



Compartment Review Presentation

Crystal Falls Forest Management Unit

Compartment 12138

Entry Year 2019

Acreage: 1,254

County Iron

Management Area: Net River

Revision Date: 2017-08-18

Stand Examiner: Ed Rice

Legal Description:

T44N R33W sections 19, 31, 32

T44N R34W sections 13, 23, 24, 25, 26, 35, 36

Identified Planning Goals:

Optimize sustainable timber production while enhancing and protecting wildlife habitat. Continue the hardwood stands on 20 year alternating cutting cycles, moving the stands toward regulation. Continue moving aspen forest types towards acreage regulation. Protect the riparian areas and transition zones during management activity.

Soil and topography:

Silt loams are present in the higher quality soils holding the northern hardwood timber types. Sandy loams are present in the flatter areas growing aspen. Broken rock outcrop types are along the Paint River. Topography ranges from flat to steep rolling ridges to rock outcrop.

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

This compartment is fairly broken, intermixed with private ownerships both recreational property owners and industrial forest.

Unique Natural Features:

Hemlock Rapids in the Paint River.

Archeological, Historical, and Cultural Features:

None identified

Special Management Designations or Considerations:

Heavily used winter deer complex

Watershed and Fisheries Considerations:

Multiple waterbodies within this compartment. Paint River and Fire Lake Creek area. Stands 51 and 61 have intermittent creeks and vernal pools. 100 foot buffers on all waterbodies that are not trout streams. BMPs should be followed to maintain canopy cover and prevent erosion into waterbodies.

Wildlife Habitat Considerations:

Featured species include American woodcock, American marten, black bear, moose, white-tailed deer and wood duck. Leaving trees along the Paint River will provide nesting habitat for wood ducks and a corridor for various wildlife species. This is a heavily used deer wintering complex. The compartment also consists of state game fund lands and has known MNFI hits for bald eagle nests.

Mineral Resource and Development Concerns and/or Restrictions

An inactive gravel pit is located in Section 36, and there is potential for additional sand and gravel within the compartment. Some of the bedrock formations may have value as dimension stone. Abandoned iron mines are located just over two miles to the east. However, the Amasa iron formation is not present in the compartment. There may be potential for other metallic minerals within the compartment. There has been metallic mineral leasing in this area in the past but little in the way of exploration. There is no economic oil and gas production in the UP.

Vehicle Access:

Ranging from good to poor. In the blocks west of the Paint River, where the industrial forest landholdings are present, road access is improved. The other blocks for the most part have roads but are accessed through private landowners.

Survey Needs:

T44N R33W

E1/16 sections 29,32

T44N R34W
W 1/6 sec13
SE 1/16 sec14
E 1/16 sec23
center 1/4 sec23
E 1/16 sec23
S1/16 sec23
SE 1/16 sec23
center 1/4 sec26
E1/16 sec26

Recreational Facilities and Opportunities:

Fire Lake boat launch

Fire Protection:

The real only problematic area would be in section 13, east of the Paint River. This area holds dense spruce/fir fuel types, large pine and extremely broken rock outcrop.

Additional Compartment Information:

The following reports from the Inventory are attached:

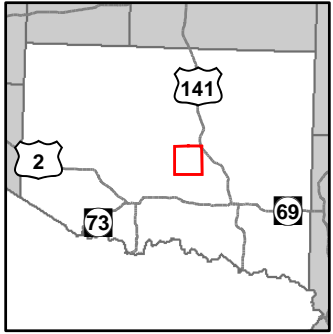
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

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

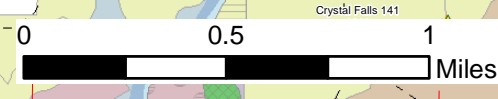
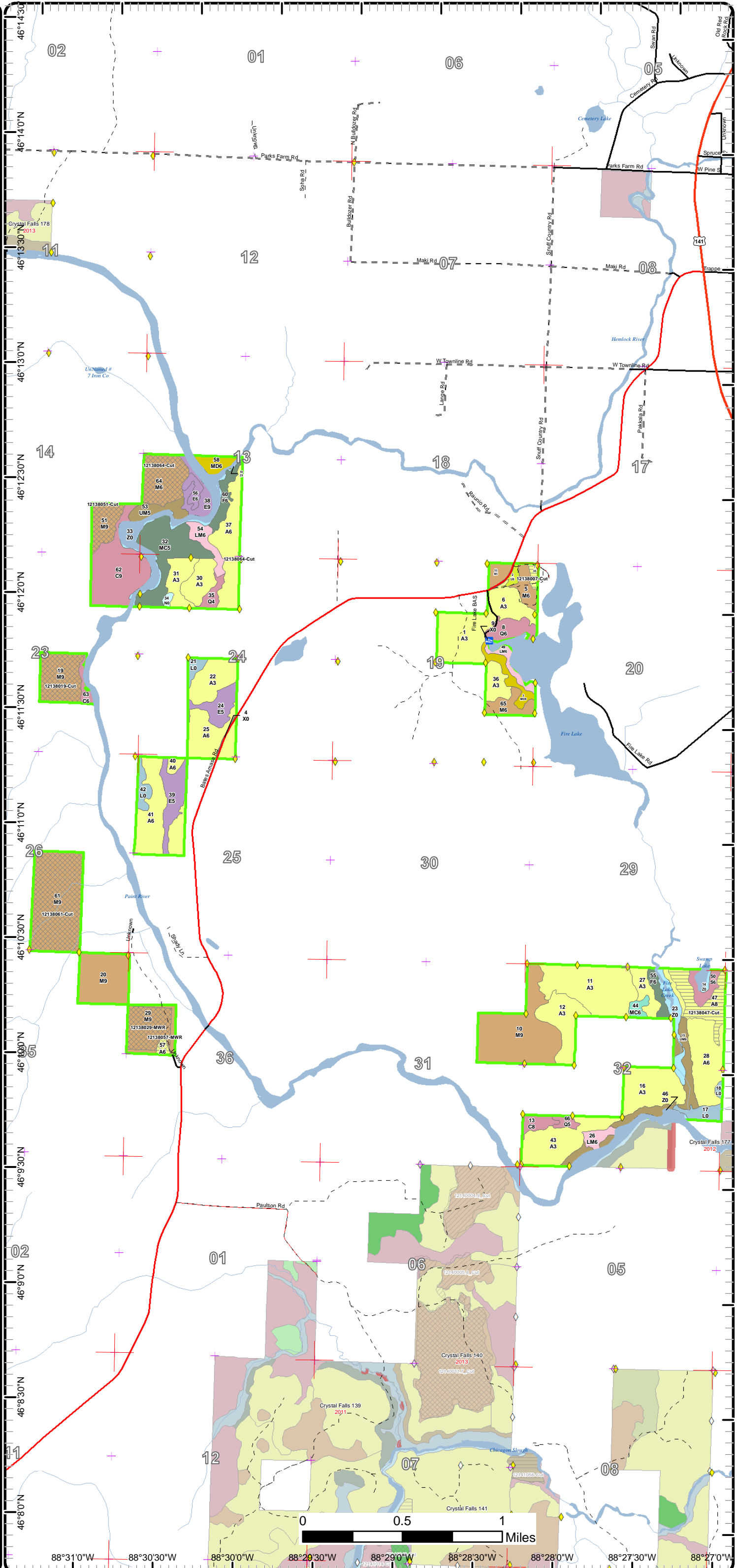
Base feature information, stand boundaries, cover types, and numbers
Proposed treatments
Site condition boundaries
Details on the road access system

Cover Type & Treatments Map

Compartment: 138
 T44N, R34W, Sec. 13, 14, 23-36,
 35, 36
 T44N, R33W, Sec. 19, 31, 32
 County: Iron
 Unit: Crystal Falls
 Mgmt Area: Net River
 YOE: 2019
 Acres: 1254.2 GIS Calculated
 Examiner: Ed Rice
 Map Revised: 11/30/2017
 Map Phase: Post-Review



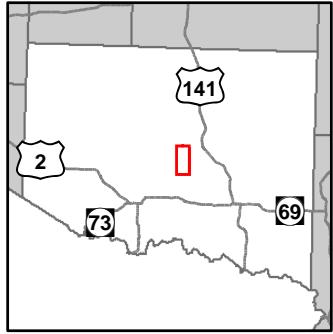
- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- - - Counties
- Boating Access Site
- Highway
- County Paved Roads
- Paved Roads
- Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Streams
- Lakes and Rivers All
- Compartment Boundary
- Selection (Group, Single Tree)
- Clearcut (w/Reserves)
- 411 - Northern Hardwood
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 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
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- Lakes



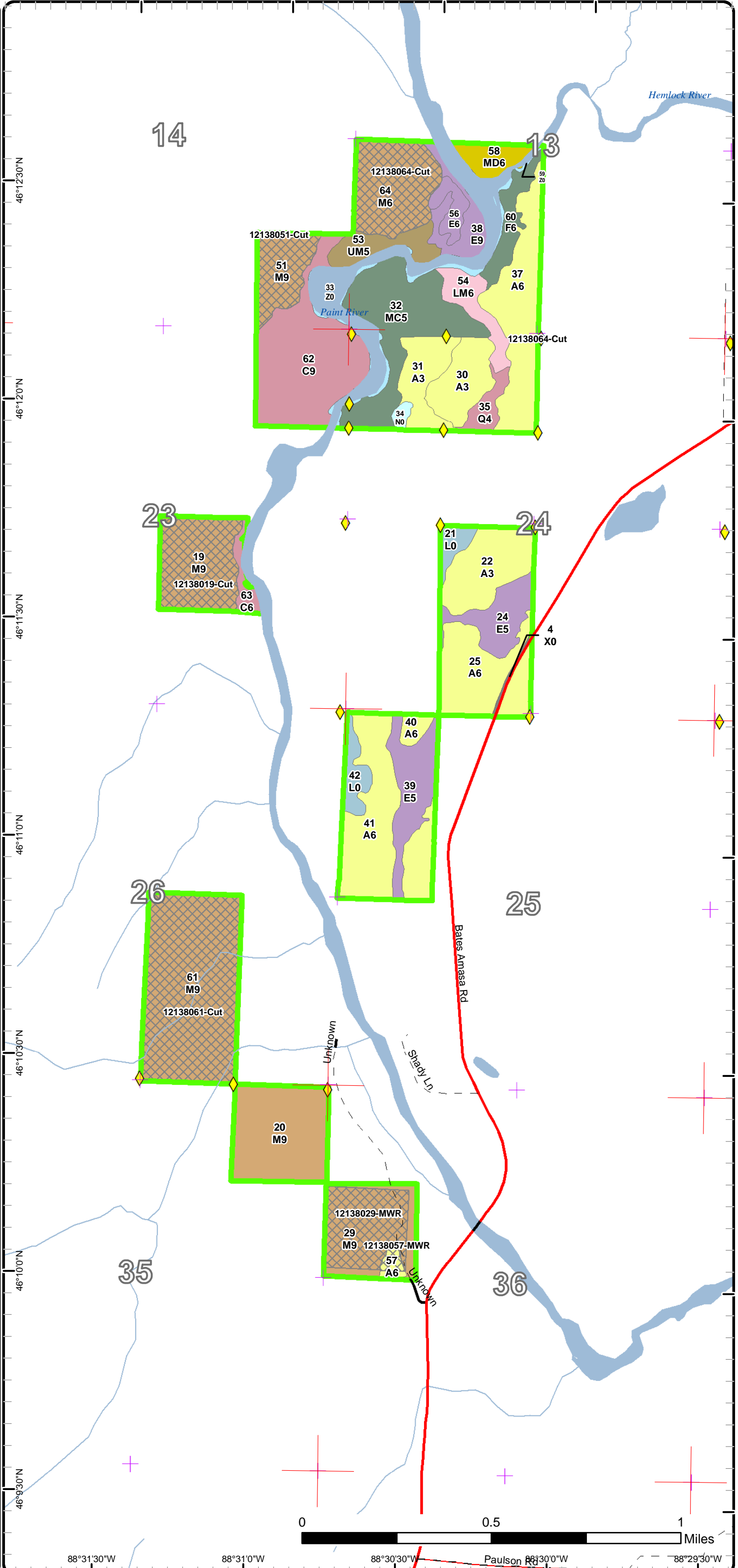
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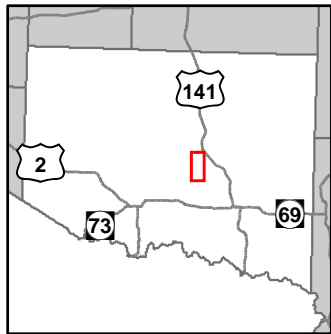


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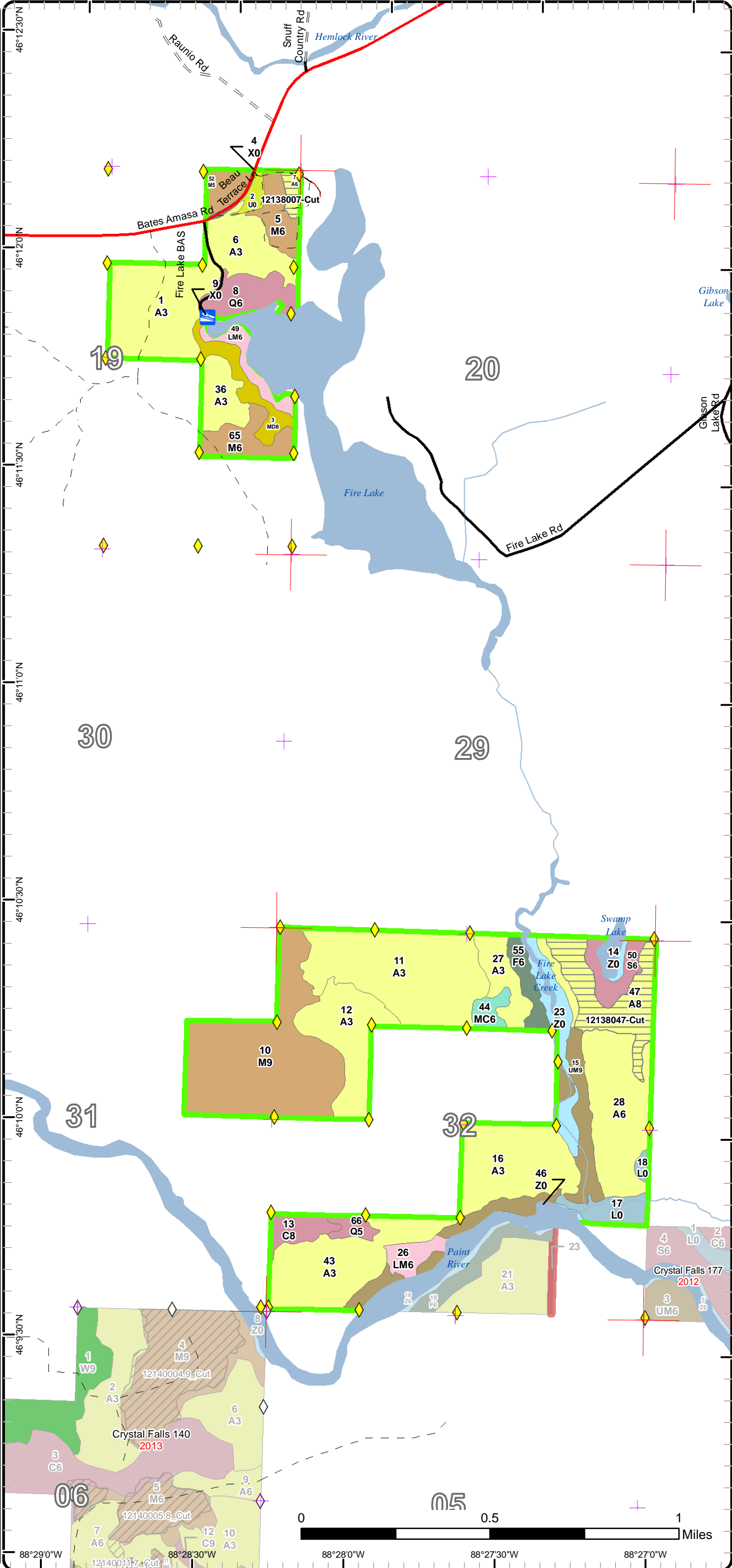


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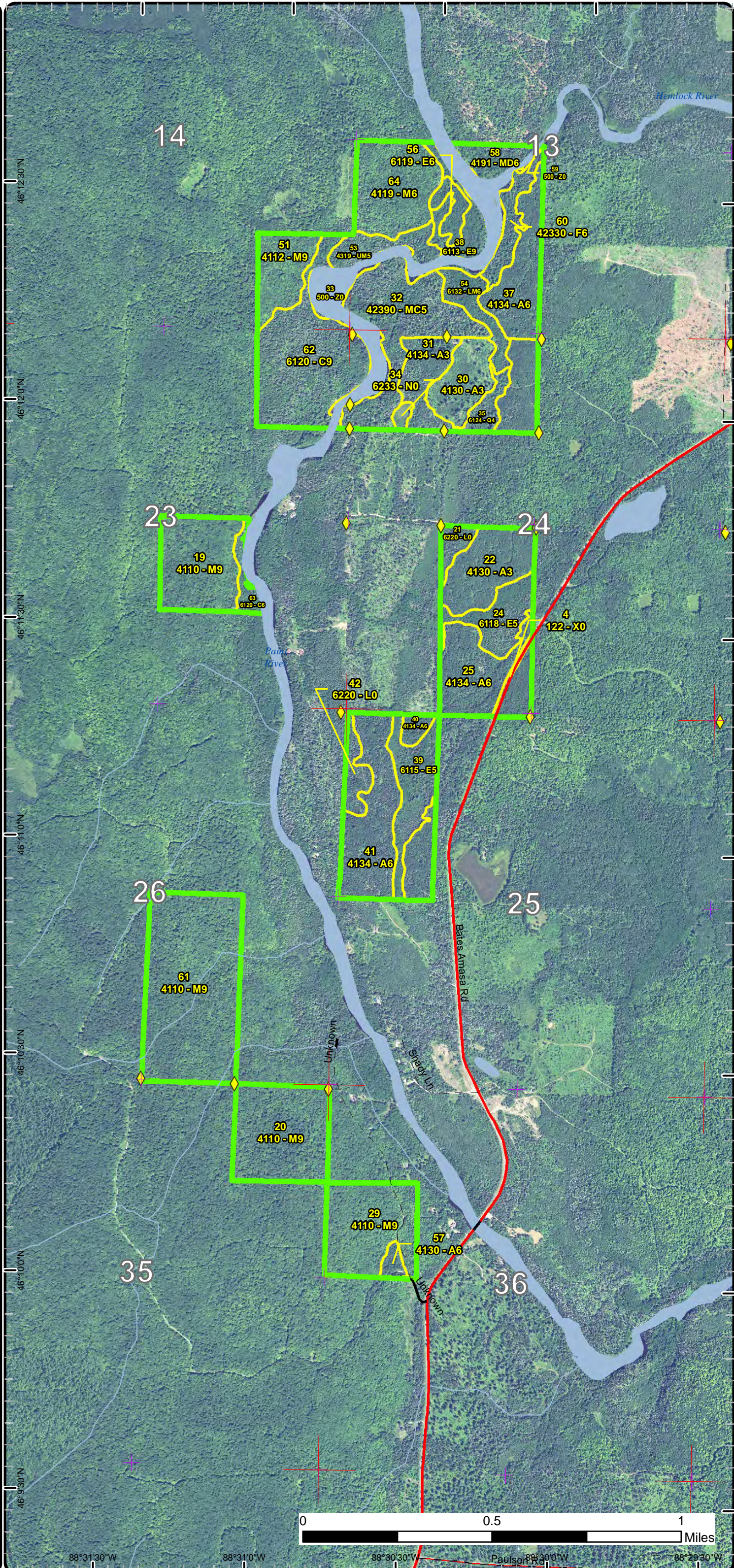


Stand Boundary Map

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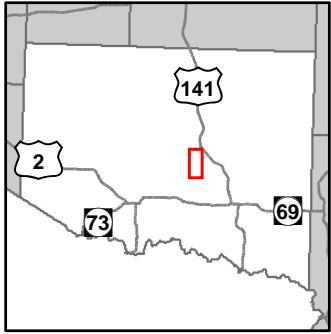


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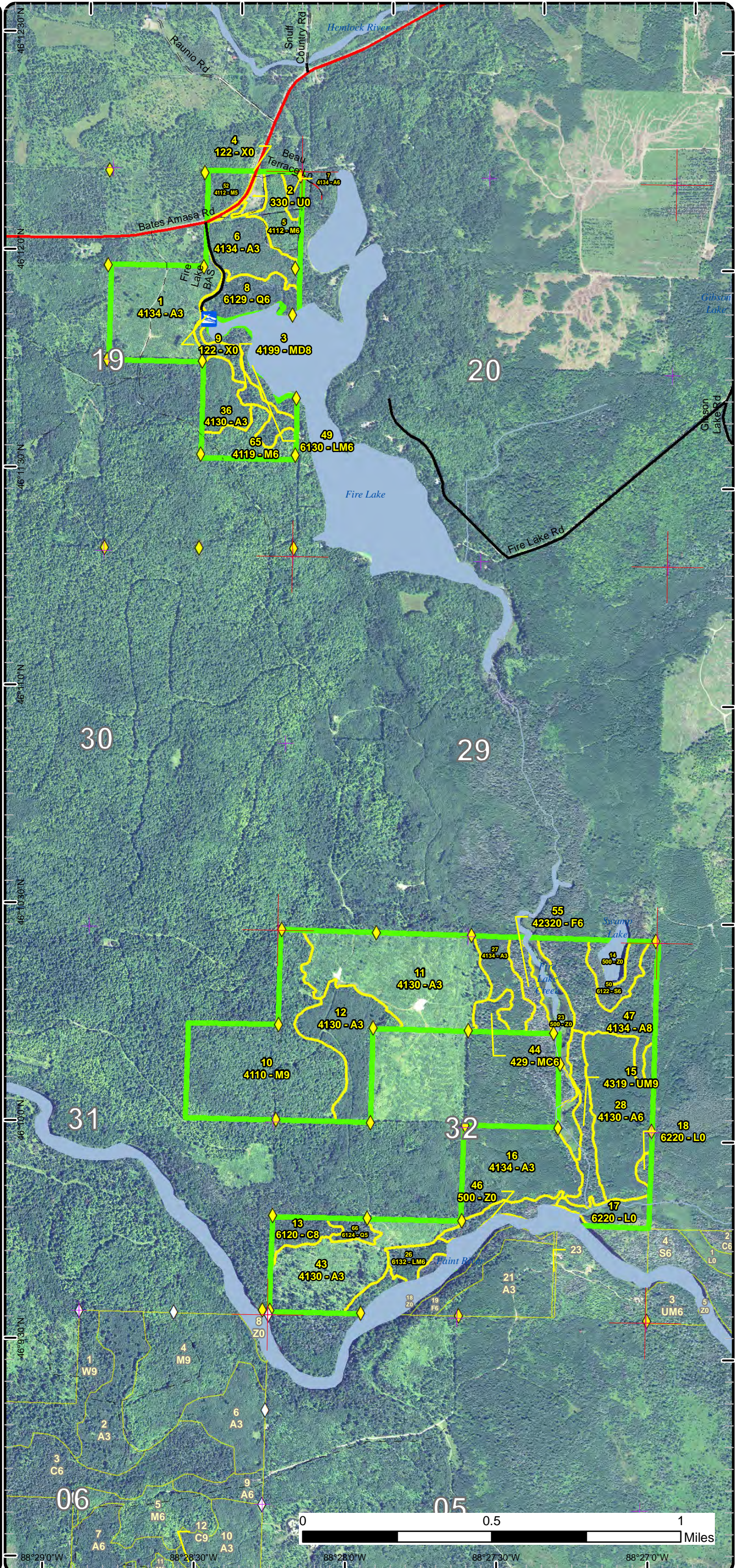


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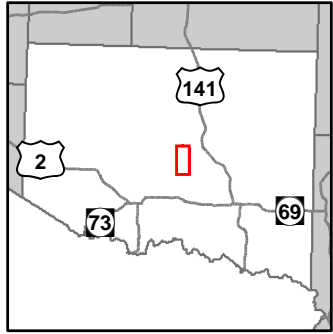
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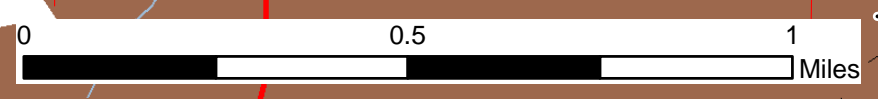
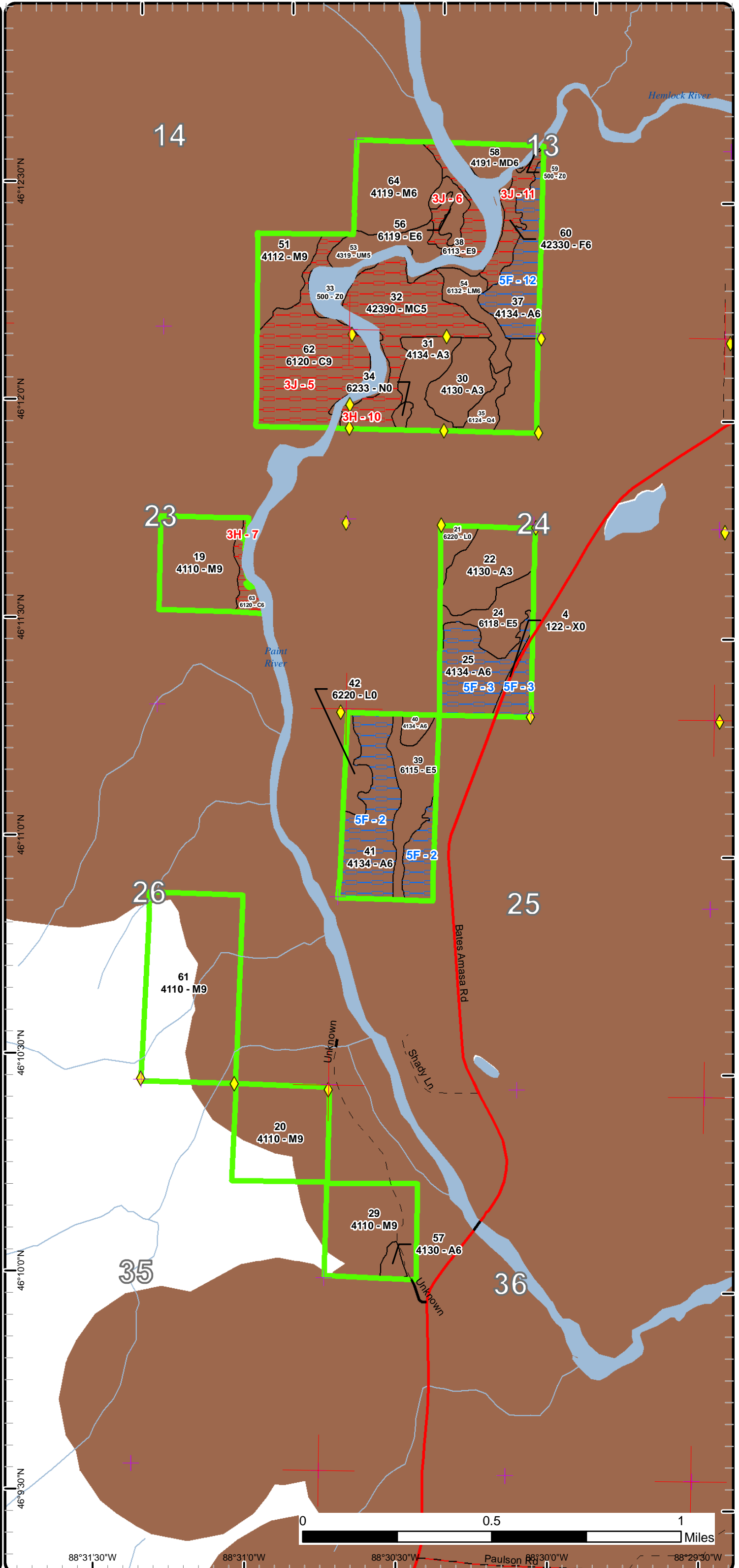
88°29'0"W 88°28'30"W 88°28'0"W 88°27'30"W 88°27'0"W

Special Conservation Areas & Site Conditions Map

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- Streams
- Lakes and Rivers All
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 3J: Water quality / BMPs (stream, river, or lake)
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- Deer Winter Range



88°31'30"W 88°31'0"W 88°30'30"W Paulson Rd 88°30'0"W 88°29'30"W

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	159	61	170	0	80	3	3	30	0	0	0	0	0	0	0	0	0	506
Cedar	0	0	0	0	0	0	0	0	0	0	6	0	0	8	0	0	53	0	67
Low-Density Trees	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Lowland Conifers	0	0	0	0	6	0	0	4	0	15	0	0	0	0	0	0	0	0	25
Lowland Deciduous	0	0	0	0	0	22	21	0	0	12	0	0	0	0	0	0	0	0	55
Lowland Mixed Forest	0	0	0	0	9	18	0	0	0	0	0	0	0	0	0	0	0	0	27
Lowland Shrub	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
Lowland Spruce/Fir	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	9
Marsh	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Mixed Upland Deciduous	0	0	0	0	0	0	11	9	0	0	0	0	0	0	0	0	0	0	19
Northern Hardwood	0	0	0	0	0	0	17	45	75	0	0	0	0	0	0	0	0	206	342
Upland Conifers	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	44	49
Upland Mixed Forest	0	0	0	0	0	0	42	0	0	0	0	0	0	0	0	0	0	0	42
Upland Spruce/Fir	0	0	0	0	10	0	0	8	0	0	0	0	0	0	0	0	0	0	18
Urban	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Water	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64
Total	96	159	61	170	25	120	103	69	110	27	6	0	0	8	0	0	53	250	1254



Report 2 – Treatment Summary

Crystal Falls Mgt. Unit
Year of Entry: 2019

Compartment 138
Total Compartment Acres: 1,254

Acres of Harvest

Commercial Harvest - 222
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	30	2	0	0	0	0	0	0	0	32
Northern Hardwood	0	190	0	0	0	0	0	0	0	190
Total	30	192	0	0	0	0	0	0	0	222

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	222	0	0	0	0	0	0	0	0	222
Next Step	0	30	0	0	0	28	222	0	0	279
Total	222	30	0	0	0	28	222	0	0	501



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
7	12138007-Cut	3.3	4134 - Aspen, Spruce/Fir	Poletimber Well	63	Unspec ified	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Approved Proposal

Habitat Cut: No**Site Condition:**

Prescription cut aspen, spruce, fir, maple cherry and w birch 1 stick tall and larger. do not cut hemlock, oak, or w pine. where available, leave one healthy w
Specs: birch and/or cherry per cruise plot

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

Acceptable aspen, spruce, fir maple
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

19	12138019-Cut	32.4	4110 - Sugar Maple Association	Sawtimber Well	78	81-110	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven- Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription thin to 70 BA. remove high risk. try to utilize value of quality sawtimber/veneer. target max stand diameter at 20" dbh. retain current species
Specs: composition in residual stand. do not cut hemlock, oak, w pine or cedar. protect any springs, intermittent streams, vernal areas. do not drop over the hill edge towards the river.

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

Acceptable n hardwoods
Regen:

Other need access from Molpus.
Comment: check MNFI and wildlife for potential occurrence that is adjacent to or within the stand.

Proposed Start Date: 10/01/2018

29	12138029- MWR	27.8	4110 - Sugar Maple Association	Sawtimber Well	75	81-110	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven- Aged	Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription MWR project. Mark entirety of stand using orange paint according to current management guidelines, i.e. to ~ 75 ft²/acre, including some 30 ft
Specs: diameter regeneration gaps. In addition, on a 25 point grid (230 ft spacing) pre-established in the office establish small group selection openings or nothing according to the following allocation (randomly assigned); 13 small group selection gaps (46 ft radius, 0.15 acres), and 12 nothing (i.e. in the matrix of single tree selection/thinning to 75 ft²). .

Next Step Pesticide, Hand Application; SitePrep, Scarification; Monitoring, Natural Regen (Intermediate)
Treatments:

Acceptable maple
Regen:

Other within deer wintering complex with heavy deer use
Comment:

Proposed Start Date: 08/01/2016

47	12138047-Cut	26.7	4134 - Aspen, Spruce/Fir	Sawtimber Medium	75	Unspec ified	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription cut aspen, spruce, fir, w birch, maple 1 stick tall and larger. Do not cut r pine, w pine, or hemlock. where available, leave one healthy birch tree
Specs: per cruise point. Do not drop over top of hill adjacent to Fire Lake Creek.

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

Acceptable aspen, spruce fir, pine
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
51 12138051-Cut	18.1	4112 - Maple, Beech, Cherry Association	Sawtimber Well	78	81-110	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Approved Proposal

Habitat Cut: No**Site Condition:**

Prescription thin to 60 - 70 BA. remove high risk and 14" dbh and greater r maple. try to utilize value of quality sawtimber/veneer. retain current species

Specs: composition in residual stand. do not cut hemlock, oak, w pine or cedar. protect any springs, intermittent streams, vernal areas. do not drop over the hill edge towards the river.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable n hardwoods

Regen:

Other need access from Molpus

Comment:

Proposed Start Date: 10/01/2018

57 12138057-MWR	2.1	4130 - Aspen	Poletimber Well	52	Unspecified	Harvest	Single Tree Selection	411 - Northern Hardwood	Even-Aged	Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription MWR research project. Mark entirety of stand using orange paint according to current management guidelines, i.e. to ~ 75 ft2/acre, including

Specs: some 30 ft diameter regeneration gaps. In addition, on a 25 point grid (230 ft spacing) pre-established in the office establish small group selection openings or nothing according to the following allocation (randomly assigned); 13 small group selection gaps (46 ft radius, 0.15 acres), and 12 nothing (i.e. in the matrix of single tree selection/thinning to 75 ft2). .

Next Step SitePrep, Scarification; Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable northern hardwoods

Regen:

Other Opportunity to compare the possible success of northern hardwood (h maple) regeneration within an aspen stand.

Comment:

Proposed Start Date: 10/01/2018

61 12138061-Cut	79.1	4110 - Sugar Maple Association	Sawtimber Well	72	81-110	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription reduce BA tp 70. try to capture value of quality sawtimber and veneer. target max stand dbh 20". remove high risk stems. do not cut hemlock,

Specs: oak, w pine or cedar. leave current species represented in residual stand. do not enter steep side slopes or bottoms of ravines to avoid impacting springs and watercourses.

Next Step ; Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable n hardwoods

Regen:

Other access will need to be gained from Molpus

Comment:

Proposed Start Date: 10/01/2018

64 12138064-Cut	32.1	4119 - Mixed Northern Hardwoods	Poletimber Well	69	81-110	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Approved Proposal
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Habitat Cut: No**Site Condition:**

Prescription thin to BA 70. cut spruce, fir 1 stick tall and larger. remove high risk. leave all current species represented in residual stand. do not cut hemlock,

Specs: oak, w pine or cedar. protect any intermittent streams, springs, or vernal areas. Do not drop over the hill edge towards the river

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable n hardwood

Regen:

Other need access from Molpus

Comment:

Proposed Start Date: 10/01/2018

Total Treatment Acreage Proposed: 221.6

Report 4 – Site Conditions

Crystal Falls Mgt. Unit
Ed Rice : Examiner

Compartment: 138
Year of Entry: 2019

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions				
		With Condition	Not Available		5F	3G	3H	3J	5E
507	364	139	4	Aspen	139				4
67	8	0	59	Cedar			6	53	
3	3	0	0	Low-Density Trees					
25	10	0	15	Lowland Conifers				15	
54	42	0	12	Lowland Deciduous				12	
27	20	0	7	Lowland Mixed Forest					7
23	14	0	9	Lowland Shrub					9
9	9	0	0	Lowland Spruce/Fir					
2	2	0	0	Marsh					
20	9	0	11	Mixed Upland Deciduous		11			
342	342	0	0	Northern Hardwood					
48	5	0	44	Upland Conifers			44		
42	12	0	30	Upland Mixed Forest				5	25
18	0	0	18	Upland Spruce/Fir				18	
3	3	0	0	Urban					
65	65	0	0	Water					
1,254	908	139	207	Total Forested Acres	139	11	49	103	44
	72%	11%	17%	Relative Percent					

**Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.*

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	3G: Other Influence zones - See comments	11	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified	Unspecified
Comments: left as visual buffer from previous cut							
2	Available	5F: Evaluated for Forest Health Considerations	45	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Ed Rice : Examiner

Compartment: 138

Year of Entry: 2019

3	Available	5F: Evaluated for Forest Health Considerations	32	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Available	5F: Evaluated for Forest Health Considerations	35	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	53	3H: Deer Wintering Area - habitat is incompatible with harvest at this time	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified
Comments: muck springs and seeps throughout entire stand- does not freeze during winter							
6	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	12	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments: wet floodplain to Paint River							
7	Unavailable	3H: Deer Wintering Area - habitat is incompatible with harvest at this time	6	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified	Unspecified
Comments:							
8	Unavailable	5E: Long-Term Retention	33	3J: Water quality / BMPs (stream, river, or lake)	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Crystal Falls Mgt. Unit
Ed Rice : Examiner

Compartment: 138
Year of Entry: 2019

9	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	15	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
10	Unavailable	3H: Deer Wintering Area - habitat is incompatible with harvest at this time	44	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							
11	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	10	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified	Unspecified
Comments:							
12	Available	5F: Evaluated for Forest Health Considerations	24	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
13	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	8	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified	Unspecified
Comments:							
14	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	5	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

16	Unavailable	5E: Long-Term Retention	4	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							

Mgt. Unit

Compartment: #Type!

Year of Entry:



Report 5 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

SCA Name	SCA Category	Detail Type	Recommendation	Acres
Comments				



Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

* This is a list of SCA's for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to the Special Conservation Area Map for locations of the below listed Conservation Areas.

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

Conservation Area	Type	Description
SCA	Cold Water 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	Habitat Area	An area that provide some specific need for the life cycle of wildlife species, including State Wildlife Areas and Waterfowl Production Areas, deer wintering complexes in lowland conifer communities, grassland openings and savannas. Habitat areas are distinct from critical habitat designated for recovery of endangered or threatened species (such as Kirtland's warbler or piping plover areas) in that they are more general in nature, are not primarily associated with threatened or endangered species, and are not covered by species recovery plans that are developed in cooperation with Federal agencies.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4134 - Aspen, Spruce/Fir	Sapling Well	41.4	3	Immature	extensive rolling hills
3	4199 - Other Mixed Upland Deciduous	Sawtimber Medium	10.5	52	51-80	stand for most part lies on a ridge above Fire Lake. scattered windthrow. stand was left as visual buffer in previous cut
5	4112 - Maple, Beech, Cherry Association	Poletimber Well	10.1	59	81-110	very steep hills/ridges along E side of stand. scattered w spruce 12-14" dbh and scattered aspen 16-18" dbh. areas with higher stocking of fir. small inclusion of larger aspen.fir along the W just S of the powerline. fair quality hardwoods - eutypella present and multiple stemmed trees
6	4134 - Aspen, Spruce/Fir	Sapling Well	19.3	12	Immature	
7	4134 - Aspen, Spruce/Fir	Poletimber Well	3.3	63	Unspecified	rolling ridges. scattered aspen sawtimber 12" dbh. very scattered b cherry and w birch
8	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	14.7	85	Unspecified	adjacent to Fire Lake
10	4110 - Sugar Maple Association	Sawtimber Well	74.5	72	81-110	H maple and basswood have fair to good sawtimber 12 - 20" dbh. NW corner has small acreage w pine sawtimber inclusion with h maple sapling understory. N "arm" of stand is lower quality with scattered w pine, fire and r maple. very scattered hemlock and upland cedar throughout stand
11	4130 - Aspen	Sapling Well	60.7	3	Immature	very scattered r pine component
12	4130 - Aspen	Sapling Well	29.4	14	Immature	
13	6120 - Lowland Cedar	Sawtimber Medium	7.7	120	Unspecified	
15	4319 - Mixed Upland Forest	Sawtimber Well	30.1	50	51-80	scattered w spruce. buffer to Paint River and Fire Lake Creek. Along Fire Lake Creek, stand lies on steep hillside
16	4134 - Aspen, Spruce/Fir	Sapling Well	37.8	27	Immature	
19	4110 - Sugar Maple Association	Sawtimber Well	32.4	78	81-110	fair to good sawtimber form, 12 - 24" dbh, 3 - 4 logs to first limbs.
20	4110 - Sugar Maple Association	Sawtimber Well	40.5	72	81-110	H maple sawtimber is fair/good quality. along N edge is a hemlock component. pockets of good advanced h mapling saplings very scattered w spruce.
22	4130 - Aspen	Sapling Well	24.7	23	Immature	



Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
6118 - Lowland Deciduous with Cedar	Poletimber Medium	15.8	43	Unspecified	scattered b ash 8 - 10" dbh. very wet stand. E end is less forested, heavier to tag alder
4134 - Aspen, Spruce/Fir	Poletimber Well	31.6	44	Unspecified	scattered windthrow from April 2017, notably along W edge, adjacent to private. scattered 11 - 12" dbh aspen. rock outcrop along N edge leading to swamp.
6132 - Mixed Lowland Forest with Cedar	Poletimber Well	6.9	48	Unspecified	very wet - standing water. scattered b ash 10 - 12" dbh
4134 - Aspen, Spruce/Fir	Sapling Well	12.2	27	Immature	very scattered 1 stick aspen. w pine saplings along W edge
4130 - Aspen	Poletimber Well	40.3	27	Immature	small diameter aspen poletimber 1 - 2 sticks tall stand is just moving into poletimber size class. dense pockets of fir saplings
4110 - Sugar Maple Association	Sawtimber Well	35.4	75	81-110	fair - good form on H maple. moderate defect present with eutypella occurrences. very scattered y birch. E side of stand has lower quality, smaller diameters, and slight fir component
4130 - Aspen	Sapling Well	17.2	7	Immature	
4134 - Aspen, Spruce/Fir	Sapling Well	30.2	23	Immature	dense areas of fir. scattered aspen 1 stick tall.
42390 - Mixed Non-Pine Upland Conifers	Poletimber Medium	43.6	93	51-80	rock ledge broken throughout the stand. runs of extremely wet tag alder throughout. areas with higher stocked cedar among rock ledge. dense fir understory.
6124 - Lowland Spruce-Fir	Poletimber Poor	6.3	30	Immature	scattered large w pine. drainage through stand
4130 - Aspen	Sapling Well	12.4	12	Immature	
4134 - Aspen, Spruce/Fir	Poletimber Well	24.3	27	Immature	pockets of aspen 6 - 8" dbh. N end the spruce/fir is slightly larger diameters. SBW has affected these conifers
6113 - Lowland Maple	Sawtimber Well	11.6	82	51-80	immediate floodplain to Paint River. very scattered w pine 16-18" dbh.
6115 - Lowland Ash	Poletimber Medium	20.6	50	Unspecified	standing water throughout much of stand with intermittent flow. center portion of stand is heavier to tag alder with sparse trees. N end has higher stocking of cedar.
4134 - Aspen, Spruce/Fir	Poletimber Well	3.4	41	Unspecified	N end is intermixed with lowland pockets. scattered 10" dbh aspen
4134 - Aspen, Spruce/Fir	Poletimber Well	45.3	41	Unspecified	aspen 3 - 5 sticks tall. scattered 10" dbh aspen. fir has heavy tip flagging from previous SBW impact



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
43	4130 - Aspen	Sapling Well	40.1	3	Immature	
44	429 - Mixed Upland Conifers	Poletimber Well	4.8	72	51-80	mixed stand with dense fir understory. spruce impacted heavily by SBW
47	4134 - Aspen, Spruce/Fir	Sawtimber Medium	30.2	75	Unspecified	Aspen is old and in decline. dense fir understory in N and S ends. w birch is showing top die back. very scattered hemlock. steep, rolling ridges in N and S end. small r pine inclusion due S of stand 50. Access would need to be obtained from Weyerhaeuser and pvt landowner
49	6130 - Fir, Aspen, Maple	Poletimber Well	8.6	35	Unspecified	slight components of y birch and b spruce. very wet stand - immediately adjacent to Fire Lake
50	6122 - Black Spruce	Poletimber Well	9.0	54	Unspecified	black spruce swamp transition to adjacent bog lake. Labrador tea/sphagnum
51	4112 - Maple, Beech, Cherry Association	Sawtimber Well	18.1	78	81-110	r maple has high percent of defect. overall stand has highest stocking levels in the 14" diameter classes. pockets of M2. several branches of intermittent creek and vernal area within the stand.
52	4112 - Maple, Beech, Cherry Association	Poletimber Medium	6.9	57	51-80	scattered, small vernal ponds. slight cherry component. spruce/fir is about gone from SBW. stand is lower stocked in areas - many multiple stemmed trees. scattered aspen 12 - 16" dbh. edge along Bates Amasa Rd heavier to fir and aspen.
53	4319 - Mixed Upland Forest	Poletimber Medium	12.2	52	Unspecified	along edge and portion of Paint River floodplain - seasonally flooded. H maple is lower quality - offsite
54	6132 - Mixed Lowland Forest with Cedar	Poletimber Well	10.9	42	Unspecified	extremely wet stand - water
55	42320 - Upland Spruce	Poletimber Well	7.5	63	51-80	stand heavily impacted by SBW. lies in bmp riparian buffer. scattered w spruce 16" dbh
56	6119 - Mixed Lowland Deciduous Forest	Poletimber Well	6.0	42	Unspecified	floodplain to Paint River. very scattered swamp w oak. r maple low quality. scattered b ash sawtimber 14" dbh.
57	4130 - Aspen	Poletimber Well	3.0	52	Unspecified	
58	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	9.4	62	51-80	south edge of stand is in Paint River and Hemlock R. floodplain. May 2017, completely flooded - inaccessible.
60	42330 - Upland Fir	Poletimber Well	10.4	32	Immature	very scattered cherry. r maple, b ash more prevalent towards river edge. scattered pockets of wet area with alder



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
61	4110 - Sugar Maple Association	Sawtimber Well	79.1	72	81-110	H maple 14-20?dbh logs, 6-10" dbh poletimber. Good form on b cherry logs. sparse y birch component in stand. stand has several deep ravine like drainages flowing NE to the Paint River - bottoms of these have small flowing creeks and are very springy in places - open water during winter. along the E edge of the stand in these ravines cedar, y birch, and spruce are more prevalent.
62	6120 - Lowland Cedar	Sawtimber Well	53.3	150	Unspecified	open water/muck springs throughout stand. rock knob inclusions holding the aspen, spruce, and r maple. very broken ledge areas. inclusions of very dense tag alder. fir saplings throughout.
63	6120 - Lowland Cedar	Poletimber Well	5.9	99	Unspecified	stand immediately adjacent to Paint River at bottom of fairly steep slope. springs throughout. N end of stand heavier stocking of cedar.
64	4119 - Mixed Northern Hardwoods	Poletimber Well	32.1	69	81-110	Several inventory cycles previous, stand was A9. Aspen has for the most part fallen out of the stand, converting it to M6/7. Scattered h maple sawtimber 12-16" dbh notably in central to N end. scattered b cherry. high prevalence of defect in sawtimber trees.
65	4119 - Mixed Northern Hardwoods	Poletimber Well	12.8	61	51-80	heavy grass. scattered vernal ponds throughout. hemlock component. pockets of maple and basswood sawtimber 12 -14" dbh
66	6124 - Lowland Spruce- Fir	Poletimber Medium	4.0	65	Unspecified	



Stand	Cover Type	Acres	Managed Site	General Comments:
2	330 - Low-Density Trees	3.0	No	open to semi open, widely scattered spruce/fir saplings.
4	122 - Road/Parking Lot	2.5	No	Bates-Amasa Road
9	122 - Road/Parking Lot	0.6	No	Fire Lake boat launch
14	500 - Water	4.0	No	Swamp Lake - small pond
17	6220 - Alder/willow	8.8	No	tag alder - flooded beaver flowage with creek
18	6220 - Alder/willow	1.7	No	wet tag alder with scattered cedar, b ash and fir
21	6220 - Alder/willow	5.0	No	very wet tag alder - intermittent creek. scattered tamarack
23	500 - Water	15.0	No	old beaver ponds - Fire Lake Creek
33	500 - Water	35.4	No	Paint River
34	6233 - Wet Meadow	1.7	No	open marsh - standing water. edged with tag alder
42	6220 - Alder/willow	7.5	No	tag alder with scattered b ash and cedar
46	500 - Water	9.5	No	Paint River
59	500 - Water	0.6	No	Hemlock River