



Compartment Review Presentation

Sault Ste. Marie Forest Management Unit

Compartment 45131

Entry Year 2018

Acreage: 1,945

County Mackinac

Management Area: Sage Truck Trail

Revision Date: 2016-07-21

Stand Examiner: Matt Edison

Legal Description:

T44N, R7W, Sec 2,3, & 4 (Hendricks Township)

Identified Planning Goals:

This compartment is located north of Fiborn Quarry along the Chippewa County line. This is a super variable compartment with ground ranging from lakes to ridges and every gradient of wetland and upland in between. Past management has enhanced the age class diversity and species diversity of most of the accessible upland and ridges. A majority of the lowland areas are inoperable and a good portion of the northwest part of the compartment west of the Hendrie River is virtually inaccessible. This entry management will be focused on harvest and regeneration of one stand of mixed upland spruce. Overall, a very diverse compartment in both age and species composition.

Soil and topography:

The majority of the upland and transitional areas of the compartment are dominated by Markey-Spot-Finch complex, with two separate areas of Finch-Dawson-Pullup complex. These areas are on depressions to nearly level areas to low ridges and dunes. Scattered gently rolling to steep narrow ridges throughout the central part of the compartment are made up of Pullup fine sand. Some of the aspen-birch areas are comprised of Paquin-Spot complex. This also is on depressions, nearly level and undulating areas. While some of the lowland coniferous forests reside on all these complexes, there are areas of Markey and Carbondale mucks also. The southeast corner of the compartment has northern hardwood stands located on gently rolling and rolling areas and are situated on Wallace sand.

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

The majority of the surrounding area is under the ownership of the State of Michigan, with the area to the north being managed out of the Newberry Management Unit. There are two relatively large landowners located north of section 4, in Chippewa County. One hunting camp is located there. There is some private ownership to the south of section 4, mainly hunting camps. Access to the southwestern portion of the compartment is through a management easement over the private land.

Unique Natural Features:

There is a record of a state threatened species associated with the ponds within this compartment. 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) in previous YOE. Sections 2 & 4 included in Archaeology GIS polygon Layer.

Special Management Designations or Considerations:

The entire compartment, (except for extreme NW corner) is within the Northern Long-Ear Bat polygon area.

Watershed and Fisheries Considerations:

Fisheries Values: Good to Excellent

Fisheries Concerns: There are many low marshy areas in this compartment that would need to be taken into consideration. The South Branch Hendrie River is a designated trout stream as well as the other various smaller tributaries draining this compartment. It appears as though most of this compartment is in accessible due to wet conditions in typical years. A 300 ft, no clear-cut buffer, should be in place when working adjacent to surface water.

Wildlife Habitat Considerations:

Compartment 131 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. The compartment is a mosaic of lowland swamps with upland sandy ridges, and is dominated by conifer stands ranging from cedar to black spruce and white pine. Hemlock is also a common component in some areas. Aspen, red maple, and white birch are common deciduous

components of some stands and dominate in stands in the southeastern portion of the compartment as well as the southwest corner. Black cherry is also a common component. Many of these deciduous stands were treated over the past 25 years with hemlock and white pine being retained. The young growth benefits species like ruffed grouse and snowshoe hare. The mature forest areas, contiguous habitat, and soft mast sources provide one or more of the habitat characteristics that benefit species like marten and black bear.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of peat & muck and lacustrine (lake) sand and gravel. There is insufficient data to determine the glacial drift thickness. The Silurian Manitoulin Dolomite and Ordovician Queenston Shale subcrop below the glacial drift. FROM 2008: The Manitoulin is quarried for stone/limestone eight miles to the west at Hendricks Quarry. Fiborn quarry is located two miles to the south. Gravel pits are not located in the area and potential is questionable. There is no current economic oil and gas production in the UP.

Vehicle Access:

Vehicle access is limited to three access points. The southeastern portion is accessed via Quarry Lane (county gravel road) and two-tracks off Quarry Lane. The middle portion of the compartment is accessed by Johnson-Paul Road, a DNR sand/gravel road. There are several two tracks off of this road that have been blocked to traffic following the management treatments conducted during the last decade. The Johnson-Paul Road continues a short distance onto private property north of the compartment boundary. The southwestern portion of the compartment is accessed via a two-track which crosses private property. It is gated on the private property, but the DNR holds a management easement over this property to conduct our management activities.

Survey Needs:

None needed this entry.

Recreational Facilities and Opportunities:

No permanent recreational facilities exist within the compartment. However, there are interesting trails and a kiosk featuring the karst features and past history located to the south by the Fiborn Quarry Karst Preserve. While vehicle access is limited, there is ample opportunity for walk-in hunting for all types of game species, as well as bird watching, photography, mushroom and berry picking.

Fire Protection:

There is some potential for lightning strikes to evolve in the area. Access is generally poor within this compartment and any fire within the interior could pose access difficulties. The areas of heavy soil will increase mop-up difficulties in the event of a fire. However, there are numerous wet areas scattered throughout the compartment that may provide a source of water if needed.

Additional Compartment Information:

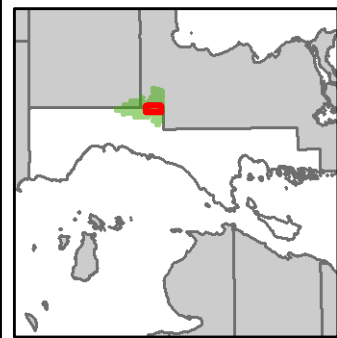
The following reports from the Inventory are attached:

- 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:

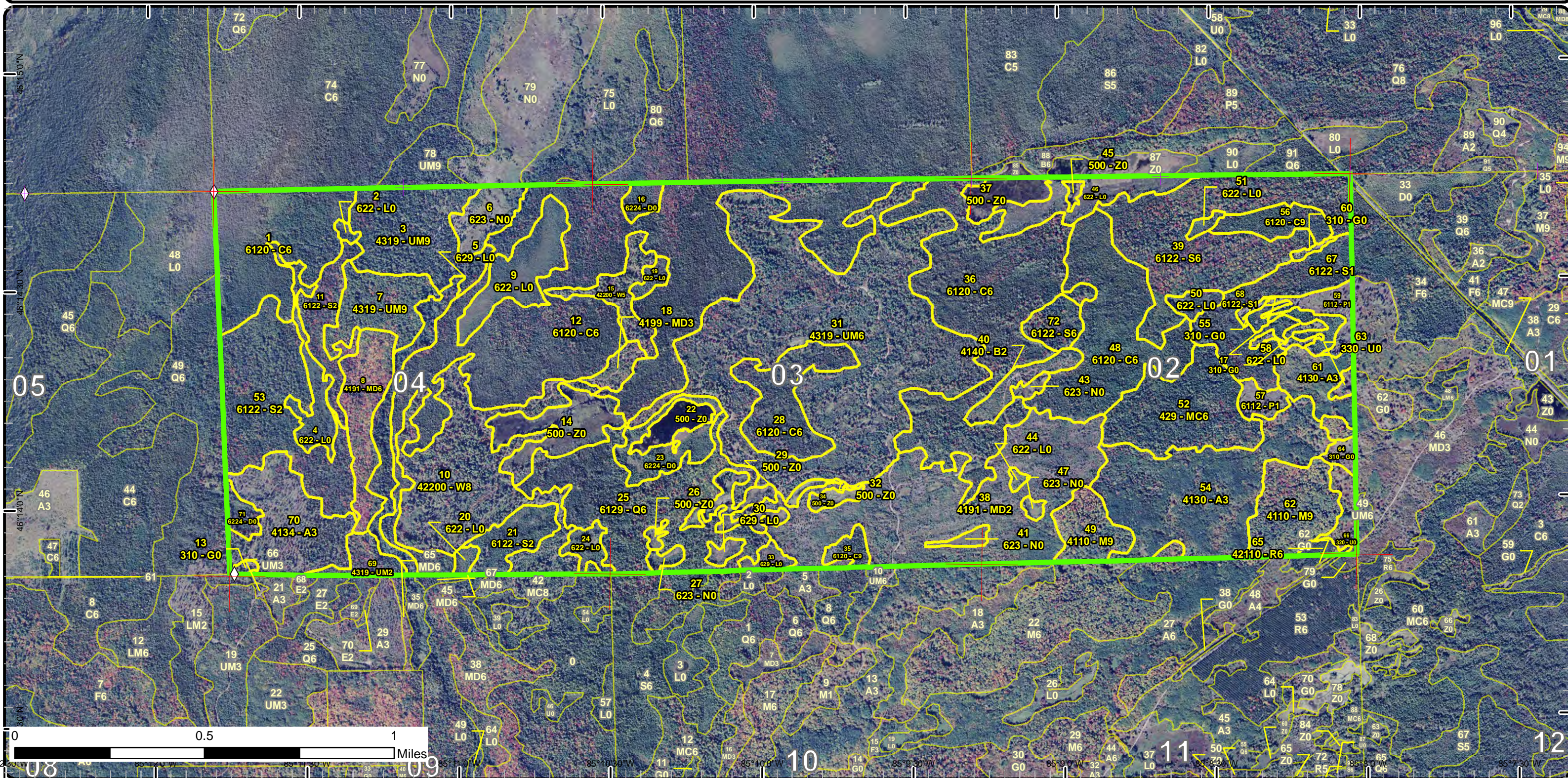
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Stand Boundary Map



Compartment: 131
 T44N, R07W, Sec: 02-04
 County: Mackinac
 Unit: Sault Ste. Marie
 Mgmt Area: Sage Truck Trail
 YOE: 2018
 Acres: 1,945 GIS Calculated
 Examiner: Matt Edison
 Map Revised: 12/6/2016
 Map Phase: Post Review

- Miris Corners
- + Remonumented Section Corners
- ◇ Field Grade GPS Corners
- Compartment Boundary
- Stand Boundaries
- 411 - Northern Hardwood
- 413 - Aspen Types
- 414 - Other Upland Deciduous
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 629 - Mixed non-forested wetland



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	43	18	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	147
Cedar	0	0	0	0	0	0	0	0	0	143	228	118	0	38	0	0	0	0	527
Herbaceous Openland	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Low-Density Trees	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Lowland Aspen/Balsam Poplar	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Lowland Conifers	0	0	0	0	0	0	0	79	0	0	0	0	0	0	0	0	0	0	79
Lowland Shrub	115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	115
Lowland Spruce/Fir	0	39	0	0	0	6	16	184	0	0	0	0	0	0	0	0	0	0	245
Marsh	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
Mixed Upland Deciduous	0	0	133	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	161
Northern Hardwood	0	0	0	0	0	0	0	0	19	33	0	0	0	0	0	0	0	0	52
Paper Birch	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Red Pine	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Treed Bog	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
Upland Conifers	0	0	0	0	0	0	0	48	0	0	0	0	0	0	0	0	0	0	48
Upland Mixed Forest	0	0	0	222	9	0	0	0	72	0	0	0	0	0	0	0	0	0	303
Upland Shrub	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Water	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65
White Pine	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	100
Total	255	99	161	308	12	0	6	44	311	91	276	228	118	0	38	0	0	0	1946



Report 2 – Treatment Summary

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

Acres of Harvest

Compartment 131
Total Compartment Acres: 1,945

Commercial Harvest - 48
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
Upland Conifers	48	0	0	0	0	0	0	0	0	48
Total	48	0	0	0	0	0	0	0	0	48

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	48	0	0	0	0	0	0	0	0	48
Next Step	0	0	0	0	0	48	0	0	0	48
Total	48	0	0	0	0	48	0	0	0	97



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
52 45131052-Cut	48.3	429 - Mixed Upland Conifers	Poletimber Well	79	141-170	Harvest	Clearcut with Retention	429 - Mixed Upland Conifers	Even-Aged	Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Final Harvest the upland portions of the stand. Protect wetland areas. Leave large White Pine and representatives of all species. Leave brush piles where possible and some hinged trees, particularly near lowland conifer edges, to benefit snowshoe hare. Treatment size may vary from original size depending upon actual ground conditions.

Next Step Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable Regen: Acceptable regeneration will be any mix of black spruce, balsam fir, cedar, white spruce, white pine, aspen, maple, birch, cherry, or hemlock.

Other Comment:

Proposed Start Date: 10/01/2017

Total Treatment Acreage Proposed: 48.3

Report 4 – Site Conditions

Sault Ste. Marie Mgt. Unit

Matt Edison : Examiner

Compartment: 131

Year of Entry: 2018

Availability for Management

Total Acres	Acres Available	Acres Available		Dominant Site Conditions	Dominant Site Conditions			
		With Condition	Not Available		2H	3H	3J	3L
146	146	0	0	Aspen				
526	51	0	475	Cedar	61		0	414
12	12	0	0	Herbaceous Openland				
2	2	0	0	Low-Density Trees				
17	17	0	0	Lowland Aspen/Balsam Poplar				
79	78	0	0	Lowland Conifers		0		
115	115	0	0	Lowland Shrub	0		0	
245	244	0	0	Lowland Spruce/Fir	0			
24	24	0	0	Marsh		0		
161	161	0	0	Mixed Upland Deciduous				
52	52	0	0	Northern Hardwood				
10	10	0	0	Paper Birch				
3	3	0	0	Red Pine				
28	28	0	0	Treed Bog				
48	48	0	0	Upland Conifers				
303	231	0	72	Upland Mixed Forest	72		0	
8	8	0	0	Upland Shrub				
66	66	0	0	Water	0			
100	100	0	0	White Pine				
1,945	1,397		548	Total Forested Acres	134	0	0	414
	72%		28%	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	3L: Other wildlife concerns	187	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Sault Ste. Marie Mgt. Unit

Matt Edison : Examiner

Compartment: 131

Year of Entry: 2018

2	Unavailable	3L: Other wildlife concerns	228	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
3	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	61	3L: Other wildlife concerns	Unspecified	Unspecified	Unspecified
Comments:							
4	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	72	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.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6120 - Lowland Cedar	Poletimber Well	61.0	95	Unspecified	Age/stand data from previous inventory.
3	4319 - Mixed Upland Forest	Sawtimber Well	45.7	83	111-140	Age data from previous inventory. Access is major issue, was not able to find a reasonable, dry route to the stand. Appears to be similar to many other portions of the compartment - upland/lowland components
7	4319 - Mixed Upland Forest	Sawtimber Well	26.4	83	111-140	Age data from adjacent stands and similar looking stands within the compartment. Appears to be more lower ground than adjacent stand to north. Access is major issue, was not able to find a reasonable, dry route to the stand. Appears to be similar to many other portions of the compartment - upland/lowland components.
8	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	27.7	60	51-80	Variable ground stand. Was only able to access very south part of stand before it got too wet. There is black spruce and tag alder in the lower areas. Graduates up to some balsam and red maple in the more upland. Overall small diameters.
10	42200 - Natural White Pine	Sawtimber Medium	85.1	90	51-80	Cut as part of Dan's Moose Block. Some low areas within stand. WP and RP seeding in (1' - 2' tall). Some areas with more subcanopy than others.
11	6122 - Black Spruce	Sapling Medium	19.1	70	51-80	Poor quality lowland black spruce. Similar looking to stand 53, which was seen from stand 70.
12	6120 - Lowland Cedar	Poletimber Well	228.1	100	111-140	Comment from previous inventory: (first 50 years of core was within hte first inch!) very wet, small dense cedar.
15	42200 - Natural White Pine	Poletimber Medium	15.2	90	51-80	Was cut as part of Dan's Moose Block in 2000. All but WP and Hemlock were cut. Very cool stand.
18	4199 - Other Mixed Upland Deciduous	Sapling Well	6.3	16	Immature	Somewhat sparse mixed regeneration. Small White pine seedlings popping up in places.
21	6122 - Black Spruce	Sapling Medium	15.9	67	Unspecified	spruce bog - pockets of thicker trees interspersed amongst more open areas
25	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	78.6	70	81-110	Lowland with some upland ridges. Quite variable and very wet in some spots. Check for growth in 10 years. Similar to other stands in the area and could be harvested in a future entry.
28	6120 - Lowland Cedar	Poletimber Well	32.7	135	Unspecified	Extremely wet, small cedar.
31	4319 - Mixed Upland Forest	Poletimber Well	221.9	24	1-50	RP, WP and H left from cutting. Beautiful white pine stand with good regeneration. Some big hemlock patches around wet holes.
35	6120 - Lowland Cedar	Sawtimber Well	5.1	131	Unspecified	Very wet and flooded in areas, some blow down.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
36	6120 - Lowland Cedar	Poletimber Well	118.0	118	51-80	Large stand of mixed cedar and black spruce. There are a few areas of high ground with some hemlock and white pine. Overall a very low and wet stand.
38	4191 - Mixed Upland Deciduous with Conifer	Sapling Medium	127.3	15	Immature	Mixed regeneration with lots of lowland ponds scattered. Nice wp seeded in all over.
39	6122 - Black Spruce	Poletimber Well	87.8	70	81-110	Black Spruce stand with some ridges that have some birch and a few scattered pine. Not very big diameters or productivity.
40	4140 - Other Upland Deciduous	Sapling Medium	10.3	15	Unspecified	Nice WB regen!
48	6120 - Lowland Cedar	Poletimber Well	68.6	95	Unspecified	
49	4110 - Sugar Maple Association	Sawtimber Well	19.3	85	51-80	Thinned in 2002. Nice hardwood stand. Manage(d) with compartment to the south.
52	429 - Mixed Upland Conifers	Poletimber Well	48.3	79	141-170	Upland black spruce with lower ground in areas.
53	6122 - Black Spruce	Sapling Medium	67.2	70	51-80	Poor quality lowland black spruce.
54	4130 - Aspen	Sapling Well	85.9	24	Unspecified	Cut in 1991. Nice looking aspen regeneration with conifer mix. Open areas scattered within.
56	6120 - Lowland Cedar	Sawtimber Well	13.1	92	Unspecified	more black spruce on far east end
57	6112 - Lowland Aspen	Sapling Poor	6.3	6	Unspecified	Cut in 2010. 45-123-07-01 resting Place Mix.
59	6112 - Lowland Aspen	Sapling Poor	10.5	6	Unspecified	Cut in 2010. 45-123-07-01.
61	4130 - Aspen	Sapling Well	17.5	14	Unspecified	Cut in 2001. Several low spots/vernal ponds.
62	4110 - Sugar Maple Association	Sawtimber Well	32.9	97	81-110	Thinned in 2002. Manage(d) with stands in compartment to the south. basal areas still low, check in 10 years.
65	42110 - Planted Red Pine	Poletimber Well	2.6	32	111-140	Red pine planted in 1984. 2-3 stick, 8"dbh. Third Row thinned in 2012. 45-120-11-01. Part of larger RP plantation that extends into compartments to the south and east.
67	6122 - Black Spruce	Sapling Poor	39.0	6	Unspecified	Cut in 2010. 45-123-07-01 resting Place Mix.
68	6122 - Black Spruce	Sapling Poor	5.9	55	Unspecified	Cut in 2010. 45-123-07-01 resting Place Mix.

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Sault Ste. Marie Mgt. Unit

Report 7 – Forested Stands

Compartment: 131
Year of Entry: 2018

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
69	4319 - Mixed Upland Forest	Sapling Medium	9.0	30	Immature	Mixed stand of variable ground. Tamarack, Black Spruce, and Cedar in lower ground and maple, birch and some white pine in upland spots. Lots of tag alder brush scattered throughout.
70	4134 - Aspen, Spruce/Fir	Sapling Well	43.2	5	Immature	Cut in 2011. 45-118-08-01. 4-Wheel Mix
72	6122 - Black Spruce	Poletimber Well	10.0	74	51-80	Mostly lowland spruce with a narrow ridge with scattered white pine and birch. South part of stand is very wet with flooding evident. Low basal area in places.



Stand	Cover Type	Acres	Managed Site	General Comments:
2	622 - Lowland Shrub	1.5	No	
4	622 - Lowland Shrub	15.3	No	
5	629 - Mixed non-forested wetland	21.2	No	Hendrie River corridor.
6	623 - Emergent Wetland	14.3	No	
9	622 - Lowland Shrub	25.9	No	
13	310 - Herbaceous Openland	1.1	No	
14	500 - Water	26.3	No	
16	6224 - Treed Bog	5.0	No	
17	310 - Herbaceous Openland	4.0	No	
19	622 - Lowland Shrub	3.7	No	
20	622 - Lowland Shrub	2.4	No	
22	500 - Water	8.7	No	
23	6224 - Treed Bog	17.3	No	spruce bog type surrounding water
24	622 - Lowland Shrub	6.5	No	
26	500 - Water	1.5	No	
27	623 - Emergent Wetland	2.6	No	
29	500 - Water	12.1	No	
30	629 - Mixed non-forested wetland	2.8	No	



Stand	Cover Type	Acres	Managed Site	General Comments:
32	500 - Water	1.8	No	
33	629 - Mixed non-forested wetland	4.0	No	
34	500 - Water	3.4	No	
37	500 - Water	10.5	No	
41	623 - Emergent Wetland	2.9	No	
43	623 - Emergent Wetland	2.4	No	
44	622 - Lowland Shrub	1.3	No	
45	500 - Water	1.4	No	
46	622 - Lowland Shrub	21.6	No	
47	623 - Emergent Wetland	1.6	No	
50	622 - Lowland Shrub	4.7	No	
51	622 - Lowland Shrub	2.1	No	
55	310 - Herbaceous Openland	1.5	No	
58	622 - Lowland Shrub	2.2	No	
60	310 - Herbaceous Openland	1.3	No	
63	330 - Low-Density Trees	2.1	No	
64	310 - Herbaceous Openland	3.7	No	
66	320 - Upland Shrub	8.1	No	



Stand	Cover Type	Acres	Managed Site	General Comments:
71	6224 - Treed Bog	5.3	No	Cut in 2011.