

Compartment Review Presentation

Escanaba Forest Management Unit Compartment 33010 Entry Year 2020 Acreage: 854 County Menominee Management Area: Menominee End Moraine

Revision Date: 2018-06-13

Stand Examiner: Dustin Salter

Legal Description:

T37N R28W Sections 25, 26, and 27

Identified Planning Goals:

This compartment is a mix of upland and lowland covertypes. The uplands consist primarily of aspen, oak, and maple. The lowlands are a mix of spruce, cedar, tamarack, and lowland brush. The mature aspen stands will be harvested to maintain a mix of age classes. A couple of the mature oak and red maple stands will be harvested while they have enough vigor to sprout following the harvest. A couple of lowland conifer stands with a high percentage of spruce and tamarack will be harvested. The tamarack within the compartment and the surrounding area is dying, due to the eastern larch beetle. The spruce budworm has caused extensive mortality of the balsam fir and the white spruce has been heavily defoliated. There is also potential for oak wilt disease within the upland stands with oak within them.

Soil and topography:

Terrain is mostly level to rolling with some hills. The majority of the upland consists

of Onaway fine sandy loams, Kiva variant fine sandy loams as well as Onaway-Kiva variant. Lowland areas consist of Greenwood-Dawson association, Lupton-Tawas association as well as Tawas-Lunds-Kiva variant complex.

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

This compartment is part of a large block of state ownership that is about 20 miles long by 8 miles wide. This area of state forest contains many private in-holdings. The private land around this compartment is a mix of recreational property, including camps. There are also year round residences and some agricultural fields. The state land is used primarily for hunting, camping, and orving. There is one 40 acre parcel on the east end of this compartment that should be disposed as we have no access and the general public has no access.

Unique Natural Features:

None Known.

Archeological, Historical, and Cultural Features:

None Known.

Special Management Designations or Considerations:

None.

Watershed and Fisheries Considerations:

The Miscauna Creek flows through the western portion of the compartment, with its headwaters lying in the northeastern part of the compartment.

Wildlife Habitat Considerations:

This compartment grows high quality aspen, a forest type that is valuable habitat for many of the most popular game species (deer, grouse, and woodcock) and many non-game species as well. Aspen will continue to be managed through final harvest to provide habitat in a variety of age classes. Oak is found in this compartment in mixture with hardwoods, aspen, and white pine. Mast-producing oak will be retained for wildlife values, and some will be harvested to regenerate it via stump-sprouting.

Mineral Resource and Development Concerns and/or Restrictions

Active sand/gravel pits are located in the area. There appears to be some gravel potential within the compartment on the uplands. Bedrock is near the surface here, but there is not significant potential for crushed stone. No economic oil and gas production has been found in the UP. All of the mineral rights in Section 26 (and in Sec 35) are currently leased for metallic mineral exploration. There has been additional leasing within the compartment in the past and some exploration

has occurred. A small magnetic anomaly is mapped in portions of sections 25, 26, & 35, which can be evidence of metallic mineral potential. No economic oil and gas production has been found in the UP.

Vehicle Access:

There is good vehicle access into the compartment. The Miscauna Creek road runs through the compartment, with many two-tracks branching off offering access to other portions of the compartment. The Miscauna Creek road is a state system road, which is maintained by the DNR. There is an old railroad grade that runs east to west through the entire compartment. The majority of it is driveable with a two wheel drive vehicle.

Survey Needs:

Four or five registered corners will need to be set.

Recreational Facilities and Opportunities:

There are no developed facilities within the compartment. This area is used extensively for hunting, trapping, camping, and orving.

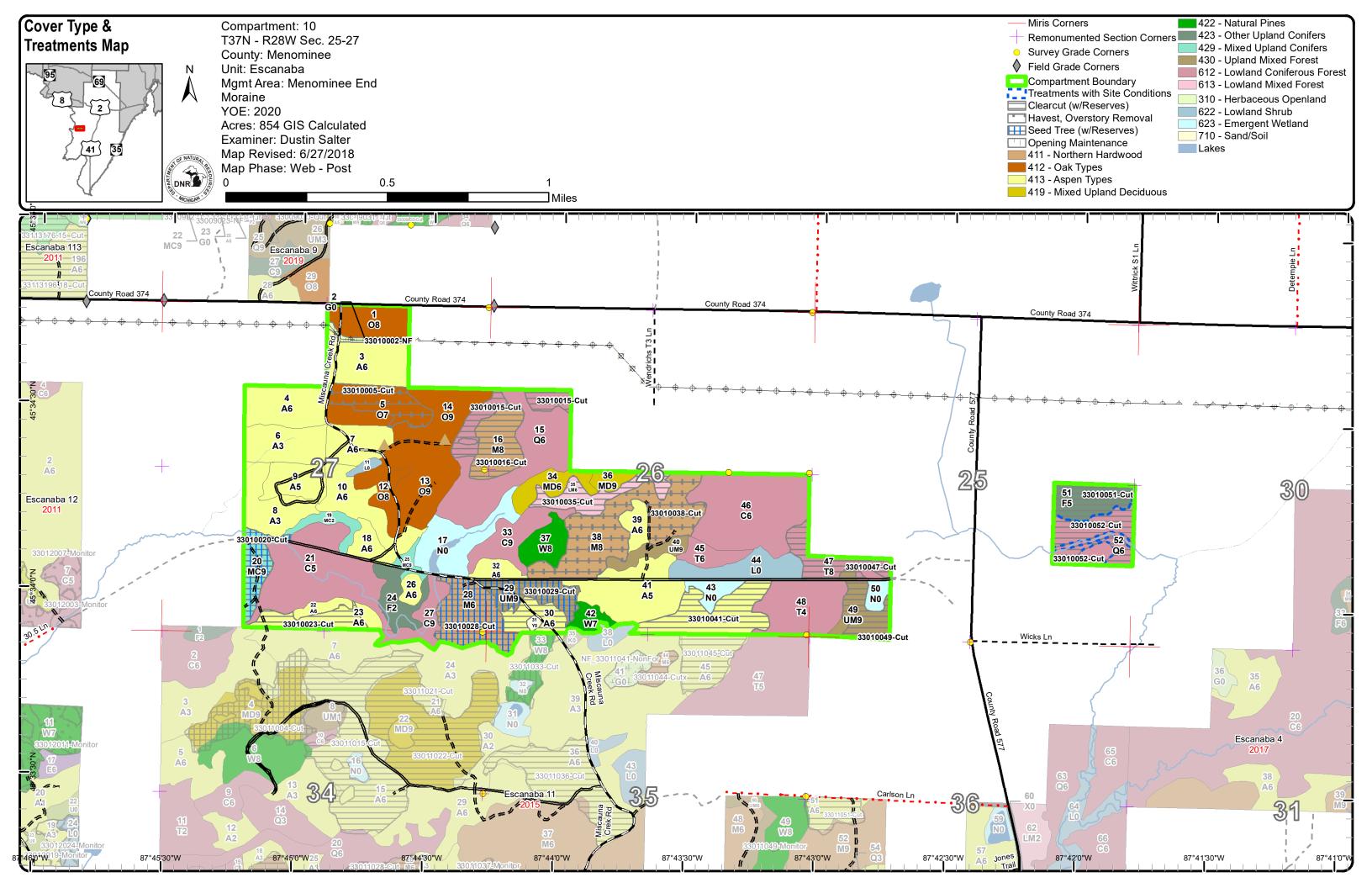
Fire Protection:

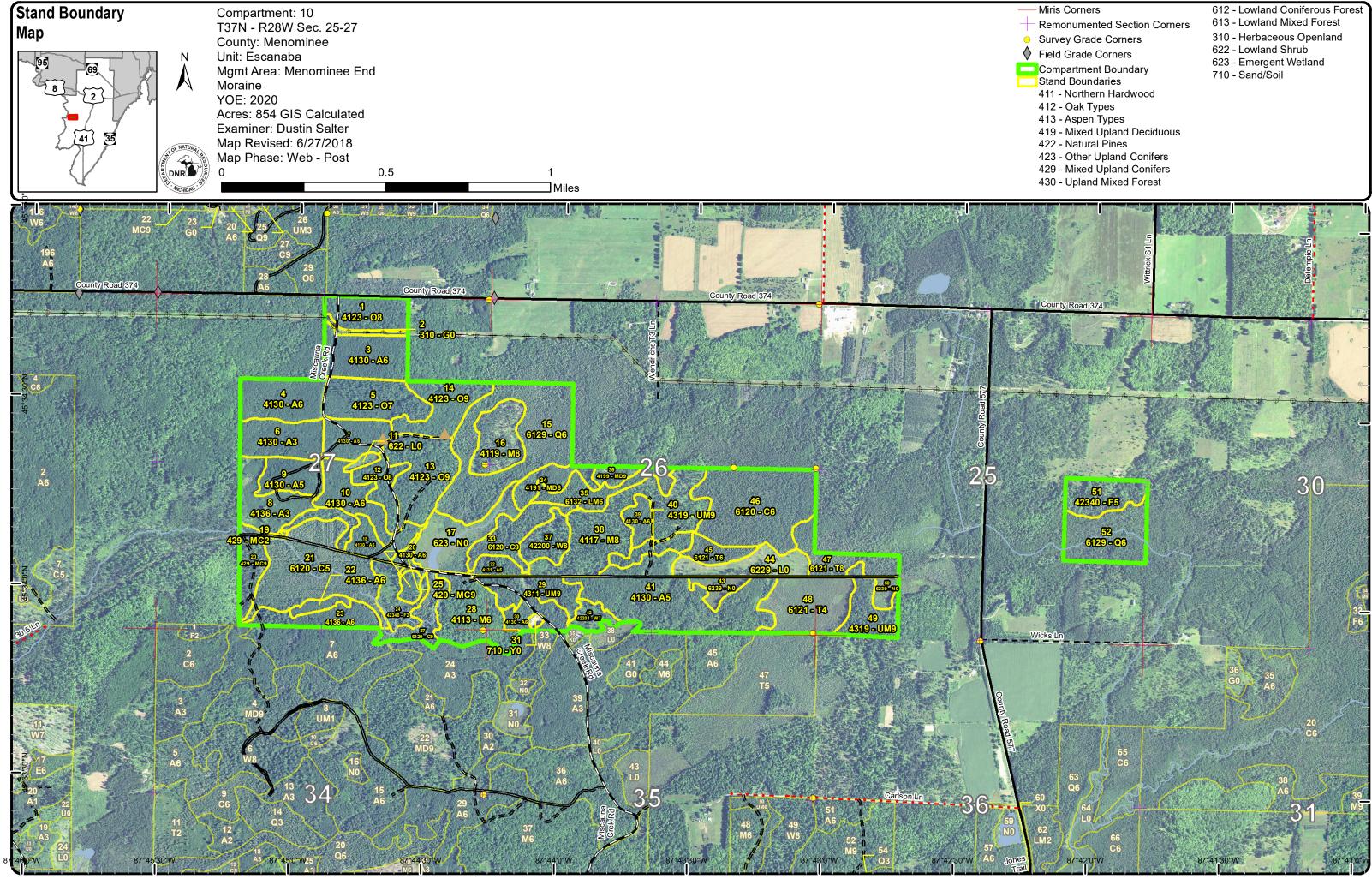
There is a low potential for any significant fire. The majority of the upland stands are deciduous in covertype. These stands have a potential for fire prior to the leaves emerging in the spring, but after that, the fire potential decreases. Miscauna Creek offers a water source.

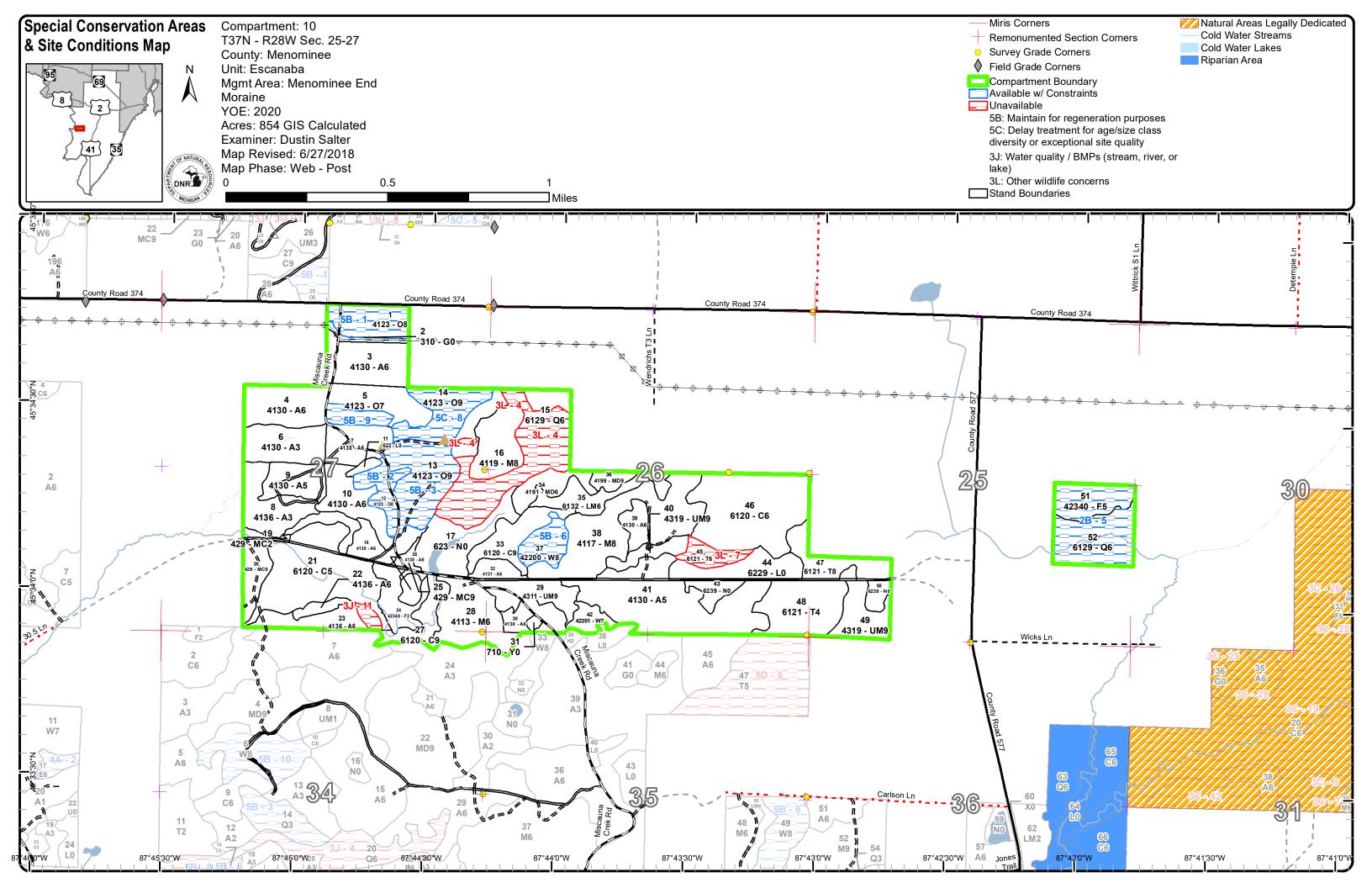
Additional Compartment Information:

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

Escanaba Mgt. Unit

Dustin Salter : Examiner



Age Class

	Nor	to start of	03 <u>4</u>	61.5 42	20 23 20 23	03 L	03-50 2007	8 5	99 R	£ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	80°	8° (9)	100 120,	6 <u>7</u> , 42,	62 V2	65/m	Of Land	Dr Jree	A LO
Aspen	0	18	0	18	90	106	0	0	0	0	0	0	0	0	0	0	0	0	232
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	0	124	0	0	0	0	124
Herbaceous Openland	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Lowland Conifers	0	0	0	0	0	0	0	0	0	0	0	79	0	0	0	0	0	0	79
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	14
Lowland Shrub	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Marsh	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32
Mixed Upland Deciduous	0	0	0	10	0	0	0	0	0	4	0	0	0	0	0	0	0	0	14
Northern Hardwood	0	0	0	0	0	0	0	0	0	0	90	0	0	0	0	0	0	0	90
Oak	0	0	0	0	0	0	0	0	0	0	96	0	0	0	0	0	0	0	96
Sand, Soil	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Tamarack	0	0	0	0	0	0	0	0	0	0	49	0	0	0	0	0	0	0	48
Upland Conifers	0	0	6	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	21
Upland Mixed Forest	0	0	0	0	0	0	15	0	0	0	0	22	0	0	0	0	0	0	37
Upland Spruce/Fir	0	0	11	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	26
White Pine	0	0	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	17
Total	55	18	17	28	90	106	15	15	0	4	249	133	0	124	0	0	0	0	852

Acres of Harvest

Escanaba Mgt. Unit Year of Entry: 2020

Compartment 10 Total Compartment Acres: 854

Commercial Harvest - 234 Harvests with Site Condition - 34 Next Step Harvest - 0 Habitat Cut - 0

Cover Type by Harvest Method

			Clearcut	Delection Delection	Clearcut	and the second	ichonology 7	Octo Contraction Contraction	Lenor Con	og lego	to Contraction	Sec.
Aspen		46	0	0	0	0	0	0	0	0	46	ĺ
Lowland Conifers		32	0	0	0	0	0	0	0	0	32	
Lowland Mixed Forest		14	0	0	0	0	0	0	0	0	14	
Northern Hardwood		18	0	0	25	0	0	47	0	0	89	
Oak		0	0	0	0	0	0	16	0	0	16	
Tamarack		14	0	0	0	0	0	0	0	0	14	
Upland Conifers		0	0	0	12	0	0	0	0	0	12	
Upland Mixed Forest		13	0	0	15	0	0	0	0	0	28	
Upland Spruce/Fir		15	0	0	0	0	0	0	0	0	15	
	Total	153	0	0	52	0	0	63	0	0	268	

Proposed and Next Step Treatments by Method

			J.S. J.S.	Contraction of the second	ouino,	oce di	in in the second	Cesticido M.	onionio	Mo.	4 / 3	Action of the second
Current		268	0	0	0	0	0	0	0	3	271	
Next Step		0	12	0	0	0	0	251	0	0	263	
	Total	268	12	0	0	0	0	251	0	3	534	

S t		Escanaba Mgt. Unit		Re	eport 3	Treatme	nts		tment: 10 Entry: 2020	DNR DNR	
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
2	33010002-NF	2.8	310 - Herbaceous Openland	Nonstocked	ł	Unspec ified	NonForestMgt	Herbaceous/Crop/ Grass Planting	310 - Herbaceous Openland		Proposal
			Site Condition: arming (dozing, diski es and establishmen	ng, raking, h						liming, brushho	og/saw removal
	<u>Step</u> tments:										
<u>Acce</u> Rege	eptable_ en:										
<u>Othe</u> Com	<u>r</u> ment:										
Prop	osed Start Date:	10/0	1/2019								
5	33010005-Cut	16.4	4123 - Red Oak	Sawtimber Poor	97	1-50	Harvest	Overstory Removal	413 - Aspen	Even-Aged	Proposal
		oak grea	Site Condition: ter than 5" inches.								
	<u>Step</u> tments:										
<u>Acce</u> Rege	• •	maple, a	nd oak.								
<u>Othe</u> Com	<u>r</u> Only cu <u>ment:</u>	it the area	as of the stand that h	ave a dense	oversto	ory of oak					
<u>Prop</u>	osed Start Date:	10/0	1/2019								
15	33010015-Cut	13.3	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	106	111- 140	Harvest	Clearcut with Retention	612 - Lowland Coniferous Forest	Even-Aged	Proposal
<u>Hab</u>	itat Cut: No		Site Condition:								
<u>Pres</u> Spec		trees greated ted out.	ater than 3 inches; ex	cept hemloc	k. Also	o retain th	e dense patch of	f cedar in the southw	estern part of the	e treatment, wh	ich has been
	<u>Step</u> Monitor tments:	ing, Natu	ral Regen (Re-Invent	ory)							
<u>Acce</u> Rege		, tamarac	k, cedar, pine, balsa	m fir, maple,	aspen	, and ash					
<u>Othe</u> Com	<u>r</u> ment:										
<u>Prop</u>	osed Start Date:	10/0	1/2019								
16	33010016-Cut	17.7	4119 - Mixed Northern Hardwoods	Sawtimber Medium	97	1-50	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Proposal
<u>Hab</u>	itat Cut: No		Site Condition:								
Pres Spec		trees grea	ater than 3 inches; ex	cept mark to	retain	some pin	e for seed and d	liversity.			
	<u>Step</u> Monitor tments:	ing, Natu	ral Regen (Re-Invent	ory)							
<u>Acce</u> Rege	•	aple, asp	en, pine, and spruce	/fir.							
<u>Othe</u> Com	<u>r</u> ment:										
Prop	osed Start Date:	10/0	1/2019								

S t					Re	port 3	Treatme	ents	•	ment: 10 Entry: 2020	DRR NATURAL PLEADURG
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
20	33010020-Cu	t 12.0	429 - Mixed Upland Conifers	Sawtimber Well	108	51-80	Harvest	Seed Tree with Retention	4220 - Natural White Pine	Even-Aged	Proposal
			Site Condition: ater than 2 inches; ex oak. Retain a 100' b				ttered pine and	l oak for seed, mast	and diversity. Lea	ve approximat	ely 10 basal
Next			cation; Monitoring, N	Ū							
<u>Acce</u> Reg		and red pi	ne, aspen, balm, cec	lar, and spru	ice/fir.						
<u>Othe</u> Com	er Follov Iment:	ving the ha	rvest mechanically sc	arify the sta	nd, to e	xpose mir	neral soil to imp	prove pine regenerat	ion.		
Prop	osed Start Date	<u>e:</u> 10/0	1/2019								
23	33010023-Cu	t 10.9	4136 - Aspen, Mixed Conifer	Poletimber Well	46	51-80	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal
		0	Site Condition: ater than 3 inches; ex noved from the harve		ouffer w	/ill be reta	ined from harve	est to provide a buffe	er along the Misca	una Creek. Th	is area has
	<u>t Step</u> Monite	oring, Natu	ral Regen (Re-Invent	ory)							
<u>Acce</u> <u>Reg</u>		ı, maple, p	ine, and spruce/fir.								
<u>Othe</u> Com	er iment:										
Prop	osed Start Date	<u>e:</u> 10/0	1/2019								
28	33010028-Cu	t 24.9	4113 - R.Maple, Conifer	Poletimber Well	91	111- 140	Harvest	Seed Tree with Retention	4113 - R.Maple, Conifer	Even-Aged	Proposal
	bitat Cut: No	troop area	Site Condition:		otoboo	of pipe of	long with come	contrared size and	aali Alaa ratain a	lloodor A 10) buffer peedo
<u>Pres</u> Spec			ater than 3 inches; ex ⁄liscauna Creek.	cept leave p	atches	or pine, a	long with some	scattered pine and	oak. Also, retain a	li cedar. A 100	D butter needs
	<u>t Step</u> Monite atments:	oring, Natu	ral Regen (Re-Invent	ory)							
<u>Acce</u> Reg		, aspen, oa	ak, pine, and spruce/	fir.							
<u>Othe</u> <u>Com</u>	er hment:										
<u>Prop</u>	osed Start Date	<u>ə:</u> 10/0	1/2019								
29	33010029-Cu	t 15.0	4311 - Pine, Aspen Mix	Sawtimber Well	109	81-110	Harvest	Seed Tree with Retention	42201 - Natural White Pine, Mixed Deciduous	Even-Aged	Proposal
		l trees grea	Site Condition: ater than 3 inches; ex		o retain	10 to 20 k	basal area of pi	ne for seed and dive	ersity.		
	<u>t Step</u> Monite atments:	oring, Natu	ral Regen (Re-Invent	ory)							
<u>Acce</u> <u>Reg</u>		aspen, ma	ple, and spruce/fir.								
<u>Othe</u> Com	er iment:										
<u>Prop</u>	osed Start Date	<u>ə:</u> 10/0	1/2019								

d Name CoverType Density Age Range Type Method Objective Structure S	Proposal
Well Retention Habitat Cut: No Site Condition: Prescription Cut all trees greater than 3 inches; except mark to retain some scattered pine. The pine will be the retention for the stand. Specs: Next Step Treatments:	Proposal
Prescription Cut all trees greater than 3 inches; except mark to retain some scattered pine. The pine will be the retention for the stand. Specs: Monitoring, Natural Regen (Re-Inventory) Treatments: Monitoring, Natural Regen (Re-Inventory)	
Treatments:	
Acceptable Aspen, maple, pine, and spruce/fir.	
Regen:	
Other Comment:	
Proposed Start Date: 10/01/2019	
35 33010035-Cut 14.1 6132 - Mixed Poletimber 91 81-110 Harvest Clearcut with 6117 - Lowland Even-Aged F Lowland Forest with Well Cedar Mixed Coniferous	Proposal
Habitat Cut: No Site Condition: Prescription Cut all trees greater than 3 inches; except retain all cedar and hemlock. Specs: Specs:	
Next Step Monitoring, Natural Regen (Re-Inventory) Treatments:	
<u>Acceptable</u> Maple, ash, balm, birch, spruce/fir, tamarack, and pine. Regen:	
Other Comment:	
Proposed Start Date: 10/01/2019	
	Proposal
Habitat Cut: No Site Condition:	
Prescription Cut all trees greater than 3 inches; except mark to retain some pine and oak. The pine will provide additional seed and shade and the oak provide mast. Leave less than 10 basal area throughout the stand.	will
<u>Next Step</u> Monitoring, Natural Regen (Re-Inventory) <u>Treatments:</u>	
Acceptable Maple, aspen, oak, pine, and spruce/fir. Regen:	
Other Comment:	
Proposed Start Date: 10/01/2019	
41 33010041-Cut 25.8 4130 - Aspen Poletimber 46 51-80 Harvest Clearcut with 413 - Aspen Even-Aged F Medium Retention	Proposal
Habitat Cut: No Site Condition: Prescription Cut all trees greater than 3 inches; except mark some pine and oak to retain. Retain clumps/patches where they are available. Specs: Specs:	
Next Step_ Monitoring, Natural Regen (Re-Inventory) Treatments:	
Acceptable Aspen, maple, oak, and pine. Regen:	
Other Comment:	
Proposed Start Date: 10/01/2019	

S t		Esc	anaba Mgt. Unit		Re	eport 3	Treatme	nts	Compart Year of E	ment: 10 Entry: 2020	DRR SS S
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
47	33010047-Cut	14.0	6121 - Tamarack	Sawtimber Medium	92	51-80	Harvest	Clearcut with Retention	6121 - Tamarack	Even-Aged	Proposal
Pres Spec	the trea	atment.	Site Condition: ter than 3 inches; ex	cept retain t	he dens	ser patch o	of cedar just no	rth of the old railroa	d grade. This patcl	n has been del	ineated out of
Trea	tments:	-									
<u>Acce</u> <u>Reg</u> e	•	ack, spruc	e, cedar, and white p	pine.							
<u>Othe</u> Com	er Iment:										
Prop	osed Start Date	<u>:</u> 10/0	1/2019								
49	33010049-Cut	13.3	4319 - Mixed Upland Forest	Sawtimber Well	59	51-80	Harvest	Clearcut with Retention	4134 - Aspen, Spruce/Fir	Even-Aged	Proposal
			Site Condition: atter than 3 inches; ex ad red oak to retain, f	cept retain t			f cedar and oth	er species in the so	uthwest corner of th	ne stand. Also	, mark some
	<u>Step</u> Monito tments:	ring, Natu	ral Regen (Re-Invent	ory)							
<u>Acce</u> <u>Reg</u> e		maple, sp	bruce/fir, oak, and pi	ne.							
<u>Othe</u> Com	e <u>r</u> Iment:										
<u>Prop</u>	osed Start Date	<u>:</u> 10/0	1/2019								
51	33010051-Cut	14.8	42340 - Upland Spruce/Fir	Poletimber Medium	63	1-50	Harvest	Clearcut	4134 - Aspen, Spruce/Fir	Even-Aged	Proposal
	itat Cut: No		Site Condition:				and a set of the test of the set		and the state		
Pres Spec		trees grea budworm	iter than 3 inches; ex	cept retain t	ne oak.	No other	retention is bei	ing left due to the lo	w quality of the star	nd and the pres	sence of the
	<u>Step</u> Monito tments:	ring, Natu	ral Regen (Re-Invent	ory)							
<u>Acce</u> <u>Reg</u> e		maple, sp	pruce/fir, and pine.								
<u>Othe</u> Com	e <u>r</u> Iment:										
<u>Prop</u>	osed Start Date	<u>:</u> 10/0	1/2019								
52	33010052-Cut	-	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	104	111- 140	Harvest	Clearcut with Retention	612 - Lowland Coniferous Forest	Even-Aged	Proposal
<u>Hab</u>	<u>itat Cut:</u> No		Site Condition:	Unknow	n Acc	ess					
Pres Spec			iter than 3 inches; ex ne center of the stand		he dens	se area of	cedar on the so	outh edge. Also, lea	ave a buffer along t	he drain/creek	running west
	<u>Step</u> Monito tments:	ring, Natu	ral Regen (Re-Invent	ory)							
<u>Acce</u> Rege		ack, spruc	e, cedar, white pine,	balsam fir, I	oirch, ai	nd ash.					
<u>Othe</u> Com	<u>er</u> iment:										
Prop	osed Start Date	<u>:</u> 10/0	1/2019								
A	Total Treatm Acreage Propos		70.6								

Escanaba Mgt. Unit Dustin Salter : Examiner

Compartment: 10 Year of Entry: 2020

Availability for Management

Total	Acres	Acres Avail	Acres		Domina	nt Site	e Con	dition	s
Acres	Available	With Condition	Not Available		2B	5B	5C	ЗJ	3L
232	230	0	2	Aspen				2	
124	124	0	0	Cedar					
3	3	0	0	Herbaceous Openland					
79	13	25	41	Lowland Conifers	25				41
14	14	0	0	Lowland Mixed Forest					
18	18	0	0	Lowland Shrub					
33	33	0	0	Marsh					
14	14	0	0	Mixed Upland Deciduous					
89	89	0	0	Northern Hardwood					0
97	16	80	0	Oak		61	19		
1	1	0	0	Sand, Soil					
49	42	0	7	Tamarack					7
21	21	0	0	Upland Conifers					
37	37	0	0	Upland Mixed Forest					
26	11	15	0	Upland Spruce/Fir	15				
16	6	11	0	White Pine		11			
854	673	131	51	Total Forested Acres	40	72	19	2	48
	79%	15%	6%	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	e Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Available	5B: Maintain for regeneration purposes	16	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: This stand has matu	ure oak over 28 year old aspe	en and re	d maple. Once the under	story of aspen and maple i	s merchantable this stand	will be harvested.
2	Available	5B: Maintain for regeneration purposes	11	Unspecified	Unspecified	Unspecified	Unspecified

		anaba Mgt. Unit Salter : Examiner		Report 4 – Site Cor	nditions	Compartment: 10 Year of Entry: 2020		
3	Available	5B: Maintain for regeneration purposes	28	Unspecified	Unspecified	Unspecified	Unspecified	
	Comments: This stand was thir	nned during the last entry, allow	the pine	to begin to regenerate a	and than remove the overst	ory next entry.		
ŀ	Unavailable	3L: Other wildlife concerns	41	Unspecified	Unspecified	Unspecified	Unspecified	
	Comments: Wildlife didn't want	t to cut this portion of the stand	at this tim	ne.				
5	Available	2B: Unknown if access through adjacent landowner(s) is possible	40	Unspecified	Unspecified	Unspecified	Unspecified	
	Comments: We will need to wo	ork with one of the adjacent land	lowners to	o see if they will allow ac	ccess for harvesting.			
6	Available	5B: Maintain for regeneration purposes	11	Unspecified	Unspecified	Unspecified	Unspecified	
	Comments: Once the stand sta	arts to fill in with pine seedlings	the overs	tory should be removed.				
7	Unavailable	3L: Other wildlife concerns	7	Unspecified	Unspecified	Unspecified	Unspecified	
	Comments: Wildlife didn't want	t to harvest the stand.						
8	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	19	Unspecified	Unspecified	Unspecified	Unspecified	
	Comments:							

		anaba Mgt. Unit Salter : Examiner		Report 4 – Site Condi	lions	Compartment: 10 Year of Entry: 2020		
9	Available	5B: Maintain for regeneration purposes	7	Unspecified	Unspecified	Unspecified	Unspecified	
-	Comments: This area doesn't h	ave much overstory oak, we w	ould ru	uin more aspen regeneration th	an it is worth to try an	salvage the oak in this area	ì.	



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

Compartment: 10 Year of Entry 2020



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 conditions stocked trout populations and those of other coldwater fish spect 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	ties 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 spec 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.	sies (e.g., slimy sculpin) to persist from esse conditions due to substantial

S t	Escanaba Mgt. Unit			Report 7	– Forested	Stands Compartment: 10 Year of Entry: 2020
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4123 - Red Oak	Sawtimber Medium	15.5	98	1-50	Stand was cut in 1990 on contract 035-89-01. This was an aspen and red oak stand. All of the aspen and maple were cut and the oak was retained. There is about 50 basal area of mature oak over a fully stocked understory of aspen and red maple. The density of the overstory has slowed down the growth of the aspen and red maple.
3	4130 - Aspen	Poletimber Well	22.2	37	51-80	Very good quality aspen stand with some residual mature red oak.
4	4130 - Aspen	Poletimber Well	20.7	32	51-80	Very good quality aspen stand with some residual mature red oak. Stand was clearcut in 1986 on contract 028-85-01.
5	4123 - Red Oak	Sawtimber Poor	23.0	97	1-50	Stand was cu tin 2002 on contract 023-00-01. All of the oak was retained. The stand has 30 to 40 basal area of residual oak over a fully stocked understory of aspen and red maple. The majority of the oaks tops are dying back, with some oak already dead. The oak should be harvested to salvage as much wood as possible and to allow them to stump sprout while they still have some vigor. Only the portions of the stand with the denser oak will be harvested. The areas with just scattered oak and fully stocked aspen regeneration will be retained.
6	4130 - Aspen	Sapling Well	18.4	21	Immature	Very good quality aspen stand with some residual mature red oak and pockets of conifer.
7	4130 - Aspen	Poletimber Well	14.3	38	51-80	Very good quality aspen stand with some residual mature red oak. Stand was cut in 1980 on contract 47-79A.
8	4136 - Aspen, Mixed Conifer	Sapling Well	18.4	6	Immature	Stand was clearcut in 2012 on contract 033-10-01; except some pine, oak, cedar, and spruce was retained. Very good quality aspen regeneration with some residual mature pine and advanced spruce/fir regeneration. The majority of the hardwood stump sprouts have been killed by deer, by browsing.
9	4130 - Aspen	Poletimber Medium	12.9	37	51-80	Very good quality aspen stand with some residual mature red oak. Stand was clearcut in 1981 on contract 47-79A.
10	4130 - Aspen	Poletimber Well	15.8	33	1-50	Very good quality aspen stand with some residual mature red oak. Stand was clearcut in 1985 on contract 028-85-01.
12	4123 - Red Oak	Sawtimber Medium	10.9	97	1-50	Stand was cut in 1985 on contract 028-85-01 and all oak was retained. There is about 50 basal area of residual oak. The stand has a dense overstory of mature oak, with a dense understory of aspen and maple. The aspen and maple is growing slow, due to the dense overstory. Once the aspen and maple are merchantable harvest this stand.
13	4123 - Red Oak	Sawtimber Well	27.8	97	51-80	Stand was thinned in 2012 on contract 033-10-01. The hardwood and oak stump spouts from the last harvest, have been heavily browsed and either killed or severely stunted. Good quality red oak, with lower quality hardwoods and white pine.

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a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
14	4123 - Red Oak	Sawtimber Well	19.4	96	81-110	Mature moderate quality red oak with a younger understory of aspen, red maple, and balsam fir. The oak is mature with some tops dying back, harvest the stand while the oak is vigorous to sprout. There are some steep hills within the stand.
15	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	54.3	106	111-140	Mature lowland conifer stand, with some small pockets of lowland hardwood. The stand is variable in quality and species. The stand has obtained little growth in the past 30 to 40 years, it has become very stagnant. The main body of the stand is lower quality black spruce and along the perimeter of the stand it is a mix of higher quality tamarack, lowland hardwood, and isolated pockets of good quality cedar. There are numerous pockets of tamarack that have been killed by the eastern larch beetle. The balsam fir is dying out from the spruce budworm. This stand needs to be harvested while there is still a viable seed source. The dense pockets of cedar will be retained.
16	4119 - Mixed Northern Hardwoods	Sawtimber Medium	17.8	97	1-50	Stand was shelterwood cut in 2015 on contract 033-10-01. 30 to 40 basal area was retained, which is mostly hardwood. The hardwood and oak stump sprouts have been heavily browsed and killed or severely stunted by deer. Some pine and spruce/fir are regenerating, allow the conifer regeneration to become established and remove the overstory next entry period.
18	4130 - Aspen	Poletimber Well	10.7	42	51-80	Moderate quality aspen stand with some residual oak and pine.
19	429 - Mixed Upland Conifers	Sapling Medium	5.7	18	1-50	Stand was cut in 2000 on contract 009-06-01. Stand is a mix of pockets of aspen regeneration with areas of spruce/fir. The stand had lots of shade around it after it was cut, so the stand didn't regenerate fully, but over time the open areas are filling in with conifers.
20	429 - Mixed Upland Conifers	Sawtimber Well	12.0	108	51-80	Mature white pine over a dense sub-canopy of balsam fir. The fir has been heavily defoliated by the spruce budworm, with some mortality already occurring. The white pine and balsam fir are both mature and ready to be harvested. Open the stand up, and scarify it following the harvest to regenerate the pine and mixed conifers.
21	6120 - Lowland Cedar	Poletimber Medium	48.3	126	81-110	Stand was cut in 2000 on contract 009-96-01. The stand had all of the shorter lived species cut out of it, leaving the pine, cedar, and hemlock. Some spruce were marked to retain for seed. Strips were cut through the stand to allow cutting and skidding throughout the stand. The areas that were not cut, are dense cedar. The areas that were opened up, have a mix of hardwood and conifer regeneration, the more shaded areas are primarily filling in with spruce. Miscauna Creek flows through the center of the stand.
22	4136 - Aspen, Mixed Conifer	Poletimber Well	3.7	31	1-50	Moderate quality aspen stand with some balsam fir mixed in.
23	4136 - Aspen, Mixed Conifer	Poletimber Well	13.4	46	51-80	Mature good quality aspen stand, with a significant amount of fir/spruce. The spruce budworm has already killed about a third of the balsam fir and the remaining stems are being defoliated. This stand needs to be harvested to regenerate the aspen and to salvage as much of the spruce/fir as possible.

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a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
24	42340 - Upland Spruce/Fir	Sapling Medium	11.4	18	1-50	Stand was cut in 2000 on contract 009-96-01. The hemlock, pine, cedar, and oak were retained. The stand has not fully regenerated, but conifers are still seeding in, in the open areas. The age of the spruce/fir varies from 10 to 40 years old. The spruce budworm is defoliating the spruce/fir, including the regeneration.
25	429 - Mixed Upland Conifers	Sawtimber Well	3.3	109	51-80	Mature white pine stand with a dense sub-canopy of mature species. Open the stand up to begin to regenerate the pine.
26	4130 - Aspen	Poletimber Well	3.5	42	51-80	Good quality aspen stand with some residual mature oak and pine. The spruce/fir is being defoliated by the spruce budworm, but there isn't enough volume to harvest.
27	6120 - Lowland Cedar	Sawtimber Well	11.1	126	81-110	Good quality cedar stand, which the Miscauana Creek flows through the center of.
28	4113 - R.Maple, Conifer	Poletimber Well	24.9	91	111-140	Moderate to low quality mature red maple and white pine stand. This stand should be harvested while the maple is vigorous enough to stump sprout. This stand will be managed for a mix of maple and pine. The maple stump sprouts will provide shade to allow white pine to regenerate within the stand, following the harvest.
29	4311 - Pine, Aspen Mix	Sawtimber Well	15.0	109	81-110	Mature pine stand with a mature sub-canopy of aspen and maple. The stand needs to be opened up to allow the pine to begin to regenerate. The aspen and maple will sprout following the harvest and the pine will regenerate under the shade of the sprouts.
30	4130 - Aspen	Poletimber Well	9.7	46	51-80	Mature moderate to lower quality aspen stand. Harvest this stand while the aspen is still vigorous enough to maximize sprouting.
32	4131 - Aspen, Oak	Poletimber Well	5.3	46	51-80	Mature oak over younger aspen, maple, and spruce/fir. The aspen is mature, but about half of the maple and spruce/fir stems are sub-merchantable. The spruce/fir has been heavily defoliated by the spruce budworm, but there isn't enough volume to try a salvage it.
33	6120 - Lowland Cedar	Sawtimber Well	15.7	126	141-170	High to moderate quality cedar stand, with a couple of upland knobs of hardwood mixed in.
34	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	10.0	27	1-50	Stand was clearcut in 1991 on contract 028-85-01. Moderate quality aspen and balm stand. The northern half is mostly aspen with some spruce/fir and the southern half is primarily balm.
35	6132 - Mixed Lowland Forest with Cedar	Poletimber Well	14.1	91	81-110	Moderate quality lowland hardwood stand, with some denser pockets of spruce/fir. The spruce/fir has been heavily defoliated by the spruce budworm. This stand should be harvested prior to the arrival of the emerald ash borer and to salvage as much of the spruce/fir as possible.

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a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
36	4199 - Other Mixed Upland Deciduous	Sawtimber Well	4.1	89	81-110	Stand was thinned in 2015 on contract 033-10-01. Moderate quality hardwood stand with a high percentage of red oak. Conifers are starting to regenerate throughout the stand. The hardwood and aspen sprouts from the last harvest have been heavily browsed by deer, with the majority of them being killed.
37	42200 - Natural White Pine	Sawtimber Medium	10.6	109	1-50	Stand was shelterwood cut in 2012 on contract 033-10-01. About 50 BA was retained, most of which is white pine. About half of the maple, oak, aspen, and white pine sprouts have been heavily browsed by deer and killed. The other half is still being browsed on. Once there is sufficient regeneration remove the overstory to release it.
38	4117 - Mixed N. Hardwood - Pine	Sawtimber Medium	46.8	98	1-50	Stand was shelterwood cut in 2012 on contract 033-10-01. 50 BA was retained, most of which was a mix of hardwood and pine. Stand is a mix of good quality oak and pine and moderate quality hardwood. The hardwood, aspen, and oak sprouts have been heavily browsed by deer, with a high amount being killed. There are conifers seeding into the stand as well. To maintain the hardwood component of this stand the overstory needs to be cut to allow a full release of the hardwood and oak stump sprouts, to overwhelm the deer. These sprouts will provide partial shade for the regenerating conifers.
39	4130 - Aspen	Poletimber Well	6.3	46	51-80	Good quality aspen stand.
40	4319 - Mixed Upland Forest	Sawtimber Well	6.9	109	81-110	Mature white pine stand with a dense sub-canopy of aspen, maple, and oak. The shade from the pine is slowing down the growth rate of the sub-canopy.
41	4130 - Aspen	Poletimber Medium	57.1	46	51-80	Overall good quality aspen stand with some residual pine and oak. The oak tops are dying back. The eastern half of the stand is primarily quaking aspen on sandy soils. The aspen in this part of the stand is lower quality and is thinning itself out. This portion of the stand will be harvested to maximize the aspen sprouting. The western half is on better soils and is growing much better, so this half will be harvested during the next entry period.
42	42201 - Natural White Pine, Mixed Deciduous	Sawtimber Poor	5.6	109	1-50	Stand was seed tree cut in 2012 on contract 033-10-01. There was 20 to 30 basal area of residual pine, oak, and maple retained. The stand is regenerating with a mix of aspen, maple, and pine primarily, with the understory being nearly fully stocked. The red maple sprouts have been heavily browsed by deer, with about have being killed.
45	6121 - Tamarack	Poletimber Well	7.3	92	81-110	Good quality tamarack stand, in which the eastern larch beetle has already caused some mortality. The cedar is low to moderate quality. This stand needs to be harvested while there is still viable tamarack seed in the moss.
46	6120 - Lowland Cedar	Poletimber Well	49.0	121	111-140	Moderate to low quality cedar stand with some pockets of tamarack. The tamarack is dying out of the stand from the eastern larch beetle.

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a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
47	6121 - Tamarack	Sawtimber Medium	15.2	92	51-80	Good quality tamarack stand with poor quality cedar. The tamarack is dying out, due to the eastern larch beetle. This stand needs to be harvested now while the tamarack seed is still viable and to salvage as much as possible. There are a couple of small pockets of thick tamarack regeneration mixed in.
48	6121 - Tamarack	Poletimber Poor	26.5	92	1-50	Lowland poor quality tamarack stand. The tamarack is flooding out, the old railroad grade on the north end is preventing water to flow out of the stand. The eastern larch beetle is present and has caused some tamarack mortality. Stand could grow good tamarack, if the stands drainage was improved. Look at possibly adding culverts to the grade to improve drainage.
49	4319 - Mixed Upland Forest	Sawtimber Well	14.7	59	51-80	Mature aspen and spruce/fir stand with a significant component of older pine, hardwood, oak, and cedar. The spruce/fir is being defoliated by the spruce budworm, with minimal mortality at this time. All of the species are mature and are ready to be regenerated.
51	42340 - Upland Spruce/Fir	Poletimber Medium	14.8	63	1-50	Very low quality stand. The stand is a mix of aspen and spruce/fir, with a couple of small openings. The spruce/fir is being defoliated by the spruce budworm, and has caused significant mortality. This stand needs to be harvested to regenerate the aspen and to salvage as much of the spruce/fir as possible. We will need to obtain permission to access this stand, from a neighboring private landowner. The forty that this stand is within, could be disposed of. There is no access into it, except for the surrounding landowners.
52	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	25.1	104	111-140	Variable mature lowland conifer stand. This stand varies from good quality tamarack, areas with a mix of spruce, cedar, hardwood, and pine, strip of ash, and a dense area of high quality cedar. The dense pocket of cedar is on the southern edge of the stand and is mostly upland, looks like part of it was pastured at one time. The eastern larch beetle is defoliating the tamarack, causing some mortality. We will need to obtain permission to access this stand, from a neighboring private landowner. The forty that this stand is within, could be disposed of. There is no access into it, except for the surrounding landowners.

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Stand	Cover Type	Acres	Managed Site	General Comments:
2	310 - Herbaceous Openland	2.8	No	Transmission line R.O.W., which contains grass, ferns and shrubs.
11	622 - Lowland Shrub	1.9	No	Lowland brush stand, with primarily tagalder and some holly.
17	623 - Emergent Wetland	22.6	No	Miscauna Creek flooding and headwaters, with the Miscauna Creek flowing south out of this stand. Most of the stand is lowland marsh with some tamarack and white pine seeding in around the edges.
31	710 - Sand, Soil	1.0	No	Active gravel/sand pit with some seedlings around the edges.
43	6239 - Mixed Emergent Wetland	5.9	No	Lowland marsh with some cattails and lowland brush.
44	6229 - Mixed lowland shrub	16.5		Stand was clearcut in 2015 on contract 033-10-01. Some cedar and other conifer seed trees were retained. The stand is already filling in with spruce, tamarack, and white pine seedlings, in the short period of time it has been harvested.
50	6239 - Mixed Emergent Wetland	4.0	No	Lowland marsh with cattails, and lowland brush. There are some tamarack seedlings around the edge.