



Compartment Review Presentation

Sault Ste. Marie Forest Management Unit

Compartment 45162

Entry Year 2017

Acreage: 1,579

County Mackinac

Management Area: Lake Michigan Shoreline

Revision Date: 2015-08-06

Stand Examiner: Cory Luoto

Legal Description:

T43N-R8W Sections 19, 20, 29 & 30, Hudson Township & T43N-R9W Sections 24 & 25, Garfield Township.

Identified Planning Goals:

This compartment is located 4 miles east of Naubinway. The compartment and surrounding area is composed of a variety of different upland and lowland types and species. The old Lake Nipissing shoreline makes a dramatic break between the majority of uplands and the deer yard lowland areas. The aspen type within the compartment and the surrounding area has been managed extensively within the past 30 years. Most of the aspen within the compartment was harvested between 1972 and 1985. A large aspen type timber sale (Strickler Sale) was set up in the early 70's for Mead to supply wood to the new mill. Most of the aspen is now over the 5 inch diameter class. Some stands will be harvested to enhance the age class diversity of the aspen resources within the surrounding area. Most of the conifer stands will not be managed this year of entry. The northern hardwood types within the compartments not treated in the last decade have been proposed for a selection harvest. Some beech bark disease is present and stands will be marked and harvested according to the guidelines for management of the disease. A conifer component will be retained in all the northern hardwood stands where species are present.

Soil and topography:

The compartment transitions from the Lake Michigan shoreline north through the ridge and swale complex to the old Lake Nipissing shoreline on to the rolling upland with drainage flowing toward Lake Michigan. The ridge and swale is composed of Leafriver-Croswell-Wainola complex, Croswell-Wainola complex. The other lowland soil types are Leafriver mucky peat and Markey and Carbondale mucks. The transition along the Lake Nipissing bluff is Wallace-Alcona complex which is the soil on most of the drainages within the compartment. The majority of the uplands are Wallace sand, Pullup fine sand, Paquin sand, Borgstrom sand; and some transition soils are Caffey-Ingalls-Iosco complex, and Finch-Dawson-Pullup complex.

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

The east side of the compartment is surrounded by state lands, and to the north is state ownership except Section 18 which is in private ownership for the entire mile boundary. The west side is a mixture of state and private ownership and the south is bordered by private ownership and Lake Michigan. There is a mixture of absentee owners and permanent residences surrounding and within the compartment. The Black River Road has a settlement along both sides of the road and the Black River for over 1 mile.

Unique Natural Features:

Potential for raptors to nest in the compartment exists and care will be taken to check stands for nests and take appropriate management action to protect the species. There is a potential for some rare, threatened, and special concern plant and animal species to inhabit the compartment. Stands to be managed will be checked for species of concern. Management will be modified if species are found within those stands per management guidelines for that species. The Niagara escarpment runs through the compartment.

Archeological, Historical, and Cultural Features:

One possible old homestead within the compartment.

Special Management Designations or Considerations:

The Great Lakes Gas pipeline and Enbridge Oil pipeline right-of-ways with 2 Cloverland Electric transmission lines, run across the compartment. Contact will be made with the companies when harvesting activities take place around the right-of-ways.

Watershed and Fisheries Considerations:

Fisheries Values: Excellent.

The Black River, East Branch of the Black River, and Borgstrom Creek are found in this compartment. The rivers in this watershed are cold-water trout streams that host a fish community of brook trout, slimy sculpins, central mudminnows,

northern redbelly dace, white suckers, and brook sticklebacks. Mid-summer water temperatures of Borgstrom Creek and the E. Br. Black River are suitable for trout (upper 50's to low 60's F). The Black River also hosts runs of anadromous fish such as steelhead. This system of the Black River and its tributaries provides excellent spawning and nursery habitat for anadromous salmonids. A portion of Mattix Creek is also found in this compartment and offers little fishing opportunity.

Wildlife Habitat Considerations:

This compartment lies within the Lake Michigan Shoreline Management Area (MA) near the Black River. Featured species in the MA include piping plover and white-tailed deer. This compartment extends from the Lake Michigan shoreline north, and is part of a deer wintering complex. Presettlement vegetation included hemlock, white birch, yellow birch, sugar maple, black ash, aspen, elm, red maple, and cedar. Lowlands also contained spruce and tamarack. Currently, aspen is prevalent on the eastern side of the compartment and cedar dominates most of the western side. Most of the cedar is part of a ridge-and-swale complex located near US-2. A couple of hardwood stands exist near the northern boundary of the compartment north the escarpment, which generally separates the uplands from the cedar and lowland stands further south. Despite its proximity to the shoreline, this compartment extends to the shoreline in only a few places.

Cedar and other closed canopy conifer cover will be retained to provide cover for wintering deer as well as habitat for snowshoe hare, migratory songbirds, and other species. Part of a larger aspen stand will be regenerated to decrease stand size and increase age class diversity between aspen stands, which will benefit ruffed grouse and American woodcock. Treatments in deciduous stands will generally take place during the winter months so tops can be available as browse for wintering deer. Some northern hardwoods will be treated to increase age class and structural diversity within the stands. Shoreline areas will remain untreated unless invasive species treatments are necessary.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of lacustrine sand and gravel. The glacial drift thickness varies between 25 and 100 feet. The Silurian Engadine Group subgroups below the glacial drift. Silurian-age limestone and dolomite have been quarried to the north, northeast, and west. The area of Graymont's proposed underground limestone mine is roughly three miles to the northeast. Gravel pits are not located in the area (closest is three miles west), but there may be some potential. There is no current economic oil and gas production in the UP.

Vehicle Access:

The vehicle access is very good through most of the compartment. US – 2 Highway provides the access to the southern portion of the compartment. The Black River Road and Borgstrom Road are county maintained paved and/or good gravel roads. The Black River Road provides the access to Section 19 and the Borgstrom Road provides the access to Sections 20 and 29. The Flowing Well Road runs between the Black River and Borgstrom Roads. The Flowing Well Road has a large beaver dam in the middle. The road is no longer travelable on the private land. The two trails off the main roads give good access to all areas of the compartment except Section 25 and the south half of Section 24 which are lowlands. The Ledge and Ridge Roads are DNR maintained good dirt roads. These provide good access to the north west quarter of Section 24.

Survey Needs:

None.

Recreational Facilities and Opportunities:

The Black River State Forest Campground is just to the north of Section 19. The area is heavily used by fishers, hunters, campers, berry and mushroom pickers, motorized vehicle users and nature viewers. The close proximity to the private lands and the campground makes the area more enticing for recreational users.

Fire Protection:

The fire potential is low to moderate in this area. The amount of private ownership surrounding the state lands increases the chances for a debris fire escape. The area has good access for except for the lowland areas. The potential for ground fire is high in the lowland if there is a start in these areas.

Additional Compartment Information:

A Forest Treatment Proposal (FTP) has been approved to treat invasive phragmites along the Lake Michigan shoreline. Treatments as per work instructions and FTP may occur along the shoreline as necessary to eliminate the colonizing invasive phragmites.

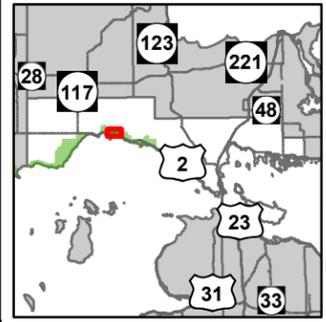
The following reports from the Inventory are attached:

- 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:

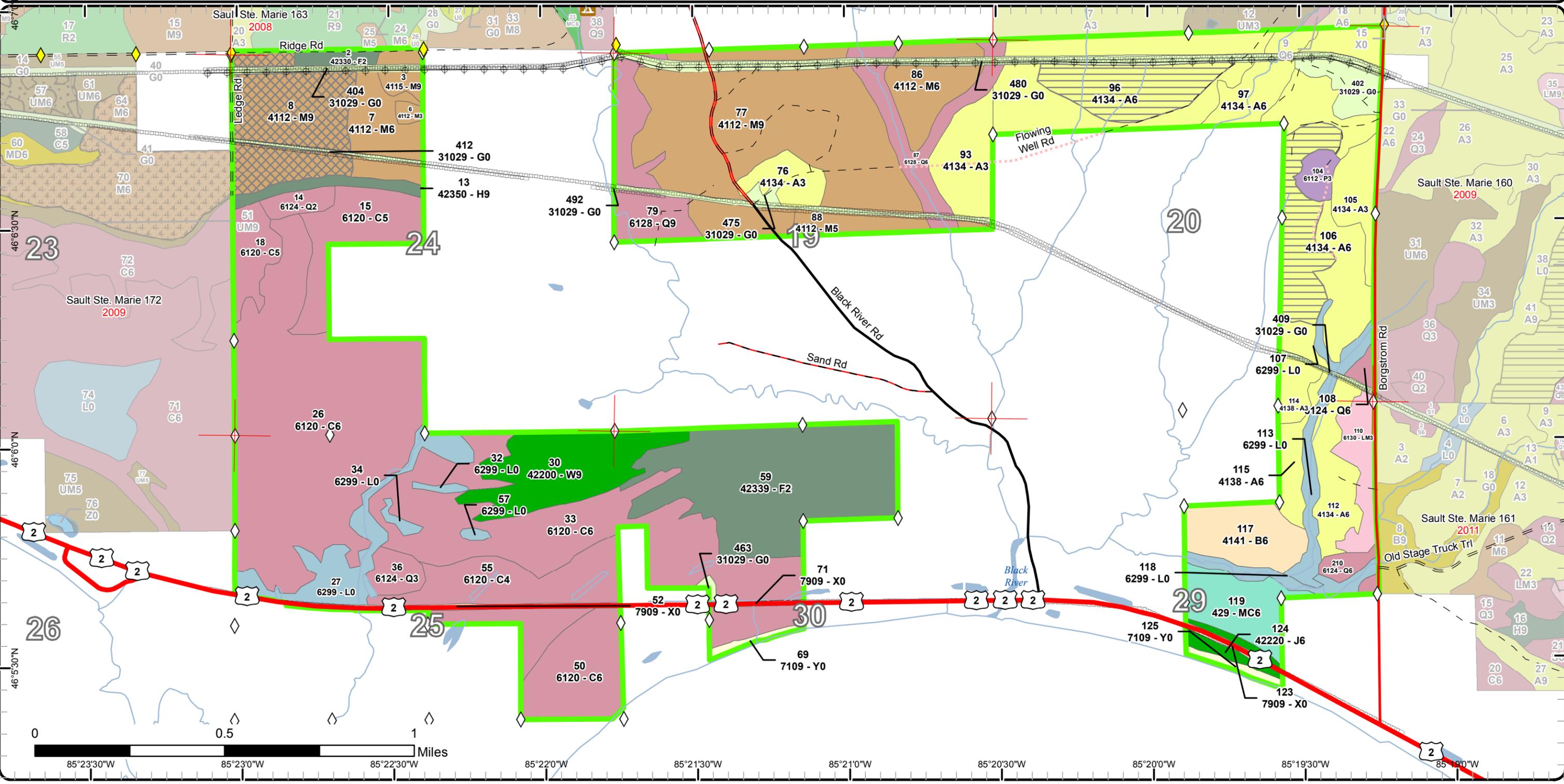
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments

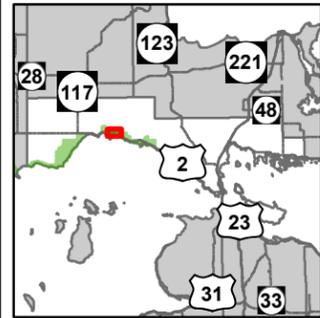


Compartment: 162
 T43N, R08W, Sec: 19, 20, 29, 30
 T43N, R09W, Sec: 24, 25
 County: Mackinac
 Unit: Sault Ste. Marie
 Mgmt Area: Lake Michigan Shoreline
 YOE: 2017
 Acres: 1579 GIS Calculated
 Examiner: Cory Luoto
 Map Revised: 8/10/2015
 Map Phase: Review

- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- ⋯ Closed Roads
- ▲ Campground
- Rivers
- Lakes
- Pipeline
- ⊕ Powerline
- Treatments
- ▨ Selection (Group, Single Tree)
- ▨ Clearcut (w/Reserves)
- Forest Covertype
- 411 - Northern Hardwood
- 413 - Aspen
- 414 - Other Upland Deciduous
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- Non-Forest Covertype
- 310 - Herbaceous Openland
- 622 - Lowland Shrub
- 710 - Sand/Soil
- 790 - Other Bare/Sparsely Vegetated

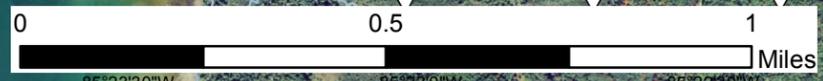
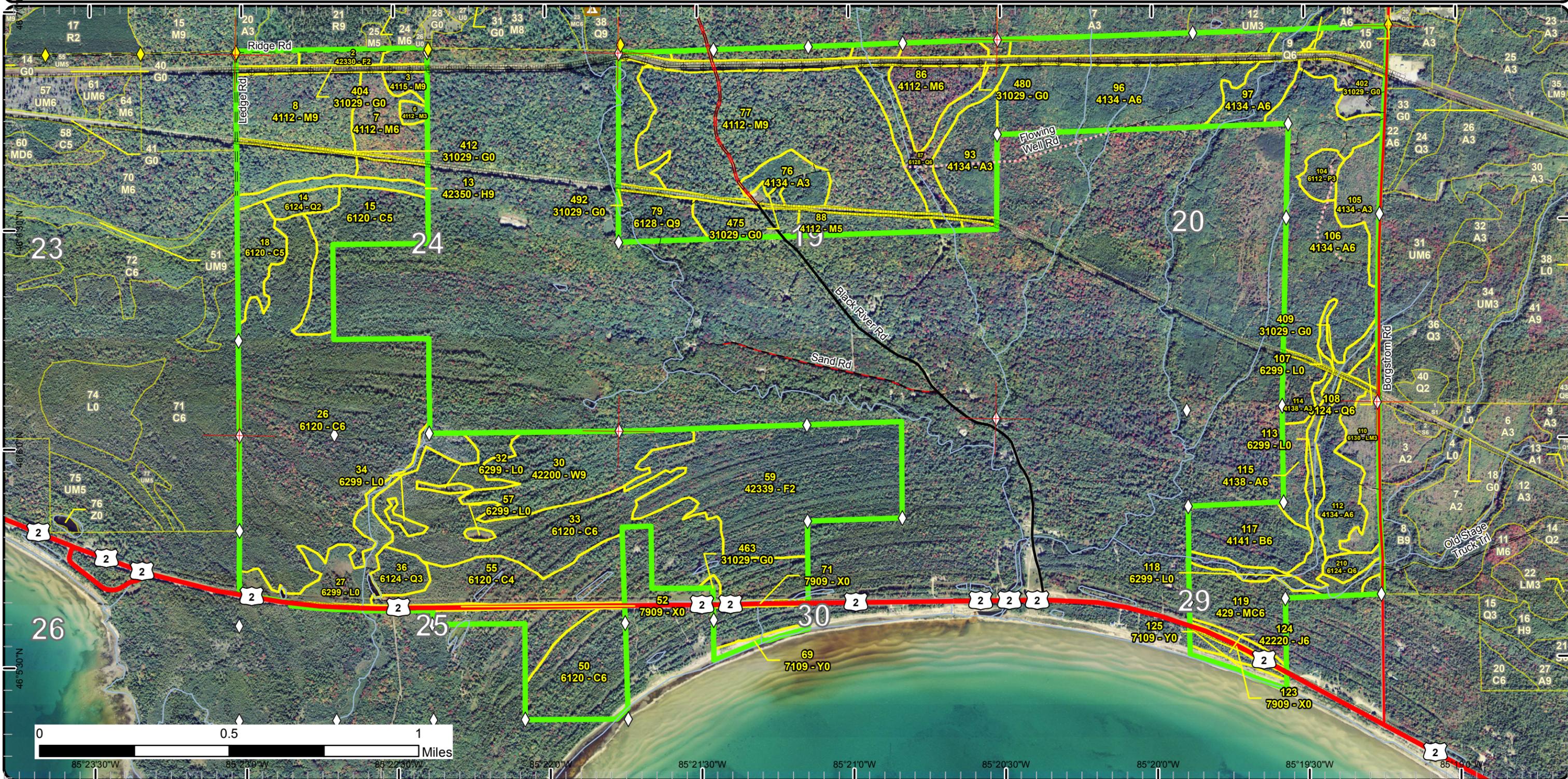


Stand Boundary Map



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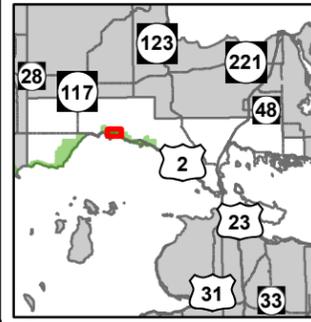
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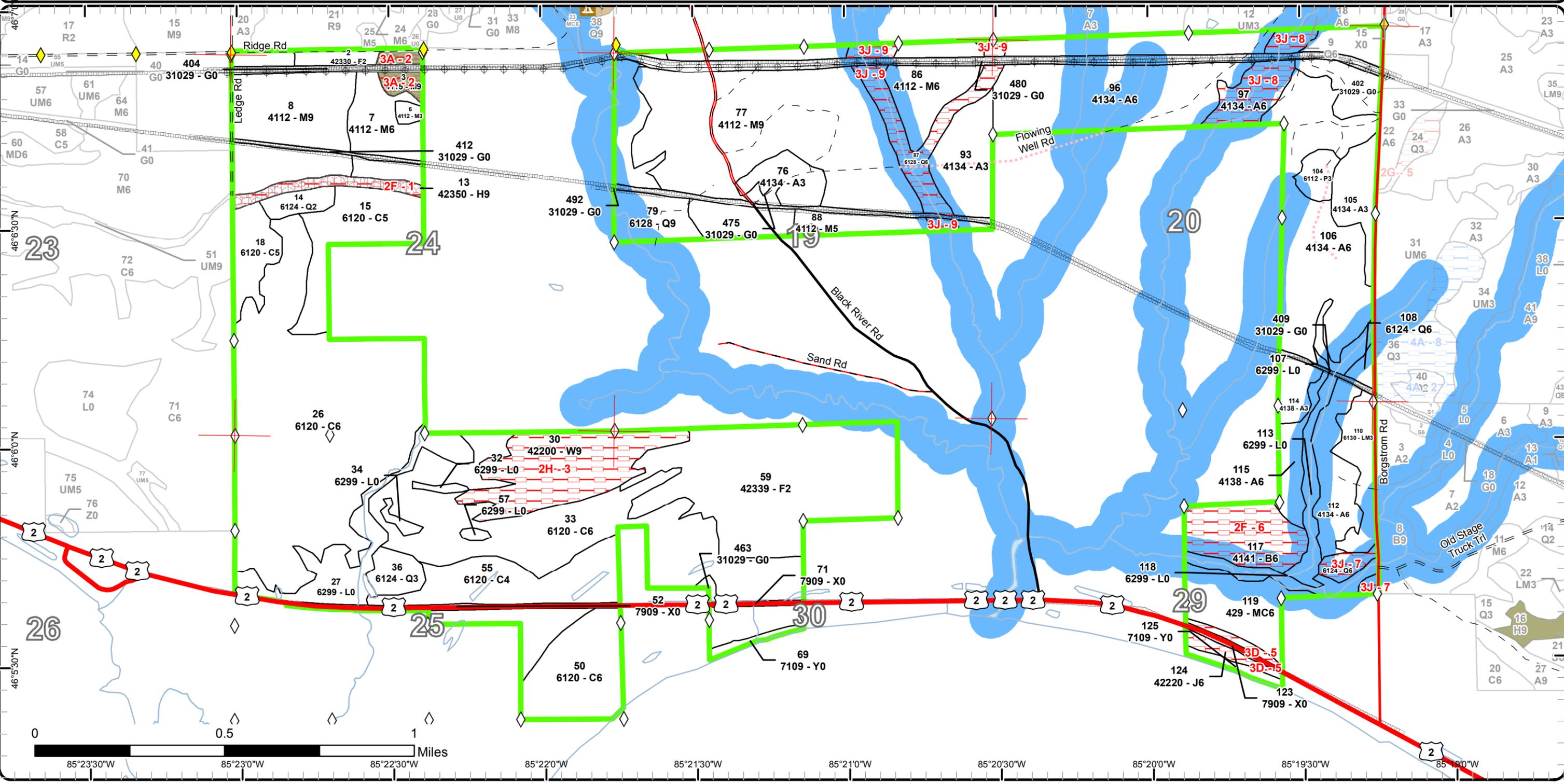
85°23'30"W 85°23'0"W 85°22'30"W 85°22'0"W 85°21'30"W 85°21'0"W 85°20'30"W 85°20'0"W 85°19'30"W

Special Conservation Areas & Site Conditions Map

Compartment: 162
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 T43N, R09W, Sec: 24, 25
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- ▲ Campground
- Rivers
- Pipeline
- Powerline
- Stand Boundaries
- Recommendation
- SCA Removal Site Condition
- Unavailable
- Unavailable Factors
- 2F: Too steep
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- 3A: Potential old growth / biodiversity
- 3D: Recreational / Scenic values
- 3J: Water quality / BMPs (stream, river, or lake)
- Special Conservation Areas
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer
- State Forest Campground
- Potential Old Growth
- Other SCA (No Category Assigned)



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	0	18	49	91	127	0	0	20	0	0	0	0	0	0	0	0	0	305
Bare/Sparsely Vegetated	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	472	0	0	0	0	0	472
Hemlock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	9
Herbaceous Openland	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65
Jack Pine	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	8
Lowland Aspen/Balsam Poplar	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Lowland Conifers	0	0	0	0	16	0	0	0	3	0	7	0	29	0	0	0	0	33	88
Lowland Mixed Forest	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Lowland Shrub	68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68
Northern Hardwood	0	0	0	13	2	0	0	0	0	0	0	0	0	0	0	0	0	274	289
Paper Birch	0	0	0	0	0	0	0	0	0	0	29	0	0	0	0	0	0	0	29
Sand, Soil	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Upland Conifers	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0	0	0	0	28
Upland Spruce/Fir	0	0	6	0	0	114	0	0	0	0	0	0	0	0	0	0	0	0	120
White Pine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51	51
Total	153	18	31	62	109	241	0	0	31	0	64	0	501	0	0	0	9	358	1577



Report 2 – Treatment Summary

Sault Ste. Marie Mgt. Unit
Year of Entry: 2017

Acres of Harvest

Compartment 162
Total Compartment Acres: 1,579

Commercial Harvest - 127
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	66	0	0	0	0	0	0	0	0	66
Northern Hardwood	0	61	0	0	0	0	0	0	0	61
Total	66	61	0	0	0	0	0	0	0	127

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	127	0	0	0	0	0	0	0	0	127
Next Step	0	0	0	0	0	127	0	0	0	127
Total	127	0	0	0	0	127	0	0	0	255



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
8	45162008-Cut	60.8	4112 - Maple, Beech, Cherry Association	Sawtimber Well	95	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Proposal

Habitat Cut: No

Site Condition:

Prescription Mark stand to 80 to 90 Basal Area. Retain some beech with the smooth bark and wildlife trees. Some ironwood, basswood and all junberry and conifer should be left. Some larger canopy gaps may be desirable around the cherry and yellow birch if possible to regenerate those species and enhance the advanced regeneration present. Winter cut (Dec.1-Mar. 31) to allow tops to be available as browse for wintering deer.

Next Step
Treatments:

Acceptable Maple, cherry, beech, paper and yellow birch, basswood, aspen and ironwood.
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

96	45162096-Cut	34.5	4134 - Aspen, Spruce/Fir	Poletimber Well	33	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription Cut all deciduous 2" or more and conifer 4" or more. Leave a representative, healthy, mature tree spaced every 75ft (this will leave 8 trees per acre). Winter cut to allow tops to be available as browse for wintering deer--end treatment by May 1 unless permission is received.

Next Step
Treatments:

Acceptable Aspen, maple, cherry, beech, yellow and paper birch, ironwood, balsam fir, white spruce, black spruce, cedar, tamarack and white pine.
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

106	45162106-Cut	32.0	4134 - Aspen, Spruce/Fir	Poletimber Well	42	81-110	Harvest	Clearcut with Retention	413 - Aspen	Two-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription Cut all deciduous 2" or more and conifer 4" or more. Leave a representative, healthy, mature tree spaced every 75ft (this will leave 8 trees per acre). Winter cut to allow tops to be available as browse for wintering deer--end treatment by May 1 unless permission is received.

Next Step
Treatments:

Acceptable Aspen, maple, cherry, beech, yellow and paper birch, ironwood, balsam fir, white spruce, black spruce, cedar, tamarack and white pine.
Regen:

Other Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

Total Treatment Acreage Proposed: 127.3

Dominant Site Conditions

	2F	2H	3A	3D	3J
Aspen					20
Bare/Sparsely Vegetated					
Cedar					
Hemlock	9				
Herbaceous Openland					
Jack Pine				8	
Lowland Aspen/Balsam Poplar					
Lowland Conifers					36
Lowland Mixed Forest					
Lowland Shrub					
Northern Hardwood			7		
Paper Birch	29				
Sand, Soil					
Upland Conifers					
Upland Spruce/Fir					
White Pine		51			
Total Forested Acres	39	51	7	8	56
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 Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	2F: Too steep	9	3A: Potential old growth / biodiversity	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	3A: Potential old growth / biodiversity	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 5 – Site Conditions

Sault Ste. Marie Mgt. Unit

Cory Luoto : Examiner

Compartment: 162

Year of Entry: 2017

3	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	51	3A: Potential old growth / biodiversity	Unspecified	Unspecified	Unspecified
Comments:							
5	Unavailable	3D: Recreational / Scenic values	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Unavailable	2F: Too steep	30	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							
7	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
8	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	20	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
9	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	29	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							



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
Unspecified Comments Does not meet SCA criteria	Other SCA		SCA Removal	9
Unspecified Comments Does not meet POG criteria	Potential Old Growth		SCA Removal	4
Unspecified Comments Does not meet POG criteria	Potential Old Growth		SCA Removal	2



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 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	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	42330 - Upland Fir	Sapling Medium	5.9	14	1-50	Harvested on In Between Sale Again was a clean up sale from In Between sale and was closed in 2001. Mixed regeneration 5-20' consisting of balsam fir, white spruce, red maple, bigtooth aspen and beech. Balsam fir is the dominant species of the stand and there are very few beech left. There are a few white pine from 1-10'.
3	4115 - Y.Birch, Hemlock NH	Sawtimber Well	7.2	110	111-140	More unique stand with hemlock, red maple, white pine, and yellow birch of larger diameter in areas. May leave stand for diversity. Some areas of heavier fir regeneration and other areas of mostly red maple and beach with browse on the maple. The highest concentration of hemlock is north of the pipeline.
6	4112 - Maple, Beech, Cherry Association	Sapling Well	2.4	31	1-50	Harvested in 1984 to be managed as brush or grass opening. Has regenerated to a stand of 20-30 feet tall of red maple and balsam fir.
7	4112 - Maple, Beech, Cherry Association	Poletimber Well	26.3	78	81-110	Cleaned up after Ledge Road Hardwood sale was closed with not all marked trees harvested. Small sale to clean up the marked trees in small area in the stand. Ridge Road Firewood #101-07-01 completed 07/05/2010. Areas of marked trees not cut creating a few areas of basal area from 110-160. Overall 110 BA and recommend to leave for next inventory cycle. Deer browse on maple regeneration.
8	4112 - Maple, Beech, Cherry Association	Sawtimber Well	60.8	95	111-140	The few remaining beech have died. High beech sub canopy with maple growing under the beech.
13	42350 - Upland Hemlock	Sawtimber Well	9.1	180	201+	The old lake Nipissing shoreline with a very steep sidehill between the upland and swamp. Large hemlock and white pine present in the stand. The stand is entirely on the very steep sidehill. No sub canopy except for red maple on the edge of the stand.
14	6124 - Lowland Spruce-Fir	Sapling Medium	7.3	35	Unspecified	Cut for emergency deer feed approximately between 1978 to 1981. The stand is at the bottom of the old lake Nipissing shoreline. There is heavy deer use in the stand.
15	6120 - Lowland Cedar	Poletimber Medium	35.1	115	51-80	Deer yard area with heavy use. Some areas cut in 1940 to 1950.
18	6120 - Lowland Cedar	Poletimber Medium	16.8	115	1-50	Deer yard area with heavy use. Some areas cut in 1940 to 1950.
26	6120 - Lowland Cedar	Poletimber Well	190.4	115	51-80	This is the Kitchen Swamp. Deer yard area with heavy use and small creeks flowing thru stand. Typical Lake Michigan ridge and swale area.
30	42200 - Natural White Pine	Sawtimber Well	51.0	122	171-200	Lake Michigan ridge and swale stand. This stand has a lot more white pine than cedar unlike the other stands in the area. Slightly more upland than lowland.
33	6120 - Lowland Cedar	Poletimber Well	131.9	115	81-110	This is the Kitchen Swamp. Deer yard area with heavy use and small creeks flowing thru stand. Typical Lake Michigan ridge and swale area.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
36	6124 - Lowland Spruce-Fir	Sapling Well	9.4	33	Immature	Harvested in 1982. Some deer use within the stand.
50	6120 - Lowland Cedar	Poletimber Well	39.3	115	81-110	Thick cedar stand with heavy deer use in the stand. Stand goes down to Lake Michigan.
55	6120 - Lowland Cedar	Poletimber Poor	57.7	115	1-50	Poor quality cedar stand with some flooding occurring in the stand. Along US - 2 highway will leave for deer yard and aesthetics.
59	42339 - Upland Spruce/Fir (OI)	Sapling Medium	113.6	40	Unspecified	OPIC - FMD: Harvested in the mid 1970's which is a ridge and swale stand. Has balsam fir, spruce, white birch, aspen, red maple, cedar, cherry, white pine, with some tag alder in the swales. All trees are 10 to 20 feet tall mixture.
76	4134 - Aspen, Spruce/Fir	Sapling Well	13.8	27	1-50	Harvested in 1988, good aspen regeneration.
77	4112 - Maple, Beech, Cherry Association	Sawtimber Well	153.5	77	81-110	Thinned in 2008 Washout Hardwoods sale. Significant amount of xlog red maple in the stand. Maple regeneration is coming in the best on the west side of Black River Road and south of the pipeline. The other areas have greater beech regeneration.
79	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Well	33.3	115	111-140	Drainage into Black River and Black River influence zone. Steep slope, two small streams and Black River.
86	4112 - Maple, Beech, Cherry Association	Poletimber Well	25.8	86	81-110	Stand was cut last entry. Heavy deer browse.
87	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	29.3	115	81-110	Stand which serves as a buffer for the streams which flow into the Black River.
88	4112 - Maple, Beech, Cherry Association	Poletimber Medium	12.8	27	51-80	Harvested in 1988 with some overstory trees retained.
93	4134 - Aspen, Spruce/Fir	Sapling Well	26.3	27	Immature	Regeneration is doing great. Stand is just starting to transition into a pole stand.
96	4134 - Aspen, Spruce/Fir	Poletimber Well	91.3	33	81-110	Stand was cut in 1982. Good mixture of species with some juneberry, maple, spruce, balsam fir, and some white and yellow birch. May want to cut a portion to add some age class diversity in the area.
97	4134 - Aspen, Spruce/Fir	Poletimber Well	20.1	77	111-140	Drainage corridor for Borgstrom Creek. Steep banks down to the stream. Good mixture of understory species with some maple, spruce, balsam fir, and tag alder along stream. Some mortality to the aspen.
104	6112 - Lowland Aspen	Sapling Well	7.2	17	Immature	Stand was cut in 1998. Regeneration is doing really good.
105	4134 - Aspen, Spruce/Fir	Sapling Well	17.6	17	Immature	Stand was cut in 1998. Regeneration is doing really good.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
106	4134 - Aspen, Spruce/Fir	Poletimber Well	91.1	42	81-110	Stand was cut between 1973 and 1979. A nice Mackinac Mix stand. We may want to cut a portion to add some age class diversity in the area.
108	6124 - Lowland Spruce- Fir	Poletimber Well	3.3	72	111-140	Small stand that has been left as a buffer along the creek and Borgstrom Road.
110	6130 - Fir, Aspen, Maple	Sapling Well	18.5	5	Immature	
112	4134 - Aspen, Spruce/Fir	Poletimber Well	23.9	42	81-110	Nice Mackinac mix stand. Look at harvesting next entry.
114	4138 - Aspen (OI)	Sapling Well	9.4	23	Immature	OPIC - FMD: Aspen regeneration is 10 to 20 feet tall with some cherry, balsam fir, red maple and spruce.
115	4138 - Aspen (OI)	Poletimber Well	12.5	42	81-110	OPIC - FMD: Part of the Strickler Sale cut about in 1973. Good mixture of species with some maple, spruce, balsam fir, and some cherry. Understory is balsam fir and maple of 1 to 15 feet tall.
117	4141 - Birch (OI)	Poletimber Well	29.5	95	51-80	OPIC - FMD: Mackinac mix stand with ridges and swales. Mostly is birch, aspen, balsam fir, and spruce with white pine on the ridges. Heavy mortality occurring within the stands. Very difficult access down a very steep slope. Some areas are real wet. Understory is spruce and balsam fir of 2 to 15 feet tall.
119	429 - Mixed Upland Conifers	Poletimber Well	28.0	95	51-80	Poor quality stand with ridges and swales with some wet area.
124	42220 - Natural Jack Pine	Poletimber Well	7.7	75	111-140	Small jack pine stand on south and north side of US -2 highway to leave for aesthetics.
210	6124 - Lowland Spruce- Fir	Poletimber Well	6.8	95	111-140	Mackinac mix stand with all types of species present. This portion of the stand was left when the original stand was harvested. It is the buffer for the east branch of the Black River. There is also a small access site to the river off of Borgstrom Road. Stand will be left.



Stand	Cover Type	Acres	Managed Site	General Comments:
27	6299 - Lowland Shrub (OI)	32.5	No	OPIC - FMD: Mattix Creek flows through the tag alder brush stand.
32	6299 - Lowland Shrub (OI)	1.7	No	OPIC - FMD: Tag alder areas with some flow thru the stand.
34	6299 - Lowland Shrub (OI)	2.2	No	OPIC - FMD: Tag alder areas with some flow thru the stand.
52	7909 - Nonstocked (OI)	7.8	No	OPIC - FMD: US - 2 Highway R.O.W. zone.
57	6299 - Lowland Shrub (OI)	1.4	No	OPIC - FMD: Tag alder areas with some flow thru the stand.
69	7109 - Sand (OI)	3.1	No	OPIC - FMD: Lake Michigan beach and sand dune.
71	7909 - Nonstocked (OI)	2.2	No	OPIC - FMD: US - 2 Highway R.O.W. zone.
107	6299 - Lowland Shrub (OI)	6.3	No	OPIC - FMD: Intermittent stream corridor with tag alder present. Buffer strip along the stream.
113	6299 - Lowland Shrub (OI)	12.8	No	OPIC - FMD: Intermittent stream corridor with tag alder present. Buffer strip along the stream. Small beaver pond present some of the time just north of closed road.
118	6299 - Lowland Shrub (OI)	11.2	No	OPIC - FMD: East Branch of Black River corridor with tag alder present and few trees along the edge. Buffer strip along the river. Very steep in areas.
123	7909 - Nonstocked (OI)	2.8	No	OPIC - FMD: US - 2 Highway R.O.W. zone.
125	7109 - Sand (OI)	4.0	No	OPIC - FMD: Lake Michigan beach and sand dune.
402	31029 - Grass (OI)	12.7	No	OPIC - FMD: Opening on the south side of the pipeline. Some aspen and maple encroaching into the opening. Has a few apple trees present. See locked comments box.
404	31029 - Grass (OI)	6.6	No	OPIC - FMD: Enbridge Oil Pipeline and Cloverland Electric powerline row with the pipeline on north side and transmission line on south side. Mostly grass with some blueberry, raspberry and trees encroaching. Pipeline and transmission electric row is maintained mechanically and with herbicide applications under the specifications of the land use permit.
409	31029 - Grass (OI)	1.9	No	OPIC - FMD: Great Lakes Gas pipeline r.o.w. opening. Maintained by mechanical or herbicide applications according to the land use permit specifications.
412	31029 - Grass (OI)	3.1	No	OPIC - FMD: Great Lakes Gas pipeline r.o.w. opening. Maintained by mechanical or herbicide applications according to the land use permit specifications.



Stand	Cover Type	Acres	Managed Site	General Comments:
463	31029 - Grass (OI)	1.2	No	OPIC - FMD: Small opening from the old Timbercrest campground. Mostly still open with grasses with few balsam fir encroaching.
475	31029 - Grass (OI)	2.3	Yes	OPIC - FMD: Treat if the opening is to be maintained or wait and treat with stand 76 when harvested.
480	31029 - Grass (OI)	29.4	No	OPIC - FMD: Enbridge Oil Pipeline and Cloverland Electric powerline row with the pipeline on north side and transmission line on south side. Mostly grass with some blueberry, raspberry and trees encroaching. Pipeline and electric transmission line are maintained with mechanical and herbicide applications under the specifications of the land use permit.
492	31029 - Grass (OI)	7.6	No	OPIC - FMD: Great Lakes Gas pipeline r.o.w. opening. Maintained by mechanical or herbicide applications according to the land use permit specifications.