

Compartment Review Presentation

Sault Ste. Marie Forest Management Unit

Compartment 170 Entry Year 2016 Acreage: 1,902

County Mackinac

Management Area: Mackinac Mix

Revision Date: 06/27/2014

Stand Examiner: Matt Edison

Legal Description:

T44N-R9W, Sections 23, 26 & 35

Identified Planning Goals:

This compartment is located approximately 4 miles Northeast of Naubinway, specifically 2 miles North of Hiawatha Trail on Cranberry Lake Rd.. Objectives this entry period include: Final harvest and thinning of some existing mature red pine stands to promote age class diversity and initiate regeneration. Several existing immature red pine stands will be monitored for release and pest concerns. There is also one natural pine stand that will be managed to regenrate jack pine. A stand of overmature aspen and birch will alos be harvested to initiate stand regeneration.

Soil and topography:

The compartment topography is generally flat to gently rolling. There are some low ridges within the bogged area. Generally the west and southern portions of the compartment are dominated by sandy soils; Wallace, Paquin-Finch, and Spot-Finch complex. The northern 2/3 and eastern parts of the compartment are dominated by Dawson-Loxely Peats and Finch-Dawson-Pullup complex. There is an area of Rubicon sand in the NW.

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

The entire compartment is comprised of state owned land. Hiawatha Sportsman's Club borders the entire compartment to the west. There is a private forty bordering section 35 to the east. There are two private holdings bordering the SESW and SWSE of section 35.

Unique Natural Features:

There is a large blueberry bog complex located within the compartment. 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:

No Archeological, Historical, or Cultural Features known.

Special Management Designations or Considerations:

Blueberry bog along Cranberry Lake Road is under proposal for prescribed burning for maintenance.

Watershed and Fisheries Considerations:

None.

Wildlife Habitat Considerations:

This compartment is part of the Mackinac Mix Management Area, and includes part of the Cranberry bog complex which contains muskeg. The bog complex and other associated wetlands are common on the east side of the compartment. The western portion is dominated more by hardwoods, pine, and mixes including hemlock and white pine. The original surveyor's notes show that this area generally contained a diversity of tree species in the pre-settlement forest. The assemblage of tree species includes hemlock, white birch, yellow birch, sugar maple, black ash, aspen, elm, red maple, and cedar. Lowlands also contained spruce and tamarack. With the exception of the red pine plantations, this compartment likely resembles the pre-settlement condition. Hemlock and white pine occupy a fair amount of the land interspersed with a mosaic of both hard and softwood types. This is a highly diverse compartment with wildlife habitat objectives including maintenance of the mature mesic confer component as well as wetlands including the muskeg. Ongoing maintenance of the lowland blueberry bog likely will benefit human users more than wildlife. Wildlife species with the potential to benefit from the prescriptions include white-tailed deer, American woodcock, bobcat, snowshoe hare, black bear, garter snake, and neo-tropical migrant birds.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of lacustrine (lake) sand and gravel. There is insufficient data to determine the glacial drift

thickness. The Silurian Engadine and Manistique Groups subcrop below the glacial drift. The Engadine is quarried for stone/limestone elsewhere in the UP. Gravel pits are not located in the compartment and potential may be limited. A well was drilled in Section 27 in the 1940s. There is no current economic oil and gas production in the UP.

Vehicle Access:

Main access into the compartment is via Cranberry Lake Road (County), which runs north/south through the entire length of the compartment. There are numerous two-track woods roads accessing stands from Cranberry Lake Road throughout the compartment. Cranberry Lake Road meets Mackinac County Road H-40 approximately 2.5 miles to the south of the compartment.

Survey Needs:

Blue property lines will need to be painted, but existing corners are adequate.

Recreational Facilities and Opportunities:

Hunting and trapping opportunities are plentiful with the wide range of habitat types within this compartment (see wildlife notes). Blueberry picking is also common. Cranberry Lake road is a groomed snowmobile trail #2.

Fire Protection:

There is potential for fire in this compartment. The combination of high use (recreation, logging, etc.) and favorable fuel types lends to the possibility of fire. The upland fuel types are predominantly pine with some areas of hardwoods. There is a large area of blueberry bog, which is presently scheduled for prescribed burn. There is limited access to the scattered ridges to the east edge of the compartment. Water is normally available at various locations around the bog. There are no other permanent water sources within the compartment.

Additional Compartment Information:

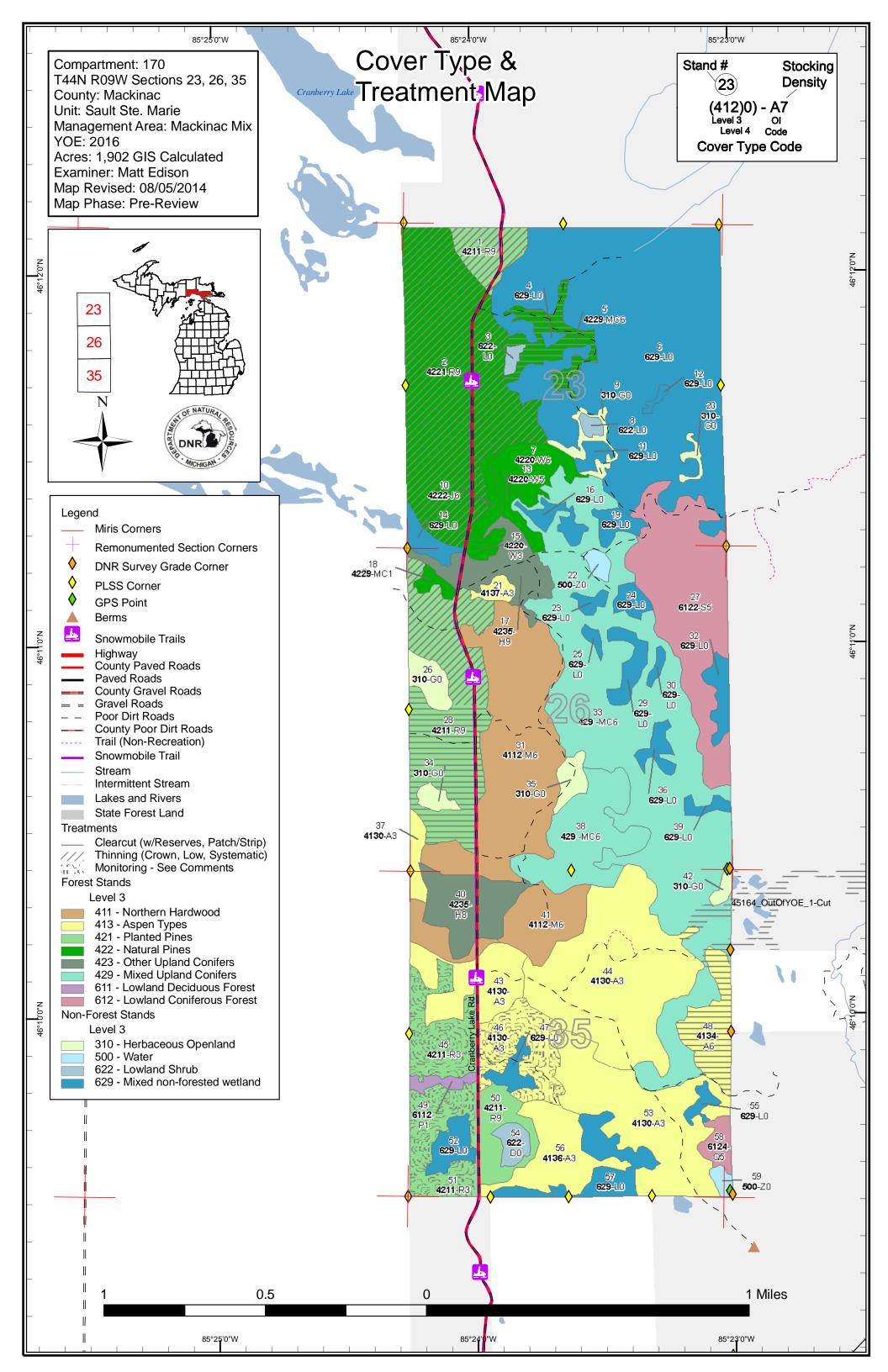
None

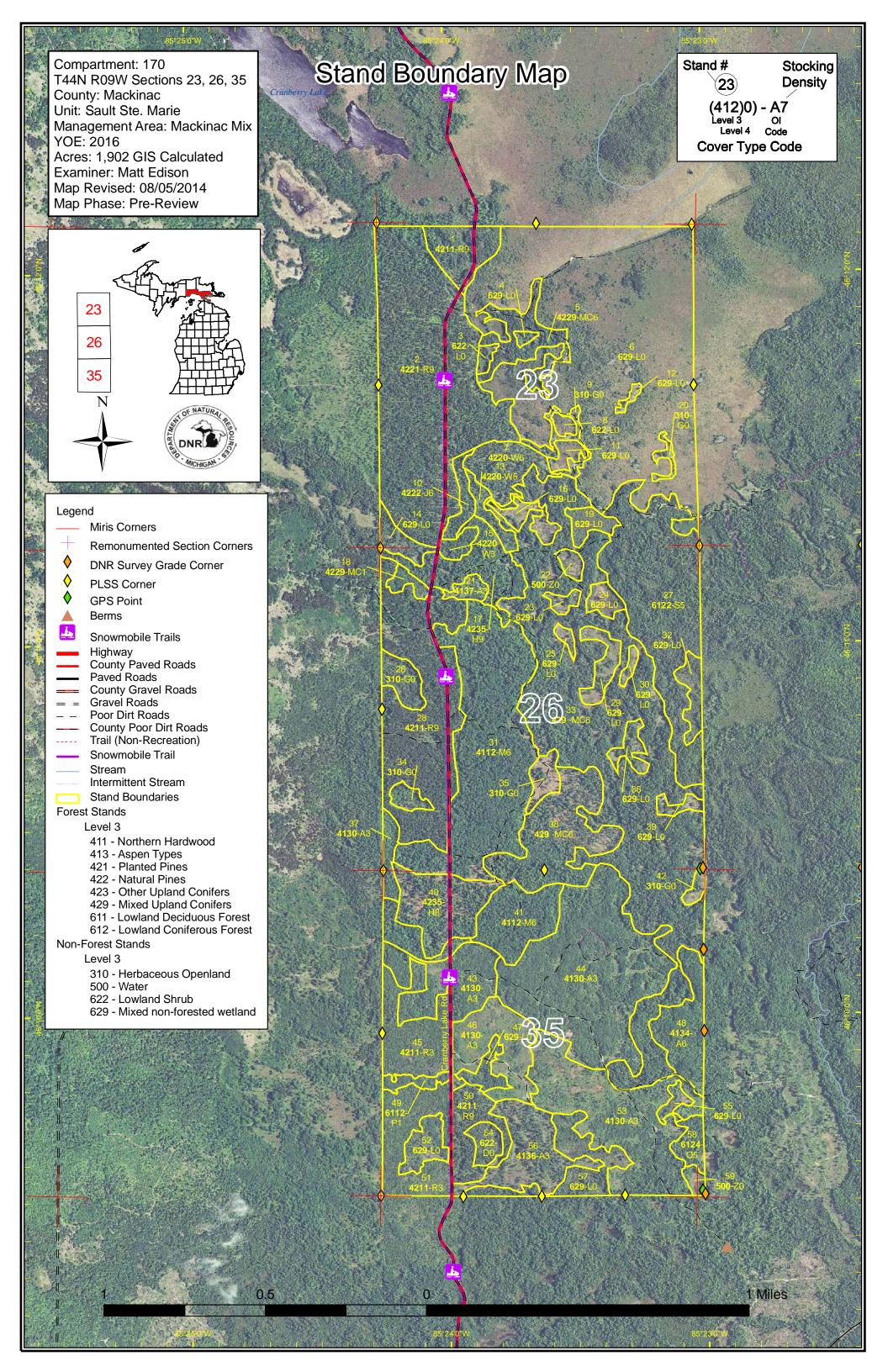
The following reports from the Inventory are attached:

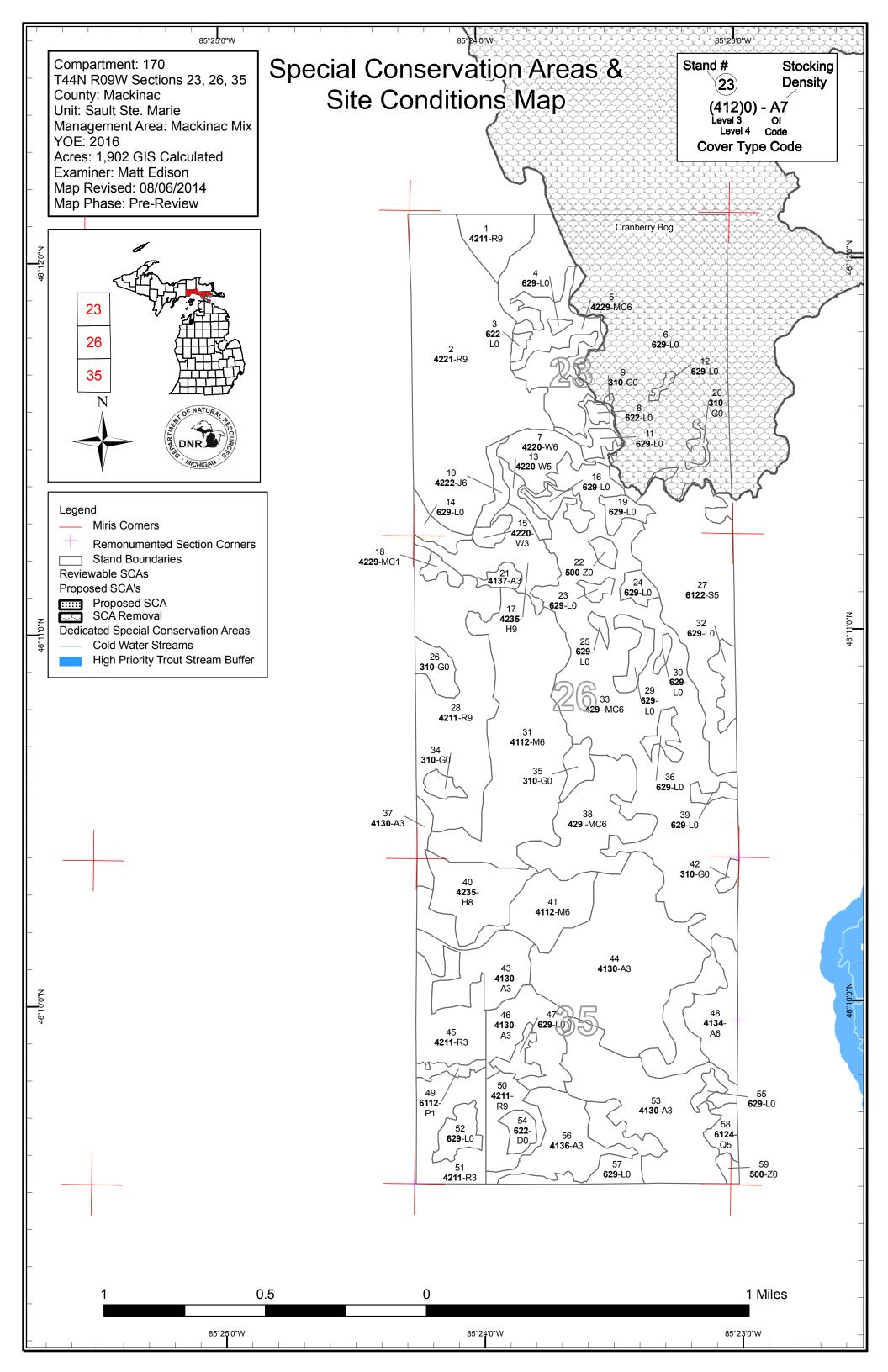
Total Acres by Cover Type and Age Class Cover Type by Harvest Method Proposed Treatments – No Limiting Factors Proposed Treatments – With Limiting Factors Stand Details (Forested and Nonforested) Dedicated and Proposed Special Conservation Areas Site Condition Details

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







Compartment 170 Year of Entry 2016

Sault Ste. Marie Mgt. Unit

Matt Edison : Examiner



Age Class

Age Class																
		80	, Q. 7.9	Parks /	, or or	D. C.	\$5.05°	8	10° /	401.00 G	85.00	on on one	70,73	No X	S /	, so l
Aspen	74	124	125	0	0	0	26	0	0	0	0	0	0	0	349	
Hemlock	0	0	0	0	0	0	0	0	65	0	0	0	0	0	65	
Herbaceous Openland	35	0	0	0	0	0	0	0	0	0	0	0	0	0	35	
Jack Pine	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7	
Lowland Aspen/Balsam Poplar	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5	
Lowland Conifers	0	0	8	0	0	0	0	0	0	0	0	0	0	0	8	
Lowland Shrub	403	0	0	0	0	0	0	0	0	0	0	0	0	0	403	
Lowland Spruce/Fir	0	0	98	0	0	0	0	0	0	0	0	0	0	0	98	
Natural Mixed Pines	0	4	0	0	0	23	0	0	0	0	0	0	0	0	27	
Northern Hardwood	0	0	0	0	0	0	29	135	0	0	0	0	0	0	164	
Red Pine	0	70	0	0	0	0	0	307	0	0	0	0	0	0	377	
Treed Bog	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
Upland Conifers	0	0	0	0	0	264	0	0	53	0	0	0	0	0	317	
Water	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
White Pine	0	0	5	0	0	0	7	0	20	0	0	0	0	0	32	
Total	525	203	243	0	0	287	62	442	139	0	0	0	0	0	1902	



Report 2 – Proposed Treatment Summaries

Sault Ste. Marie Mgt. Unit Year of Entry 2016

Compartment 170 Total Compartment Acres: 1,902

Acres by Treatment Type

Commercial Harvest - 344 Tree Planting - 56 Other - 0

Habitat Cut - 0 Opening Maintenance - 0

	Cover Type by Harvest Method								
		/	Clear of	Sei o	Lie S	New Oo	Cining Sec		Reces /
Aspen Types		34	0	0	0	0	0	34	
Natural Pines	-	23	0	0	0	168	0	191	
Planted Pines		56	0	0	0	63	0	119	
	Total	112	0	0	0	231	0	344	

Sault Ste. Marie Mgt. Unit

Report 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 170 Year of Entry 2016

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a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
1	45170001-Cut	19.9	42110 - Planted Red Pine	High Density Log	70	111-140	Harvest	Crown Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Thin the portion of stand that is on top of ridge lines. Thin to approximately 120 basal area.

Specs:

S

Other Comments:

Next Steps:

Proposed

10/01/2015 Start Date:

168.4 42210 - Natural High 77 141-170 Harvest Crown Thinning 4211 - Planted Red Cmpt. Review 2 45170002-Cut Red Pine Density Log Pine Proposal

Prescription Thin stand to average basal area of approximately 120.

Specs:

Other Comments:

Next Steps:

Proposed

10/01/2015 Start Date:

45170005-Cut 22.9 42290 - Natural High 141-170 Harvest Clearcut with 4222 - Natural Jack Cmpt. Review Mixed Pine Density Reserves Pine Proposal Pole

Prescription Clearcut the north part of the stand, but retain some quality red and white pine scattered. Thin the remainder of the stand by removing the overmatur jack pine and aspen. Retain all the black spruce within a buffer area along stand edge along bog. Prefer bare ground for treatment Specs: operations for some scarification to promote jack pine regeneration.

<u>Other</u> Comments:

<u>Next</u>

Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is aspen, maple, yellow birch, white pine,

spruce, fir, jack pine, red pine, and tamarack. Steps:

Proposed

10/01/2015 Start Date:

42110 - Planted 4211 - Planted Red 28 45170028-Cut 55.6 High 141-170 Harvest Clearcut with Cmpt. Review Red Pine Pine Proposal **Density Log** Reserves

Prescription Clearcut red pine. Retain some large red pine along stand boundary.

Specs:

Other In stand retention of large trees is dangerous for future site prep., release and pest concern helicopter sprayings.

Comments:

Stand should be burned, chipped, or site prepped for following trenching and re-planting. After its planted the stand should be mnitored for

further release and pest concerns. Steps:

Proposed

<u>Next</u>

10/01/2015 Start Date:

28 45170028-43.1 42110 - Planted High 141-170 Harvest Crown Thinning 4211 - Planted Red Cmpt. Review Cut1_small Red Pine **Density Log** Pine Proposal

Prescription Thin this portion of stand to average basal area of 120.

Specs:

<u>Other</u>

Comments:

<u>Next</u> Steps:

Proposed

Start Date: 10/01/2015 Sault Ste. Marie Mgt. Unit

Report 3 -- Treatments Prescribed with No Limiting Factor

Compartment: 170 Year of Entry 2016

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a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
48	45170048-Cut	33.8	4134 - Aspen, Spruce/Fir	High Density	62	141-170	Harvest	Clearcut with Reserves	4137 - Aspen, Birch	Cmpt. Review Proposal

<u>Prescription</u> Final Harvest aspen, spruce/balsam and red maple, with Largest best quality overstory white pine as reserve. Follow retention guidelines.

Specs: Exclude any lowland areas from treatment.

Other Comments:

S

Follow-up treatment with a regeneration survey as per the work instructions. Acceptable regeneration is aspen, maple, cherry, cedar, yellow and

Steps: paper birch, balsam fir, white spruce, black spruce and white pine.

<u>Proposed</u>

Next

Start Date: 10/01/2015

45 45170045-33.9 42110 - Planted High 14 Monitoring See Comments 4211 - Planted Red Cmpt. Review Red Pine Proposal Density Pine Monitor Sapling

Prescription Monitor for release and treat as necessary. Monitor for RHPS and if monitoring shows that treatment is recommended, then spray when/if

Specs: necessary with appropriate insecticide recommended by Forest Health Specialist/TMS.

Other Comments:

Next

Steps: Proposed

Start Date: 10/01/2015

46 45170046- 34.8 4130 - Aspen High 4 Monitoring See Comments 4211 - Planted Red Cmpt. Review Pine Proposal Sapling

Prescription Stand was planted in 2014. Conduct regeneration survey oer work instructions.

Specs:

Other Comments:

Next Monitor for release and treat as necessary. Monitor for RHPS and if monitoring shows that treatment is recommended, then spray when/if

Steps: necessary with appropriate insecticide recommended by Forest Health Specialist/TMS.

Sapling

Proposed

Start Date: 10/01/2015

51 45170051- 36.1 42110 - Planted High 14 Monitoring See Comments 4211 - Planted Red Cmpt. Review Pine Proposal

Prescription Specs:

Other Comments:

Next Monitor for release and treat as necessary. Monitor for RHPS and if monitoring shows that treatment is recommended, then spray when/if

Steps: necessary with appropriate insecticide recommended by Forest Health Specialist/TMS.

Proposed

Start Date: 10/01/2015

Total Treatment

Acreage Proposed: 448.4

Sault Ste. Marie Mgt. Unit Report 4 -- Treatments Prescribed with Compartment: 170 a Site Condition s Year of Entry 2016 t **Treatment** Acres CoverType Size Stand ВА **Treatment Treatment Cover Type Approval** n Objective Method Status Name Range Density Age Type #Type! #Type! **Prescription** Specs: **Other** Comment: <u>Next</u> Steps: <u>Proposed</u> #Type! Start Date:

Total Treatment

Limiting Factor

Acreage Proposed: 0.0

Report 5 – Site Conditions

Sault Ste. Marie Mgt. Unit

Matt Edison: Examiner

Compartment 170 Year of Entry 2016

Availability for Management

Total	Acres	Acres	D	ominaı	nt Site Conditions
Acres	Available	Not Available		No	
349	349		Aspen	349	
65	65		Hemlock	65	
7	7		Jack Pine	7	
5	5		Lowland Aspen/Balsam Poplar	5	
8	8		Lowland Conifers	8	
98	98		Lowland Spruce/Fir	98	
27	27		Natural Mixed Pines	27	
164	164		Northern Hardwood	164	
377	377		Red Pine	377	
317	317		Upland Conifers	317	
32	32		White Pine	32	
1,450	1,450		Total Forested Acres	1,450	
	100%		Relative Percent		1

^{*}Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.

Sault Ste. Marie Mgt. Unit Compartment: 170

Year of Entry: 2016

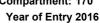


Report 6 - PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* 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
Comments				

Sault Ste. Marie Mgt. Unit Compartment: 170





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.

Conservation Area	Туре	Description	HCVA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area
SCA A	Archaeological Site	sites of cultural and historical significance that m bottomlands. They include thousands of Native A and British outposts, nineteenth century logging the Great Lakes, there are shipwrecks and other be identified by Natural heritage data from the St	American settlements and burial sites, as well as French camps, mines and homesteads. Beneath the waters of remains documenting the maritime trade. Such sites may tate Historic Preservation Office. Proposed treatments in manner as to maintain the integrity of these sites. Due to

t Ste. Marie Mgt. Unit	Report 8 – Forested Stands	Compartment: 170 Year of Entry: 2016
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s t	Sault Ste. Marie	Sault Ste. Marie Mgt. Unit			Forested	Stands Compartment: 170 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42110 - Planted Red Pine	High Density Log	19.9	70	111-140	Stand of red pine on ridges with some leather leaf bog within areas. Thin only upland areas buffering appropriately.
2	42210 - Natural Red Pine	High Density Log	168.4	77	141-170	Stand was thinned in 1997 and parts salvaged in 1999 after windstorm. Still a fair amount of smaller diameter trees and overall heights are not that tall. Light thinning this entry and allow for more growth, check in 10 years.
5	42290 - Natural Mixed Pine	High Density Pole	22.9	51	141-170	Stand of mixed pine species, jack, red, and white. Black spruce near stand edges and some aspen. Mosrly poor quality white pine. Jack pine is mature and should be regenerated.
7	42200 - Natural White Pine	High Density Pole	20.4	85	81-110	Stand was thinned in 2011. Nice natural stand of White Pine with some mixed in red pine. White pine regeneration is pretty well throughout.
10	42220 - Natural Jack Pine	High Density Pole	7.2	29	81-110	Stand of small diameter jack pine. Trees are healthy, check in ten years for added diameter, volume.
13	42200 - Natural White Pine	Medium Density Pole	6.8	66	51-80	Natural white pine residual following final harvest of aspen and other. There is good aspen regen at this time (cut in 2011). Will come back as aspen as previous.
15	42200 - Natural White Pine	High Density Sapling	4.8	20	81-110	Stand is small natural white pine mixed with some red pine, aspen, and a few jack pine.
17	42350 - Upland Hemlock	High Density Log	30.7	80	51-80	Stand was thinned in 2011 to promote the Hemlock and White pine regeneration. Looks good.
18	42290 - Natural Mixed Pine	Low Density Sapling	4.2	12		Stand is opening that has filled in with mix of natural red and white pine, spruce and aspen. Looks good.
21	4137 - Aspen, Birch	High Density Sapling	4.6	3		Aspen regeneration with spruce, cut in 2011. A few overstory white pine and hemlock.
27	6122 - Black Spruce	Medium Density Pole	98.0	25		Small patchy clumps of black spruce mostly, within large cranberry marsh/bog complex. Scattered jack pine on higher hummocks. No merchantability.
28	42110 - Planted Red Pine	High Density Log	98.7	77	141-170	Stand was thinned in 2003. Variable basal area. Thinner basal area in south half. Consider treating in halves for age class considerations.
31	4112 - Maple, Beech, Cherry Association	High Density Pole	135.2	73	81-110	Stand has llost the beech component. Mixed maple with a good amount of paper birch and scattered Hemlock. There was white pine and acorns planted in 2000. Unable to locate many oak (4) saplings, but good looking white pine regeneration is scattered around pretty well.

s t	Sault Ste. Marie	Mgt. Unit		Report 8	– Forested	Stands Compartment: 170 Year of Entry: 2016
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
33	429 - Mixed Upland Conifers	High Density Pole	264.3	52	81-110	Stand is widely variable and is on ridges among large big complex. Mostly mackinac mix heavy to the conifer species. Overall small diameters with exception being scattered white pine and hemlock. Not enough merchantabilty at this time. Check in 10 years.
37	4130 - Aspen	High Density Sapling	7.1	12		Aspen regeneration with mix of spruce and white pine.
38	429 - Mixed Upland Conifers	High Density Pole	53.0	87	81-110	Stand of very small diameter maple, cherry, birch brush with large overstory white pine and some hemlock.
40	42350 - Upland Hemlock	Medium Density Log	34.7	85	51-80	Hemlock stand was cut in 2011. White pine and Hemlock left after other species harvested.
41	4112 - Maple, Beech, Cherry Association	High Density Pole	29.3	65	81-110	Stand of pole sized mixed maple. Thinned in 2002. Check in 10 years.
43	4130 - Aspen	High Density Sapling	35.5	12		Stand of aspen regeneration cut in 2002.
44	4130 - Aspen	High Density Sapling	124.7	26		Stand was cut in 1988. Aspen regeneration.
45	42110 - Planted Red Pine	High Density Sapling	33.9	14		R3 planted in 2000.
46	4130 - Aspen	High Density Sapling	34.8	4		Stand was clearcut in 2010 and planted to red pine in 2014. Currently canopy cover is natural aspen regeneration.
48	4134 - Aspen, Spruce/Fir	High Density Pole	26.4	62	141-170	Stand of tall mature aspen mixed with red maple, and balsam/ spruce. There is a good componebt of white pine also. There are some low areas within the stand. Exclude these areas as appropriate.
49	6112 - Lowland Aspen	Low Density Sapling	4.9	12		Wetland with standing water in leatherleaf and cranberry. Jack pine scattered and aspen on dry hummocks.
50	42110 - Planted Red Pine	High Density Log	20.2	75	111-140	Stand was species thinned in 2010. Residual basal area is still low. Check in 10 years.
51	42110 - Planted Red Pine	High Density Sapling	36.1	14		Red pine planted in 2000
53	4130 - Aspen	High Density Sapling	81.7	15		Aspen regeneration cut in 1999.
56	4136 - Aspen, Mixed Conifer	High Density Sapling	34.4	4		Stand was cut in 2002. Lower areas have more spruce. Aspen regeneration with some large red pine and white pine overstory scattered.

S t a n d	Sault Ste. Marie		Report 8	– Forested	I Stands Compartment: 170 Year of Entry: 2016	DNR DNR	
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	MICHIGAN .
58	6124 - Lowland Spruce- Fir	Medium Density Pole	7.9	25		Poor quality mixed brush, with tag alder in lowest areas wetland area.	s. Edge of

Compartment: 170 Year of Entry: 2016



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
3	622 - Lowland Shrub	2.5	Unspecified	Unspecified	
4	629 - Mixed non-forested wetland	1.5	Unspecified	Unspecified	
6	629 - Mixed non-forested wetland	281.4	Unspecified	Unspecified	
8	622 - Lowland Shrub	2.5	Unspecified	Unspecified	
9	310 - Herbaceous Openland	7.2	Unspecified	Unspecified	
11	629 - Mixed non-forested wetland	4.5	Unspecified	Unspecified	
12	629 - Mixed non-forested wetland	1.6	Unspecified	Unspecified	
14	629 - Mixed non-forested wetland	8.2	Unspecified	Unspecified	
16	629 - Mixed non-forested wetland	7.6	Unspecified	Unspecified	
19	629 - Mixed non-forested wetland	7.0	Unspecified	Unspecified	
20	310 - Herbaceous Openland	2.6	Unspecified	Unspecified	
22	50 - Water	3.5	Unspecified	Unspecified	
23	629 - Mixed non-forested wetland	3.1	Unspecified	Unspecified	
24	629 - Mixed non-forested wetland	5.7	Unspecified	Unspecified	
25	629 - Mixed non-forested wetland	2.1	Unspecified	Unspecified	
26	310 - Herbaceous Openland	9.9	Unspecified	Unspecified	
29	629 - Mixed non-forested wetland	9.4	Unspecified	Unspecified	
30	629 - Mixed non-forested wetland	2.1	Unspecified	Unspecified	

Compartment: 170 Year of Entry: 2016



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
32	629 - Mixed non-forested wetland	8.7	Unspecified	Unspecified	
34	310 - Herbaceous Openland	4.7	Unspecified	Unspecified	
35	310 - Herbaceous Openland	7.4	Unspecified	Unspecified	
36	629 - Mixed non-forested wetland	6.3	Unspecified	Unspecified	
39	629 - Mixed non-forested wetland	3.8	Unspecified	Unspecified	
42	310 - Herbaceous Openland	2.7	Unspecified	Unspecified	
47	629 - Mixed non-forested wetland	6.7	Unspecified	Unspecified	
52	629 - Mixed non-forested wetland	10.7	Unspecified	Unspecified	
54	6224 - Treed Bog	6.8	Unspecified	Unspecified	
55	629 - Mixed non-forested wetland	3.8	Unspecified	Unspecified	
57	629 - Mixed non-forested wetland	24.6	Unspecified	Unspecified	Stand swapped from Forested to Non-Forested.
59	50 - Water	3.1	Unspecified	Unspecified	