5C*	2G	3J
374	127	***182***	66	**Aspen**	***182***	2	63
5	0	***0***	5	**Cedar**		5	
9	0	***0***	9	**Lowland Aspen/Balsam Poplar**		9	
35	0	***0***	35	**Lowland Deciduous**		35	
7	0	***0***	7	**Lowland Spruce/Fir**		7	
399	396	***3***	0	**Northern Hardwood**	***3***		
830	522	***185***	122	Total Forested Acres	***185***	59	63
	63%	***22%***	15%	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		**Available**	**5B: Maintain for regeneration purposes**	6	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Narrow, young strip along the south edge of the road. Hold and merge with adjacent harvest north of the road for future management.							
2		**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	9	3J: Water quality/BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
	Comments: Webs of flowing water across the entire area with mucky soil which does not freeze up with constant flowing seeps.							
3		**Unavailable**	**3J: Water quality/BMPs (stream, river, or lake)**	28	5E: Long-Term Retention	Unspecified	Unspecified	Unspecified
	Comments: Web of lowland drainage areas. Mucky soil with flowing water, both seasonal and seep/spring drainage. 100' buffer for all adjacent aspen types.							

4	**Unavailable**	**3J: Water quality/BMPs (stream, river, or lake)**	36	Unspecified	Unspecified	Unspecified	Unspecified

Comments:
300' trout stream buffer for all adjacent aspen types along the south edge of Gages Creek.

5	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	4	Unspecified	Unspecified	Unspecified	Unspecified

Comments:
A few trees along the edge may be managed with adjacent stand in the future. Otherwise, too wet with mucky black ash soils.

6	**Unavailable**	**3J: Water quality/BMPs (stream, river, or lake)**	6	5E: Long-Term Retention	Unspecified	Unspecified	Unspecified

Comments:
100' buffer for drainage area. Long term retention.

7	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	32	3J: Water quality/BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified

Comments:
Lowland flat web with seasonal water flow. This low flat should be avoided from any future operations to avoid resource damage and BMP issues.

8	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	2	5E: Long-Term Retention	Unspecified	Unspecified	Unspecified

Comments:
Area becomes too wet for operations. Can be used as long term retention for Stand 14.

9	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	5	3L: Other wildlife concerns	Unspecified	Unspecified	Unspecified

Comments:
Lowland conifer area. Wet ground and dense to cedar across most of the stand.

10	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	7	5A: Not able to obtain desirable regeneration	Unspecified	Unspecified	Unspecified
Comments: Very wet, flooded lowland conifer flat. Sparse stocking of black spruce and tamarack, declining, with an understory of alder and mixed saplings.							
11	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Small patch of hardwoods will be managed in the future with adjacent stand due to small size and access.							
12	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	82	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Harvest in YOE 2047, extended aspen rotation, to break age class on large even aged aspen stand.							
14	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	101	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Harvest in YOE 2037 to break age class on large even aged aspen stand.							

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 7 – Stands

Compartment: 171
Year of Entry: 2027

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
1	4110 - Sugar Maple Association	Sawtimber Well	216.6	95	81-110	N/A	Thinned in 2018. Good quality hardwood stand. Abundant regen across the area with some sugar maple, ironwood, and a heavy mix of ash. SW area has denser canopy with much less regen in the understory.

Canopy Species	% Cover	Size Class	DBH	Age
Basswood	10		14	95
Hemlock	2		22	
Sugar Maple	80		14	95
Red Maple	3		12	95
Yellow Birch	5		10	

Sub-Canopy Species	Density	Avg. Height	Size
Ash (spp.)	Medium	Variable	Variable
Sugar Maple	Low	Variable	Variable
Ironwood	Low	Variable	Variable

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
2	4130 - Aspen	Sapling Well	16.1	15	Immature	N/A	Aspen sapling stand. Heavy to bigtooth on any elevation rises. Large area in the center did not regenerate and is growing in with cherry and conifer saplings. Accessed from the east trough company land.

Canopy Species	% Cover	Size Class	DBH	Age
Black Cherry	10	Log	2	
Balsam Fir	5	Log	1	
White Spruce	5	Log	1	
Red Maple	10	Log	1	
Bigtooth Aspen	50	Log	3	15
Quaking Aspen	20	Log	3	15

Sub-Canopy Species	Density	Avg. Height	Size
Ironwood	Low	5 - 10 feet	5 - 10 feet

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
3	6120 - Lowland Cedar	Poletimber Well	5.3	95	111-140	N/A	Dense cedar patch transitioning to aspen/black spruce along the edges.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	5		10	95
Balsam Fir	5	Sapling	7	
Paper Birch	5	Seedling	8	
Black Spruce	15	Seedling	8	95
Northern White Cedar	70		8	95

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	5 - 10 feet	5 - 10 feet
Black Spruce	Low	Variable	Variable

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
4	6122 - Black Spruce	Poletimber Medium	6.7	95	51-80	N/A	Sparsely stocked lowland conifer area. Flooded with open patches and alder.

Canopy Species	% Cover	Size Class	DBH	Age
Tamarack	10		10	95
Black Spruce	85	Sapling	7	95
Northern White Cedar	5	Seedling	8	95

Sub-Canopy Species	Density	Avg. Height	Size
Black Spruce	Low	Variable	Variable
Tag Alder	Medium	5 - 10 feet	5 - 10 feet

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
5	4110 - Sugar Maple Association	Poletimber Well	7.3	95	111-140	N/A	Hardwood stand with dense stocking. W/E areas can not be connected due to different access points and terrain.

Canopy Species	% Cover	Size Class	DBH	Age
Basswood	30		16	95
Red Oak	5		20	
Sugar Maple	55		11	95
Red Maple	5		12	
Yellow Birch	5		13	

Sub-Canopy Species	Density	Avg. Height	Size
Ironwood	Low	10 - 20 feet	10 - 20 feet

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
6	4130 - Aspen	Sapling Well	323.8	37	81-110	N/A	Very large area of aspen at the same age. Multiple drainageways and road/trail systems across the entire stand. Aspen has good site index quality in most areas with larger than average diameters. Very little conifer component consists of mainly upland black spruce / white spruce mix, sapling to small pole size trees. Management over the next few YOE's should focus on creating more age class diversity across the area and conifer/diversity retention.

Canopy Species	% Cover	Size Class	DBH	Age
White Pine	2		22	
Quaking Aspen	68	Seedling	7	37
Balsam Fir	1	Sapling	5	
Red Maple	2	Sapling	6	
Paper Birch	2	Sapling	7	
Bigtooth Aspen	17		8	
Red Oak	1		8	
White Spruce	4		7	
Black Spruce	3	Sapling	6	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	Variable	Variable
White Spruce	Low	Variable	Variable
Black Spruce	Low	Variable	Variable

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
7	4130 - Aspen	Sapling Well	22.6	10	Immature	N/A	Aspen saplings with some scattered white pine. Small lowland conifer patch excluded form recent harvest located in the SW area.

Canopy Species	% Cover	Size Class	DBH	Age
White Pine	2		22	
Red Oak	1		10	
Black Spruce	3	Sapling	6	
Red Maple	5	Log	2	
Paper Birch	5	Log	2	
Bigtooth Aspen	10	Log	2	10
Quaking Aspen	72	Log	2	10
Balsam Fir	2	Log	2	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
8	6112 - Lowland Aspen	Sapling Well	9.4	37	1-50	N/A	Drainage holding flat from surrounding terrain. Multiple webs of flowing runoff and groundwater seeps. Water drainage areas do not freeze with constant flow and contain very mucky material.

Canopy Species	% Cover	Size Class	DBH	Age
Balsam Fir	5	Sapling	5	
Red Maple	5	Sapling	6	
Bigtooth Aspen	10		8	
Red Oak	1		8	
White Spruce	5		7	
Black Spruce	10	Sapling	6	
Quaking Aspen	64	Seedling	7	37

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	Variable	Variable
Cattail spp.	Low	Not Applicable	Not Applicable
White Spruce	Low	Variable	Variable
Black Spruce	Low	Variable	Variable
Alder	Medium	5 - 10 feet	5 - 10 feet

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
9	4130 - Aspen	Sapling Well	50.1	7		N/A	Mix of aspen saplings with some red maple. Some area are patchy but should grow in well with more time. Pockets of saturated ground within hold alder and/or cattails.Cut in 2018.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	15	Log	1	
Quaking Aspen	85	Log	1	7

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
10	4130 - Aspen	Sapling Well	21.0	16	1-50	N/A	Very dense, nearly pure aspen stand with black ash seedlings present in a lot of the understory. Heavier ground may be poorly drained and soft during non-frozen periods.
11	6115 - Lowland Ash	Poletimber Well	3.7	96	81-110	N/A	Flooded lowland flat. Mainly black ash with some conifer and aspen mixed in along the edges.
12	4130 - Aspen	Poletimber Well	22.7	44	111-140	N/A	Nice quality aspen stand. Sugar maple saplings can dominate the understory in areas, mainly in the south 1/3. More of a hardwood component mixed in the south 1/3 of the stand ranging from large sapling to small pole sized maple.
13	4130 - Aspen	Poletimber Well	11.2	44	111-140	N/A	Good quality aspen. Some lower swales within could contain softer ground with some black ash mixed in which may need to be excluded from future management for operability.

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Canopy Species	% Cover	Size Class	DBH	Age
Red Oak	1		18	
White Spruce	3	Log	3	
Hemlock	1		22	
Quaking Aspen	90	Log	3	16
Red Maple	5	Log	2	

Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	Low	Variable	Variable
Ironwood	Low	Variable	Variable
Black Ash	Medium	Variable	Variable

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Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	10		9	
White Pine	5		22	
Black Ash	70		8	96
Red Maple	5		8	
Black Spruce	5	Seedling	7	
Northern White Cedar	5		8	

Sub-Canopy Species	Density	Avg. Height	Size
Ash (spp.)	High	Variable	Variable
Tag Alder	Low	5 - 10 feet	5 - 10 feet

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Canopy Species	% Cover	Size Class	DBH	Age
White Spruce	3	Sapling	6	
Sugar Maple	5	Sapling	5	
Paper Birch	3	Seedling	7	
Bigtooth Aspen	10		10	
Yellow Birch	1	Seedling	7	
Quaking Aspen	77		8	44
Balsam Fir	1	Sapling	6	

Sub-Canopy Species	Density	Avg. Height	Size
White Spruce	Low	Variable	Variable
Ironwood	Low	Variable	Variable
Sugar Maple	Medium	Variable	Variable

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Canopy Species	% Cover	Size Class	DBH	Age
Yellow Birch	1	Sapling	5	
Quaking Aspen	85		8	44
Sugar Maple	5	Sapling	5	
Red Maple	3	Sapling	6	
Paper Birch	2	Seedling	7	
White Spruce	3	Sapling	5	
Northern White Cedar	1		10	

Sub-Canopy Species	Density	Avg. Height	Size
Black Ash	Low	Variable	Variable
Balsam Fir	Low	Variable	Variable
Sugar Maple	Medium	Variable	Variable

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
14	4139 - Aspen, Mixed Deciduous	Poletimber Well	8.3	44	81-110	N/A	Mainly nice aspen poles in the south half. North half has mixed deciduous trees with some aspen speckled in. The S/SW area becomes too low and saturated for management and is heavy to black ash with some lowland conifers mixed in.

Canopy Species	% Cover	Size Class	DBH	Age
White Spruce	4		12	
Hemlock	1		15	
Yellow Birch	10		12	95
Quaking Aspen	36		8	44
Basswood	5		10	
White Ash	5		10	
Black Ash	20		8	95
Red Maple	14		8	95
Bigtooth Aspen	5		9	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Variable
Sugar Maple	Low	Variable	Variable
Quaking Aspen	Low	Variable	Variable
Ash (spp.)	High	Variable	Variable

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
15	4110 - Sugar Maple Association	Sawtimber Well	85.1	95	81-110	N/A	Hardwood log stand thinned recently. Rolling terrain in areas.Thinned in 2018.

Canopy Species	% Cover	Size Class	DBH	Age
Basswood	20		14	95
Sugar Maple	65		12	95
Red Maple	5		10	95
Paper Birch	2		11	
Hemlock	3		18	
Yellow Birch	5		10	95

Sub-Canopy Species	Density	Avg. Height	Size
White Spruce	Trace	Variable	Variable
Ironwood	Medium	Variable	Variable

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
16	4110 - Sugar Maple Association	Poletimber Well	58.9	95	81-110	N/A	Moderate quality hardwood stand. A lot of large diameter trees and suppressed poles. Understory is dense with saplings, mostly ash, but maple mixed in and more abundant in some areas. Small aspen patches along the north edge may be managed. 140 140 130 Average of 135 BA.

Canopy Species	% Cover	Size Class	DBH	Age
Basswood	12		12	95
White Ash	7		15	
Hemlock	10		20	
Yellow Birch	3		12	95
Sugar Maple	68		12	95

Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	Medium	Variable	Variable
Ash (spp.)	High	Variable	Variable
Ironwood	Medium	Variable	Variable

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
17	4110 - Sugar Maple Association	Sawtimber Well	10.5	95	81-110	N/A	Harwood log stand. Access would be from the NW or SE, both cross narrow lowland drainages.Thinned in 2018.

Canopy Species	% Cover	Size Class	DBH	Age
Basswood	15		13	95
Hemlock	2		16	
Sugar Maple	80		11	95
Yellow Birch	3		11	

Sub-Canopy Species	Density	Avg. Height	Size
Ironwood	Medium	10 - 20 feet	10 - 20 feet
Leatherwood	Low	5 - 10 feet	5 - 10 feet
White Spruce	Low	5 - 10 feet	5 - 10 feet
Red Maple	Low	Variable	Variable

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
18	6119 - Mixed Lowland Deciduous Forest	Sawtimber Well	31.7	95	111-140	N/A	Diverse mix of species and sizes within a lowland/upland web. Low drainage that receives any runoff from surrounding upland stands. Seasonal flow of water north. Large rocks make up most of the lowland bed, especially north as seasonal flow increases.

Canopy Species	% Cover	Size Class	DBH	Age
Basswood	5		12	95
Black Ash	31		8	95
White Spruce	5		8	95
Northern White Cedar	2		12	95
Hemlock	12		16	95
Sugar Maple	5		8	
Red Maple	25		12	95
Yellow Birch	10		12	
Quaking Aspen	5		8	

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Low	5 - 10 feet	5 - 10 feet

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
19	4130 - Aspen	Sapling Well	5.4	36	51-80	N/A	Small patch of good quality, mixed aspen poles.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	80	Seedling	7	36
Red Maple	5	Sapling	5	36
Bigtooth Aspen	15	Seedling	7	

Sub-Canopy Species	Density	Avg. Height	Size
Ironwood	Low	10 - 20 feet	10 - 20 feet
Hazelnut (American)	Low	5 - 10 feet	5 - 10 feet

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
20	4119 - Mixed Northern Hardwoods	Sawtimber Well	24.8	90	81-110	N/A	Hardwood stand with a heavier component of yellow birch and scattered large diameter oak. Stand was thinned in 2007 and 2022. Access from the SE corner. Vernal areas need to be exclude from future operations in the SE/central/NW areas.

Canopy Species	% Cover	Size Class	DBH	Age
Sugar Maple	73		11	90
Red Maple	5		10	
Paper Birch	3		12	
Yellow Birch	12		12	
Red Oak	6		20	
Hemlock	1		10	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Variable
Ironwood	Low	Variable	Variable
Sugar Maple	Low	Variable	Variable

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
21	4130 - Aspen	Sapling Well	3.4	37	81-110	N/A	Very large area of aspen at the same age. Multiple drainageways and road/trail systems across the entire stand. Aspen has good site index quality in most areas with larger than average diameters. Very little conifer component consists of mainly upland black spruce / white spruce mix, sapling to small pole size trees. Management over the next few YOE's should focus on creating more age class diversity across the area and conifer/diversity retention.

Canopy Species	% Cover	Size Class	DBH	Age
White Pine	2		22	
Balsam Fir	1	Sapling	5	
Red Maple	2	Sapling	6	
Paper Birch	2	Sapling	7	
Bigtooth Aspen	17		8	
Quaking Aspen	68	Seedling	7	37
Red Oak	1		8	
White Spruce	4		7	
Black Spruce	3	Sapling	6	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Low	Variable	Variable
White Spruce	Low	Variable	Variable
Black Spruce	Low	Variable	Variable