Compartment Review Presentation

Sault Ste. Marie Forest Management Unit

Compartment 45175
Entry Year 2021
Acreage: 1,845
County Mackinac
Management Area: Lake Michigan Shoreline

Revision Date: 2019-07-30

Stand Examiner: Andrew Krugh

Legal Description:

T42N R10W Sections 7, 8, 9, 17, & 18; Garfield Township

Identified Planning Goals:

This compartment contains the Crow Lake Pathway and the Marsh Lake Pathway along with the Big Knob Campground. It is within the Lake Michigan Shoreline Management Area. Plans for this Management Area are currently being written. A large area along the Lake Michigan shoreline is designated as a proposed old growth/natural area. Most of the compartment is closed to off-road vehicle traffic. There is a large component of cedar within the compartment, which provides a deer yarding area. Other timber types include large components of aspen and white pine, some red pine and hemlock stands, and numerous lowland areas, bogs and marshes.

Soil and topography:

This compartment consists of ridge and swale and shoreline type landforms. There is a very large component of marshes and associated Cedar and Spruce/ Fir stands. Croswell AuGres, Eastport sand (Bench Phase), AuTrain sand, Saugatuck, Markey, and Roscommon sand soils are all present in this compartment.

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

This compartment consists entirely of State of Michigan ownership and surrounding the compartment.

Unique Natural Features:

There are two stands with a heavy oak component, in this compartment that are unique to the area.

Archeological, Historical, and Cultural Features:

None.

Special Management Designations or Considerations:

Big Knob State Forest Campground is located in this compartment.

Watershed and Fisheries Considerations:

This compartment contains the Crow River, McNeil Creek, and several unnamed waterbodies. McNeil Creek is a non-designated stream less than 50' width which serves as a tributary to Lake Michigan. 100' plus 5' per 1% increase in slope; buffers are recommended to protect McNeil Creek and unnamed waterbodies in accordance with Best Management Practices (specifically stands 1, 2, 3, 4, 5, 6, 8, 11, 17, 19, 20, 21, 22, 25, 27, 30, 32, 34, 35, 37, 38, 40, 42, 43, and 44).
The southwestern region of this compartment is adjacent to the Crow River. The Crow River is designated a Type 1 trout stream less than 50' width. A 300' buffer is recommended for the Crow River in riparian areas susceptible to Aspen regeneration. For areas not susceptible to Aspen regeneration, 100' plus 5' per 1% increase in slope; buffers are recommended to protect these areas in accordance with Best Management Practices (specifically stand 41).
The southeastern region of this compartment borders Lake Michigan (specifically stand 36).

Wildlife Habitat Considerations:

Compartment 175 is part of the Lake Michigan Shoreline MA where featured wildlife species include piping plover and white-tailed deer. The eastern boundary is along the Lake Michigan shoreline, while the western boundary abuts the Simmonds Woods area. Michigan Natural Features Inventory classifies much of the landscape from the shoreline inland as wooded dune-and-swale complex, and an ecological reference area encompasses most of this area. Numerous ponds or ponded swales between upland ridges are characteristic of this type of complex and provides habitat for frogs and other wildlife. Upland areas are dominated by pine, although aspen is common especially further inland. McNeil Creek flows northeast across the compartment within approximately a half mile of the lakeshore. The entire compartment is part of deer wintering complex, and nearly the entire compartment is part of a dedicated habitat area (DHA) for core interior forest species. The cover types and habitat available in this compartment are important for species ranging from bear and bobcat to waterfowl and small migratory birds. A number of rare species have also been noted, particularly near the shoreline. Invasive Phragmites has been treated along the shoreline to help control this species and maintain the coastal habitat.

Wildlife objectives include protecting the wooded dune-and-swale complex and shoreline for waterfowl, piping plover, and other migratory birds, core interior habitat in the DHA for species like blackburnian warbler and northern parula, rare species and their habitats, and closed-canopy cover for deer wintering habitat. No treatments will take place across much of the compartment. Invasive species will be treated as necessary.

Mineral Resource and Development Concerns and/or Restrictions

The nearest active sand/gravel pit is located more than four miles to the northwest, but there is sand & gravel potential within the compartment on the uplands. There appears to be good limestone/dolostone potential in this area, and bedrock is less than 50 feet from the surface in most places. However, wetlands in the compartment could inhibit any potential mineral development. There is no known metallic mineral potential in this area, and there is no current economic oil and gas production in the UP.

Vehicle Access:

Big Knob Road originates at US Highway 2 and runs south passing through the compartment and ending at Big Knob campground.

Survey Needs:

Survey is needed to verify trespass in north east part of the compartment next to private property.

Recreational Facilities and Opportunities:

This compartment has heavy recreational use. Hunting of deer, grouse and other small game, and fishing are the primary recreational uses. The Crow Lake Pathway and the Marsh Lakes Pathway offer areas for hiking. Big Knob campground offers rustic camping on the shores of Lake Michigan and sees heavy use during the camping season.

Fire Protection:

There is limited access in this compartment. The predominantly lower ground in this compartment reduces the potential for any large-scale fires; however the potential for fires in the pine along isolated ridge tops does exist.

Additional Compartment Information:

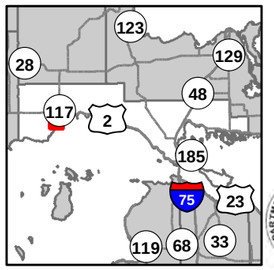
The following reports from the Inventory are attached:

- **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



N

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T42N, R10W, Sec: 7-9, 17, 18
County: Mackinac
Unit: Sault Ste. Marie
Mgmt Area: Lake Michigan Shoreline
YOE: 2021
Acres: 1,845 GIS Calculated
Examiner: Andrew Krugh
Map Revised: 8/12/2019
Map Phase: Web Post

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- Field Grade Corners
- Counties
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- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Private - Dirt / Gravel Road
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- Designated Ski Trails
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- 422 - Natural Pines
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- 429 - Mixed Upland Conifers
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- 710 - Sand/Soil
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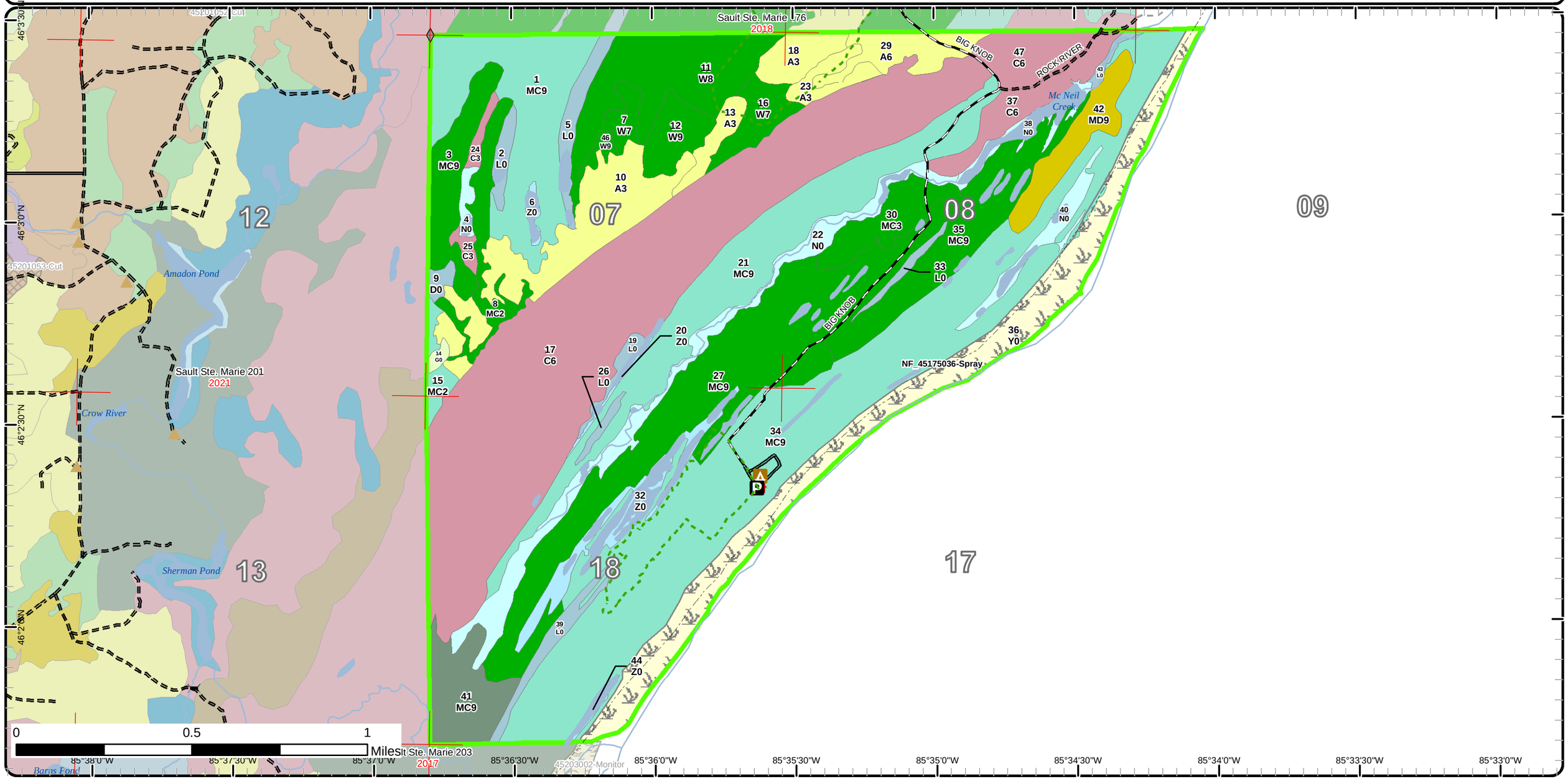

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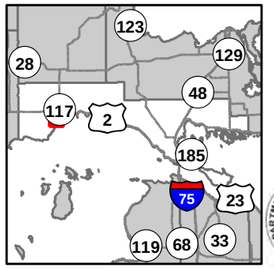

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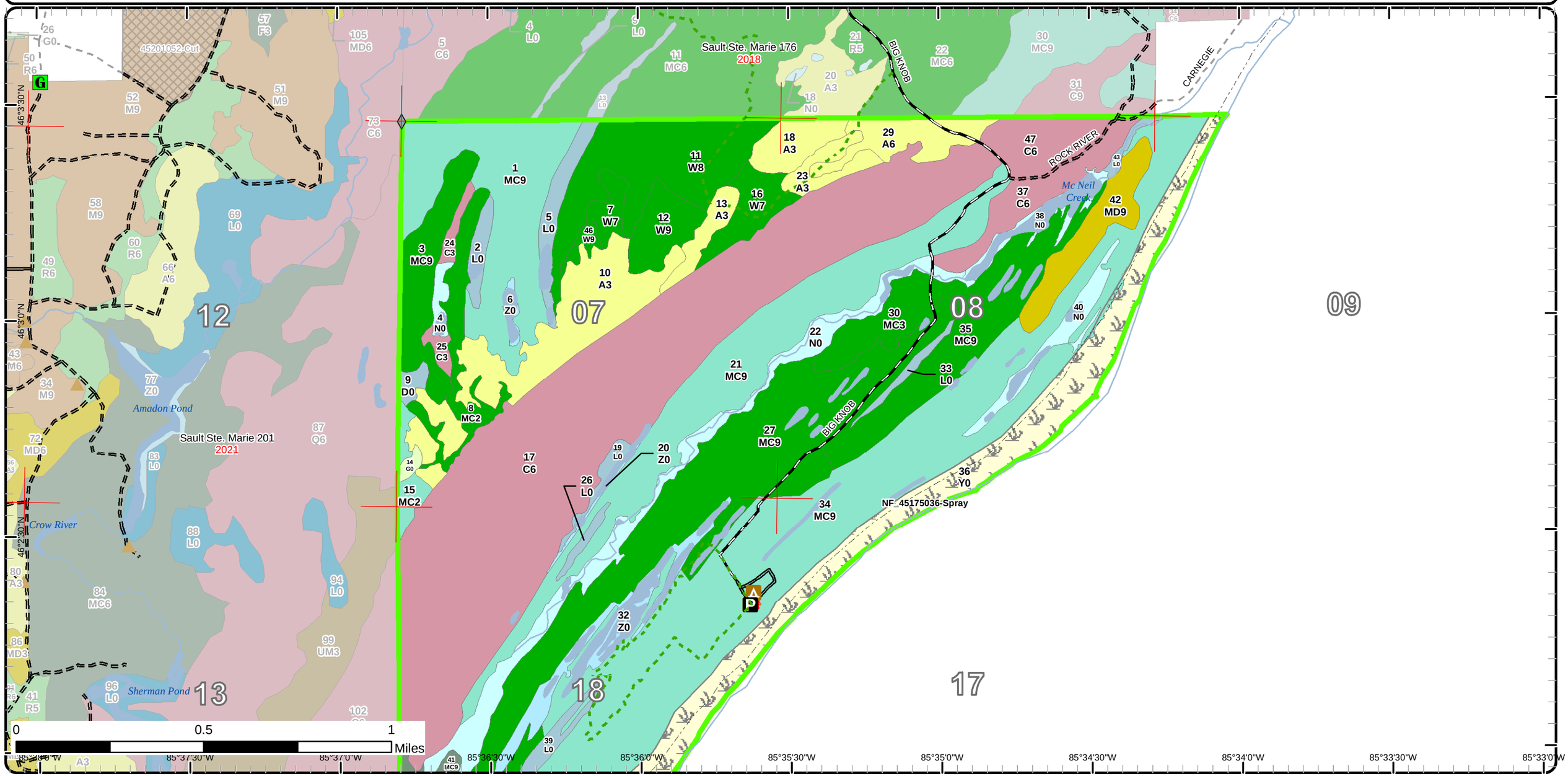

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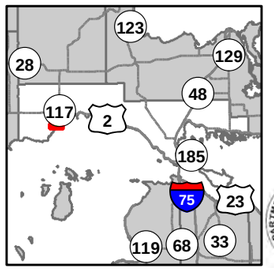

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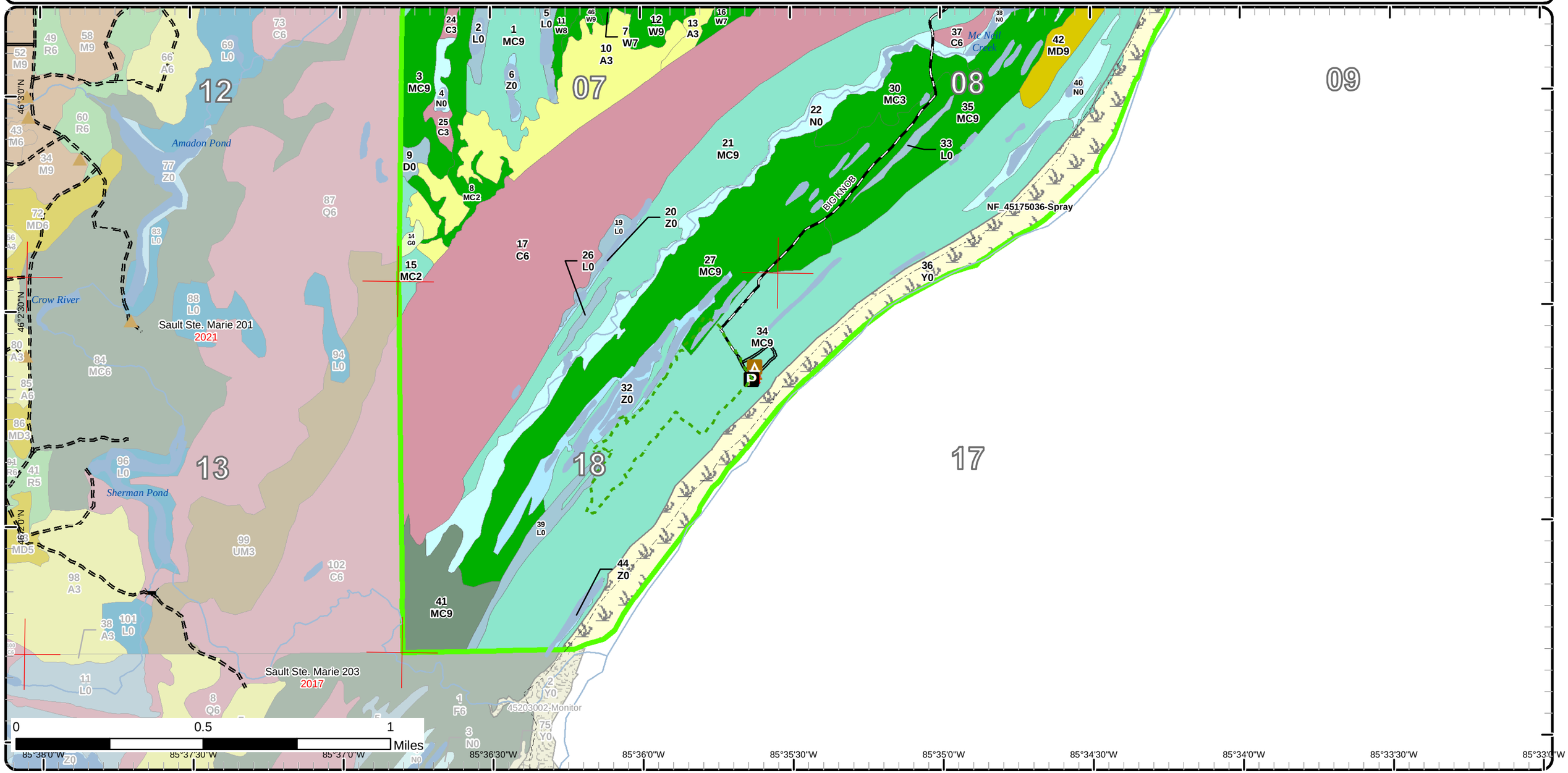
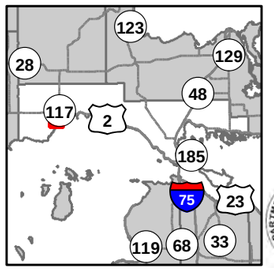


Stand Boundary Map



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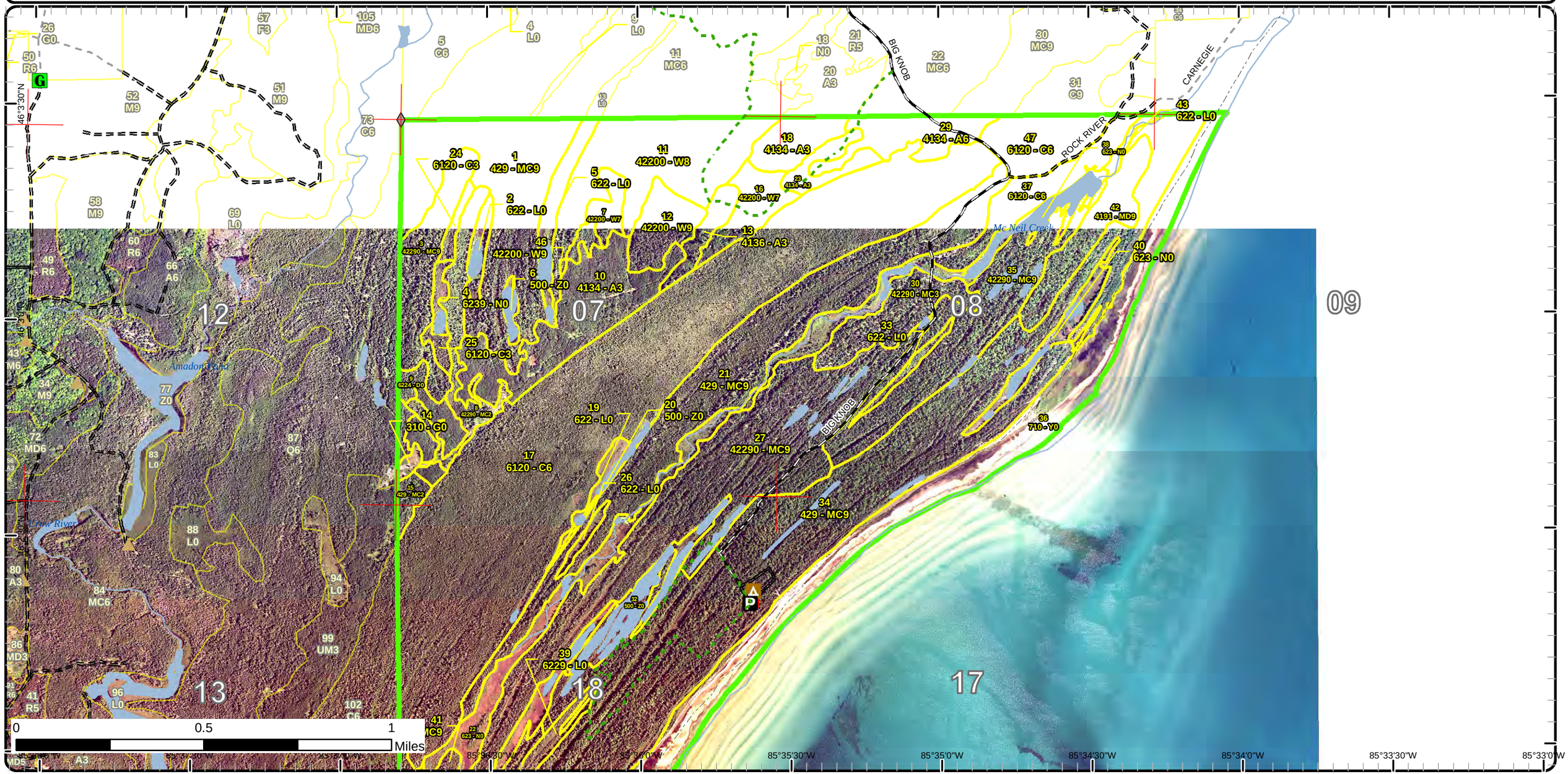

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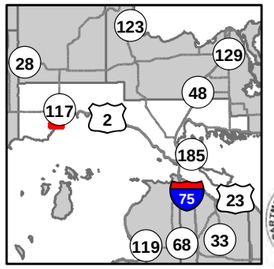

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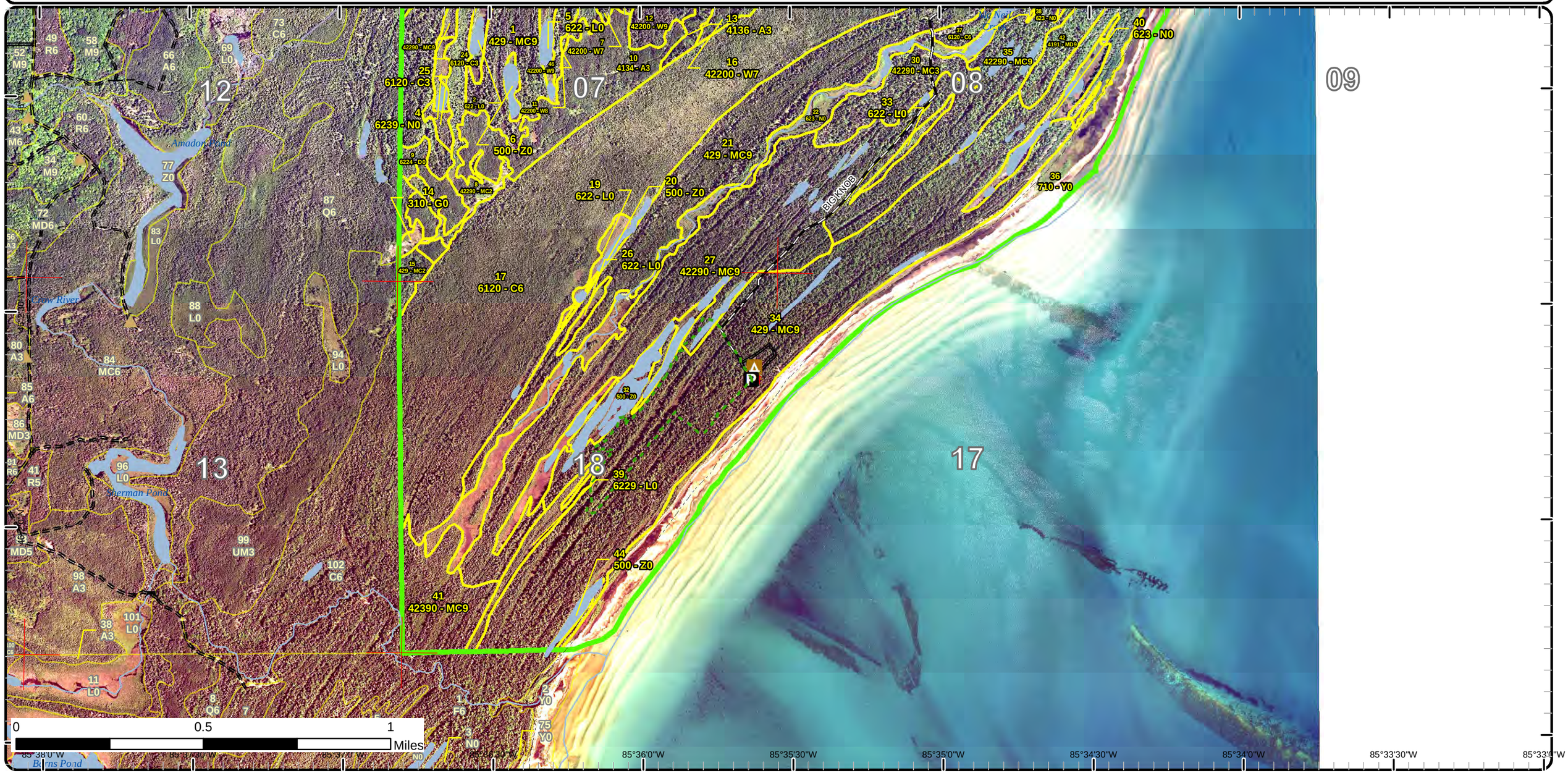
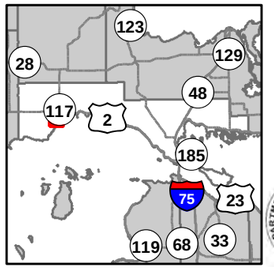


Special Conservation Areas & Site Conditions Map



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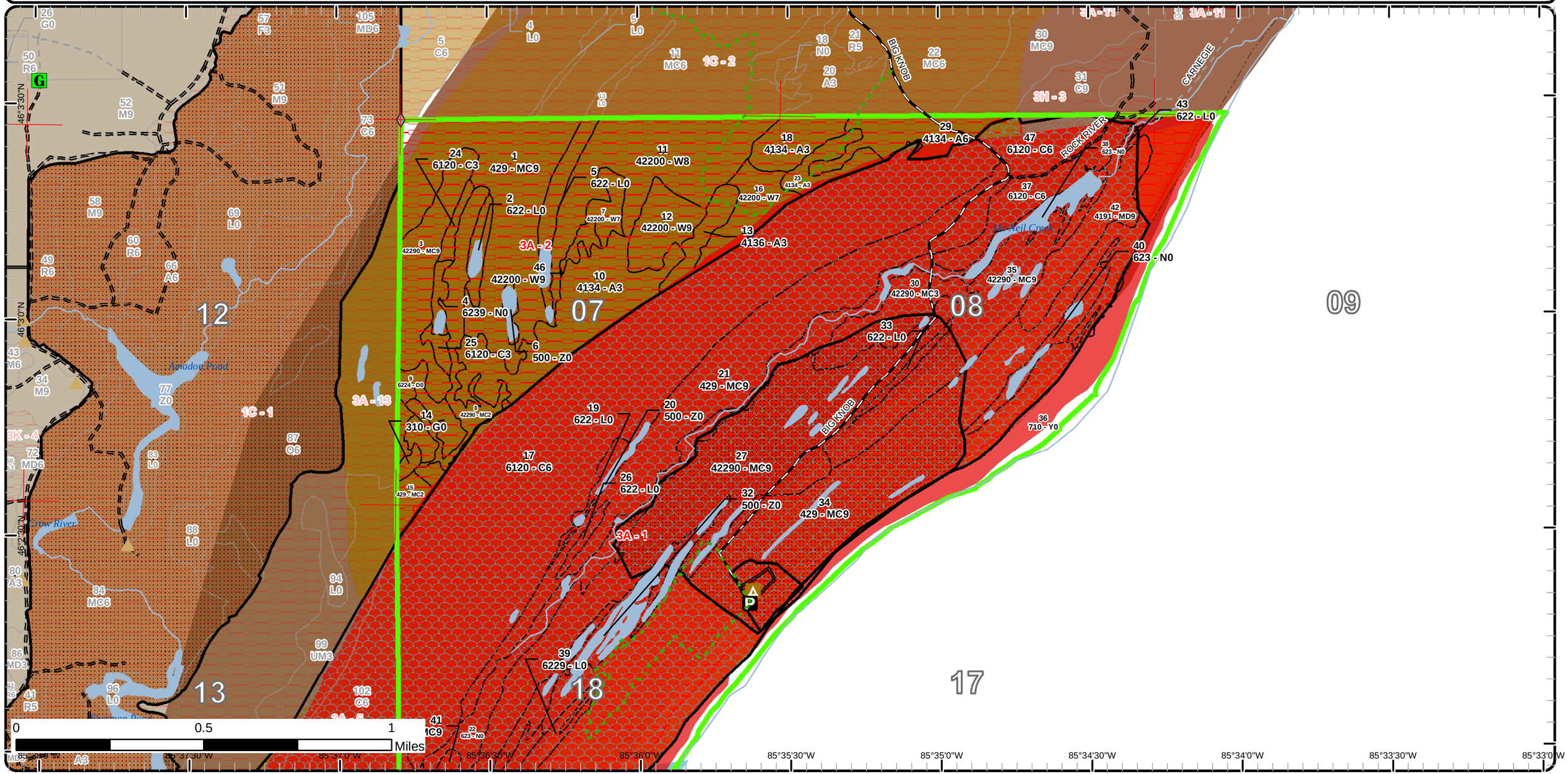
- Stand Boundaries
- SCA
- SCA Removal
- Ecological Reference Areas
- Forest Habitat Core Interior
- Dedicated Management Areas
- Cold Water Streams
- Cold Water Lakes
- Non-Dedicated Natural Areas and National Natural Landmarks
- Deer Winter Range
- State Forest Campground
- Other Habitat Area
- Possible Type 2 Old Growth



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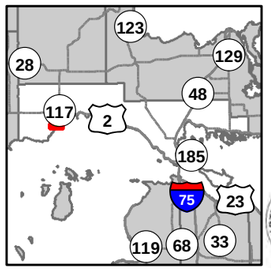

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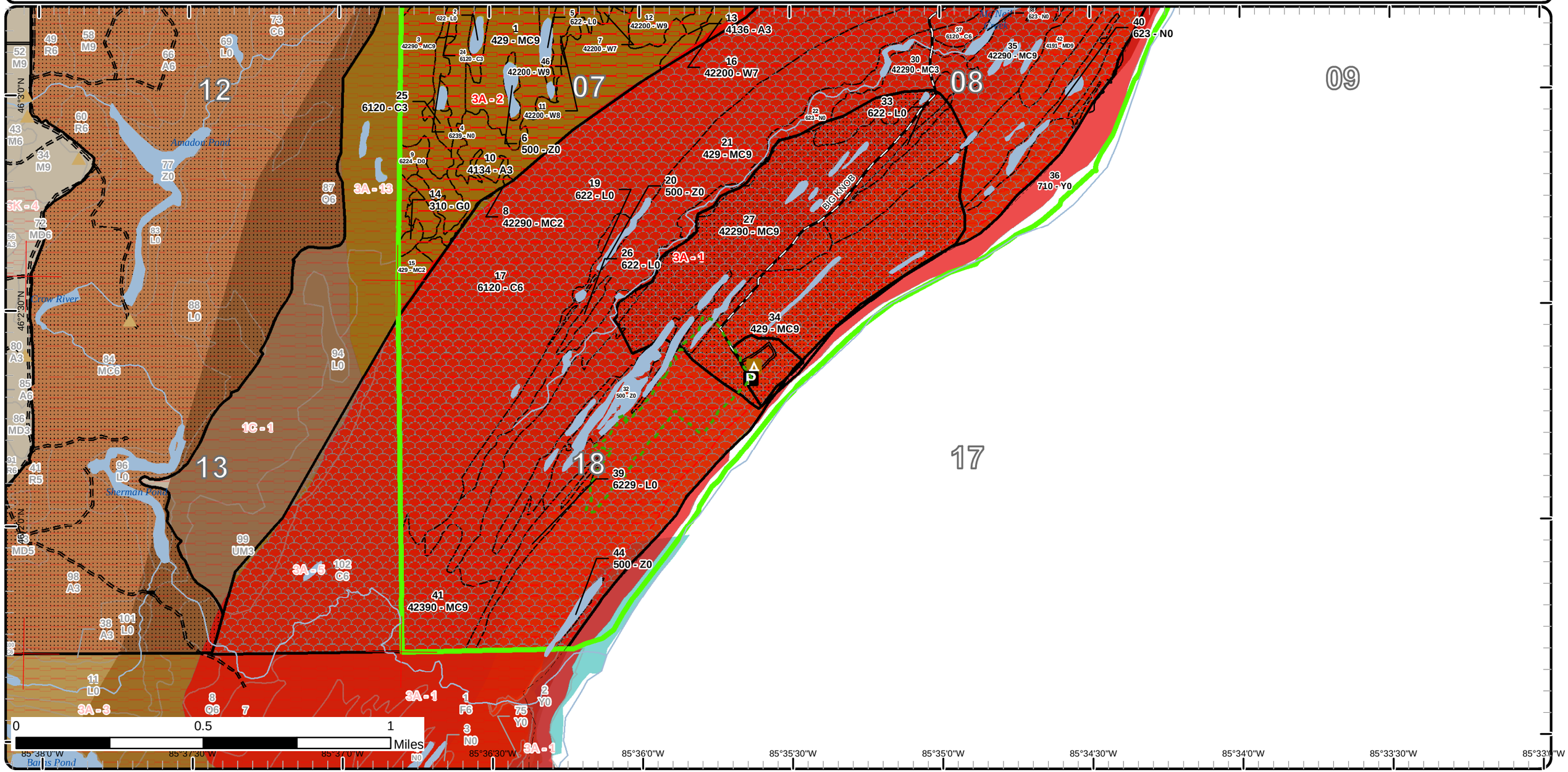

Report 1 – Total Acres by Cover Type and Age Class

Sault Ste. Marie Mgt. Unit **Compartment 175 Year of Entry 2021**

Andrew Krugh : 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	0	37	70	0	0	0	0	0	24	0	0	0	0	0	0	0	0	**131**
Cedar	0	0	0	0	0	7	0	0	0	0	0	52	0	0	355	0	0	0	**414**
Herbaceous Openland	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Lowland Shrub	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**47**
Marsh	82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**82**
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	0	0	27	0	0	0	0	0	0	0	**27**
Natural Mixed Pines	0	0	0	25	28	0	0	0	0	35	153	0	66	0	0	0	0	0	**307**
Sand, Soil	121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**120**
Treed Bog	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**4**
Upland Conifers	0	0	9	0	0	0	0	0	0	131	116	302	0	0	0	0	0	0	**557**
Water	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**38**
White Pine	0	0	0	0	0	0	0	0	4	0	68	17	27	0	0	0	0	0	**116**
Total	**294**	**0**	**46**	**95**	**28**	**7**	**0**	**0**	**4**	**190**	**364**	**371**	**93**	**0**	**355**	**0**	**0**	**0**	**1845**

Report 2 – Treatment Summary

Sault Ste. Marie Mgt. Unit

Year of Entry: 2021

Acres of Harvest

Compartment 175

Total Compartment Acres: 1,845

Commercial Harvest -

Harvests with Site Condition - 0

Next Step Harvest - 0

Habitat Cut - 0

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	0	0	0	0	0	122	0	0	0	**122**
Next Step	0	0	0	0	0	122	122	0	0	**243**
Total	**0**	**0**	**0**	**0**	**0**	**243**	**122**	**0**	**0**	**365**

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
36	NF_45175036-Spray	121.7	710 - Sand, Soil	Nonstocked		Unspecified	Pesticide	Hand Application	710 - Sand, Soil		Field Boundary

Habitat Cut: No **Site Condition:**

Prescription Specs: Spray invasive species of phragmites found along beach. Choose appropriate herbicide based on site, work instructions, and manufactures recommendations.

Next Step Treatments: Monitoring, Herbicide Use; Pesticide, Hand Application

Acceptable Regen:

Other Comment: Possible Phragmites patches along beach. Control through appropriate methods. Old next step comments: Spray as needed to control invasive species.

Proposed Start Date: 5 /3 /2019

Total Treatment Acreage Proposed: **121.7**

Report 4 – Site Conditions

Sault Ste. Marie Mgt. Unit

Andrew Krugh : Examiner

Compartment: 175

Year of Entry: 2021

Availability for Management

Total Acres	Acres Available	*Acres Avail With Condition*	Acres Not Available		Dominant Site Conditions 3A
131	0	*0*	131	**Aspen**	131
414	7	*0*	408	**Cedar**	408
2	0	*0*	2	**Herbaceous Openland**	2
47	0	*0*	47	**Lowland Shrub**	47
81	0	*0*	81	**Marsh**	81
27	0	*0*	27	**Mixed Upland Deciduous**	27
307	0	*0*	307	**Natural Mixed Pines**	307
120	120	*0*	0	**Sand, Soil**	0
4	0	*0*	4	**Treed Bog**	4
557	1	*0*	556	**Upland Conifers**	556
38	0	*0*	38	**Water**	38
116	0	*0*	116	**White Pine**	116
1,845	129		1,716	Total Forested Acres	1,716
	7%		93%	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**	**3A: Conservation Values incompatible with harvest at this time**	1,263	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: WDS ERA and DHA for pileated woodpecker, blackburnian warbler etcNatural Area Crow River Mouth						
2	**Unavailable**	**3A: Conservation Values incompatible with harvest at this time**	453	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: DHA for pileated woodpedker, blackburian warbler etc						

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
Big Knob Campground	Type 1 or Type 2 Old Growth	Possible Type 2 Old Growth Area	**SCA Removal**	1431

Comments

Does not meet old growth criteria

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.
SCA	Non-Dedicated Natural Areas and National Natural Landmarks	This category is comprised of those Natural, Wilderness and Wild Areas that have been nominated or proposed for legal dedication, but for which legal dedication by legislature has not occurred. The nomination process is defined by Part 351, Wilderness and Natural Areas, of the Natural Resources and Environmental Protection Act, 1994 PA 451. The program is administered by the DNR. Nominations require the submittal of a Natural Areas Nomination Packet to the DNR. This is an active program, with proposed sites in various stages of review. Final dedication of nominated Natural, Wilderness and Wild Areas is accomplished through legislative action.
HCVA	Coastal Environmental Areas	The public designation process is defined by Part 323, Shorelands Protection and Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451. The program is administered by the Michigan Department of Environmental Quality (DEQ). This is an inactive program with no new areas currently under consideration by the DEQ.
HCVA	Dedicated Management Areas	Such areas are dedicated by the DNR Director for specific management uses through the promulgation of rules, as governed by Part 5, Department of Natural Resources, of the NREPA (MCL 324.502(2) and 324.504). Section 38 of the Administrative Procedures Act (MCL 24.238) provides for public requests for the promulgation of rules. This is an active program, with one proposed site currently under review by the DNR.
HCVA	Legally dedicated Natural Areas, Wilderness or Wild Areas	The nomination process is defined by Part 351, Wilderness and Natural Areas, of the Natural Resources and Environmental Protection Act, 1994 PA 451. The program is administered by the DNR. Nominations require the submittal of a Natural Areas Nomination Packet to the DNR. This is an active program, with proposed sites in various stages of review. Final dedication of nominated Natural, Wilderness and Wild Areas is accomplished through legislative action.
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
1	429 - Mixed Upland Conifers	Sawtimber Well	93.6	84	111-140	N/A	Adjacent Stand were thinnned last entry.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Pole/Log	9	
Quaking Aspen	10	Pole/Log	8	
White Pine	40	Log/Pole	13	84
Red Pine	10	Log	12	
Black Spruce	20	Pole	8	122

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	Variable	Sapling
Black Spruce	High	Variable	Sapling
Red Maple	Low	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
2	622 - Lowland Shrub	Nonstocked	6.9		Unspecified	No	
3	42290 - Natural Mixed Pine	Sawtimber Well	34.7	82	81-110	N/A	regen starting to come in. looks nice

Canopy Species	% Cover	Size Class	DBH	Age
White Pine	55	Log/XLog	14	82
Red Pine	35	Log	12	
Black Spruce	10	Pole	9	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	< 5 feet	Sapling
White Pine	Low	Variable	Sapling
Black Spruce	High	Variable	Sapling
Red Pine	Low	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
4	6239 - Mixed Emergent Wetland	Nonstocked	4.3	0		No	
5	622 - Lowland Shrub	Nonstocked	13.6		Unspecified	No	
6	500 - Water	Nonstocked	3.1		Unspecified	No	
7	42200 - Natural White Pine	Sawtimber Poor	8.3	118	1-50	N/A	stand was thinned in 1995.

Canopy Species	% Cover	Size Class	DBH	Age
White Pine	100	Log/XLog	14	118

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	< 5 feet	Sapling
White Pine	Medium	< 5 feet	Sapling
White Spruce	Low	Variable	Sapling
Quaking Aspen	Medium	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
8	42290 - Natural Mixed Pine	Sapling Medium	25.0	27	Immature	N/A	

Canopy Species	% Cover	Size Class	DBH	Age
White Spruce	25	Sapling	1	
White Pine	30	Sapling/Pole	4	27
Jack Pine	30	Sapling/Pole	4	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
9	6224 - Treed Bog	Nonstocked	3.7		Immature	No	merge with c srand to east

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
10	4134 - Aspen, Spruce/Fir	Sapling Well	70.4	27		N/A	

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	70	Sapling	4	27
Bigtooth Aspen	10	Sapling	4	
Balsam Fir	10	Sapling	3	
White Spruce	10	Sapling	2	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
11	42200 - Natural White Pine	Sawtimber Medium	68.4	94	81-110	N/A	

Canopy Species	% Cover	Size Class	DBH	Age
White Pine	95	Log/XLog	13	94

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Sapling
White Pine	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
12	42200 - Natural White Pine	Sawtimber Well	18.7	115	81-110	N/A	Nice Natural pine mix of Jack and white some Aspen

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	20	Log/Pole	10	72
White Pine	60	Log/XLog	13	115
Jack Pine	20	Pole	8	73

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Sapling
Red Maple	Low	Variable	Sapling
White Pine	Medium	>20 feet	Pole

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
13	4136 - Aspen, Mixed Conifer	Sapling Well	9.8	16	Immature	N/A	regen doing good

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	70	Sapling	1	16
Bigtooth Aspen	10	Sapling	1	
Balsam Fir	10	Sapling	1	
White Pine	10	Pole	7	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
14	310 - Herbaceous Openland	Nonstocked	2.2			No	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
15	429 - Mixed Upland Conifers	Sapling Medium	8.6	16	51-80	N/A	

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	20	Sapling	3	
Balsam Fir	35	Sapling	3	16
White Spruce	10	Sapling	3	
White Pine	15	Sapling	3	
White Pine	20	Log/Pole	13	122

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
16	42200 - Natural White Pine	Sawtimber Poor	17.2	103	1-50	N/A	

Canopy Species	% Cover	Size Class	DBH	Age
White Pine	75	Log	12	103
Quaking Aspen	25	Pole	8	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Pole
White Spruce	Medium	Variable	Pole
White Pine	Medium	Variable	Pole
Red Maple	Medium	Variable	Pole
Quaking Aspen	Medium	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
17	6120 - Lowland Cedar	Poletimber Well	355.1	133		N/A	decent cedar stand

Canopy Species	% Cover	Size Class	DBH	Age
Paper Birch	10	Pole/Sapling	5	
White Spruce	10	Pole/Sapling	5	
Northern White Cedar	60	Pole	6	133
White Pine	10	Log	12	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Sapling
Black Spruce	Low	Variable	Sapling
Tag Alder	Low	Variable	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
18	4134 - Aspen, Spruce/Fir	Sapling Well	16.1	17	Immature	N/A	regen doing good

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	70	Sapling	2	17
White Pine	10	Sapling	2	
Balsam Fir	20	Sapling	2	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
19	622 - Lowland Shrub	Nonstocked	4.7		Unspecified	No	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
20	500 - Water	Nonstocked	3.0		Unspecified	No	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
21	429 - Mixed Upland Conifers	Sawtimber Well	116.4	95	141-170	N/A	variable stand, ridge and swail

Canopy Species	% Cover	Size Class	DBH	Age
Paper Birch	10	Pole	7	
Northern White Cedar	30	Pole	6	
White Pine	10	Log/XLog	15	
Red Pine	35	Log	12	95

Canopy Species	Density	Avg. Height	Size
Red Maple	Low	Variable	Sapling
Balsam Fir	Low	Variable	Sapling
White Spruce	Low	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
22	623 - Emergent Wetland	Nonstocked	50.3			No	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
23	4134 - Aspen, Spruce/Fir	Sapling Well	11.3	18	Immature	N/A	regen doing good

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	70	Sapling	1	18
Balsam Fir	20	Sapling	1	
White Spruce	10	Sapling	1	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
24	6120 - Lowland Cedar	Sapling Well	3.8	41	171-200	N/A	

Canopy Species	% Cover	Size Class	DBH	Age
Northern White Cedar	85	Sapling/Pole	4	41

25	6120 - Lowland Cedar	Sapling Well	3.2	41	171-200	N/A	

Canopy Species	% Cover	Size Class	DBH	Age
Northern White Cedar	85	Sapling/Pole	4	41

26	622 - Lowland Shrub	Nonstocked	3.0		Unspecified	No	

27	42290 - Natural Mixed Pine	Sawtimber Well	153.4	99	81-110	N/A	nice stand, big trees. runs along big knob rd. small area of white pine regen

Canopy Species	% Cover	Size Class	DBH	Age
Paper Birch	10	Pole	7	
Balsam Fir	10	Pole	6	
White Pine	20	Log/XLog	15	
Red Pine	40	Log	12	99
Jack Pine	10	Pole/Log	8	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	Variable	Sapling
White Pine	Low	5 - 10 feet	Sapling
Tag Alder	Low	Variable	Tall Shrub

29	4134 - Aspen, Spruce/Fir	Poletimber Well	23.5	84	141-170	N/A	Look at harvesting. Leave small finger and one chain buffer along Big Knob Road and the cedar to the south for retention.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	30	Log	10	
Bigtooth Aspen	40	Log	10	84
Balsam Fir	10	Pole	8	
White Spruce	10	Pole	1	
White Pine	10	Log/XLog	14	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	Variable	Sapling

30	42290 - Natural Mixed Pine	Sapling Well	27.5	34	1-50	N/A	east part has more red pine and denser logs

Canopy Species	% Cover	Size Class	DBH	Age
Balsam Fir	15	Sapling	1	
White Pine	50	Sapling	4	34
Red Pine	20	Log	12	87

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	Variable	Sapling

32	500 - Water	Nonstocked	29.0		Unspecified	No	

33	622 - Lowland Shrub	Nonstocked	4.0		Unspecified	No	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
34	429 - Mixed Upland Conifers	Sawtimber Well	301.6	102	141-170	N/A	variable ridge and swail stand. big knob campground within stand

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Log	10	
Northern White Cedar	29	Pole/Log	8	
White Pine	31	Log	12	102
Red Pine	10	Log	10	

Canopy Species	Density	Avg. Height	Size
Red Maple	Low	Variable	Sapling
Balsam Fir	Medium	Variable	Sapling
Tag Alder	Low	Variable	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
35	42290 - Natural Mixed Pine	Sawtimber Well	66.3	116	141-170	N/A	variable stand, ridge and swail, large trees, some scattered oak.

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Log	10	
Yellow Birch	10	Log	12	
White Pine	20	Log/XLog	14	
Red Pine	40	Log/XLog	14	116

Canopy Species	Density	Avg. Height	Size
Red Maple	Low	Variable	Sapling
Balsam Fir	High	5 - 10 feet	Sapling
White Pine	Low	< 5 feet	Sapling
Tag Alder	Low	Variable	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
36	710 - Sand, Soil	Nonstocked	120.5		Unspecified	No	
37	6120 - Lowland Cedar	Poletimber Well	26.4	103	201+	N/A	decent cedar, ridge and swale Variable stand

Canopy Species	% Cover	Size Class	DBH	Age
Black Spruce	10	Pole/Sapling	7	
Northern White Cedar	70	Pole/Sapling	6	103

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
38	623 - Emergent Wetland	Nonstocked	12.6		Unspecified	No	
39	6229 - Mixed lowland shrub	Nonstocked	11.5		Unspecified	No	Stand swapped from Forested to Non-Forested.
40	623 - Emergent Wetland	Nonstocked	14.0		Unspecified	No	
41	42390 - Mixed Non-Pine Upland Conifers	Sawtimber Well	36.9	84	111-140	N/A	variable stand, ridge and swale

Canopy Species	% Cover	Size Class	DBH	Age
Balsam Fir	10	Pole	6	
White Spruce	30	Pole	8	84
Northern White Cedar	20	Pole	7	
White Pine	15	Log	12	
Red Pine	20	Log	12	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	Variable	Sapling
Tag Alder	Low	Variable	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
42	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	27.4	91	141-170	N/A	red oak stand, amazing!

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	20	Log	10	
Red Oak	55	Log	12	91
White Pine	10	XLog	16	
Red Pine	10	Log	12	

Canopy Species	Density	Avg. Height	Size
Red Oak	Low	10 - 20 feet	Sapling
Balsam Fir	Low	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
43	622 - Lowland Shrub	Nonstocked	3.0		Unspecified	No	
44	500 - Water	Nonstocked	2.6		Unspecified	No	
46	42200 - Natural White Pine	Sawtimber Well	3.5	71	111-140	N/A	stand was thinned in 1995, white pine regen doing good

Canopy Species	% Cover	Size Class	DBH	Age
White Pine	75	Log/Pole	10	71
Quaking Aspen	15	Pole	5	
Red Maple	10	Pole	5	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	< 5 feet	Sapling
White Pine	Low	< 5 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
47	6120 - Lowland Cedar	Poletimber Well	25.9	103	171-200	N/A	

Canopy Species	% Cover	Size Class	DBH	Age
Black Spruce	10	Pole/Sapling	7	
Northern White Cedar	55	Pole/Sapling	6	103
Quaking Aspen	15	Pole/Log	8	

Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	Variable	Sapling