



Compartment Review Presentation

Sault Ste. Marie Forest Management Unit

Compartment 45168

Entry Year 2019

Acreage: 1,025

County Mackinac

Management Area: Sage Truck Trail

Revision Date: 2017-08-07

Stand Examiner: Cory Luoto

Legal Description:

T44N-R8W Section 5 & E1/2NW, N1/2NE, SWNW, SE1/4, & SESW Section 6; Hudson Township

Identified Planning Goals:

The compartment lies 5 miles north of Garnet on the Luce-Mackinac County border. This compartment over the last twenty years was actively managed to promote age class diversity in the aspen/mixed upland deciduous/mixed upland forest stands. These stands from last year and previous harvesting cycles have increased the aspen/mixed deciduous stands into the younger age classes within this compartment. The aspen/mixed deciduous stands have regenerated well with species diversity within the stands. Some of the older aspen/mixed deciduous stands are proposed for treatment to further increase the age class diversity. Some of the northern hardwood stands have proposed selection harvests prescribed. The species diversity within the stands will be maintained. Beech bark disease is prevalent throughout the hardwood stands. Some beech will be retained in all stands and special attention will be to look for resistant trees.

Soil and topography:

The compartment is mostly composed of outwash plains and ground moraines with the upland stand having soils composed of Wallace sand, Wallace-Alcona complex, Amadon-Longrie sandy loams, Longrie-Battydoe stony complex, Battydoe, stony-Wallace complex, Battydoe fine sandy loam, Menominee loamy sand, Pullup fine sand, Kalkaska sand and grading into Paquin sand, and Wallace-Spot complex. The terrain varies from nearly level to steep. There are stony areas with limestone bedrock at the surface. There are both sand (Udipsammens & Udorthents) and limestone pit locations within the compartment. The lowland soils are mostly Spot-Finch Complex, Markey-Spot-Finch complex, Dawson & Loxley peats and Histosols & Aquepts.

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

There are two private forties with cabins within this compartment in Section 6 along the Borgstrom Road. The land surrounding this compartment in Mackinac County is in state ownership. The north side of the compartment has private land along the north side of Section 1, except for the NWNW, and Section 6 has private land along the north boundary of the NW quarter. There are seasonal and permanent residences along the Borgstrom Road in Luce County. Hendricks Quarry in Sections 1 and 6 is under active lease for limestone exploration. The access to the quarry is limited by gates and berms controlled by the lessee.

Unique Natural Features:

There is a potential for raptor nests within the northern hardwood stands. Some hawk nests have been found in the surrounding area. When doing selection harvests, stands will be checked for stick nests and necessary set backs around the nests and timing of the harvest will be adjusted to minimize disturbance. Potential exists for other rare, threatened and endangered species and communities to exist in the area.

Archeological, Historical, and Cultural Features:

Evidence of old foundations exist within the compartment. Information has been sent on to the State Historic Preservation Office (SHPO).

Special Management Designations or Considerations:

None noted.

Watershed and Fisheries Considerations:

Fisheries Values: Minimal

Fisheries Concerns: This compartment contains a small tributary to the East Branch Sage River. This small drainage is relatively marshy and warm and likely does not contain Brook Trout. In stand 79 there is a clear-cut with reserves proposed. Aspen is a 20% component. A minimum of a 100 foot buffer should be placed on this treatment in stand 79. All other treatments in stands near the stream should use standard BMP's.

Wildlife Habitat Considerations:

This compartment is part of the Sage Truck Trail Management Area where featured wildlife species include American marten, black bear, ruffed grouse, snowshoe hare, and white-tailed deer. Aspen and red pine tend to dominate. Other types include some northern hardwoods and mixed stands as well as some wetlands. Most aspen stands are relatively young. Stands will be allowed to continue maturing to provide the various life stages needed by ruffed grouse and other species while also maintaining age class diversity between stands.

Mineral Resource and Development Concerns and/or Restrictions

No active sand/gravel pits are located in the vicinity. There may be some sand potential within the compartment, but gravel potential appears to be limited. Potential for high-purity (high-calcium) limestone within the compartment is very good. Hendricks Quarry is immediately west of the compartment, which was recently acquired by Graymont. There is no current economic oil and gas production in the UP and there is no known metallic mineral potential in this region.

Vehicle Access:

This compartment has good access to most areas within the compartment. The Borgstrom Road is a county maintained paved road. Dollar Lake Road, a county maintained gravel road, and Cranberry Lake Road, a gravel DNR road, are within the compartment. The other roads within the compartment are state forest roads. Most of the state forest roads are poor dirt roads with little maintenance. There are some closed roads within the compartment which have berms, are grown in and/or have trees down on them. These roads will remain closed if any harvesting activity takes place on the road after harvest is complete. The roads open to vehicle traffic will remain open.

Survey Needs:

None needed.

Recreational Facilities and Opportunities:

Snowmobile trail 9 is southwest of the compartment on the McCleod Truck Trail. The area is used for a variety of recreational activity including motor vehicle (ORV and snowmobile), hunting, trapping, fishing, bird watching, sight seeing, and mushroom and berry picking.

Fire Protection:

This compartment has a low potential for larger fires. The major timber types are deciduous with a lower potential to carry a fire. There are some red pine and spruce plantations with conifer slash on the ground. The vehicle access is good within the compartment for a quicker response to a fire start. There are some wetland stands with standing water in the spring and summer to help slow the spread.

Additional Compartment Information:

The following reports from the Inventory are attached:

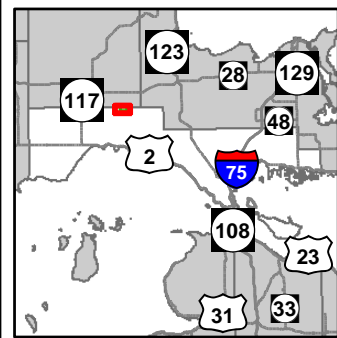
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

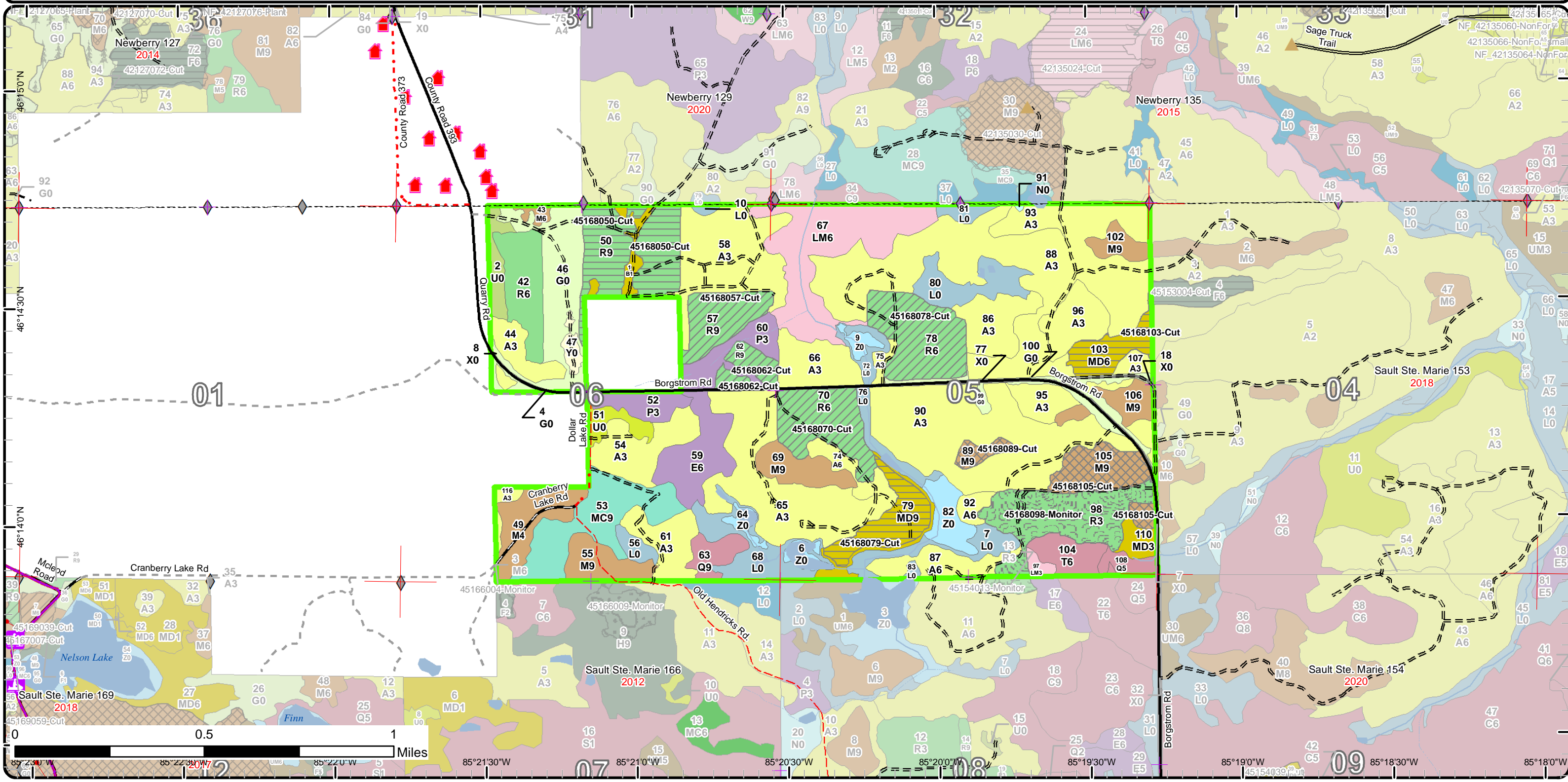
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 168
 T44N, R08W, Sec: 5, 6
 County: Mackinac
 Unit: Sault Ste. Marie
 Mgmt Area: Sage Truck Trail
 YOE: 2019
 Acres: 1,025 GIS Calculated
 Examiner: Cory Luoto
 Map Revised: 7/30/2018
 Map Phase: Post Review

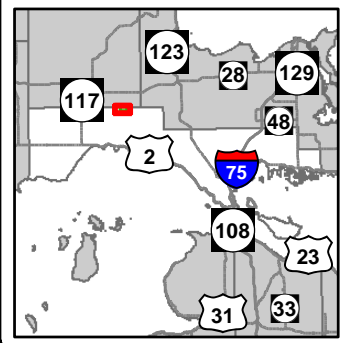


- Miris Corners
- + Remonumented Section Corners
- ◆ Field Grade Corners
- Counties
- DNR - Primary Forest Road
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- Federal / State - Dirt / Gravel Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
- Snowmobile Trails
- ORV License & Trail Permit
- Designated ORV Route
- Designated Snowmobile Trails
- Unspecified Structure
- ▲ Berms
- ▲ Structures
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers All
- Compartment Boundary
- Selection (Group, Single Tree)
- Clearcut (w/Reserves)
- Thinning (Crown, Low, Systematic)
- Monitoring
- 411 - Northern Hardwood
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 429 - Mixed Upland Conifers
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 710 - Sand/Soil
- Lakes

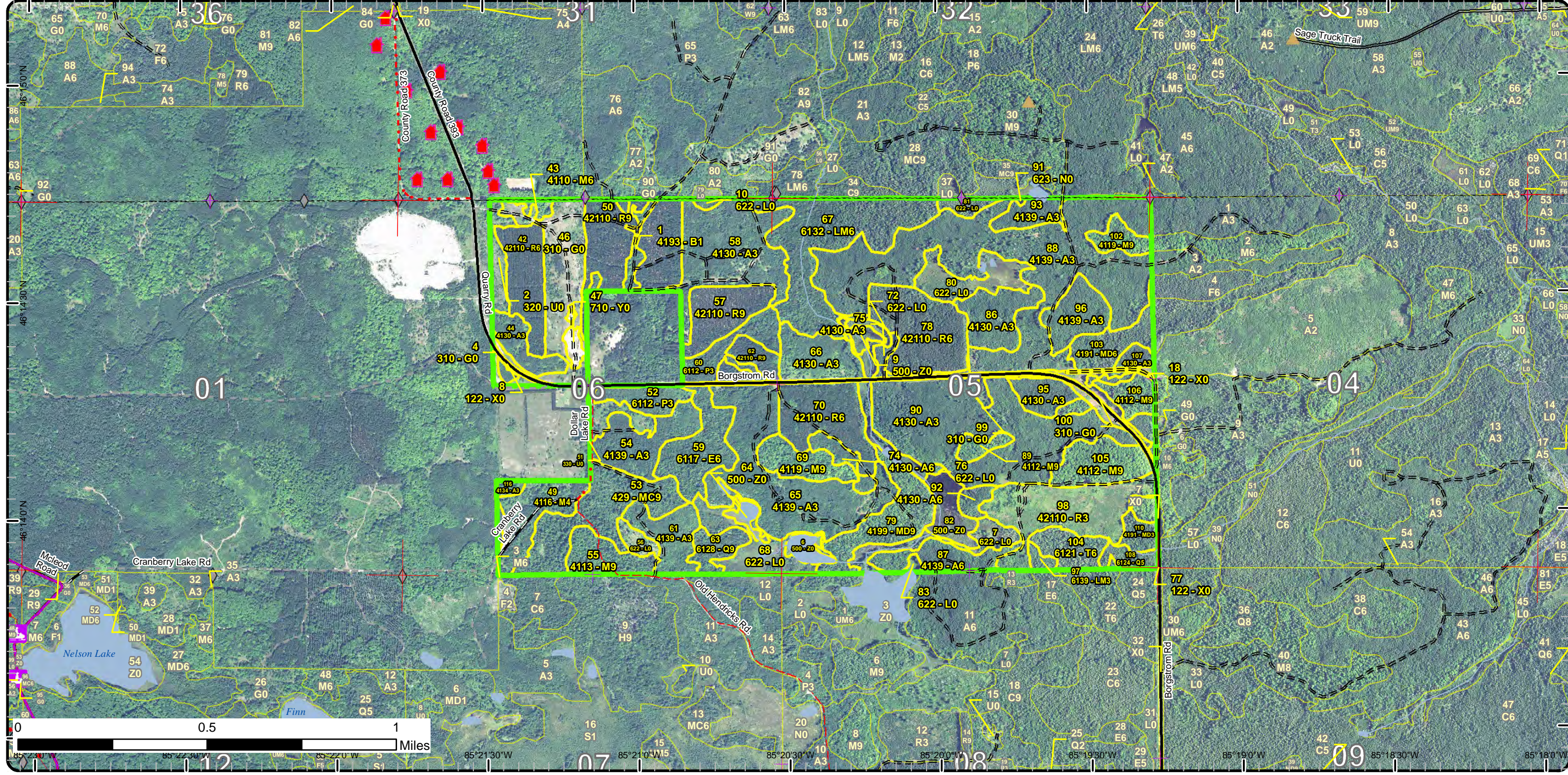


Stand Boundary Map

Compartment: 168
T44N, R08W, Sec: 5, 6
County: Mackinac
Unit: Sault Ste. Marie
Mgmt Area: Sage Truck Trail
YOE: 2019
Acres: 1,025 GIS Calculated
Examiner: Cory Luoto
Map Revised: 7/30/2018
Map Phase: Post Review

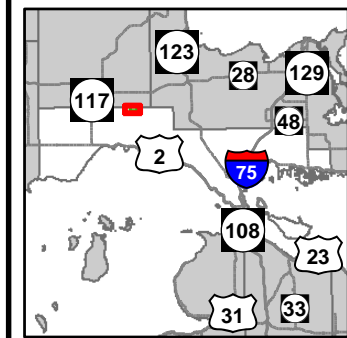


- Miris Corners
 - Remonumented Section Corners
 - Field Grade Corners
 - Counties
 - DNR - Primary Forest Road
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 - DNR - Forest Access Route
 - Federal / State / County - Paved Road
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 - County - Gravel Road
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 - Private - Dirt / Gravel Road
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 - Designated ORV Route
 - Designated Snowmobile Trails
 - Unspecified Structure
 - Berms
 - Structures
 - Intermittent Stream
 - Lake/Pond
 - Perennial River
 - Lakes and Rivers All
 - Compartment Boundary
 - Stand Boundaries
- 421 - Planted Pines
429 - Mixed Upland Conifers
611 - Lowland Deciduous Forest
612 - Lowland Coniferous Forest
613 - Lowland Mixed Forest
122 - Roads/Parking Lot
310 - Herbaceous Openland
320 - Upland Shrub
330 - Low Density Trees
500 - Water
622 - Lowland Shrub
623 - Emergent Wetland
710 - Sand/Soil
411 - Northern Hardwood
413 - Aspen
419 - Mixed Upland Deciduous

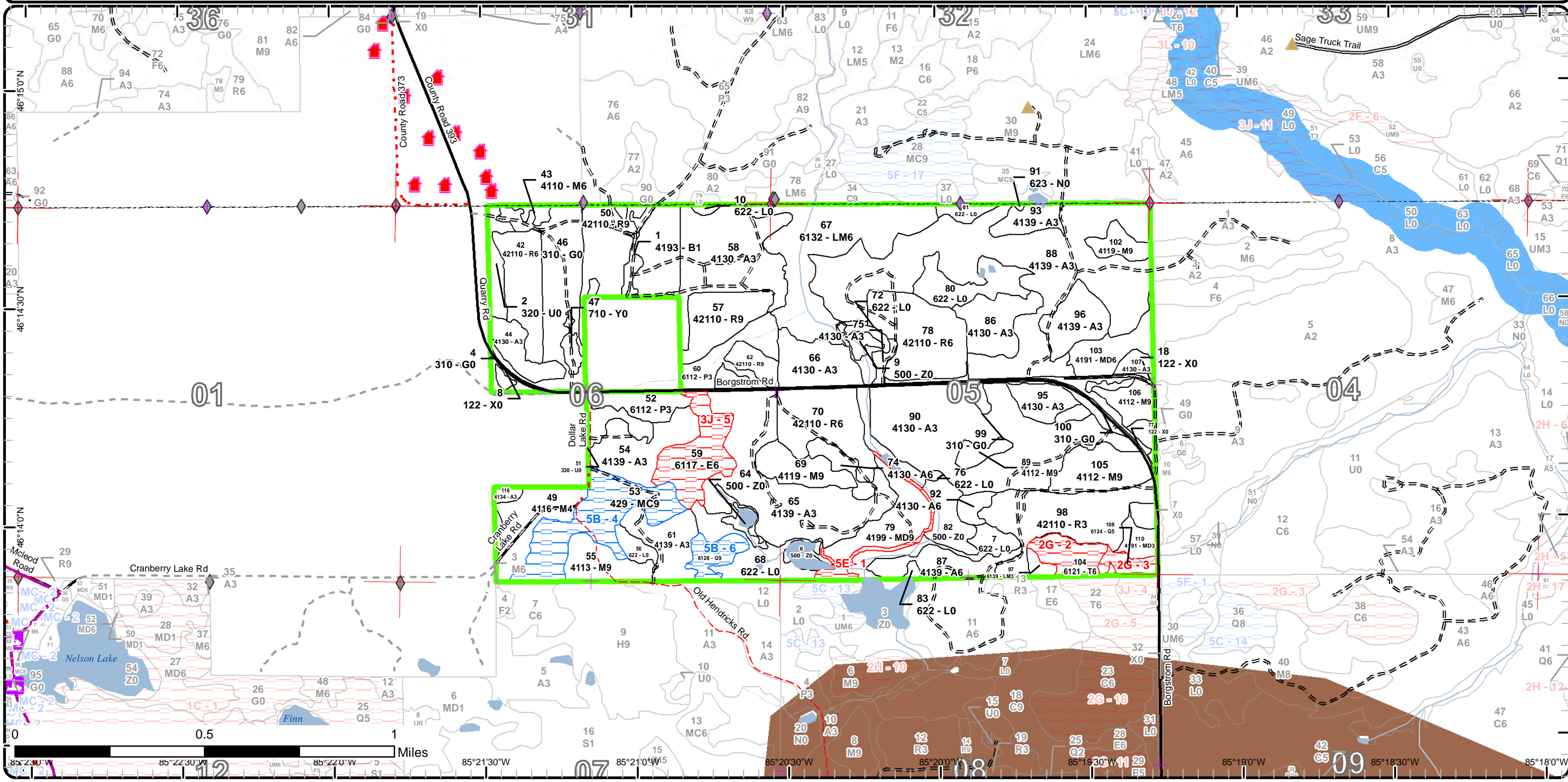


Special Conservation Areas & Site Conditions Map

Compartment: 168
 T44N, R08W, Sec: 5, 6
 County: Mackinac
 Unit: Sault Ste. Marie
 Mgmt Area: Sage Truck Trail
 YOE: 2019
 Acres: 1,025 GIS Calculated
 Examiner: Cory Luoto
 Map Revised: 7/30/2018
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- Miris Corners
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- ▭ Counties
- DNR - Primary Forest Road
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- Federal / State / County - Paved Road
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- 🏠 Snowmobile Trails
- ORV License & Trail Permit
- Designated ORV Route
- Designated Snowmobile Trails
- 🏠 Unspecified Structure
- ▲ Berms
- 🏠 Structures
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers All
- 🟩 Compartment Boundary
- 🟦 Available w/ Constraints
- 🔴 Unavailable
- 5B: Maintain for regeneration purposes
- 2G: Too wet (sensitive soils, does not include access issues)
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- ▭ Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer
- Deer Winter Range



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	16	252	130	17	6	0	0	0	0	0	0	0	0	0	0	0	0	421
Herbaceous Openland	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Low-Density Trees	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Lowland Aspen/Balsam Poplar	0	0	9	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
Lowland Conifers	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	8	0	13
Lowland Deciduous	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	21
Lowland Mixed Forest	0	0	0	2	0	0	0	0	0	0	0	48	0	0	0	0	0	0	50
Lowland Shrub	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63
Marsh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mixed Upland Deciduous	0	0	0	5	0	0	0	12	0	0	0	0	22	0	0	0	0	0	39
Northern Hardwood	0	0	0	0	0	0	0	18	8	0	4	9	19	12	13	0	0	0	82
Paper Birch	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Red Pine	0	35	0	0	0	19	55	61	0	0	0	0	0	0	0	0	0	0	170
Sand, Soil	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Tamarack	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	10
Upland Conifers	0	0	0	0	0	0	0	0	0	0	0	33	0	0	0	0	0	0	33
Upland Shrub	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Urban	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Water	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
Total	154	51	266	150	17	25	55	91	13	11	25	90	41	12	13	0	8	0	1020



Report 2 – Treatment Summary

Sault Ste. Marie Mgt. Unit
Year of Entry: 2019

Compartment 168
Total Compartment Acres: 1,025

Acres of Harvest

Commercial Harvest - 169
Harvests with Site Condition - 0
Next Step Harvest - 0
Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Mixed Upland Deciduous	30	0	0	0	0	0	0	0	0	30
Northern Hardwood	0	23	0	0	0	0	0	0	0	23
Red Pine	35	0	0	0	0	81	0	0	0	117
Total	65	23	0	0	0	81	0	0	0	169

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	169	0	0	0	0	35	0	0	0	204
Next Step	0	35	35	0	35	141	229	0	0	476
Total	169	35	35	0	35	141	264	0	0	680



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
50	45168050-Cut	35.4	42110 - Planted Red Pine	Sawtimber Well	65	141- 170	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Clear cut stand with retention of live trees on the edges of the treatment. Standing trees within the stand after harvest create a hazard for aerial spraying of the stand for release and pest management so all retention must be along the edges.

Next Step Burn, Slash; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Herbicide Use; Pesticide, Aerial;
Treatments: Monitoring, Artificial Regen(3yr); Monitoring, Herbicide Use; Pesticide, Aerial

Acceptable Red pine
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

57	45168057-Cut	17.5	42110 - Planted Red Pine	Sawtimber Well	65	141- 170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Thin to around 120 Basal Area. Leave species diversity within the stand were present.

Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

62	45168062-Cut	8.4	42110 - Planted Red Pine	Sawtimber Well	65	141- 170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Thin to around 120 Basal Area. Leave species diversity within the stand were present.

Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

70	45168070-Cut	25.0	42110 - Planted Red Pine	Poetimber Well	58	141- 170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Thin to around 120 Basal Area. Leave species diversity within the stand were present.

Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018



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
78	45168078-Cut	30.2	42110 - Planted Red Pine	Poletimber Well	58	141-170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Thin to around 120 Basal Area. Leave species diversity within the stand were present.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

79	45168079-Cut	17.1	4199 - Other Mixed Upland Deciduous	Sawtimber Well	115	81-110	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Draft Field Boundary
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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

Specs: acre).

Next Step

Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable aspen, maple, cherry, beech, yellow and paper birch, ironwood, balsam fir, white spruce and white pine

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

89	45168089-Cut	4.0	4112 - Maple, Beech, Cherry Association	Sawtimber Well	96	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Good diversity of species in this stand. Beech bark disease is present in the stand.

Specs: 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 aspen if possible to regenerate the species and enhance the advanced regeneration present.

Next Step

Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable Northern Hardwoods

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

98	45168098-Monitor	34.9	42110 - Planted Red Pine	Sapling Well	7	Immature	Monitoring	Herbicide Use	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Monitor for herbicide use.

Specs:

Next Step

Pesticide, Aerial; Monitoring, Herbicide Use; Pesticide, Aerial

Treatments:

Acceptable Red Pine

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018



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
103	45168103-Cut	12.4	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	65	81-110	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Draft Field Boundary

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).
Specs:

Next Step Monitoring, Natural Regen (Intermediate)
Treatments:

Acceptable aspen, maple, cherry, beech, yellow and paper birch, ironwood, balsam fir, white spruce and white pine.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

105	45168105-Cut	19.2	4112 - Maple, Beech, Cherry Association	Sawtimber Well	113	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Good diversity of species in this stand. Beech bark disease is present in the stand.
Specs: Mark stand to 80 to 90 Basal Area. Retain some beech with the smooth bark and wildlife trees. Some ironwood, basswood and all juneberry and conifer should be left. Some larger canopy gaps may be desirable around the aspen if possible to regenerate the species and enhance the advanced regeneration present.

Next Step Monitoring, Natural Regen (Intermediate)
Treatments:

Acceptable Northern hardwoods.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

Total Treatment Acreage Proposed: 204.1

Report 4 – Site Conditions

Sault Ste. Marie Mgt. Unit

Cory Luoto : Examiner

Compartment: 168

Year of Entry: 2019

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	5B	2G	3J	5E
		With Condition	Not Available					
421	421	0	0	Aspen				
46	46	0	0	Herbaceous Openland				
6	6	0	0	Low-Density Trees				
22	22	0	0	Lowland Aspen/Balsam Poplar				
13	0	8	5	Lowland Conifers	8	5		
21	0	0	21	Lowland Deciduous			21	
50	50	0	0	Lowland Mixed Forest				
63	63	0	0	Lowland Shrub				
0	0	0	0	Marsh				
40	35	0	5	Mixed Upland Deciduous				5
84	84	0	0	Northern Hardwood				
5	5	0	0	Paper Birch				
171	171	0	0	Red Pine		0		
3	3	0	0	Sand, Soil				
11	0	0	10	Tamarack		10		
33	0	33	0	Upland Conifers	33			
7	7	0	0	Upland Shrub				
9	9	0	0	Urban		0		
20	20	0	0	Water				
1,025	943	40	41	Total Forested Acres	40	15	21	5
	92%	4%	4%	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	5E: Long-Term Retention	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments: For the harvest in the balance of stand 79.							

Report 4 – Site Conditions

Sault Ste. Marie Mgt. Unit

Cory Luoto : Examiner

Compartment: 168

Year of Entry: 2019

2	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
3	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Available	5B: Maintain for regeneration purposes	33	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	21	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Available	5B: Maintain for regeneration purposes	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Mgt. Unit

Compartment: #Type!

Year of Entry:



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

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

SCA Name	SCA Category	Detail Type	Recommendation	Acres
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Comments



Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

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

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

Conservation Area	Type	Description
SCA	Cold Water 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	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:
1	4193 - Birch, Aspen	Sapling Poor	5.2	16	Immature	Failed area of original plantation. Primarily young aspen with scatter sugar maple and black cherry.
42	42110 - Planted Red Pine	Poletimber Well	19.2	48	111-140	Thinned in Spring of 2011.
43	4110 - Sugar Maple Association	Poletimber Well	2.1	78	51-80	Select cut on small firewood permit last entry. Some nice quality stems.
44	4130 - Aspen	Sapling Well	10.6	16	Immature	The stand was harvested on 2 different sales in 1993 - 2002. Some of the aspen is older on the hill then the aspen along the Borgstrom Road. 15-30' tall regeneration.
49	4116 - Mixed N. Hardwood - Aspen	Poletimber Poor	18.3	69	1-50	Opening which has filled in with some hardwood and aspen clumps.
50	42110 - Planted Red Pine	Sawtimber Well	35.4	65	141-170	Stand thinned in 2009. Final harvest now.
52	6112 - Lowland Aspen	Sapling Well	9.1	12	Immature	Stand was cut in spring of 2010. Regen already 5' tall and doing great
53	429 - Mixed Upland Conifers	Sawtimber Well	32.6	106	51-80	Stand was shelter wood cut in 2004. Stand grades from upland to lowland,
54	4139 - Aspen, Mixed Deciduous	Sapling Well	19.5	25	Immature	Regeneration is 25'-40' tall good diversity in composition.
55	4113 - R.Maple, Conifer	Sawtimber Well	12.5	137	81-110	Stand was select cut in 2004. There are a few lower areas in the stand and a vernal pond.
57	42110 - Planted Red Pine	Sawtimber Well	17.5	65	141-170	Ready for another thinning.
58	4130 - Aspen	Sapling Well	40.1	16	Immature	Cut on Red Baron Aspen Mix 45-118-00-01 in 2002. Old open areas within the stand with some standing snags.
59	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	20.9	93	81-110	Mackinac Mix lowland stand with some blowdown occurring. A drainage is present in several parts of the stand. There is some upland patches within the stand. Some of the cedar was removed years ago. The stand is variable.
60	6112 - Lowland Aspen	Sapling Well	13.2	25	Immature	Stand is within a lower drainage area which was cut in 1993. Stand is both upland and lowland,
61	4139 - Aspen, Mixed Deciduous	Sapling Well	14.7	16	Immature	Cut in 2002. Regeneration is 20' tall, few hemlock and white pine left site.
62	42110 - Planted Red Pine	Sawtimber Well	8.4	65	141-170	Small patch of dead trees found within the stand, which was report to Dr. Heyd. Leave the stand for Stand is ready to be thinned.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
63	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Well	7.8	184	51-80	Cut on tundra catapult sale in 2001. Some good cedar regeneration and some areas of tag alder.
65	4139 - Aspen, Mixed Deciduous	Sapling Well	55.1	25	Immature	Regeneration is 10-20' tall with few white pine present.
66	4130 - Aspen	Sapling Well	16.1	7	Immature	Stand was cut in 2010.
67	6132 - Mixed Lowland Forest with Cedar	Poletimber Well	48.2	108	81-110	Wet cedar swamp stand with lots of blowdowns and dead trees. Some honeysuckle and beaked hazel within the stand. A diverse composition within the stand.
69	4119 - Mixed Northern Hardwoods	Sawtimber Well	12.1	122	81-110	Stand thinned in 2010. 1/2 acre of red pine in the southern portion of the stand.
70	42110 - Planted Red Pine	Poletimber Well	25.0	58	141-170	Thinned in Spring of 2011. It is ready for another light thinning.
74	4130 - Aspen	Poletimber Well	5.5	44	Unspecified	
75	4130 - Aspen	Sapling Well	2.3	26	Immature	Regeneration is 20' tall.
78	42110 - Planted Red Pine	Poletimber Well	30.2	58	141-170	Stand could be thinned again.
79	4199 - Other Mixed Upland Deciduous	Sawtimber Well	22.3	115	81-110	Final harvest stand. It will come back to primarily aspen.
86	4130 - Aspen	Sapling Well	16.1	26	Immature	Some small openings are present within the stand. The regeneration is about 20' tall.
87	4139 - Aspen, Mixed Deciduous	Poletimber Well	13.0	37	51-80	Stand just transitioning into poles. Light understory within the stand but lots of ground flora.
88	4139 - Aspen, Mixed Deciduous	Sapling Well	110.3	16	Immature	Stand is doing really well. It has small patches of leave trees from original stands. Large white pine log trees were left on south side of stand along the bog. Apple trees along the road on east side of stand.
89	4112 - Maple, Beech, Cherry Association	Sawtimber Well	4.0	96	111-140	Stand is ready to be cut.
90	4130 - Aspen	Sapling Well	76.4	17	Immature	Regeneration is doing great. Nice Aspen.
92	4130 - Aspen	Poletimber Well	3.8	37	51-80	Stand is just transitioning into poles.
93	4139 - Aspen, Mixed Deciduous	Sapling Well	7.5	25	Immature	Regeneration is 15-30' tall.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
95	4130 - Aspen	Sapling Well	8.5	25	Immature	Regeneration is 25-40' tall.
96	4139 - Aspen, Mixed Deciduous	Sapling Well	14.0	25	Immature	
97	6139 - Mixed Lowland Forest	Sapling Well	2.2	26	Immature	Regeneration is 15' tall. Has lots of wet areas was cut with the adjacent red pine stand.
98	42110 - Planted Red Pine	Sapling Well	34.9	7	Immature	Stand was cut in 2009 and planted in 2010. Watch stand for need of herbicide or pesticide.
102	4119 - Mixed Northern Hardwoods	Sawtimber Well	6.3	75	81-110	Select cut in 2003.
103	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	12.4	65	81-110	Some high and low ground within the stand. Small opening on west side of stand.
104	6121 - Tamarack	Poletimber Well	10.5	89	81-110	Wet stand in normal years with a mixture of species.
105	4112 - Maple, Beech, Cherry Association	Sawtimber Well	19.2	113	111-140	Good quality hardwood stand. Stand is ready to be cut.
106	4112 - Maple, Beech, Cherry Association	Sawtimber Well	9.4	102	51-80	Maple stand which is split by Borgstrom Road. Cut in 2010-2011 as part of Husky Hardwood.
107	4130 - Aspen	Sapling Well	4.5	25	Immature	Few low areas within the stand with regeneration of 20' tall.
108	6124 - Lowland Spruce-Fir	Poletimber Medium	4.7	79	51-80	Small creek out near the road. Some open areas with only tag alder.
110	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	5.0	26	Immature	Regeneration is 20-30' tall.
116	4134 - Aspen, Spruce/Fir	Sapling Well	2.9	24	Immature	Small part of a clear cut in 1993. The rest of the stand was sold to Graymont.



Stand	Cover Type	Acres	Managed Site	General Comments:
2	320 - Upland Shrub	7.2	No	
4	310 - Herbaceous Openland	2.2	No	
6	500 - Water	4.0	No	
7	622 - Lowland Shrub	10.5	No	
8	122 - Road/Parking Lot	1.1	No	
9	500 - Water	2.9	No	
10	622 - Lowland Shrub	1.1	No	
18	122 - Road/Parking Lot	0.7	No	
46	310 - Herbaceous Openland	31.9	No	
47	710 - Sand, Soil	3.1	No	
51	330 - Low-Density Trees	6.4	No	
56	622 - Lowland Shrub	3.8	No	black spruce stand with spagnum moss ground cover.
64	500 - Water	3.0	No	
68	622 - Lowland Shrub	17.6	No	
72	622 - Lowland Shrub	4.7	No	
76	622 - Lowland Shrub	6.1	No	
77	122 - Road/Parking Lot	7.6	No	
80	622 - Lowland Shrub	14.7	No	



Stand	Cover Type	Acres	Managed Site	General Comments:
81	622 - Lowland Shrub	3.6	No	
82	500 - Water	10.4	No	
83	622 - Lowland Shrub	1.0	No	
91	623 - Emergent Wetland	0.3	No	
99	310 - Herbaceous Openland	4.4	No	
100	310 - Herbaceous Openland	7.1	No	