



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 moraines. 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

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: 06/18/2025
Map Phase: Web Post



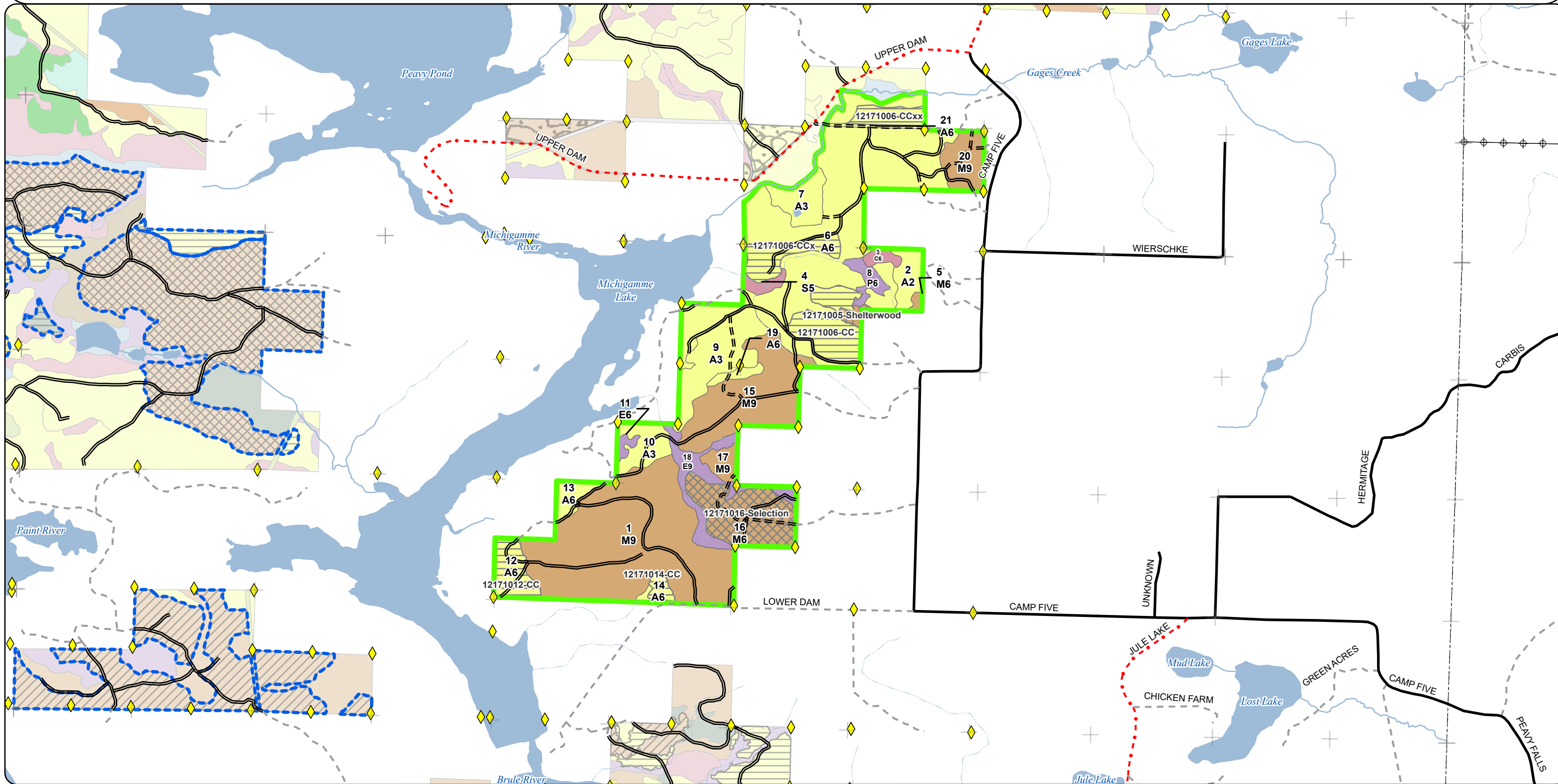
0 0.5 1 Miles

- Remonumented Section Corners
- Survey Grade Corners
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road

- County - Gravel Road
- Private - Dirt / Gravel Road
- DNR - Management Access
- Intermittent Stream
- Perennial River
- Lakes and Rivers

- Counties
- Powerline
- Compartment Boundary
- Clearcut
- Selection
- Shelterwood

- Treatments with Site Conditions
- 411 - Northern Hardwood
- 413 - Aspen
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest



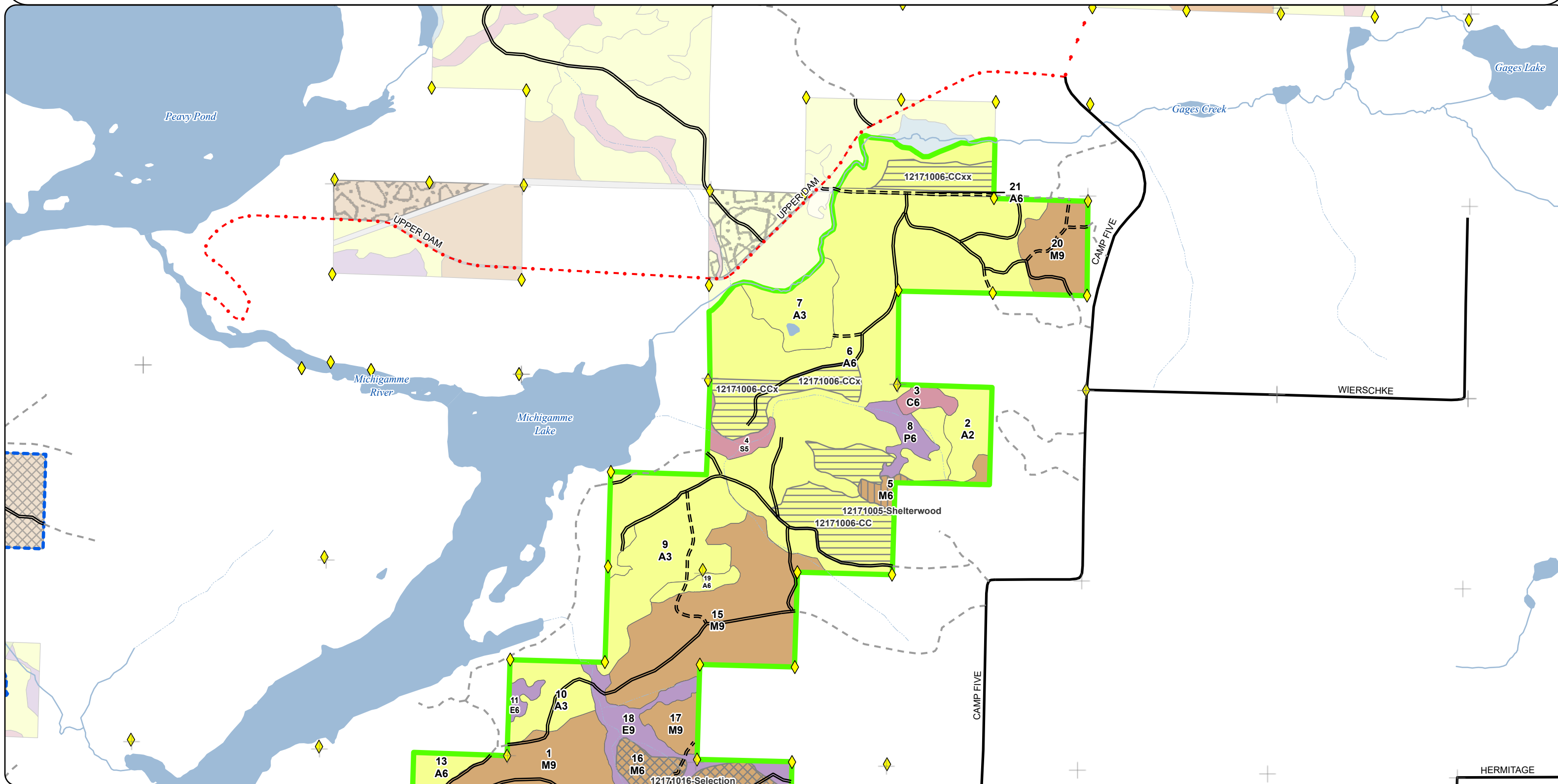
Cover Type & Treatments Map

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: 06/18/2025
Map Phase: Web Post



0 0.5 1 Miles

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



Cover Type & Treatments Map

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: 06/18/2025
Map Phase: Web Post



0 0.5 1 Miles

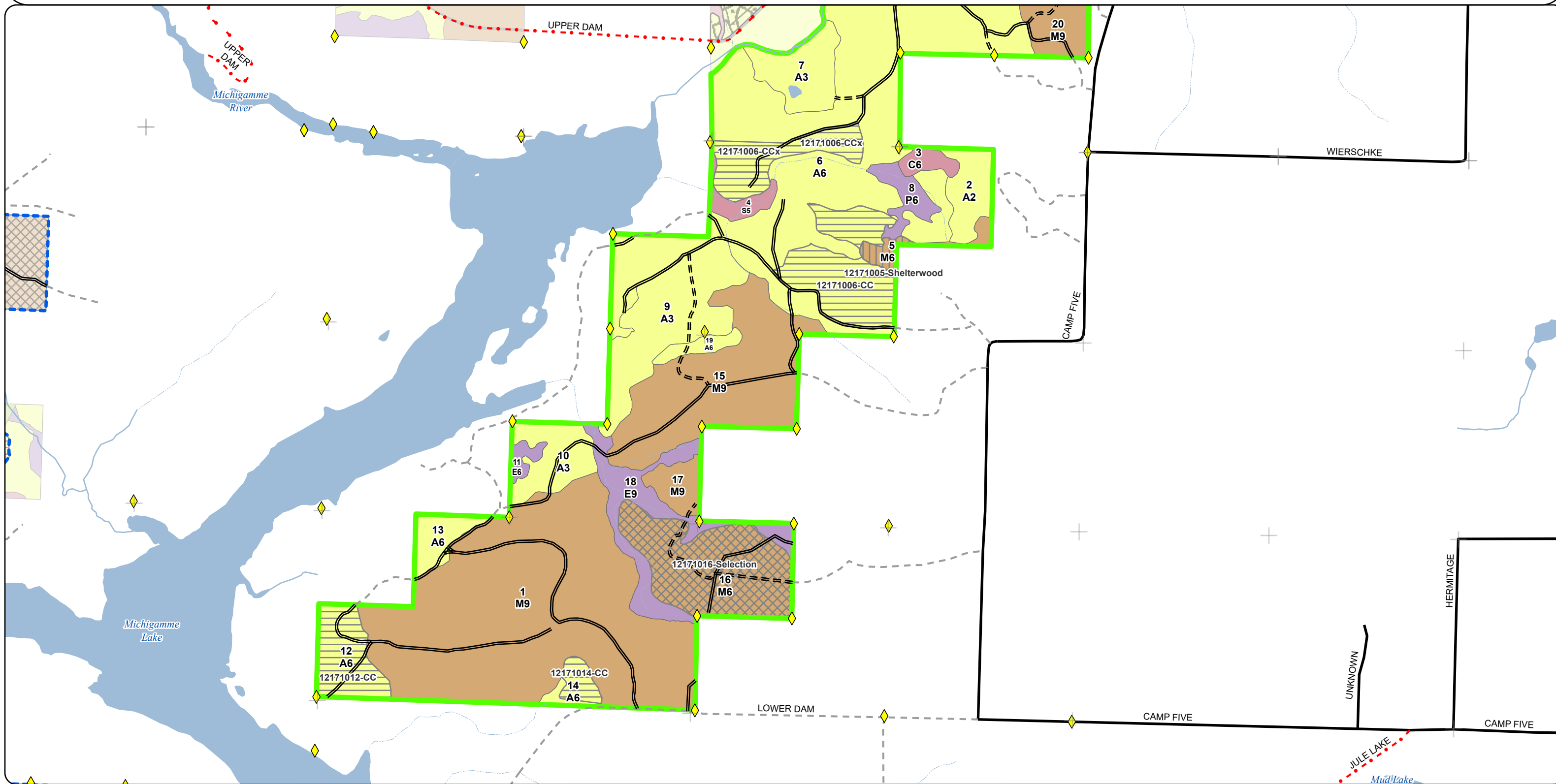
+ Remonumented Section Corners
◆ Survey Grade Corners

== DNR - Secondary Forest Road
=== DNR - Forest Access Route

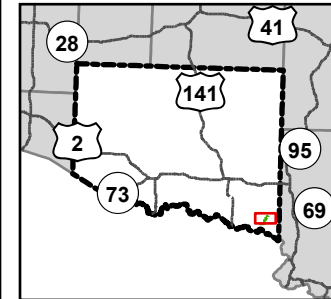
— Federal / State / County - Paved Road
- - - County - Gravel Road

- - - Private - Dirt / Gravel Road
- - - Intermittent Stream
— Perennial River
■ Lakes and Rivers
□ Counties
■ Compartment Boundary
□ Clearcut

▨ Selection
▨ Shelterwood
▨ Treatments with Site Conditions
■ 411 - Northern Hardwood
■ 413 - Aspen
■ 611 - Lowland Deciduous Forest
■ 612 - Lowland Coniferous Forest



Stand Boundary Map



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: 06/18/2025
Map Phase: Web Post

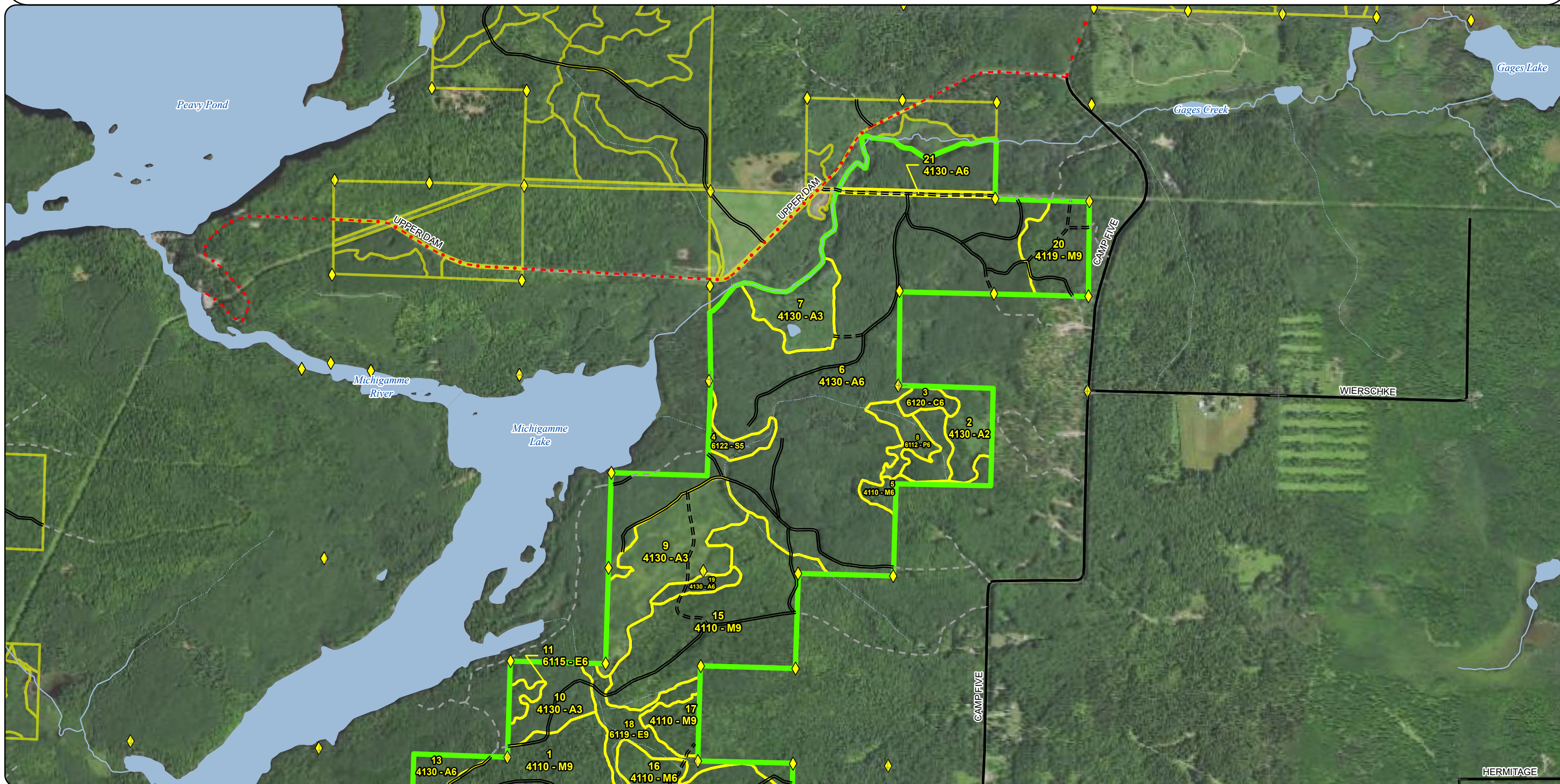
0 0.5 1 Miles

Remonumented Section Corners
Survey Grade Corners

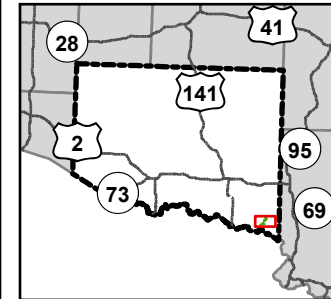
DNR - Secondary Forest Road
DNR - Forest Access Route
Federal / State / County - Paved Road

County - Gravel Road
Private - Dirt / Gravel Road
Intermittent Stream
Perennial River
Lakes and Rivers
Counties

Compartment Boundary
411 - Northern Hardwood
413 - Aspen
611 - Lowland Deciduous Forest
612 - Lowland Coniferous Forest



Stand Boundary Map



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: 06/18/2025
Map Phase: Web Post

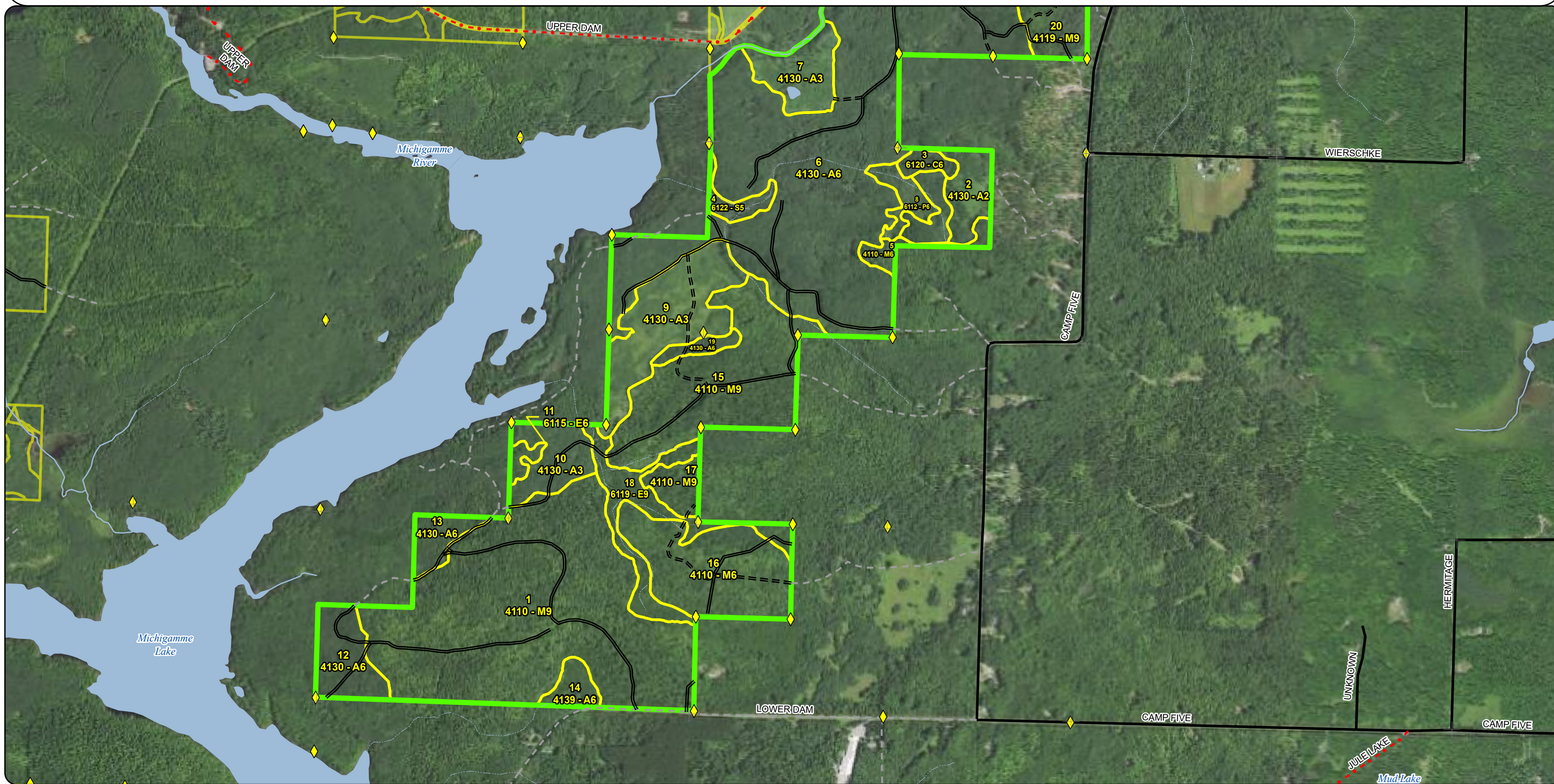
0 0.5 1 Miles

+ Remonumented Section Corners
◆ Survey Grade Corners

== DNR - Secondary Forest Road
=== DNR - Forest Access Route
— Federal / State / County - Paved Road

- - - County - Gravel Road
- - - Private - Dirt / Gravel Road
--- Intermittent Stream
— Perennial River
■ Lakes and Rivers
□ Counties

■ Compartment Boundary
411 - Northern Hardwood
413 - Aspen
611 - Lowland Deciduous Forest
612 - Lowland Coniferous Forest



Special Conservation Areas & Site Conditions Map

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: 06/18/2025
Map Phase: Web Post

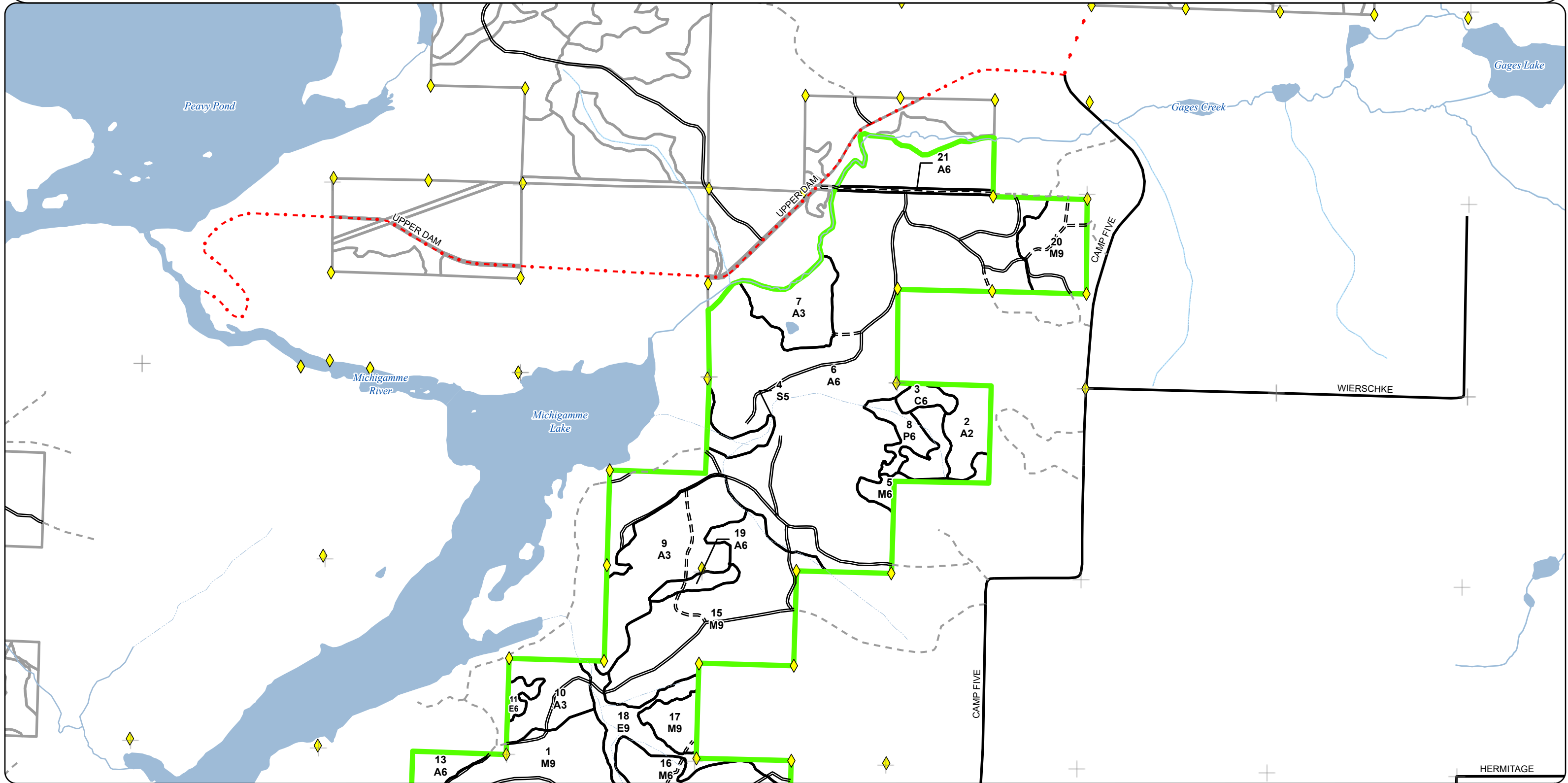


0 0.5 1 Miles

- + Remonumented Section Corners
- ◆ Survey Grade Corners
- == DNR - Secondary Forest Road
- === DNR - Forest Access Route

- Federal / State / County - Paved Road
- - - County - Gravel Road
- - - Private - Dirt / Gravel Road
- - - Intermittent Stream
- Perennial River

- Lakes and Rivers
- Counties
- Compartment Boundary
- Stand Boundaries
- Cold Water Streams



Special Conservation Areas & Site Conditions Map

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: 06/18/2025
Map Phase: Web Post

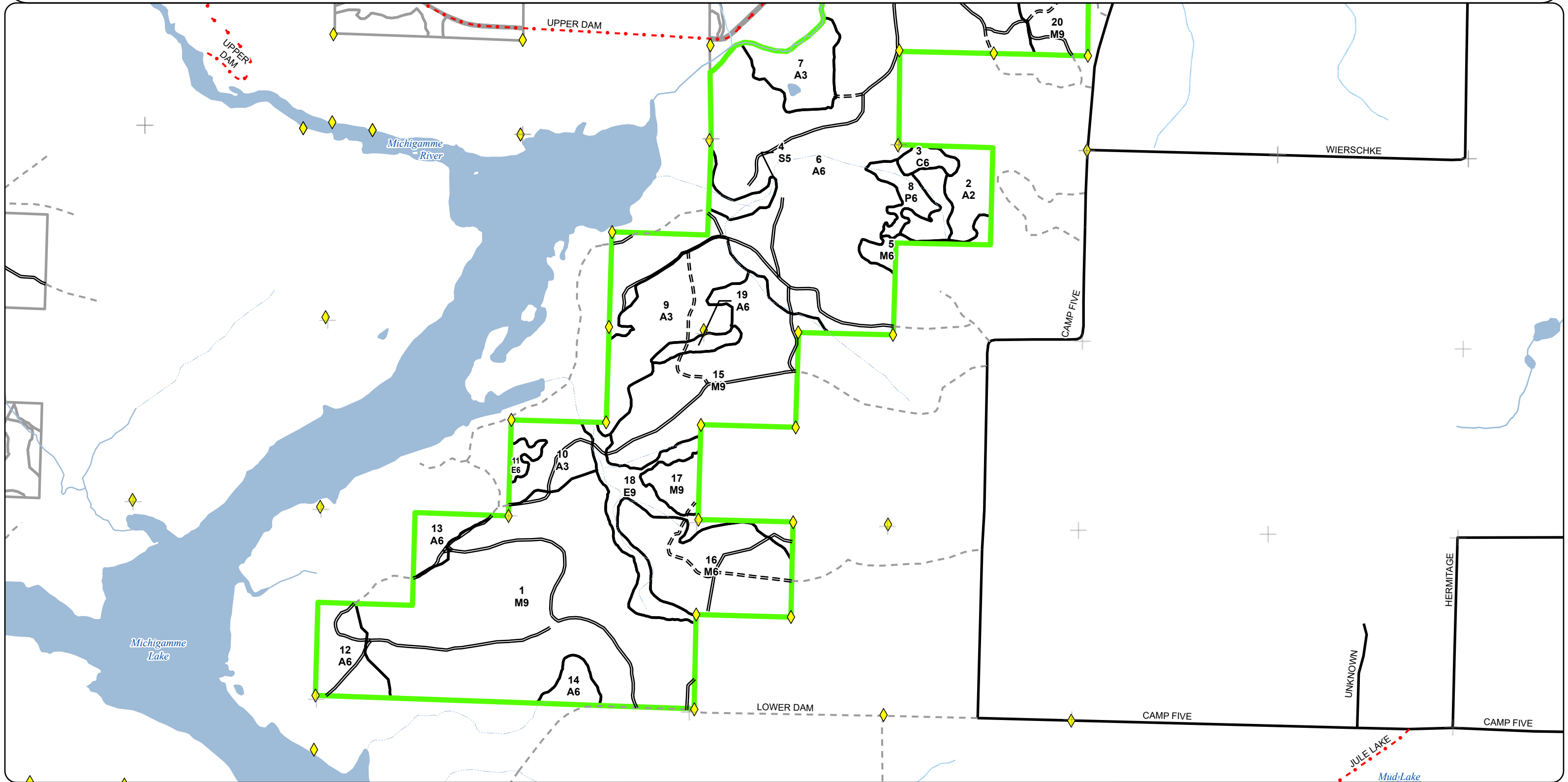


0 0.5 1 Miles

- + Remonumented Section Corners
- ◆ Survey Grade Corners
- == DNR - Secondary Forest Road
- === DNR - Forest Access Route

- Federal / State / County - Paved Road
- - - County - Gravel Road
- - - Private - Dirt / Gravel Road
- - - Intermittent Stream
- Perennial River

- Lakes and Rivers
- Counties
- Compartment Boundary
- Stand Boundaries
- Cold Water Streams



Report 1 – Total Acres by Cover Type and Age Class



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	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

Acres of Harvest

Compartment 171
Total Compartment Acres: 945

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



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	Habitat Cut
-----------------------	-------------------	-------	--------------------	-----------------	--------------	-------------	-------------------	---------------------	-------------------------	------------------	----------------

Proposed Treatments:

16	12171016- Selection	58.9	4110 - Sugar Maple Association	6	95	81-110	Harvest	Selection	411 - Northern Hardwood	Current	No
<u>Prescription</u> Mark stand to 60 - 80 BA. Focus on improving quality and creating canopy gaps to release and/or encourage hardwood regeneration. Remove all <u>Specs:</u> merchantable aspen. Leave some large future snag trees for wildlife. Leave all conifers. Favor species diversity while marking. <u>Next Step</u> <u>Treatments:</u> <u>Acceptable</u> Any combination of the current overstory species. <u>Regen:</u> <u>Other</u> <u>Comment:</u> <u>Site Condition:</u> <u>Proposed Start Date:</u> 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
<u>Prescription</u> Harvest all merchantable trees to promote aspen regeneration and diversity. Leave all conifer, oak, and yellow birch if present. <u>Specs:</u> <u>Next Step</u> <u>Treatments:</u> <u>Acceptable</u> Any combination of the current overstory species. <u>Regen:</u> <u>Other</u> Retention will include the S/SW area where the ground becomes too saturated for operability. <u>Comment:</u> <u>Site Condition:</u> <u>Proposed Start Date:</u> 10/01/2026											
12	12171012-CC	22.7	4130 - Aspen	6	44	111- 140	Harvest	Clearcut	413 - Aspen	Planting Record	No
<u>Prescription</u> Harvest all merchantable trees to promote aspen regeneration and diversity. Retention should include large diameter, forked crown aspen, and a <u>Specs:</u> diverse mix of species. Leave all conifer and oak if present. Leave all hardwood species unless marked with orange paint. <u>Next Step</u> <u>Treatments:</u> <u>Acceptable</u> Any combination of the current overstory species. <u>Regen:</u> <u>Other</u> 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 <u>Comment:</u> to areas with dense hardwood saplings. Some hardwood may be marked to cut during sale prep for operability. <u>Site Condition:</u> <u>Proposed Start Date:</u> 10/01/2026											
6	12171006- CCxx	14.3	4130 - Aspen	6	37	81-110	Harvest	Clearcut	413 - Aspen	Planting Record	No
<u>Prescription</u> Harvest all merchantable aspen to promote aspen regeneration and species diversity. Retention should include large diameter, forked crown <u>Specs:</u> aspen, and a diverse mix of species. Leave all conifer and hardwood trees unless needed for operability. <u>Next Step</u> <u>Treatments:</u> <u>Acceptable</u> Any combination of the current overstory species. <u>Regen:</u> <u>Other</u> 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 <u>Comment:</u> 20, to avoid stream crossings and/or private access. <u>Site Condition:</u> <u>Proposed Start Date:</u> 10/01/2019											



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	Habitat Cut
6	12171006-CCx	22.9	4130 - Aspen	6	37	81-110	Harvest	Clearcut	413 - Aspen	Planting Record	No
<u>Prescription</u> Harvest all merchantable aspen to promote aspen regeneration and species diversity. Retention should include large diameter, forked crown <u>Specs:</u> aspen, and a diverse mix of species. Leave all conifer and hardwood trees unless needed for operability. <u>Next Step</u> <u>Treatments:</u> <u>Acceptable</u> Any combination of the current overstory species. <u>Regen:</u> <u>Other</u> 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 <u>Comment:</u> E/NE, through stand 20, to avoid stream crossings and/or private access. <u>Site Condition:</u> <u>Proposed Start Date:</u> 10/01/2026											
6	12171006-CC	39.7	4130 - Aspen	6	37	81-110	Harvest	Clearcut	413 - Aspen	Planting Record	No
<u>Prescription</u> Harvest all merchantable aspen to promote aspen regeneration and species diversity. Retention should include large diameter, forked crown <u>Specs:</u> 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. <u>Next Step</u> <u>Treatments:</u> <u>Acceptable</u> Any combination of the current overstory species. <u>Regen:</u> <u>Other</u> 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. <u>Comment:</u> <u>Site Condition:</u> <u>Proposed Start Date:</u> 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
<u>Prescription</u> 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 <u>Specs:</u> 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. <u>Next Step</u> <u>Treatments:</u> <u>Acceptable</u> Any combination of the current overstory species. <u>Regen:</u> <u>Other</u> This shelterwood is to encourage more shade intolerant species regeneration (oak, birch, basswood, cherry). Due to size, terrain, and access, <u>Comment:</u> 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. <u>Site Condition:</u> <u>Proposed Start Date:</u> 10/01/2026											

Total Treatment 168.8
Acreage Proposed:



Availability for Management

Total Acres Acres Available Acres 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.								

Report 4 – Site Conditions



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.							

Report 4 – Site Conditions



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.							

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				



<







