



Compartment Review Presentation

Crystal Falls Forest Management Unit

Compartment 12189

Entry Year 2017

Acreage: 1,806

County Iron

Management Area: Michigamme Reservoir

Revision Date: 2015-08-18

Stand Examiner: Ed Rice

Legal Description:

T45N R31W section 14 - 15, 22 - 24

Identified Planning Goals:

Optimize sustainable timber production while enhancing and protecting wildlife habitat. Continue to sustainably balance the aspen age class acres. Get the hardwood stands on a 20 year alternating cutting cycle towards regulation. Protect the riparian areas and transition zones during management activity.

Soil and topography:

Large areas in the center of the compartment have very fine sandy loams. The remainder of the area has a mix of sandy/stoney complexes. The lowland areas are muck soils. There are extensive areas of large steep hills throughout.

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

The compartment itself is contiguous in state ownership. Surrounding it is industrial forestland and private recreational land holdings. There is an agriculture land bas towards the south end.

Unique Natural Features:

None identified

Archeological, Historical, and Cultural Features:

There is one low value archeological feature within the compartment.

Special Management Designations or Considerations:

Deer winter habitat along the Fence River and adjoining timber types.

Watershed and Fisheries Considerations:

The Michigan and Fence Rivers are cold water trout streams. Any aspen management should utilize a 300 foot buffer set back. All other BMP guidelines should be followed.

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:

Portions of the compartment are core deer wintering areas, notably so along the Fence River.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium and minor end moraine of coarse-textured till. There is insufficient data to determine the glacial drift thickness. The Precambrian Michigamme Formation subcrops below the glacial drift. There is no current economic use for these rocks. The Michigan discovery of kimberlite was near Lake Ellen, approximately eight miles to the south. The abandoned Republic iron mine is located ten miles to the northeast. Land near this compartment has been previously leased for metallic mineral exploration and there may still be potential. There are no visibly active or inactive gravel pits in the area, but there should be potential. There is no economic oil and gas production in the UP.

Vehicle Access:

Good to fair. Many unimproved two track roads are throughout the compartment.

Survey Needs:

NE 1/16 sec 14
W 1/16 sec 11, 14
SW 1/16 sec 14
S 1/16 sec 14, 15 - verify
sect. corner 21, 22, 27,28
S1/16 sec 21, 22
W 1/16 sec 22
corner approx. 660' W of W 1/16 sec 22
corner approx. 660' W of NW 1/16 sec 22
W 1/16 sec 24, 25
SW 1/16 sec 24

Recreational Facilities and Opportunities:

None present

Fire Protection:

There are areas of dense upland spruce/fir fuel types, notably in section 14. These areas could present control problems give the alignment of weather. Much of the above areas are bounded by water/swamp and young aspen types, providing natural fuel breaks or the very least a less volatile fuel type. Water sources are present with good access to the Fence River near by.

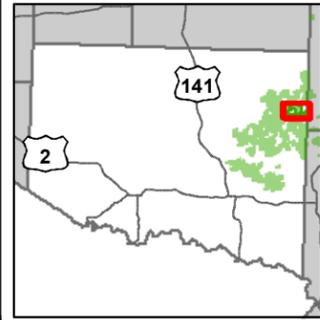
Additional Compartment Information:**The following reports from the Inventory are attached:**

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

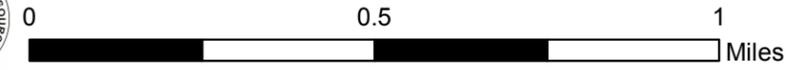
The following information is displayed, where pertinent, on the attached compartment maps:

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

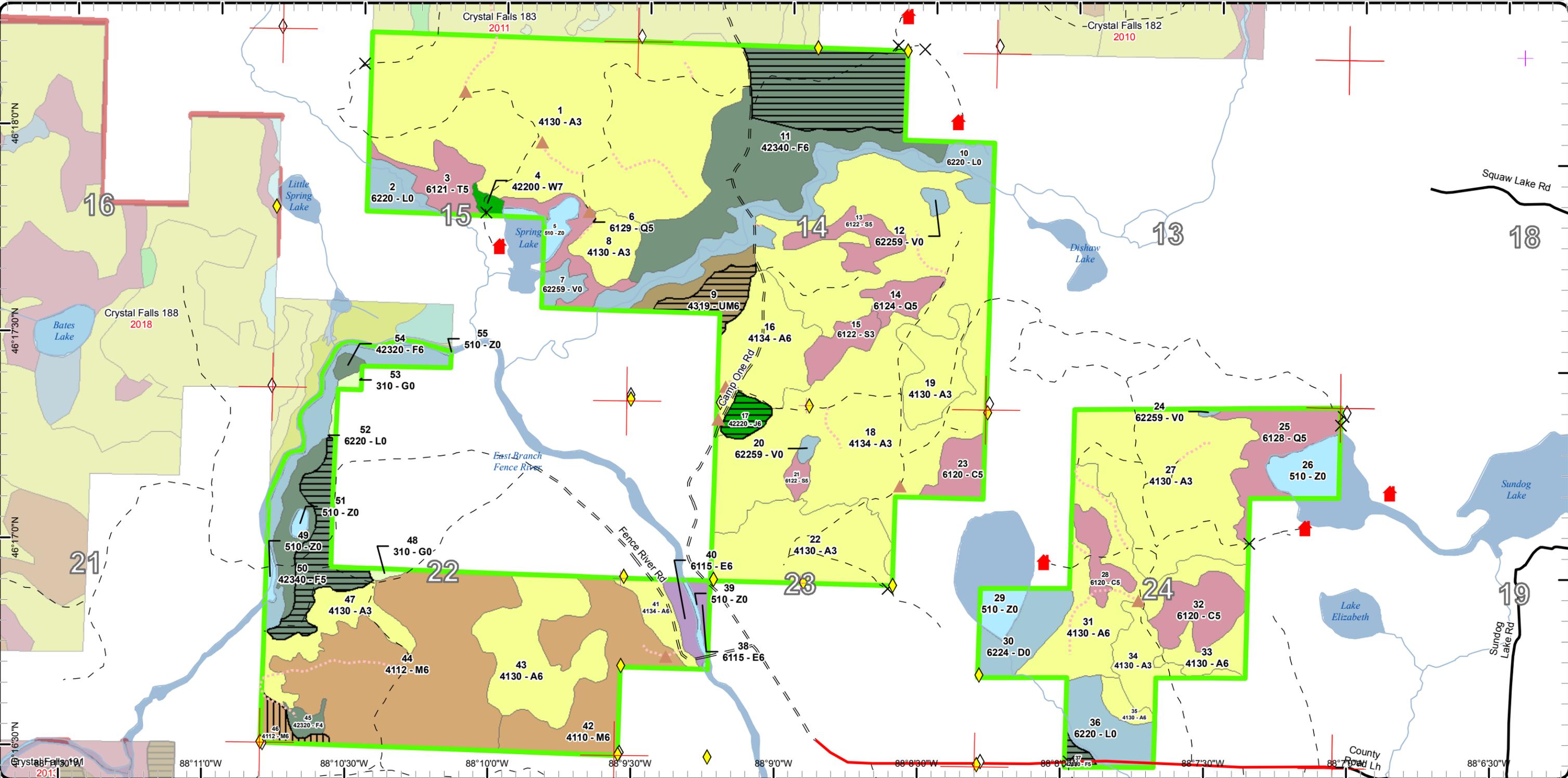
Cover Type & Treatments



Compartment: 189
 T45NR31W 14,15,22,23,24
 County: Iron
 Unit: Crystal Falls
 Mgmt Area: Michigamme Reservoir
 YOE: 2017
 Acres: 1806 GIS Calculated
 Examiner: Ed Rice
 Map Revised: 8/28/2015
 Map Phase: Pre-Review

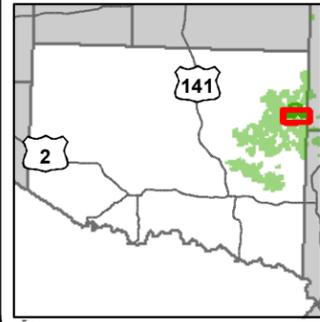


- ✚ Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- Miris Corners
- County Paved Roads
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- Gravel Roads
- Poor Dirt Roads
- ⋯ Closed Roads
- ✕ Gate
- ▲ Berms
- Rivers
- Lakes
- ▭ Clearcut (w/Reserves)
- ▭ Shelter Wood (w/Reserves)
- Forest Covertype
 - 411 - Northern Hardwood
 - 413 - Aspen
 - 422 - Natural Pines
 - 423 - Other Upland Conifers
 - 430 - Upland Mixed Fores
 - 611 - Lowland Deciduous Forest
 - 612 - Lowland Coniferous Forest
- Non-Forest Covertype
 - 310 - Herbaceous Openland
 - 500 - Water
 - 622 - Lowland Shrub

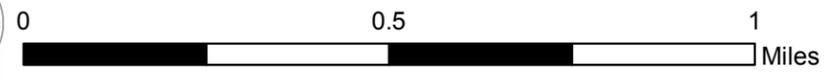


Crystal Falls 189 2011
 88°11'0"W 88°10'30"W 88°10'0"W 88°9'30"W 88°9'0"W 88°8'30"W 88°8'0"W 88°7'30"W 88°6'30"W

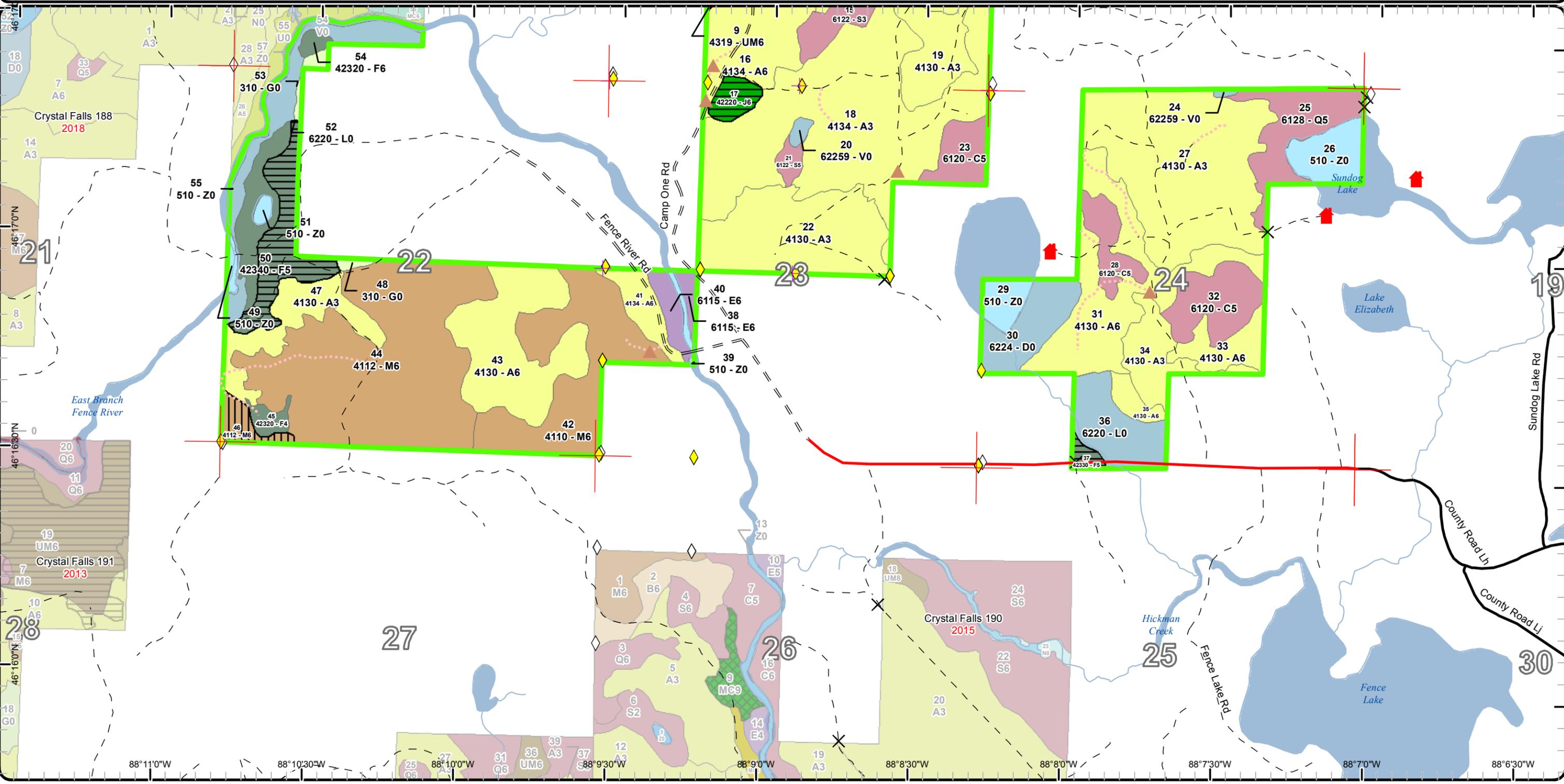
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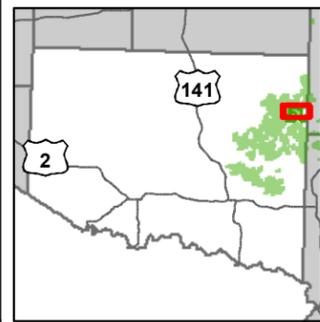


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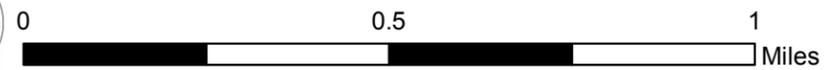


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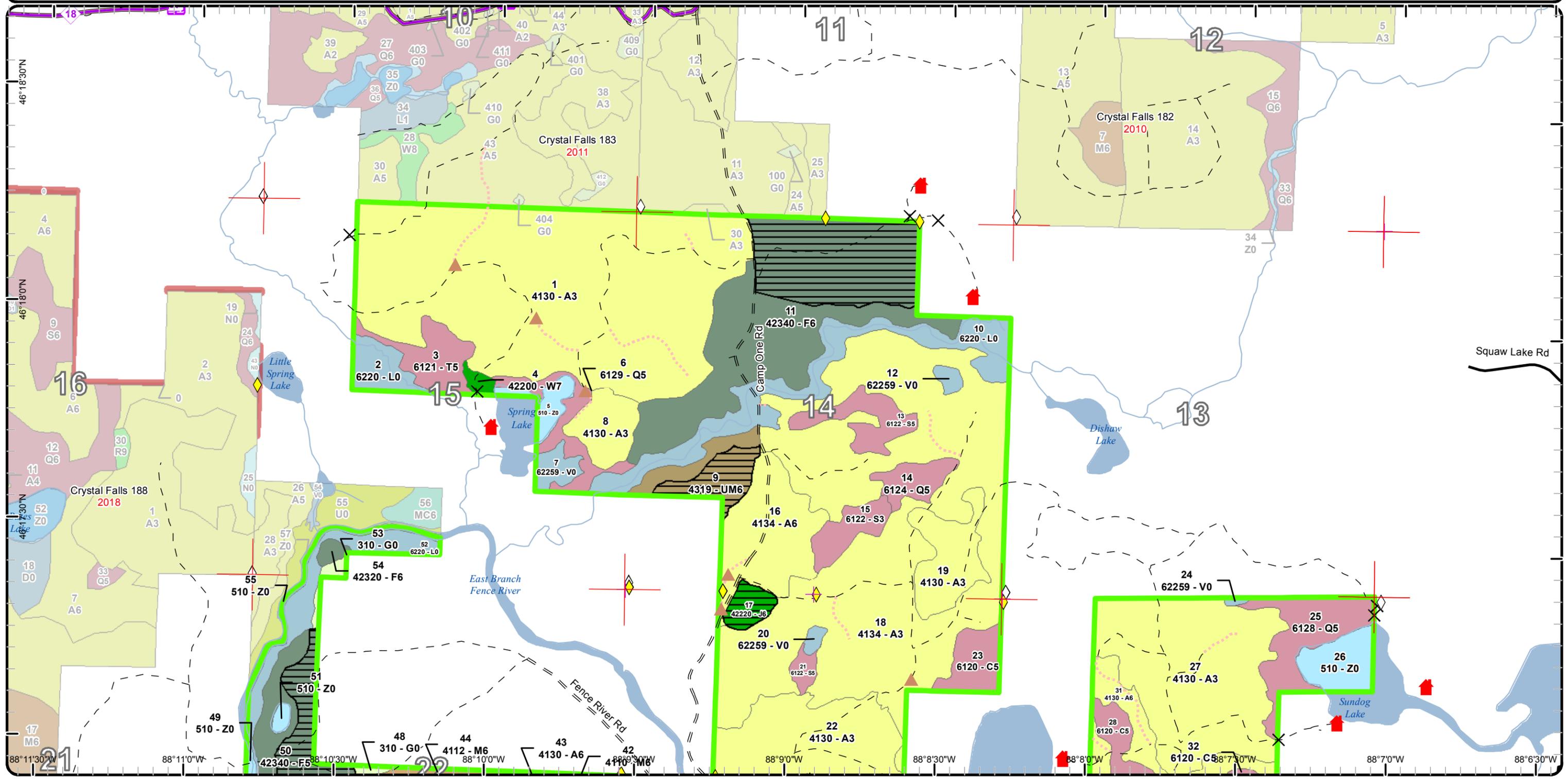
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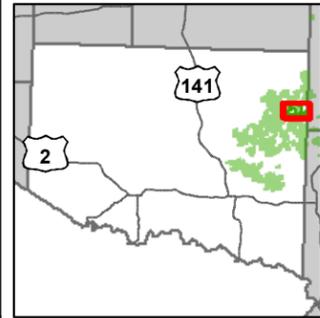
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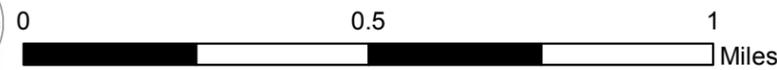
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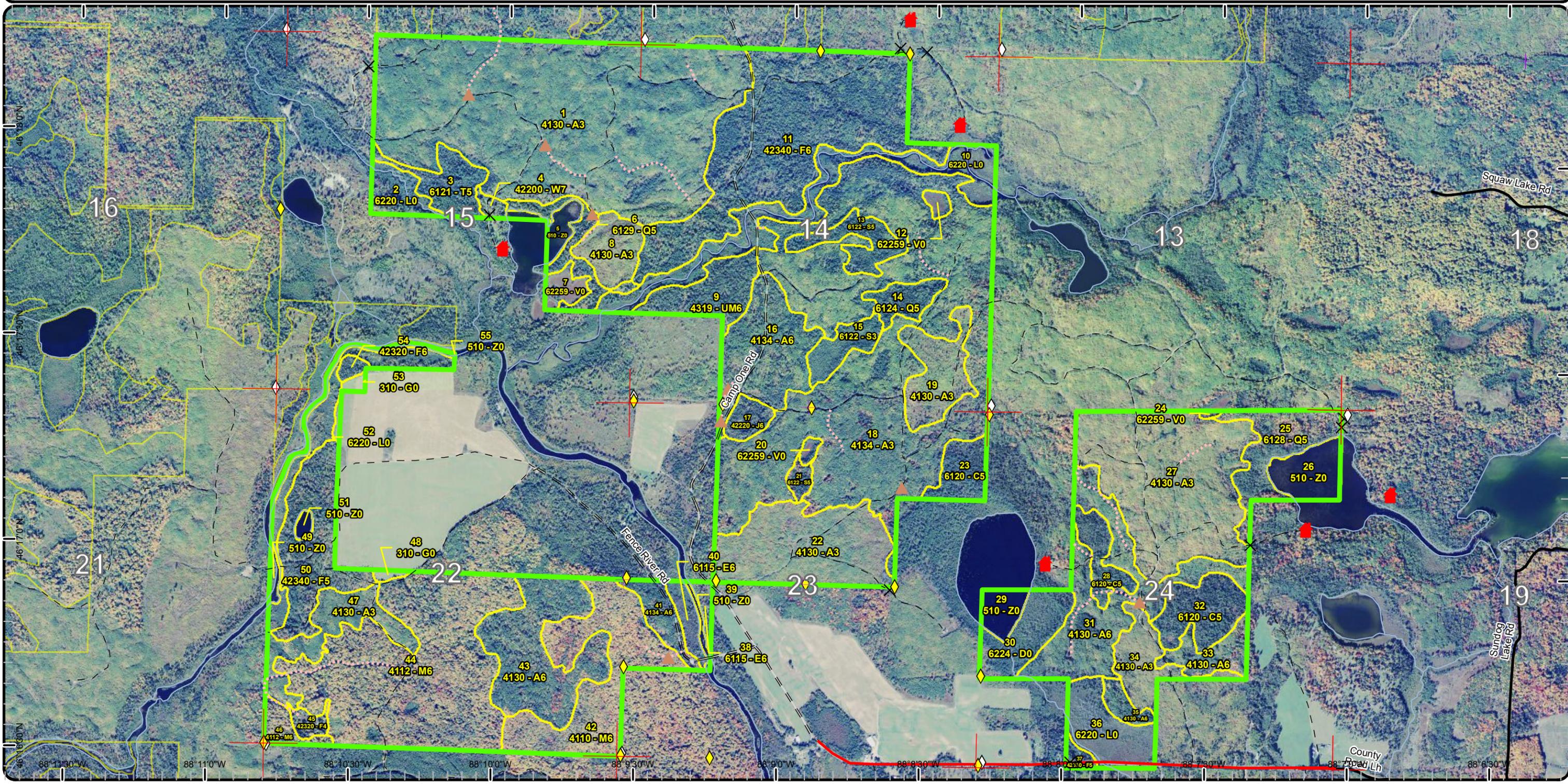
Stand Boundary Map



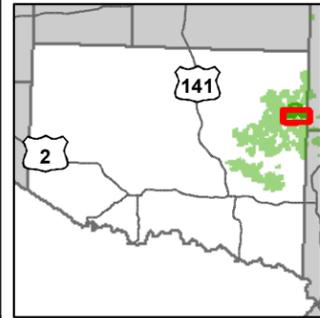
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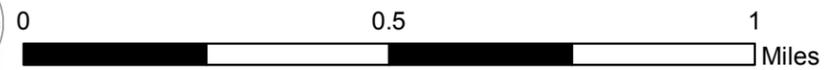
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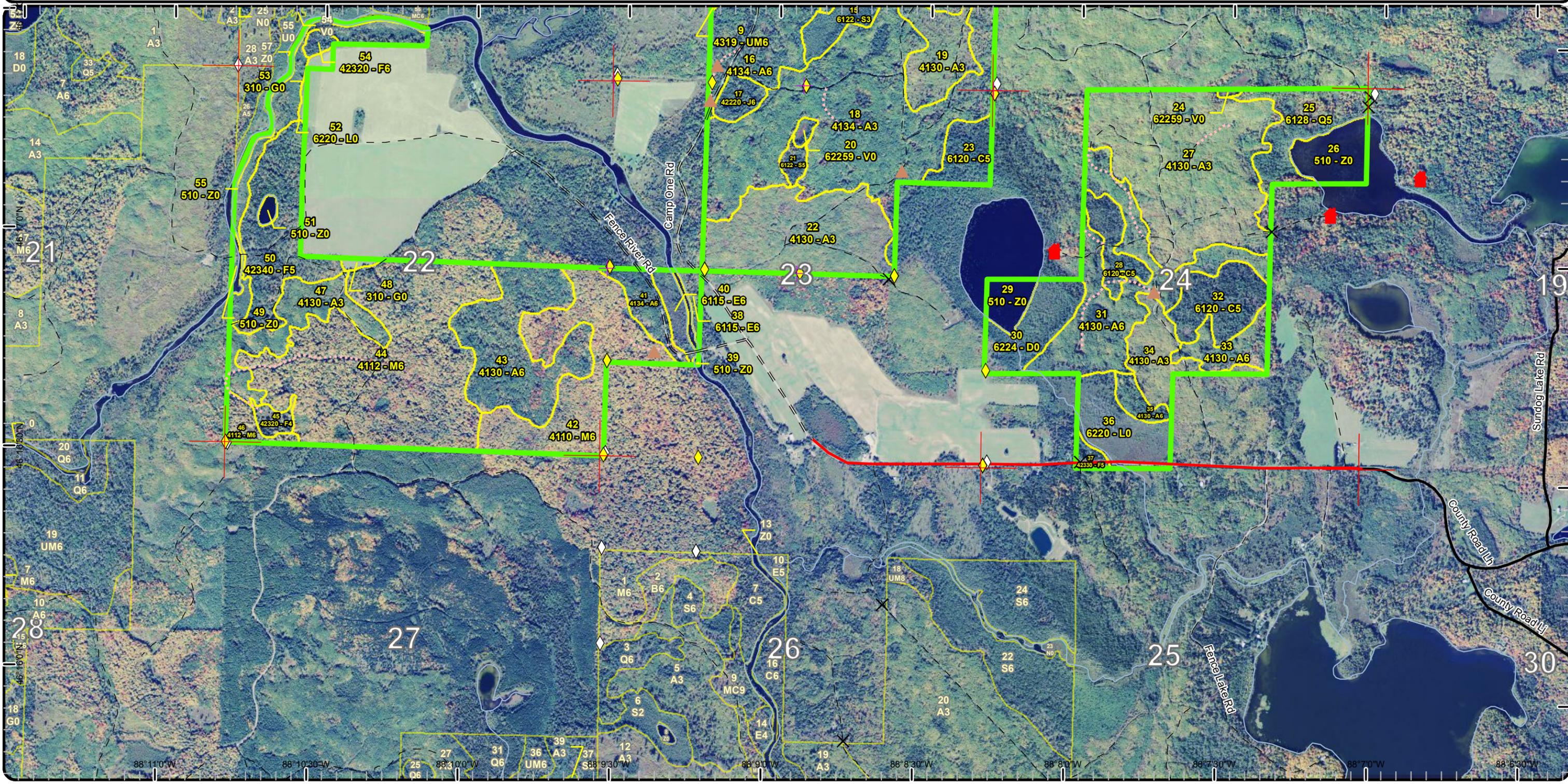
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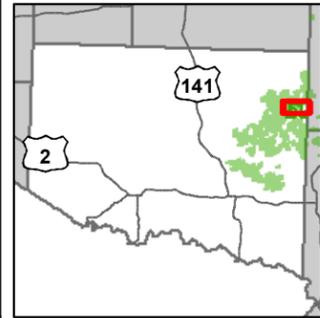


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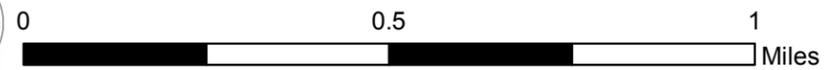


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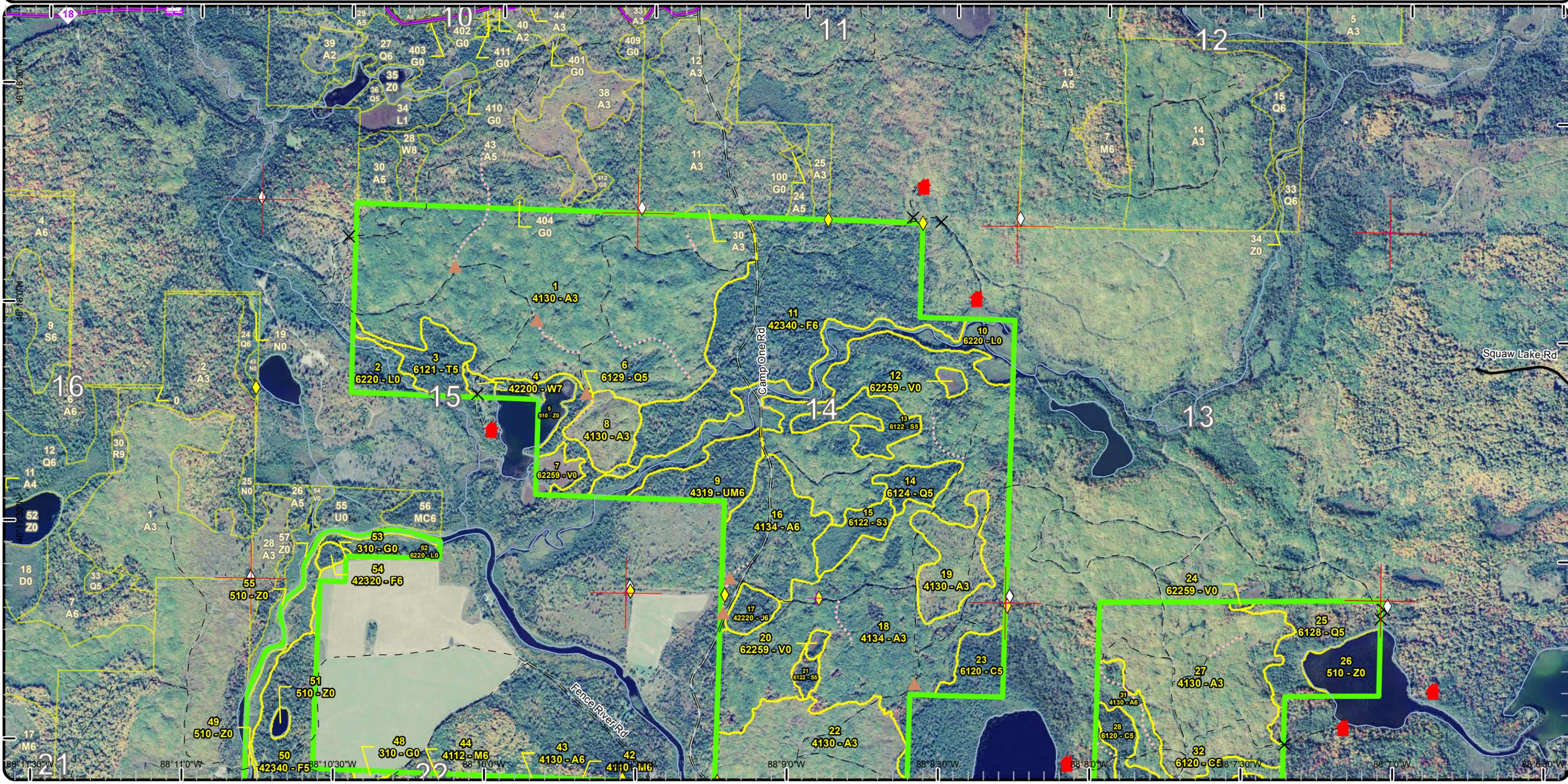
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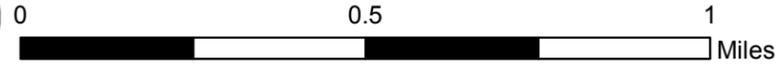
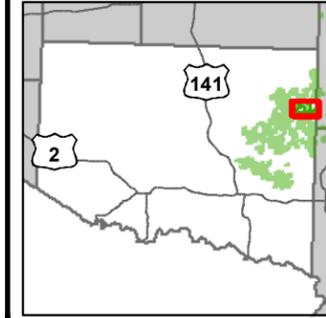


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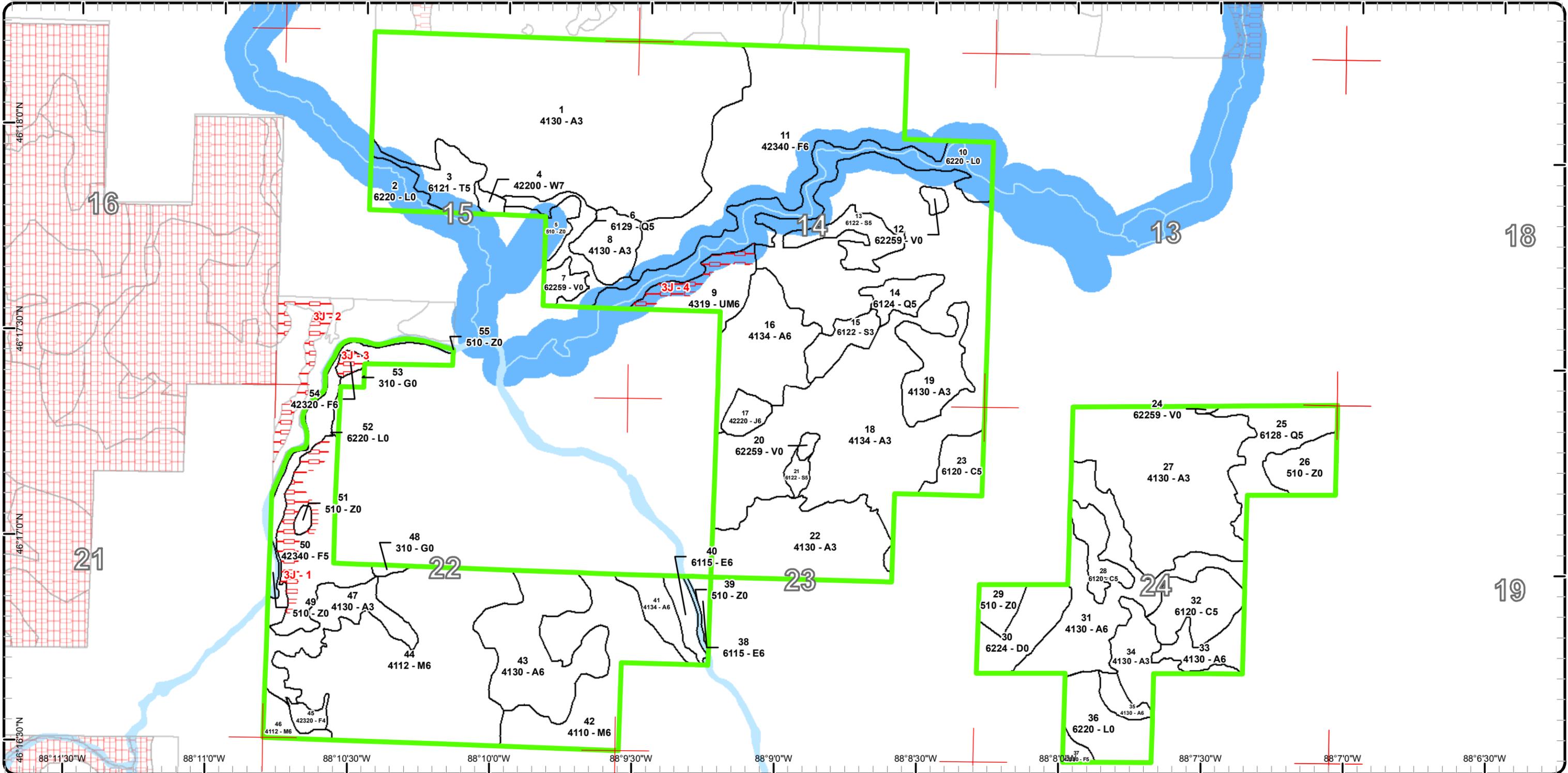


Special Conservation Areas & Site Conditions Map

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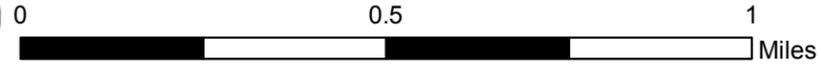
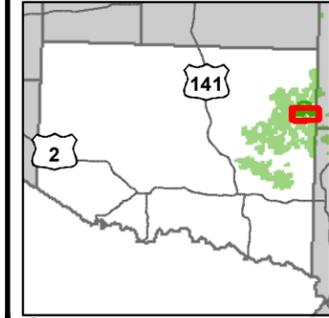


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- Unavailable Factors
 - 3J: Water quality / BMPs (stream, river, or lake)
- Special Conservation Areas
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer

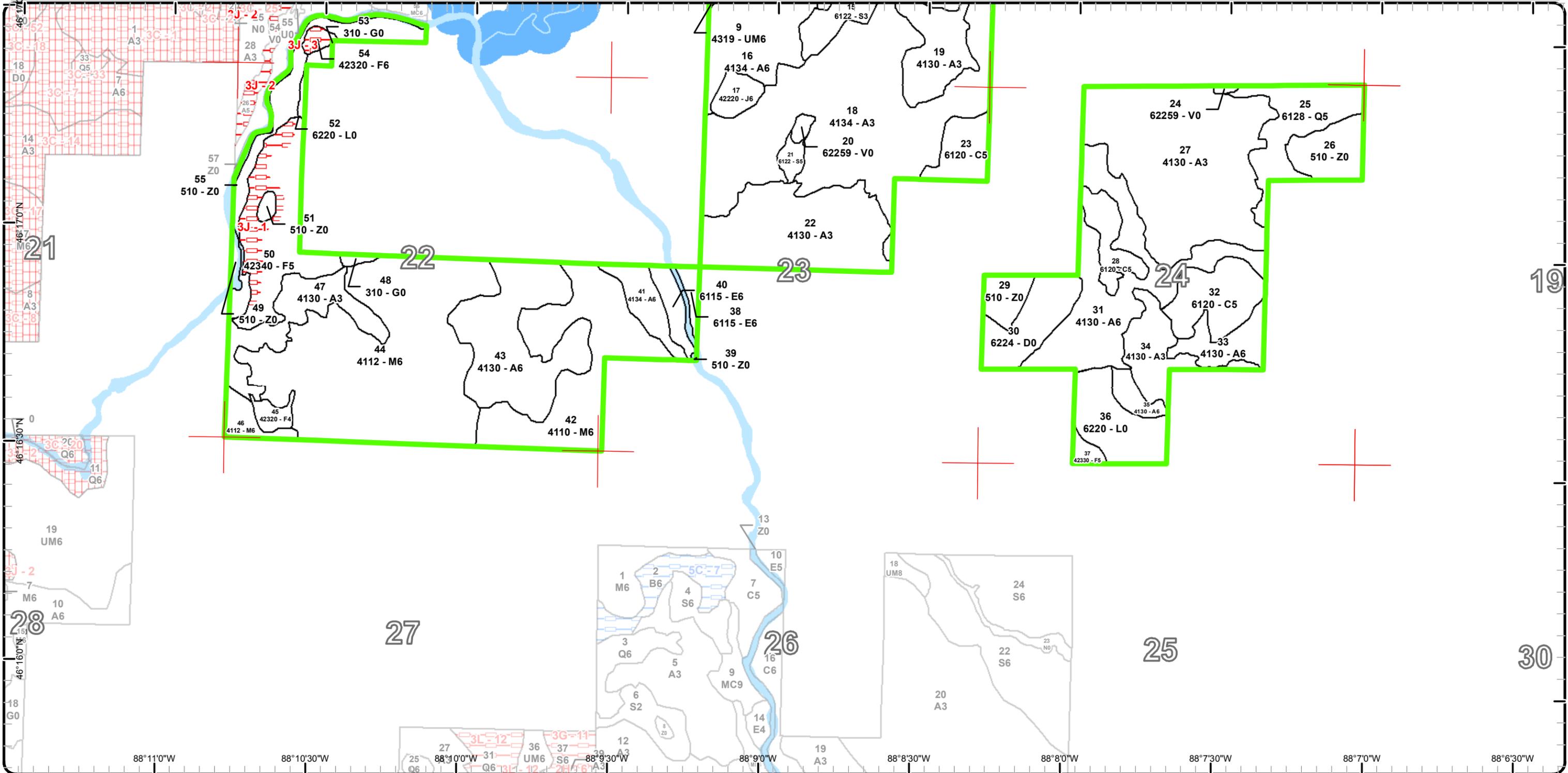


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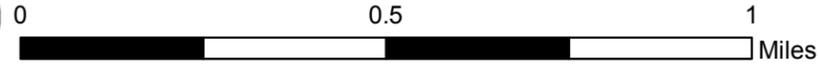
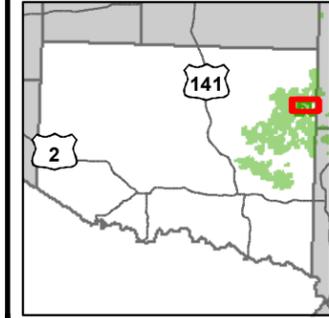


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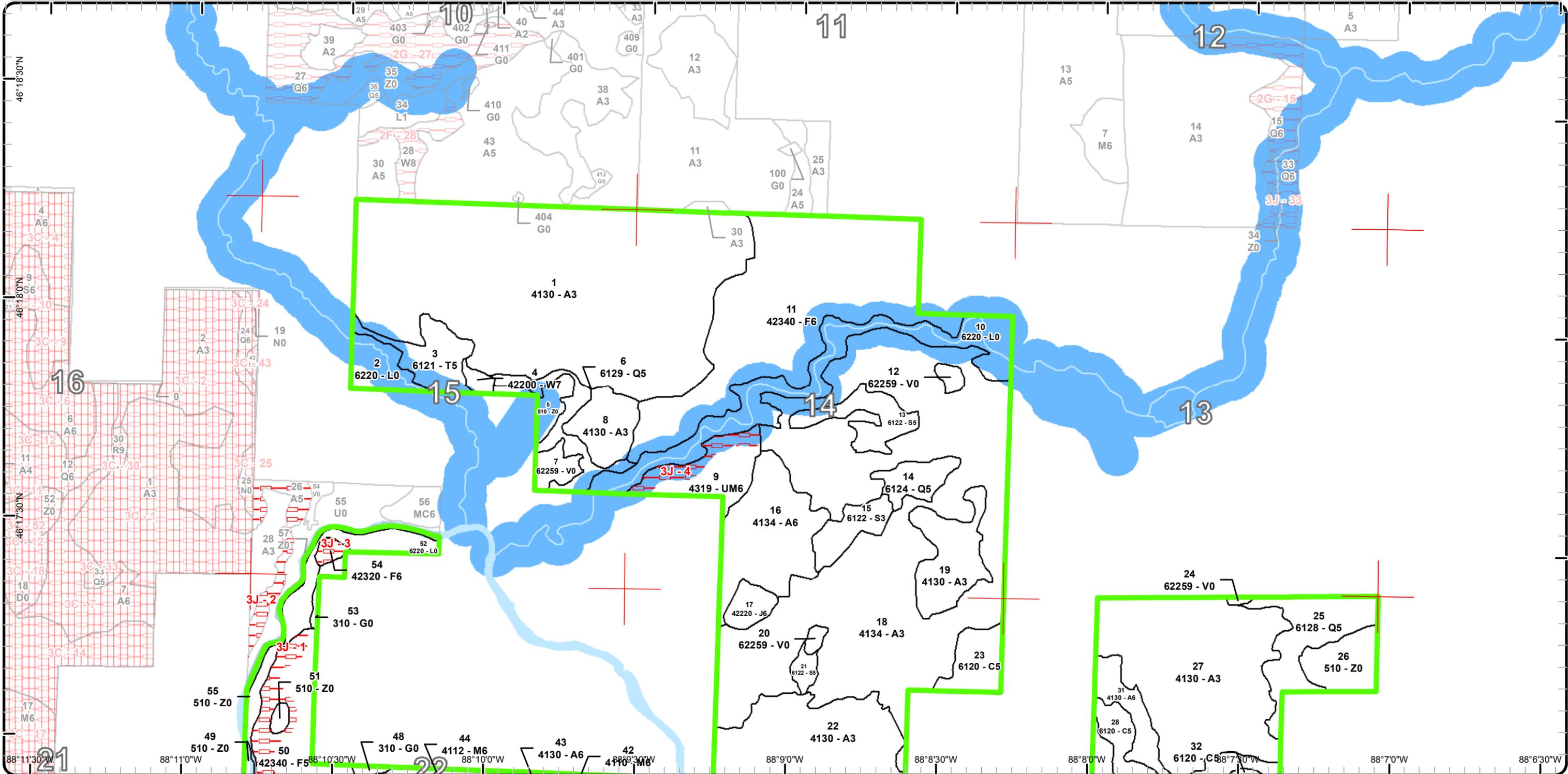


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Report 1 – Total Acres by Cover Type and Age Class



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	236	27	611	0	123	0	0	0	0	0	0	0	0	0	0	0	0	997
Bog	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Cedar	0	0	0	0	0	0	0	0	0	0	0	52	0	0	0	0	0	0	52
Herbaceous Openland	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Jack Pine	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
Lowland Conifers	0	0	0	0	0	11	16	30	0	0	0	0	0	0	0	0	0	0	57
Lowland Deciduous	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	12
Lowland Shrub	114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114
Lowland Spruce/Fir	0	0	0	0	12	0	16	4	0	0	0	0	0	0	0	0	0	0	32
Northern Hardwood	0	0	0	0	0	0	0	214	0	0	0	0	0	0	0	0	0	0	214
Tamarack	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	18
Treed Bog	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
Upland Mixed Forest	0	0	0	0	0	0	0	24	0	0	0	0	0	0	0	0	0	0	24
Upland Spruce/Fir	0	0	0	0	0	149	44	0	0	0	0	0	0	0	0	0	0	0	193
Water	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44
White Pine	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
Total	197	236	27	611	12	309	76	284	0	3	0	52	0	0	0	0	0	0	1807



Report 2 – Treatment Summary

Crystal Falls Mgt. Unit
Year of Entry: 2017

Acres of Harvest

Compartment 189
Total Compartment Acres: 1,806

Commercial Harvest - 123
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
Jack Pine	8	0	0	0	0	0	0	0	0	8
Northern Hardwood	0	0	0	0	8	0	0	0	0	8
Upland Mixed Forest	15	0	0	0	0	0	0	0	0	15
Upland Spruce/Fir	93	0	0	0	0	0	0	0	0	93
Total	115	0	0	0	8	0	0	0	0	123

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	123	0	0	0	0	0	0	0	0	123
Next Step	0	73	0	0	0	0	123	0	0	196
Total	123	73	0	0	0	0	123	0	0	319



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
9	12189009-Cut	14.5	4319 - Mixed Upland Forest	Poletimber Well	61	111- 140	Harvest	Clearcut with Retention	429 - Mixed Upland Conifers	Even-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription remove all merchantable aspen, jack pine, and tamarack. cut spruce/fir 2" and larger - leave 10 - 20' diameter patches 1 - 2 per acre. leave
Specs: associated w pine, r pine, w birch. buffer Fence River 300'

Next Step
Treatments:

Acceptable aspen, spruce/fir
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

11	12189011-Cut	62.0	42340 - Upland Spruce/Fir	Poletimber Well	49	Unspec ified	Harvest	Clearcut with Retention	429 - Mixed Upland Conifers	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription cut merchantable aspen, jack pine, and tamarack. cut spruce/fir 2" and larger - leave 10 - 20 foot diameter patches of spruce/fir approx. every
Specs: 200 feet. leave w pine, r pine, w birch.

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

Acceptable spruce/fir, pine, aspen
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

17	12189017-Cut	7.5	42220 - Natural Jack Pine	Poletimber Well	46	Unspec ified	Harvest	Clearcut with Retention	4222 - Natural Jack Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription cut merchantable j pine, aspen, spruce, and fir. plant to j pine. leave associated w pine, r pine and w birch.
Specs:

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

Acceptable j pine, r pine, w pine with minor mixed aspen
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

37	12189037-Cut	3.2	42330 - Upland Fir	Poletimber Medium	43	Unspec ified	Harvest	Clearcut with Retention	429 - Mixed Upland Conifers	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription cut merchantable aspen and upland tamarack. cut spruce/ fir 6" stump and larger. leave w birch, w pine, r pine and cedar if present
Specs:

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

Acceptable spruce, fir aspen
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016



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
46	12189046-Cut	7.6	4112 - Maple, Beech, Cherry Association	Poletimber Well	67	51-80	Harvest	Shelterwood	4319 - Mixed Upland Forest	Two-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription mark to leave - shelterwood, leave 40 BA h maple, targeting for leave trees large crowns and healthy scattered w birch. cut merchantable aspen.
Specs: cut spruce/fir 6" stump diameter and larger. leave any associated w pine.

winter cut for deer

Next Step
Treatments:

Acceptable maple, w birch, conifer
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

50	12189050-Cut	28.1	42340 - Upland Spruce/Fir	Poletimber Medium	52	Unspec ified	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription cut merchantable aspen, r maple, tamarack, and j pine. cut spruce/fir 6" stump diameter and larger.

Specs: apply 300 foot buffer to Fence River, include small bog pond (stand 51) inside above buffer. winter cut for deer

Next Step
Treatments:

Acceptable aspen, spruce/fir
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

**Total Treatment
 Acreage Proposed: 123.0**

Dominant Site Conditions

3J

Aspen	
Bog	
Cedar	
Herbaceous Openland	
Jack Pine	
Lowland Conifers	
Lowland Deciduous	
Lowland Shrub	
Lowland Spruce/Fir	
Northern Hardwood	
Tamarack	
Treed Bog	
Upland Mixed Forest	10
Upland Spruce/Fir	19
Water	
White Pine	
Total Forested Acres	29
Relative Percent	

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

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	17	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	14	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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Compartment: 189

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3	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Mgt. Unit

Compartment: #Type!

Year of Entry:



Report 6 – 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 7 – 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.



Stand	Crystal Falls Mgt. Unit		Report 8 – Forested Stands			Compartment: 189 Year of Entry: 2017
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	Sapling Well	266.8	24	Immature	Aspen 2 - 4" dbh with scattered 6" trees. Much of stand is just starting to move into poletimber. Small components scattered tamarack saplings. steep hills
3	6121 - Tamarack	Poletimber Medium	18.2	41	Unspecified	
4	42200 - Natural White Pine	Sawtimber Poor	2.9	87	51-80	stand lies on ridge top. aspen cut off in past harvest leaving large diameter w pine residual. weak aspen regen overall with heavier fir component
6	6129 - Mixed Coniferous Lowland Forest	Poletimber Medium	15.6	57	Unspecified	stand is transitional lowland swamp between uplands and bog, lake, creek
8	4130 - Aspen	Sapling Well	17.5	8	Immature	scattered spruce/fir. steep hill
9	4319 - Mixed Upland Forest	Poletimber Well	24.0	61	111-140	mature timber throughout. areas with higher stocking of spruce
11	42340 - Upland Spruce/Fir	Poletimber Well	137.9	49	Unspecified	Overall aspen is poor 2 - 3 sticks tall at 50 years old. pockets of better formed aspen 4 - 5 sticks tall on hills in center of stand. Jack pine fair to good. dense, stunted upland b spruce saplings throughout. small lowland conifer inclusion having lowland b spruce/tamarack just east of the road in south part of the stand. very scattered r pine, w pine and upland tamarack.
13	6122 - Black Spruce	Poletimber Medium	16.5	58	Unspecified	scattered open areas with higher stocking of b spruce saplings. sphagnum/leatherleaf
14	6124 - Lowland Spruce- Fir	Poletimber Medium	10.9	45	Unspecified	open tag alder in center of the stand edged with cedar, b spruce and tamarack. stand edges transition to uplands where buffer was left from pervious cut.
15	6122 - Black Spruce	Sapling Well	12.4	35	Unspecified	about a pure b spruce swamp. larger trees within 50' of stand edge where better site exists but quickly transitions to S3.
16	4134 - Aspen, Spruce/Fir	Poletimber Well	45.9	40	Unspecified	poor aspen site. areas heavier to w spruce with little fir. SBW present in stand - tip damage on trees. very scattered w spruce log sized trees and scattered upland tamarack
17	42220 - Natural Jack Pine	Poletimber Well	7.5	46	Unspecified	j pine shows top damage from porcupines in the past
18	4134 - Aspen, Spruce/Fir	Sapling Well	268.2	24	Immature	some of the aspen is just moving into poletimber size class. pockets of conifer scattered throughout with scattered spruce/fir 7 - 9" dbh. inclusions of upland tamarack regeneration - notably along roads. occasional w birch saplings. steep hills throughout.
19	4130 - Aspen	Sapling Well	26.1	8	Immature	



Stand	Crystal Falls Mgt. Unit		Report 8 – Forested Stands			Compartment: 189 Year of Entry: 2017
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
21	6122 - Black Spruce	Poletimber Medium	3.8	67	Unspecified	more open area towards center of stand
22	4130 - Aspen	Sapling Well	63.6	9	Immature	small pockets of tag alder scattered throughout
23	6120 - Lowland Cedar	Poletimber Medium	14.7	105	Unspecified	fairly open canopy - heavy tag alder. higher stocking of tamarack in mid to south part of stand
25	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Medium	29.6	67	Unspecified	lowland along Little Sundog Lake with high ground ridges interspersed. High ground has aspen, w birch, r maple and hazel with fir understory.
27	4130 - Aspen	Sapling Well	107.3	8	Immature	mainly aspen with scattered small conifer pockets throughout.
28	6120 - Lowland Cedar	Poletimber Medium	13.0	101	Unspecified	areas of more open with dense tag alder and widely scattered tamarack. S end of stand has higher stocked tamarack.
31	4130 - Aspen	Poletimber Well	61.5	25	Immature	about a pure aspen stand with very little understory. 3 - 4 stick trees. small pockets of lowland conifers scattered throughout along with small pockets of tamarack saplings.
32	6120 - Lowland Cedar	Poletimber Medium	24.8	105	Unspecified	W edge holds higher stocking of b spruce and tamarack but quickly move to heavy cedar 12 - 16" dbh. winter deer usage.
33	4130 - Aspen	Poletimber Well	14.7	25	Immature	tag alder drainage inclusion running N - S in SW part of stand.
34	4130 - Aspen	Sapling Well	21.3	8	Immature	
35	4130 - Aspen	Poletimber Well	6.3	45	Unspecified	pockets of smaller dbh where site quality is poorer - mixed with higher stocked fir saplings
37	42330 - Upland Fir	Poletimber Medium	3.2	43	Unspecified	large aspen has basically fallen out of the stand - a few scattered trees remaining. large w spruce have been hit by SBW - some SBW in fir canopy. dense fir sapling understory
38	6115 - Lowland Ash	Poletimber Well	3.9	61	Unspecified	Flood plain to Fence R. N end heavier to tag alder.
40	6115 - Lowland Ash	Poletimber Well	7.6	61	Unspecified	N end of stand is heavy tag alder. flood plain to Fence River
41	4134 - Aspen, Spruce/Fir	Poletimber Well	12.3	42	Unspecified	larger spruce is being heavily hit by SBW. small component of balm

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Crystal Falls Mgt. Unit

Report 8 – Forested Stands

Compartment: 189
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	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
42	4110 - Sugar Maple Association	Poletimber Well	64.9	67	81-110	scattered H maple saplings 8 - 20' tall. R maple is in more marginal areas and along stand transitional areas. very widely scattered spruce and upland cedar. vernal ponds distributed throughout stand
43	4130 - Aspen	Poletimber Well	58.3	46	Unspecified	Aspen 5 - 8" dbh. small inclusions of open areas. hills
44	4112 - Maple, Beech, Cherry Association	Poletimber Well	141.6	67	81-110	far N end of stand has lower stocking with more open grown quality trees associated in this area is a pocket of mature aspen and scattered large w pine. rolling hills and scattered vernal ponds
45	42320 - Upland Spruce	Poletimber Poor	4.6	45	Unspecified	semi open stand - open grown conifers, heavy limbs to ground level
46	4112 - Maple, Beech, Cherry Association	Poletimber Well	7.6	67	51-80	very low quality h maple - open grown, multiple stemmed with low limbs.
47	4130 - Aspen	Sapling Well	27.3	14	Immature	small pockets of conifer in valleys throughout.
50	42340 - Upland Spruce/Fir	Poletimber Medium	44.4	52	Unspecified	nearer to river stand is heavily stocked with spruce/fir. stand showing some SBW damage on tips.
54	42320 - Upland Spruce	Poletimber Well	2.7	42	Unspecified	scattered aspen along very edge of stand.



Stand	Cover Type	Acres	Managed Site	General Comments:
2	6220 - Alder/willow	12.7	No	creek bottom with heavy tag alder. associated scattered lowland conifers
5	510- Water (OI)	7.9	No	Spring Lake
7	62259 - Bog (OI)	6.7	No	water, cattails, leatherleaf bog
10	6220 - Alder/willow	50.2	No	Michigan Creek bottom land. dense tag alder with associated scattered fir and b. ash.
12	62259 - Bog (OI)	2.7	No	small leatherleaf bog opening. seasonally ponded
20	62259 - Bog (OI)	2.0	No	small leatherleaf bog opening
24	62259 - Bog (OI)	0.7	No	leatherleaf bog
26	510- Water (OI)	17.2	No	Little Sundog Lake
29	510- Water (OI)	8.8	No	Hickman Lake
30	6224 - Treed Bog	22.3	No	treed bog leading to lake edge. Eastern edge of stand has decent trees in 6 - 8" dbh range but quickly transitions to non productive forest land. Stunted b spruce/tamarack 3 - 5" dbh. leatherleaf
36	6220 - Alder/willow	25.8	No	tag alder, leatherleaf and snags. flooded
39	510- Water (OI)	1.9	No	Fence River
48	310 - Herbaceous Openland	1.4	No	open field
49	510- Water (OI)	2.3	No	Fence River and small acreage adjacent tag alder lowland
51	510- Water (OI)	2.0	No	bog pond and adjacent leatherleaf.
52	6220 - Alder/willow	25.6	No	tag alder river bottom adjacent to Fence R. scattered balm, b ash and lowland conifers
53	310 - Herbaceous Openland	3.1	No	open field



Stand	Cover Type	Acres	Managed Site	General Comments:
55	510- Water (OI)	3.5	No	Fence River