

# **Compartment Review Presentation**

Sault Ste. Marie Forest Management Unit

Compartment 45153
Entry Year 2018
Acreage: 1,903
County Mackinac

Management Area: Sage Truck Trail

Revision Date: 2016-07-19 Stand Examiner: Cory Luoto

**Legal Description:** 

T44N, R8W, Sec. 2, 3, & 4 - Hudson Township

### **Identified Planning Goals:**

This compartment is ten miles north of Lake Michigan on the Borgstrom Road. Aspen is the predominate timber type, while other timber types within this compartment include; cedar, spruce – fir, other lowlands, northern hardwoods, grassy openings, upland brush and a spruce plantation. The aspen types are regenerating nicely and the small hardwood patches need regular treatment to promote health and growth. A spruce plantation is ready for harvest along with a swamp conifer stand.

#### Soil and topography:

The area varies from low wet swamps, to rolling uplands. Upland hardwood and aspen are characterized by level and undulating areas, and ridge-swale complexes on outwash plains, lake plains and/or ground moraines. These areas consist of Wallace sand, Paquin sand, and Wallace-Spot complex, with smaller areas of Superior fine sandy loam, and Paquin-Finch sands. The large swamp complex is made up of Markey and Carbondale muck, with transitional aspen areas of Markey-Spot-Finch complex.

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

This compartment is comprised of entirely state land. State lands abut this compartment on the west, south, north and east. Luce County is on the northern border of the compartment.

#### **Unique Natural Features:**

There is a potential for rare threatened or endangered plant and animal species within 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.

#### **Archeological, Historical, and Cultural Features:**

An old homestead lies within this compartment.

#### **Special Management Designations or Considerations:**

After the spruce stand is harvested, it will be replanted with red pine.

#### **Watershed and Fisheries Considerations:**

Fisheries Values: Moderate

Fisheries Concerns: Sage River headwaters. Beaver damming already occurring in this portion of the watershed. East Branch Sage River is not a designated trout stream, but is identified as a coldwater stream. Fisheries surveys have not found trout species further supporting the non-trout stream designation. Standard BMP's should apply when working adjacent to surface water.

#### Wildlife Habitat Considerations:

This compartment lies on the northern fringe of western Mackinac County in the Sage Truck Trail Management Area (MA). Featured wildlife species in this MA are American marten, black bear, ruffed grouse, snowshoe hare, and white-tailed deer. Aspen is the primary upland habitat type. Aspen stands have been treated in previous entry years and vary in age. Many are close to one another, providing a mosaic of age classes that benefit ruffed grouse, snowshoe hare, and deer. The lowlands contain a mixture of cedar, black spruce, and lowland brush types. The upland types in association with extensive lowland conifers and other lowland types benefit bear and other species. Two branches of the Sage River run through the compartment. Riparian areas will be protected, providing habitat for riverine associated wildlife community. Lowland conifers will be retained to maintain the mature coniferous forest habitat.

#### Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of lacustrine (lake) sand & gravel and clay & silt and coarse-textured till. There is insufficient

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data to determine the glacial drift thickness. The Silurian Burnt Bluff Group subcrops below the glacial drift. The Burnt Bluff is quarried for stone/limestone two miles to the west at Hendricks quarry. Gravel pits are not located in the area, but there may be some potential on uplands. There is no current economic oil and gas production in the UP.

#### **Vehicle Access:**

Vehicle access is moderate. The western portion is accessed from the Borgstrom Road, which is a paved all-season road. The eastern portion is accessed from the Dinkey Line, a dirt County road up to the Luce County line. Access to the interior portions of the compartment is primarily restricted to dry summer, and winter conditions

### **Survey Needs:**

None needed.

### **Recreational Facilities and Opportunities:**

No formal recreational facilities exist within this compartment. However, the area is used for hunting deer, bear and small game, trapping, snowmobiling, and ORVing.

#### **Fire Protection:**

This is a low fire danger area.

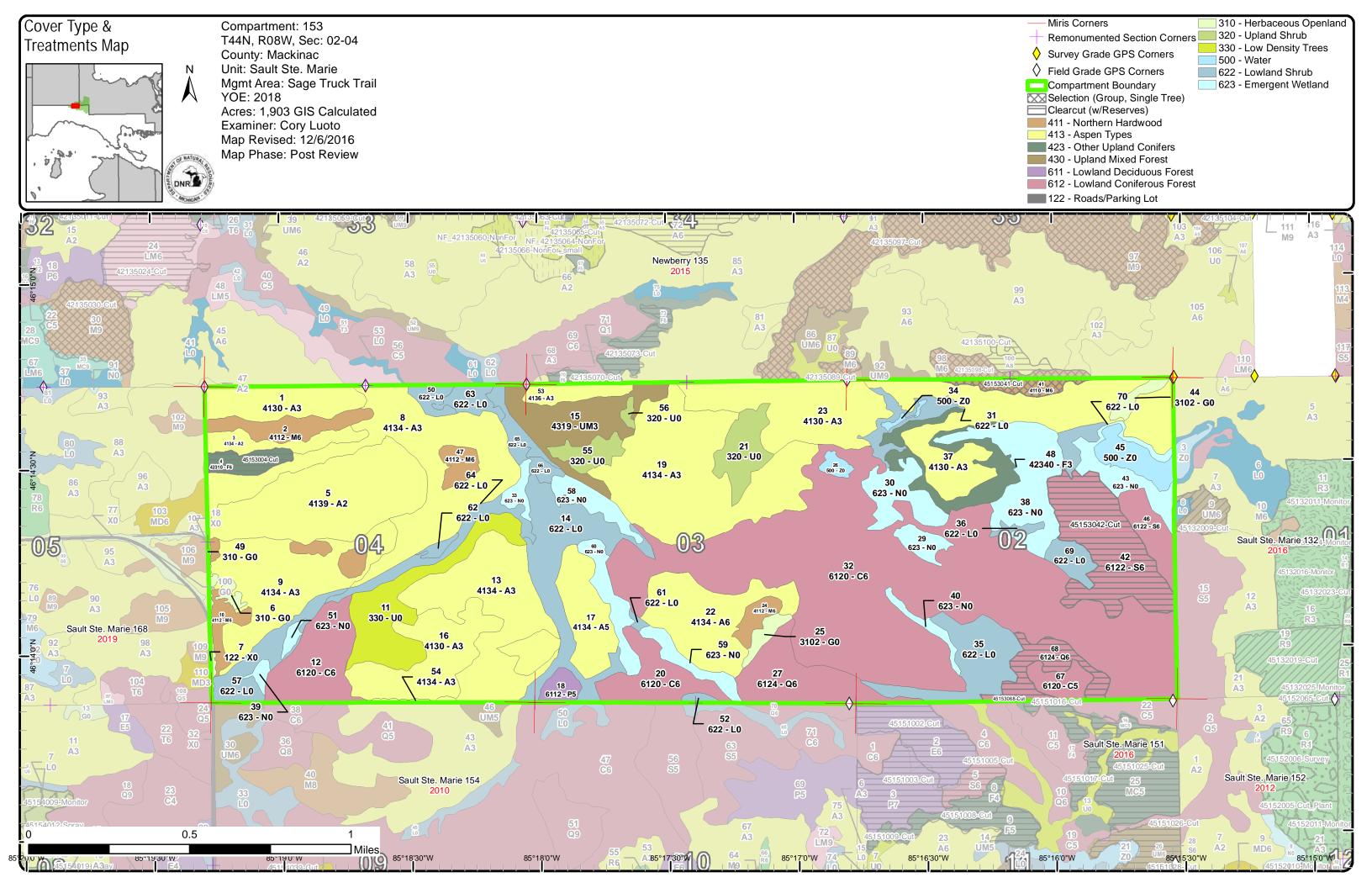
#### **Additional Compartment Information:**

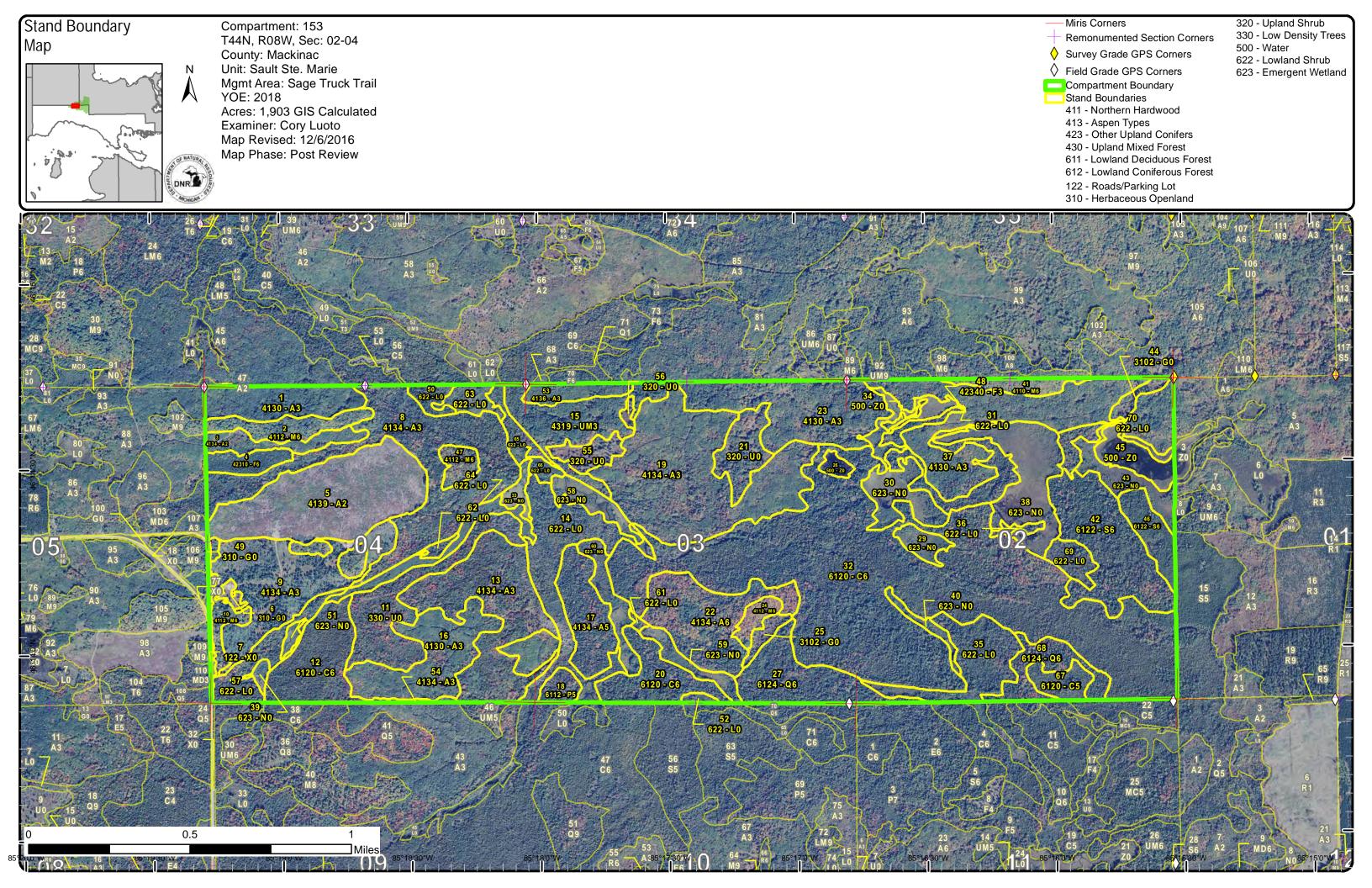
The following reports from the Inventory are attached:

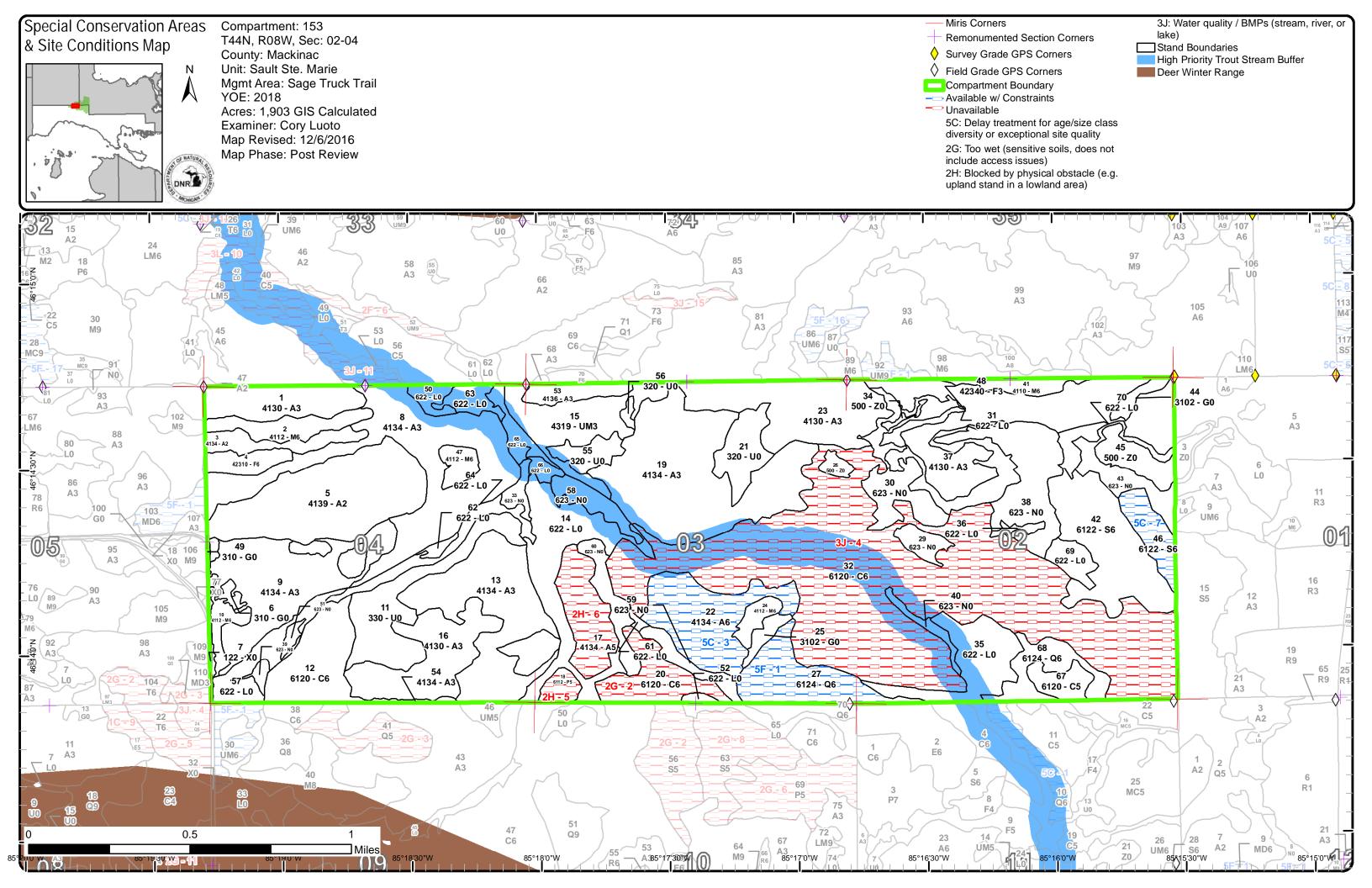
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

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







# Report 1 – Total Acres by Cover Type and Age Class

Sault Ste. Marie Mgt. Unit

Compartment 153 Year of Entry 2018 **Cory Luoto: Examiner** 



### Age Class

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Aspen	0	150	183	290	73	0	0	50	30	0	0	0	0	0	0	0	0	0	776
Cedar	0	0	0	0	0	0	0	0	0	0	350	50	27	0	0	0	0	0	427
Herbaceous Openland	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Low-Density Trees	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42
Lowland Aspen/Balsam Poplar	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	7
Lowland Conifers	0	0	0	0	0	0	38	0	0	0	21	0	0	0	0	0	0	0	59
Lowland Shrub	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	180
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	76	0	0	0	0	0	0	0	0	76
Marsh	139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	139
Northern Hardwood	0	0	0	0	0	0	0	24	17	7	0	0	0	0	0	0	0	9	57
Upland Mixed Forest	0	0	0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0	39
Upland Shrub	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
Upland Spruce/Fir	0	0	0	25	0	0	10	0	0	0	0	0	0	0	0	0	0	0	34
Urban	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Water	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
Total	428	150	183	315	112	0	48	81	47	83	371	50	27	0	0	0	0	9	1903



## **Report 2 – Treatment Summary**

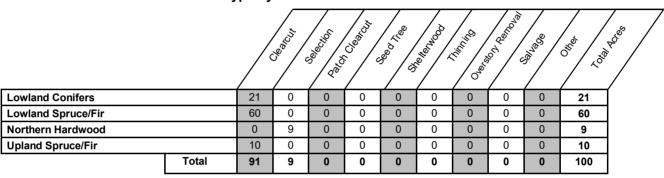
Sault Ste. Marie Mgt. Unit Year of Entry: 2018

#### **Acres of Harvest**

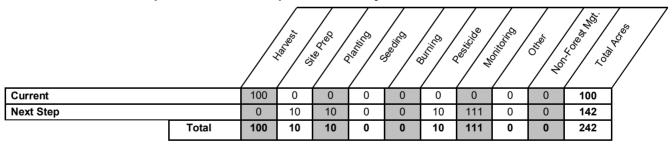
Compartment 153
Total Compartment Acres: 1,903

Commercial Harvest - 100 Harvests with Site Condition - 0 Next Step Harvest - 0 Habitat Cut - 0

### **Cover Type by Harvest Method**



## **Proposed and Next Step Treatments by Method**



Compartment: 153 Year of Entry: 2018

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**Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type Approval** Age Method Objective Name Structure **Status** d CoverType Density Age Range Type 42310 - Planted 4211 - Planted 45153004-Cut 10.4 Poletimber 54 141-Harvest Clearcut with Even-Aged Draft Field Red Pine Spruce Well 170 Retention Boundary

**Habitat Cut: No** Site Condition:

<u>Prescription</u> Clear cut stand with retention of live trees on the edges of the treatment. Replant with Red Pine.

Specs

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

Treatments:

Acceptable Red Pine

Regen:

**Other** Comment:

Proposed Start Date: 10/01/2017

41 45153041-Cut 9.1 4110 - Sugar Maple Poletimber 111-Harvest Single Tree 411 - Northern Uneven-Draft Field Association Well 140 Selection Hardwood Aged Boundary

**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 juneberry and Specs: 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. Work with Newberry Unit when setting up stand to combine with adjacent compartment to the north.

Monitoring, Natural Regen (Re-Inventory) Next Step

Treatments:

Acceptable maple, cherry, beech, paper and yellow birch, basswood, aspen and ironwood.

Regen

Other Comment:

Proposed Start Date: 10/01/2017

45153042-Cut 59.8 6122 - Black Spruce Poletimber 81-110 Harvest Clearcut with 612 - Lowland Even-Aged Draft Field Well Retention Coniferous Boundary Forest

**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:

Stay out of patches of thick cedar, do not cut cedar unless it is required for operation.

Next Step Monitoring, Natural Regen (Intermediate)

**Treatments** 

Acceptable aspen, maple, cherry, cedar, yellow and paper birch, balsam fir, white spruce, black spruce and white pine.

Regen:

Other Comment:

Proposed Start Date: 10/01/2017

45153068-Cut 6124 - Lowland Poletimber 94 81-110 Clearcut with 612 - Lowland Draft Field Harvest Even-Aged Spruce-Fir Well Retention Coniferous Boundary Forest

**Habitat Cut: No Site Condition:** 

Prescription Clearcut with reserves following the retention guidelines. Leave some larger paper birch for seed trees and future snags. Leave some other Specs: scattered trees representative of the stand. Winter cut only and access must be frozen. Actual treatment geometry will be different when the stand is

set up. Hard to distinguish from imagery.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

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

Regen:

Other Comment:

10/04/2016 **Proposed Start Date:** 

**Total Treatment** 100.2 Acreage Proposed:

Sault Ste. Marie Mgt. Unit

**Cory Luoto: Examiner** 

Compartment: 153
Year of Entry: 2018

Availa	ability for	Managemer	nt						
Total	Acres	Acres Avail	Acres	De	ominai	nt Site	e Con	dition	S
Acres	Available	With Condition	Not Available		5C	5F	2G	2H	3J
777	697	50	30	Aspen	50			30	
426	49	0	377	Cedar			27		350
15	15	0	0	Herbaceous Openland					
42	42	0	0	Low-Density Trees					
7	0	0	7	Lowland Aspen/Balsam Poplar				7	
59	21	38	0	Lowland Conifers		38			
180	180	0	0	Lowland Shrub					
76	60	16	0	Lowland Spruce/Fir	16				
139	139	0	0	Marsh					
57	57	0	0	Northern Hardwood					
39	39	0	0	Upland Mixed Forest					
31	31	0	0	Upland Shrub					
35	35	0	0	Upland Spruce/Fir					
1	1	0	0	Urban					
20	20	0	0	Water					
1,903	1,386	104	413	Total Forested Acres	67	38	27	36	350
	73%	5%	22%	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.

1 Available 5F: Evaluated for Forest 38 5C: Delay treatment for Unspecified Un	Health Considerations age/size class diversity or exceptional site quality	Site No.		Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
Comments:	Comments:	1	Available		38	age/size class diversity or exceptional site	Unspecified	Unspecified	Unspecified
		(	Comments:						

# **Report 4 – Site Conditions**

Sault Ste. Marie Mgt. Unit

Cory Luoto: Examiner

2	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	27	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
3	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	50	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified	Unspecified
	Comments:						
4	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	350	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
5	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	7	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
6	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	30	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
7	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	16	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
Comments				

Sault Ste. Marie Mgt. Unit Compartment: 153
Year of Entry 2018



### 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.

Conservati Area	on Type	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area				
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen condition stocked trout populations and those of other coldwater fish speci conditions for coldwater fishes may occur in Michigan lakes if the groundwater inflows, or are located in colder (northern) areas of Director's action and designated as trout resources by Fisheries	es to persist from year to year. Suitable ey are relatively deep, have substantial the state. Such lakes are established by				
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen cond stocked trout populations and those of other coldwater fish speci year to year. Coldwater streams in Michigan typically provide the contributions of groundwater to their stream flows. Such streams designated as trout resources by Fisheries Order 210.	es (e.g., slimy sculpin) to persist from se conditions due to substantial				
SCA	Habitat Area	An area that provide some specific need for the life cycle of wildl and Waterfowl Production Areas, deer wintering complexes in lo openings and savannas. Habitat areas are distinct from critical h endangered or threatened species (such as Kirtland's warbler or general in nature, are not primarily associated with threatened or covered by species recovery plans that are developed in cooperation.	wland conifer communities, grassland abitat designated for recovery of piping plover areas) in that they are more endangered species, and are not				
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in influences the aquatic ecosystem and vice-versa. Because of the streams and open water wetlands, riparian areas harbor a high communities are ecologically and socially significant in their effect as aesthetics, habitat, bank stability, timber production, and their	e unique conditions adjacent to lakes, diversity of plants and wildlife. Riparian cts on water quality and quantity, as well				

s t	Sault Ste. Marie	Mgt. Unit		Report 7	– Forested	Stands Compartment: 153 Year of Entry: 2018
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	Sapling Well	30.0	22	Immature	Aspen regen doing good, Far western portion of the stand was cut in 2000. (about 3 acres)
2	4112 - Maple, Beech, Cherry Association	Poletimber Well	17.0	73	51-80	Stand thinned in 2002, part of red baron tsale.
3	4134 - Aspen, Spruce/Fir	Sapling Medium	14.1	14	Immature	Stand was cut in 2002, part of Red Baron Tsale
4	42310 - Planted Spruce	Poletimber Well	10.4	54	141-170	Very dense spruce, ready for final harvest.
5	4139 - Aspen, Mixed Deciduous	Sapling Medium	85.4	4	Immature	Stand was clearcur in 2012.
8	4134 - Aspen, Spruce/Fir	Sapling Well	98.8	25		Stand is text book Mackinac Mix, but is primarily aspen.
9	4134 - Aspen, Spruce/Fir	Sapling Well	65.4	3	Immature	Stand was cut in 2013. Conifer was left.
10	4112 - Maple, Beech, Cherry Association	Poletimber Well	16.7	66	51-80	Stand was thinned in 2012.
12	6120 - Lowland Cedar	Poletimber Well	38.6	101	171-200	Nice cedar poles, decent thermal cover for deer.
13	4134 - Aspen, Spruce/Fir	Sapling Well	74.0	27	1-50	This was a sale that was cut twenty years ago. The logger took what was merchantable at the time. Scattered larger trees throughout the stand. Heavy beaver activity on the east side of the stand.
15	4319 - Mixed Upland Forest	Sapling Well	39.0	36	1-50	Stand has cedar along western edge. Also a small portion (about 3 acres) of the stand was clearcut in 2000 as part of Thin Ice Aspen Sale.
16	4130 - Aspen	Sapling Well	55.6	13	Immature	This is the portion of Old Cistern Aspen that was cut. Aspen about 12 feet tall, doing really good.
17	4134 - Aspen, Spruce/Fir	Poletimber Medium	29.6	71	111-140	Stand is an island surrounded by the Sage River - completely inaccessible.
18	6112 - Lowland Aspen	Poletimber Medium	6.6	65	51-80	Stand is surrounded by the Sage River - completely inaccessible.
19	4134 - Aspen, Spruce/Fir	Sapling Well	113.3	15	Immature	Regeneration is variable within the stand, spruce and fir are more prominent if different areas. Stand was Thin Ice timber sale.

141-170

111-140

6120 - Lowland Cedar

4134 - Aspen, Spruce/Fir

20

22

Poletimber

Well

Poletimber

Well

26.8

50.4

111

64

Some smaller wet openings within the stand.

Access to stand is very poor, almost impossible. Look at harvesting next entry when the stand to the south is cut.

# Report 7 - Forested Stands



t a	Level 4	Size				Teal of Lifty. 2018
n d	Cover Type	Density	Acres	Stand Age	BA Range	General Comments:
23	4130 - Aspen	Sapling Well	59.8	36	1-50	Aspen regen is variable, also a fair amount of black cherry regen.
24	4112 - Maple, Beech, Cherry Association	Poletimber Well	6.8	84	81-110	Poor quality red maple, lots of clumps. scattered sugar maple but not much better quality.
27	6124 - Lowland Spruce- Fir	Poletimber Well	37.7	52	Unspecified	Stand spans three different compartments. A majority of the stand is being set up in March 2016 by contractors. (45151002) If SBW shows up we can add this stand to the contract. Leave for now for age class diversity.
32	6120 - Lowland Cedar	Poletimber Well	349.9	98	141-170	Large, wet cedar stand, Sage River runs throughout the stand.
37	4130 - Aspen	Sapling Well	87.5	25	Immature	Aspen is doing really good, not a lot of balsam or spruce within the stand.
41	4110 - Sugar Maple Association	Poletimber Well	9.1	72	111-140	Data taken from the stand to the north. This stand should be cut when Newberry set's their stand up.
42	6122 - Black Spruce	Poletimber Well	59.8	83	81-110	Wet black spruce stand, some scattered red maple. Stand is very hard to get to.
46	6122 - Black Spruce	Poletimber Well	16.1	83	81-110	Very similar to the stand to the west but not quite as dense and it is wetter, also has scattered Bam and red maple. Smaller Diameter too. Cut in 10 - 20 years.
47	4112 - Maple, Beech, Cherry Association	Poletimber Well	7.7	66	51-80	Stand was thinned in 2012.
48	42340 - Upland Spruce/Fir	Sapling Well	24.5	25	Immature	This stand has regenerated to primarily conifer. Nice contrast around all of the wetland in the area.
53	4136 - Aspen, Mixed Conifer	Sapling Well	10.7	36	1-50	Nice aspen regeneration. Just starting to convert to a pole stand.
54	4134 - Aspen, Spruce/Fir	Sapling Well	2.2	31	1-50	
67	6120 - Lowland Cedar	Poletimber Medium	10.6	100	1-50	Very wet cedar stand. Sparse cover for deer.
68	6124 - Lowland Spruce- Fir	Poletimber Well	20.9	94	81-110	This stand extends into the compartment to the south. We can set it up as a supplement to go with the rest of the stand when it is harvested.



Stand	Cover Type	Acres	Managed Site	General Comments:
6	310 - Herbaceous Openland	2.5	No	Stand was cut in 2013. Conifer was left.
7	122 - Road/Parking Lot	1.2	No	
11	330 - Low-Density Trees	42.2	No	
14	622 - Lowland Shrub	51.3	No	
21	320 - Upland Shrub	19.1	No	
25	3102 - Grass	5.2	No	
26	500 - Water	3.5	No	
29	623 - Emergent Wetland	7.5	No	
30	623 - Emergent Wetland	19.6	No	Large, wet cedar stand, blocks access to stands to the west.
31	622 - Lowland Shrub	11.5	No	Large, wet cedar stand, blocks access to stands to the west.
33	623 - Emergent Wetland	5.0	No	
34	500 - Water	1.4	No	
35	622 - Lowland Shrub	33.9	No	
36	622 - Lowland Shrub	2.5	No	
38	623 - Emergent Wetland	43.0	No	
39	623 - Emergent Wetland	2.5	No	
40	623 - Emergent Wetland	4.9	No	
43	623 - Emergent Wetland	18.8	No	
(				



Stand	Cover Type	Acres	Managed Site	General Comments:
44	3102 - Grass	5.2	No	
45	500 - Water	14.7	No	
49	310 - Herbaceous Openland	2.1	No	Stand was thinned in 2012.
50	622 - Lowland Shrub	6.0	No	
51	623 - Emergent Wetland	2.4	No	
52	622 - Lowland Shrub	1.9	No	Some smaller wet openings within the stand.
55	320 - Upland Shrub	10.1	No	Stand has cedar along western edge. Also a small portion (about 3 acres) of the stand was clearcut in 2000 as part of Thin Ice Aspen Sale.
56	320 - Upland Shrub	1.7	No	Stand has cedar along western edge. Also a small portion (about 3 acres) of the stand was clearcut in 2000 as part of Thin Ice Aspen Sale.
57	622 - Lowland Shrub	19.7	No	
58	623 - Emergent Wetland	11.3	No	
59	623 - Emergent Wetland	9.6	No	
60	623 - Emergent Wetland	14.1	No	
61	622 - Lowland Shrub	1.1	No	
62	622 - Lowland Shrub	2.2	No	
63	622 - Lowland Shrub	8.2	No	
64	622 - Lowland Shrub	14.3	No	
65	622 - Lowland Shrub	7.2	No	
66	622 - Lowland Shrub	5.0	No	

Sault Ste. Marie Mgt. Unit

# Report 8 - Nonforested Stands



Stand	Cover Type	Acres	Managed Site	General Comments:
69	622 - Lowland Shrub	9.0	No	
70	622 - Lowland Shrub	6.6	No	