

Compartment Review Presentation

Gaylord Forest Management Unit

Compartment 52027 Entry Year 2021 Acreage: 404

County Otsego

Management Area: AuSable Outwash

Revision Date: 2019-03-04

Stand Examiner: Matthew Foster

Legal Description: T30N R3W Section 25

Identified Planning Goals:

To provide for the protection, integrated management and responsible use of a healthy and productive forest resource base for the social, recreational, environmental and economic benefit of the State of Michigan.

Soil and topography:

The majority of the compartment is Rubicon-Grayling Sand. A minor component includes Roselawn-Rubicon Sands. Soil type in the bogs and wetlands is Rifle Peat. The terrain is level with a few low depressions which are occupied with wetlands

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

This section of State land is primarily surrounded by private ownership and subdivisions.

Unique Natural Features:

None

Archeological, Historical, and Cultural Features:

None known.

Special Management Designations or Considerations:

Gas development has resulted in a network of pipelines, gas wells, and a facility within this area.

Watershed and Fisheries Considerations:

This compartment contains Bob Lake, Best Management Practices should always be followed.

Wildlife Habitat Considerations:

This small compartment contains mostly upland areas with the exception of a small wetland in the west side of section 25 and Bob Lake in the SE side of section 25. Bob Lake is used by various waterfowl along with numerous furbearers. This area receives considerable hunting pressure from deer, turkey, upland game, and waterfowl hunters.

Mineral Resource and Development Concerns and/or Restrictions

An active sand/gravel pit is located one mile to the north, and there is good sand & gravel potential within the compartment. The compartment has been developed for Antrim Shale gas production and nearly all state-owned mineral rights in this area are currently under lease and in production. There is no known metallic mineral potential in this part of the state.

Vehicle Access:

Access is good throughout the compartment.

Survey Needs:

None

Recreational Facilities and Opportunities:

There is an ORV route in this compartment. There is also a staging area (small opening) in the northwest corner of stand 19 directly across the road from the westernmost ORV route end.

Fire Protection:

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

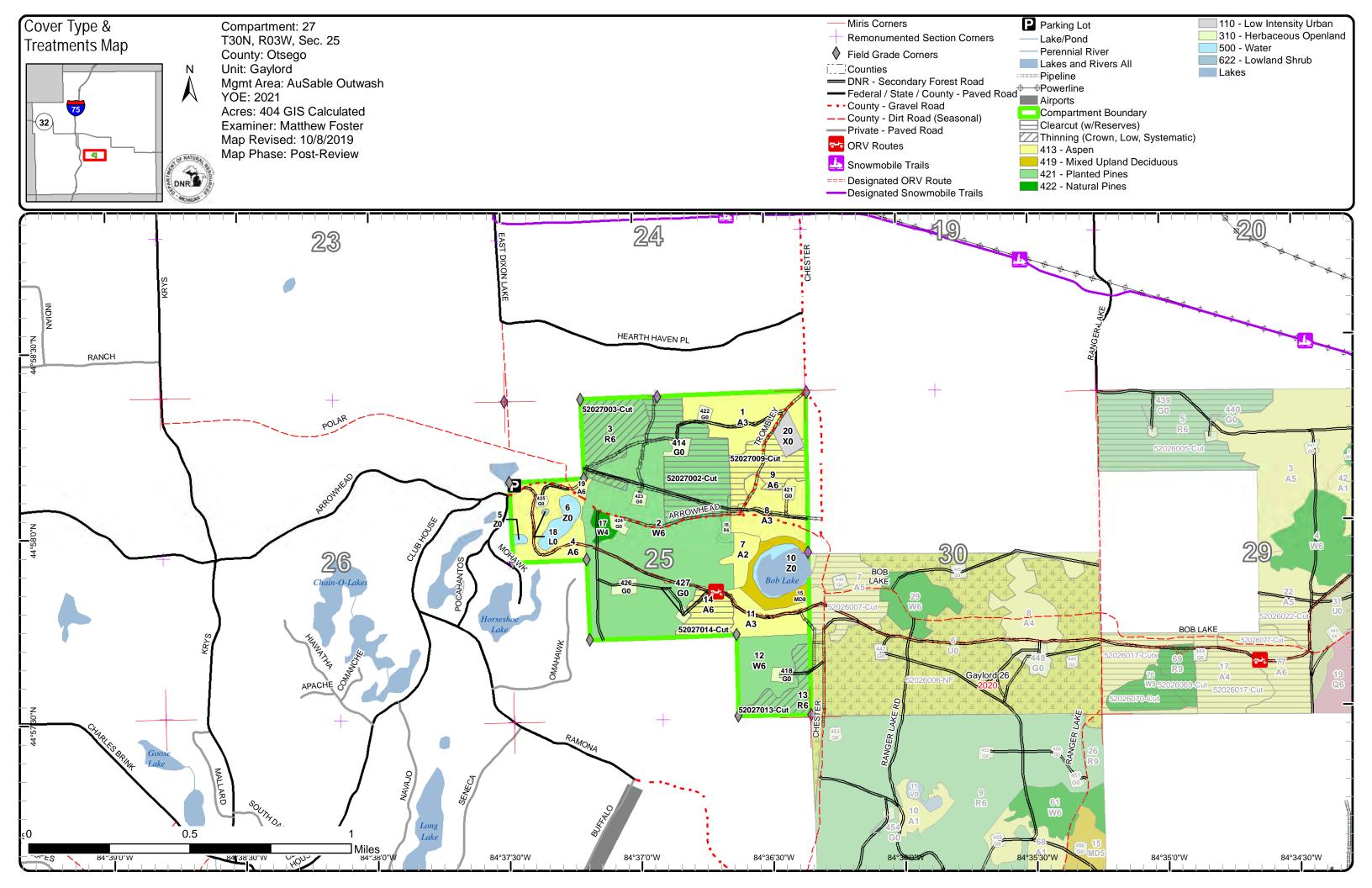
The following information is displayed, where pertinent, on the attached compartment maps:

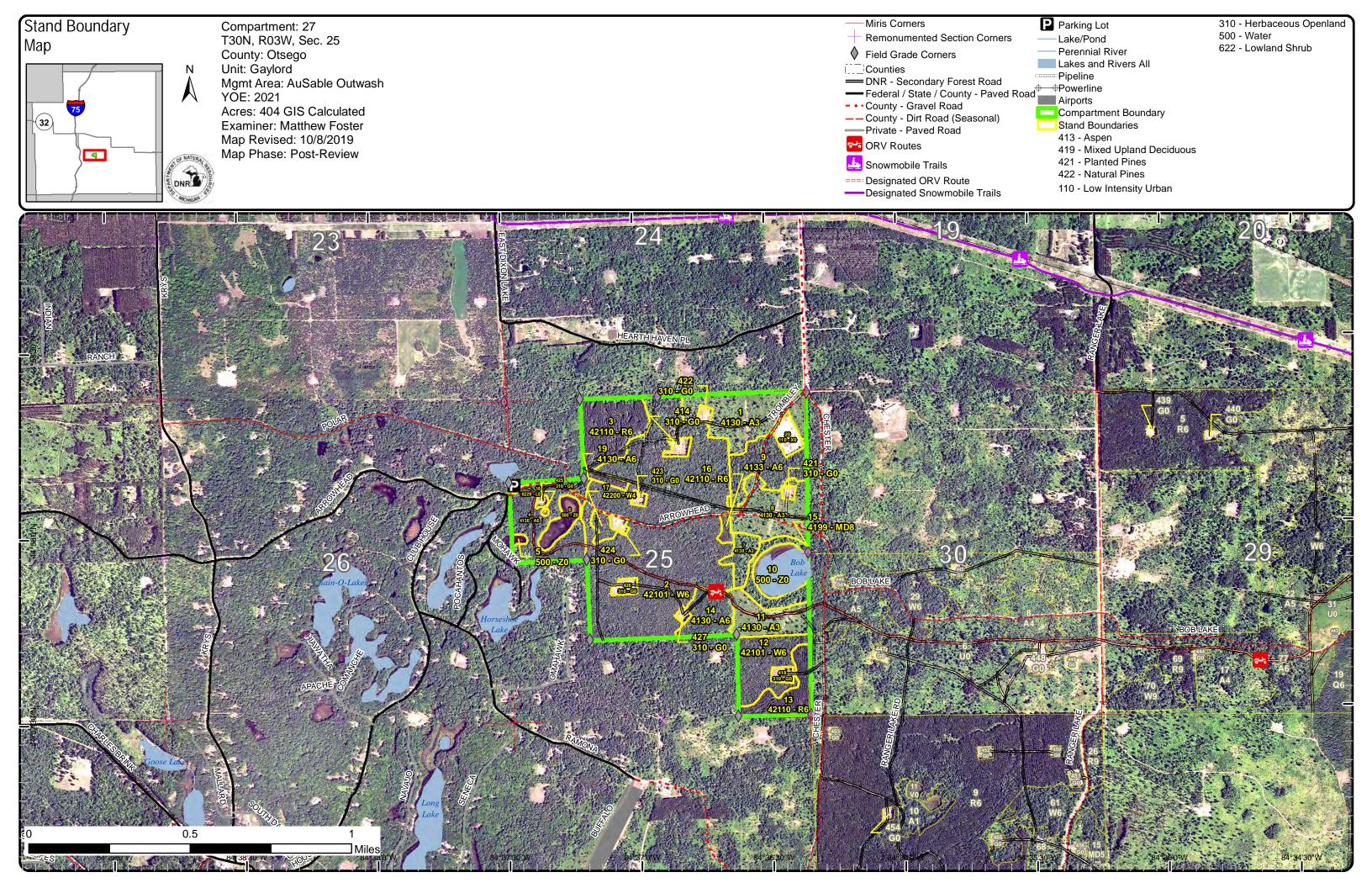
Base feature information, stand boundaries, cover types, and numbers

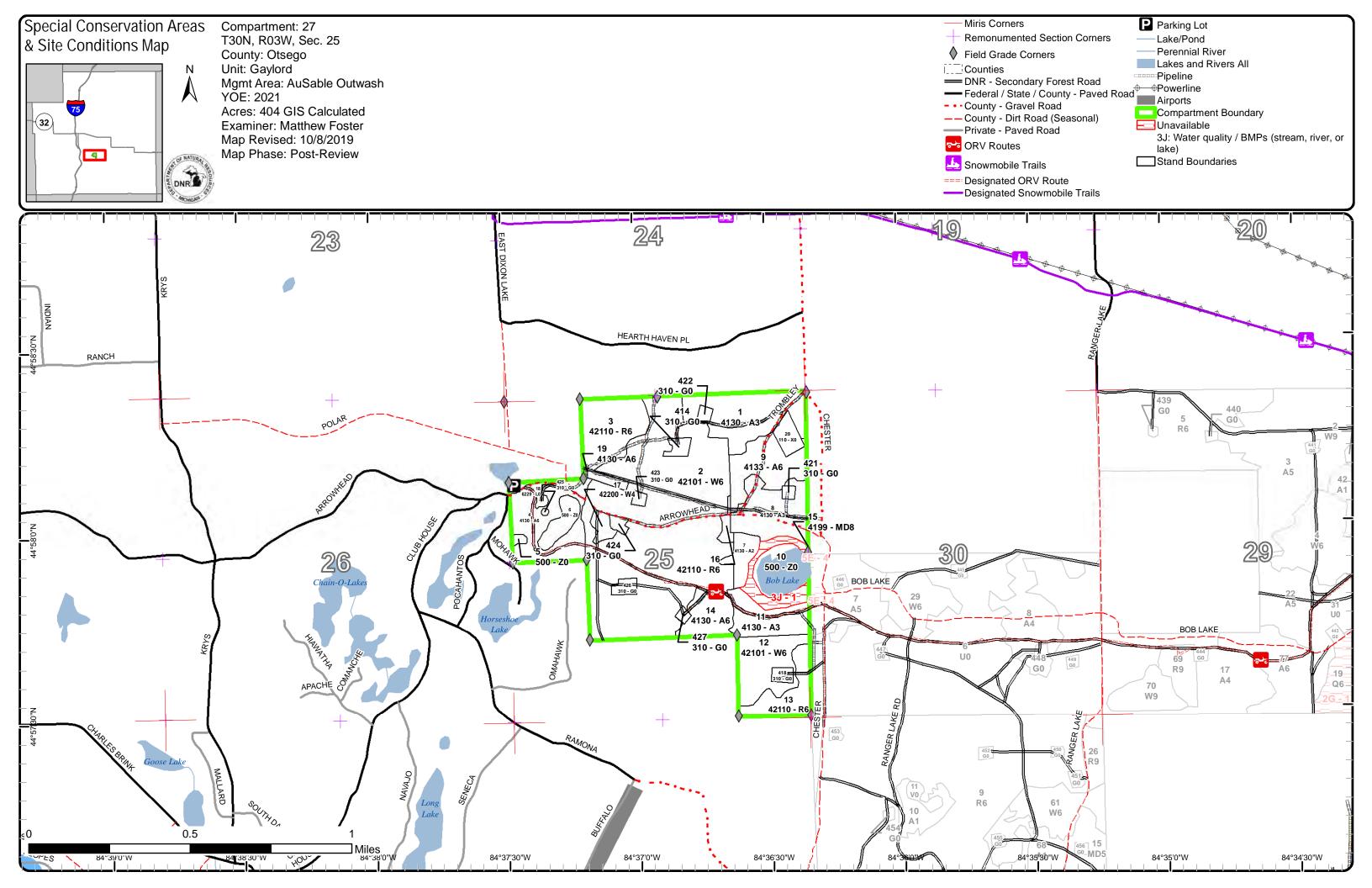
Proposed treatments

Site condition boundaries

Details on the road access system







Compartment 27 Year of Entry 2021

Matthew Foster: Examiner

Age Class

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Aspen	0	68	7	25	0	0	32	4	0	0	0	0	0	0	0	0	0	0	136	
Herbaceous Openland	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	ĺ
Lowland Shrub	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mixed Upland Deciduous	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	10	
Red Pine	0	0	0	0	0	0	41	0	0	0	0	0	0	0	0	0	0	0	41	
Urban	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
Water	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	
White Pine	0	0	0	0	0	0	174	3	0	0	0	0	0	0	0	0	0	0	177	
Total	39	68	7	25	0	0	247	17	0	0	0	0	0	0	0	0	0	0	403	ĺ



Report 2 – Treatment Summary

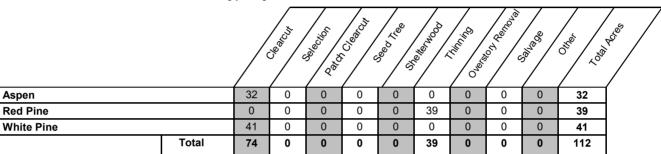
Gaylord Mgt. Unit Year of Entry: 2021

Acres of Harvest

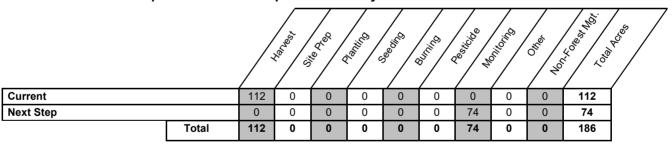
Compartment 27
Total Compartment Acres: 404

Commercial Harvest - 112 Harvests with Site Condition - 0 Next Step Harvest - 0 Habitat Cut - 0

Cover Type by Harvest Method



Proposed and Next Step Treatments by Method



Gaylord Mgt. Unit Report 3 -- Treatments Compartment: 27 s Year of Entry: 2021 t а **Treatment** Acres Stand Size Stand BA **Treatment Treatment Cover Type Approval** Age n Method Name CoverType Density Age Range Type Objective Structure **Status** d 2 52027002-Cut 42101 - Planted Poletimber 111-Clearcut with 413 - Aspen Even-Aged Draft Field 413 Harvest White Pine, Mixed Well 140 Retention Boundary Deciduous **Habitat Cut: No Site Condition:** Prescription Final harvest, leave all oak and standard retention. Specs: Next Step Monitoring, Natural Regen (Re-Inventory) Treatments: Acceptable Aspen, red maple, white pine Regen: Other Comment: 10/1 /2020 **Proposed Start Date:** 25.3 42110 - Planted 59 4211 - Planted Draft Field 52027003-Cut Poletimber 141-Crown Thinning Even-Aged Harvest Red Pine Well 170 Red Pine Boundary **Habitat Cut: No Site Condition:** Prescription Thin stand down to 120 BA, target suppressed and poor formed trees. Specs: Next Step Treatments: Acceptable Regen: Other Comment: **Proposed Start Date:** 10/1 /2020 Draft Field 52027009-Cut 50 19.7 4133 - Aspen, Poletimber 81-110 Harvest Clearcut with 413 - Aspen Even-Aged Mixed Pine Well Retention Boundary **Habitat Cut: No** Site Condition: Prescription Final harvest stand, leave all oak and 3% area retention. Specs: Monitoring, Natural Regen (Re-Inventory) Next Step Treatments: Acceptable Aspen, red maple, Regen: Other Comment: **Proposed Start Date:** 10/1 /2020 13 52027013-Cut 13.4 42110 - Planted Poletimber 59 171-Harvest Crown Thinning 4211 - Planted Even-Aged Draft Field Red Pine Well Red Pine 200 Boundary **Habitat Cut: No Site Condition:** Prescription Thin stand down to 120 BA, target suppressed and poor formed trees.

Specs:

Next Step

Treatments:

Acceptable Regen:

regen.

Other Stand was previously thinned in a cut 2, leave 3 row pattern.

Comment:

Proposed Start Date: 10/1 /2020

Gaylord Mgt. Unit Report 3 -- Treatments

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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	.9/
14	52027014-Cut	12.7	4130 - Aspen	Poletimber Well	58	Unspec ified	Harvest	Clearcut with	413 - Aspen	Even-Aged	Draft Field	

Habitat Cut: No **Site Condition:**

Prescription Final harvest stand to regenerate aspen, leave all oak and leave 3% in area retention. Add ORV route protection specs.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen, maple, white pine.

Regen: <u>Other</u> Comment:

Proposed Start Date: 10/1 /2020

Total Treatment Acreage Proposed:

112.4

Report 4 – Site Conditions

Compartment: 27

Gaylord Mgt. Unit

98%

Matthew Foster : Examiner Year of Entry: 2021

Availa	bility for	Managemer	nt				
Total	Acres	Acres Avail	Acres		Domina	nt Site	Conditions
Acres	Available	With Condition	Not Available		3J	5E	
136	136	0	0	Aspen		0	
13	13	0	0	Herbaceous Openland			
0	0	0	0	Lowland Shrub			
9	0	0	9	Mixed Upland Deciduous	9	0	
41	41	0	0	Red Pine			
5	5	0	0	Urban			
22	22	0	0	Water			
178	178	0	0	White Pine			
404	394		9	Total Forested Acres	9	0	

Relative Percent

2%

*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 Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	10	Unspecified	Unspecified	Unspecified	Unspecified
(Comments:						

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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				

Mgt. Unit Compartment:
Year of Entry

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.

Conservation Type Description HCVA = High Conservation Value Area SCA = Special Conservation Area



Stan	d Level 4 Co	over Type		Size De	ensity	Acres	Stand Age	BA Range	Managed Site		General Comments
1	4130	- Aspen		Saplin	g Well	29.2	5	1-50	N/A		Stand harvested in October of 2014, all oak and white pine were left.
	Canopy Species	% Cover	Size Class	DBI	H Age	Cano	py Species	Density	Avg. Height	Size	Regeneration looks good, heavy browse on the red maple.
	Bigtooth Aspen	50	Sapling	1	5	Wi	tch Hazel	Low	5 - 10 feet	Tall Shrub	
	White Pine	10	Pole/Log/Sap	р 8				1	1		-
	Red Maple	13	Sapling	1							
	Quaking Aspen	10	Sapling	1							
	Black Cherry	10	Sapling	1							
2	42101 - Planted Deci	White Pine iduous	, Mixed	Poletimb	oer Wel	154.0	59	111-140	N/A		White pine planted in 1960, some areas are stagnating with trees dying out. Aspen, red maple, and a few oak mixed in.
	Canopy Species	% Cover	Size Class	DBI	H Age	Cano	py Species	Density	Avg. Height	Size	
	White Pine	70	Pole/Log	9	59		Red Oak	Low	< 5 feet	Sapling	
	Red Maple	10	Log/Pole	11		Re	ed Maple	Medium	5 - 10 feet	Sapling	
	Quaking Aspen	10	Log/Pole	10			Beech	Low	< 5 feet	Sapling	
						Servicebe	erry (Junebei	rry) Low	< 5 feet	Sapling	
						Haw	thorn (spp.)	Trace	< 5 feet	Tall Shrub	
						Wi	tch Hazel	Trace	5 - 10 feet	Tall Shrub	
						W	hite Pine	Low	Variable	Sapling	
3	42110 - Plar	nted Red P	ine f	Poletimb		1 25.3	59	141-170	N/A		Third row thinned in 2003, average BA is 170, a little higher at the south end. A few scattered oak throughout the stand.
	Canopy Species		Size Class		H Age		ppy Species		Avg. Height	Size	ond. A low southered out throughout the stand.
	Red Pine	95	Pole/Log	9	59	F	Red Oak	Medium	< 5 feet	Sapling	
						Re	ed Maple	Medium	5 - 10 feet	Sapling	
							ck Cherry	Medium	5 - 10 feet	Sapling	
						W	hite Pine	Low	Variable	Sapling	
							Beech	Low	< 5 feet	Sapling	
						Bigto	ooth Aspen	Low	5 - 10 feet	Sapling	
4		- Aspen		Poletimb			27	Immature	N/A		Harvest completed in 1992, aspen is just entering pole size class. Looks like scattered oak and pine was left when harvested, some maple also in
	Canopy Species	% Cover	Size Class		H Age		opy Species	Density	Avg. Height	Size	the southwest corner of the stand near the houses.
	Bigtooth Aspen	60	Pole/Sapling	,	27		tch Hazel	Low	5 - 10 feet	Tall Shrub	
	Red Maple	17	Pole/Sapling				hite Pine	Low	Variable	Sapling	
	Quaking Aspen	10	Pole/Sapling	5			elnut (Spp.)	Low	5 - 10 feet	Tall Shrub	
						Віа	ck Cherry	Medium	5 - 10 feet	Sapling	
5	500 -	- Water		Nonst	ocked	0.9		Unspecified	No		Small, kettle lake.
6	500 -	- Water		Nonst	ocked	6.4		Unspecified	No		Small, kettle lake.



Stan	d Level 4 C	over Type		Size De	nsity	Acres	Stand Age	BA Range	Managed	Site	General Comments
7	4130	- Aspen	\$	Sapling N	/ledium	6.8	16	Immature	N/A		Harvested in 2003, west half is dense aspen and east half is more of a U
	Canopy Species	% Cover	Size Class	DBH	Age	Cano	py Species	Density	Avg. Height	Size	type.
	Bigtooth Aspen	70	Sapling	3	16	Wit	ch Hazel	Low	5 - 10 feet	Tall Shrub	
	Quaking Aspen	10	Sapling	3		Hawt	horn (spp.)	Trace	5 - 10 feet	Tall Shrub	
	Black Cherry	8	Sapling	2				·			•
8	4130	- Aspen		Sapling		22.6	5	1-50	N/A		Stand harvested in October of 2014, oak and white pine were left. Good regeneration, buffer around Bob Lake is now a different stand.
	Canopy Species	% Cover	Size Class	DBH	Age	Cano	py Species	Density	Avg. Height	Size	regeneration, build alound bob Lake is now a unicion stand.
	Bigtooth Aspen	65	Sapling	1	5	Hawt	horn (spp.)	Trace	5 - 10 feet	Tall Shrub	
	Red Maple	10	Sapling	1							
	White Pine	10	Pole/Log/Sap	p 8							
	Black Cherry	10	Sapling	1							
9	4133 - Aspe	en, Mixed P	ine f	Poletimb	er Well	19.7	50	81-110	N/A		This is a mixed stand, aspen with pockets of log sized white pine. Could
	Canopy Species	% Cover	Size Class	DBH	Age	Cano	py Species	Density	Avg. Height	Size	harvest to expand aspen.
	Bigtooth Aspen	35	Pole/Log	9	50	Re	d Maple	Medium	Variable	Sapling	
	White Pine	35	Pole/Log	9		WI	nite Pine	Medium	Variable	Sapling	
	Red Maple	20	Log/Pole	11		R	ed Oak	Low	5 - 10 feet	Sapling	
						Bigto	oth Aspen	Low	5 - 10 feet	Sapling	
						Wit	ch Hazel	Trace	5 - 10 feet	Tall Shrub	
						I	Beech	Low	< 5 feet	Sapling	
10	500	- Water		Nonsto	cked	14.2			No		Bob Lake and its associated wetland.
11		- Aspen		Sapling		16.0	5	1-50	N/A		Stand harvested in October of 2014 as part of Bob Lake Aspen. Red Oak and White Pine left for visual purposes, 2 chain buffer around Bob
	Canopy Species	% Cover	Size Class	DBH	Age	Cano	py Species	Density	Avg. Height	Size	Lake has been split out as a separate stand, heavy browse on rm
	Bigtooth Aspen	60	Sapling	1	5	Wit	ch Hazel	Low	5 - 10 feet	Tall Shrub	
	Quaking Aspen	14	Sapling	1							
	Red Maple	10	Sapling	1							
12	42101 - Planted Dec	White Pine iduous	, Mixed	Poletimb	er Well	20.4	59	111-140	N/A		White pine row planted in 1960, some aspen and maple mixed in. Some pockets are stagnated and dying out.
	Canopy Species	% Cover	Size Class	DBH	Age	Cano	py Species	Density	Avg. Height	Size	
	White Pine	80	Pole	8	59	Re	d Maple	Medium	5 - 10 feet	Sapling	
	Quaking Aspen	7	Pole	7		R	ed Oak	Low	5 - 10 feet	Sapling	
	Red Maple	10	Log/Pole	10			Beech	Low	5 - 10 feet	Sapling	
		·				Wit	ch Hazel	Trace	5 - 10 feet	Tall Shrub	
						Hazelr	ut (Beaked)	Trace	5 - 10 feet	Tall Shrub	



Stand	d Level 4 C	over Type		Size Den	sity	Acres	Stand Age	BA Range	Managed Site		General Comments
13	42110 - Pla	nted Red P	ine	Poletimbe	Well	13.4	59	171-200	N/A		Thinning completed in 2003, due to original dense planting it was thinned
	Canopy Species	% Cover	% Cover Size Class D		Age	Cano	py Species	Density	Avg. Height	Size	in a cut 2 rows, leave 3 pattern. Average BA is around 190.
	Red Pine	98	Pole/Log	9	59	Wh	ite Pine	Low	Variable	Sapling	
						R	ed Oak	Low	5 - 10 feet	Sapling	
						Re	d Maple	Medium	5 - 10 feet	Sapling	
						E	Beech	Low	5 - 10 feet	Sapling	
						Blad	k Cherry	Low	5 - 10 feet	Sapling	
14	4130	- Aspen		Poletimbe	Well	12.7	58	Unspecified	N/A		Aspen stand mixed with some maple and white pine, look to harvest.
	Canopy Species	% Cover	Size Class	DBH	Age	Cano	py Species	Density	Avg. Height	Size	
	Bigtooth Aspen	65	Pole/Log	9	58	Wit	ch Hazel	Low	5 - 10 feet	Tall Shrub	
	White Pine	15	Pole/Log	9		R	ed Oak	Low	5 - 10 feet	Sapling	
	Red Maple	15	Pole/Log	9		Wh	ite Pine	Low	Variable	Sapling	
						Re	d Maple	Medium	5 - 10 feet	Sapling	
15	4199 - Other Mixe	ed Upland D	eciduous S	Sawtimber N	/ledium	9.5	65	51-80	N/A		Buffer left around Bob Lake, mostly oak and maple. A few areas look like
	Canopy Species	% Cover	Size Class	DBH	Age	Cano	py Species	Density	Avg. Height	Size	some harvesting has occurred in the past, especially the south side.
	Red Oak	38	Log/Pole	12	65	Re	d Maple	Medium	5 - 10 feet	Sapling	
	Paper Birch	10	Pole/Log	9		R	ed Oak	Medium	5 - 10 feet	Sapling	
	Red Maple	35	Log/Pole	10		Blad	k Cherry	Low	5 - 10 feet	Sapling	
	White Pine	10	Pole/Log	9		Wł	ite Pine	Low	Variable	Sapling	
		1		1 1		Wit	ch Hazel	Low	5 - 10 feet	Tall Shrub	
16	42110 - Pla	nted Red P	ine	Poletimbe	Well	2.2	59	111-140	N/A		Planted in 1960, third row thinned in 2003. Average BA is 140.
	Canopy Species	% Cover	Size Class	DBH	Age	Cano	py Species	Density	Avg. Height	Size	
	Red Pine	98	Pole/Log	9	59	R	ed Oak	Medium	5 - 10 feet	Sapling	
						Re	d Maple	Medium	5 - 10 feet	Sapling	
						Hawt	norn (spp.)	Trace	< 5 feet	Tall Shrub	
						Wit	ch Hazel	Low	5 - 10 feet	Tall Shrub	
						Wh	ite Pine	Low	Variable	Sapling	
17	42200 - Nati	ural White F	Pine	Poletimber	Poor	3.3	60	1-50	N/A	_	Harvest completed in 2003, left the pine and cut the aspen and red
	Canopy Species	% Cover	Size Class	DBH .	Age	Cano	py Species	Density	Avg. Height	Size	maple. Stand could be coded as a W4 or an A3, leave as is until aspen and maple become merchantable.
	White Pine	95	Pole/Log	9	60		oth Aspen	High	>20 feet	Sapling	•
						Re	d Maple	Medium	>20 feet	Sapling	
						Wh	ite Pine	Low	Variable	Sapling	
18	6229 - Mixed	d lowland sl	nrub	Nonstoc	ked	0.2	0	Unspecified	No		Small lowland shrub area.



Stand	d Level 4 C	over Type		Size De	nsity	Acres	Stand Age	BA Range	Managed \$	Site	General Comments
19	4130	- Aspen		Poletimb	er Well	3.9	67	51-80	N/A		Small aspen stand on north side of Arrowhead Trail, could harvest when
	Canopy Species	% Cover	Size Class	DBH	Age	Cano	py Species	Density	Avg. Height	Size	something adjacent is going to be cut.
	Bigtooth Aspen	65	Pole/Log	9	67	W	hite Pine	Medium	5 - 10 feet	Sapling	
	Quaking Aspen	17	Pole	8		Re	ed Maple	Low	5 - 10 feet	Sapling	
	Red Oak	10	Log	12		F	led Oak	Low	5 - 10 feet	Sapling	
						Wi	tch Hazel	Low	5 - 10 feet	Tall Shrub	
						Bla	ck Cherry	Medium	5 - 10 feet	Sapling	
20	110 - Low I	ntensity Urb	oan	Nonsto	cked	4.7		Unspecified	No		LAMBDA Energy Bagley 25 Central Production Facility.
414	310 - Herbac	ceous Open	land	Nonsto	cked	2.4			No		Gas well, LAMBDA Energy Resources State Bagley A 3-25.
418	310 - Herbac	ceous Open	land	Nonsto	cked	1.9			No		Gas well, Enervest Operating State Bagley 5-25.
421	310 - Herbac	ceous Open	land	Nonsto	cked	1.0			No		Gas well, Enervest Operating State Bagley 7-25.
422	310 - Herbac	ceous Open	land	Nonsto	cked	1.2			No		Gas well, Enervest Operating State Bagley 2-25.
423	310 - Herbac	ceous Open	land	Nonsto	cked	1.1			No		Gas well, Enervest Operating State Bagley 3-25.
424	310 - Herbac	ceous Open	lland	Nonsto	cked	1.5		Immature	No		LAMBDA Energy Resources, State Bagley 1-25.
425	310 - Herbac	ceous Open	land	Nonsto	cked	0.8			No		Gas well, Enervest Operating State Bagley 6-25.
426	310 - Herbac	ceous Open	lland	Nonsto	cked	2.2			No		Gas Well Site. Enervest company with well heath 2017, the State Bagley 4-25 site was removed from the DEQ's list of contaminated sites after ground water samples came back below criteria. Conoco Phillips plugged and abandoned the one regular well, all of ground water monitoring wells and removed the charcoal filter system. Great Lakes Energy removed the electrical (L-7475). Consumers not removed their line (L-5427).
427	310 - Herbac	ceous Open	lland	Nonsto	cked	0.9			No		Gas well, Fruehauf Antrim Ltd Partnership State Chester 4-25.