Compartment Review Presentation

Crystal Falls Forest Management Unit

Compartment 12046
Entry Year 2021
Acreage: 1,066
County Dickinson
Management Area: Ralph Ground Moraine

Revision Date: 2019-07-30

Stand Examiner: Jacob Siler

Legal Description:

T43N, R30W, Sections 18 and 19

Identified Planning Goals:

This compartment is being managed with varying ages of aspen and alternately managed hardwood stands. Most lowland/cedar stands fall within stream buffers and are within deer obligate winter range. The lowland/cedar stands being left leaves a complex yet diverse buffer zone both for the Ford River and Bice Creek.

Soil and topography:

There are some rolling uplands in this compartment and this ranges down to the swampy, conifer areas.

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

This compartment is on the outer, southwestern edge of Channing. There are farm fields on the north access road (which is 10th Street) and all private forties.

Unique Natural Features:

The headwaters of the Ford River.

Archeological, Historical, and Cultural Features:

None that are known at this time.

Special Management Designations or Considerations:

Buffers along Bice Creek and the Ford River.

Watershed and Fisheries Considerations:

This compartment contains headwater reaches of the Ford River. These headwater reaches are designated Type 1 trout streams less than 50’ width. 300’ buffers are recommended for these headwater reaches in riparian areas susceptible to Aspen regeneration. For areas not susceptible to Aspen regeneration, 100’ plus 5’ per 1% increase in slope; buffers are recommended to protect these areas in accordance with Best Management Practices.

Wildlife Habitat Considerations:

The compartment is heavily used by wintering deer and considered winter deer range. Wintering deer are even using upland areas where spruce and fir are present. Compartment also has 80 acres of state game purchased land. Transition areas from lowland to upland are used heavily by deer as well.

Mineral Resource and Development Concerns and/or Restrictions

An active sand/gravel pit is located one mile to the east, in Section 16, and there may be some sand & gravel potential within the compartment on the uplands. There appears to be significant amounts of clay amongst the glacial sediments. Mineral rights in and around the compartment were previously leased for metallic mineral exploration and development more than 30 years ago. Extensive iron ore exploration has occurred south and west of the compartment; however, no mining occurred in this area. If iron formation was encountered, it was likely too deep or of poor quality. There may still be metallic mineral potential within the compartment. There is no known potential for economic hydrocarbon production in the UP. The state does not own all mineral rights within the compartment. Because the mineral estate is the dominant estate, reasonable access to the surface must be provided to private owners if they choose to explore or develop their mineral rights.

Vehicle Access:

There is an access road from the south (the County Line Road) and an access road to the north (10th Street) but otherwise access is limited.

Survey Needs:

Corners may be needed

Recreational Facilities and Opportunities:

This area is used for hunting and possibly fishing.

Fire Protection:

Fire vehicles would have fair access once they left the county roads, but it depends on how dry it was.

Additional Compartment Information:

The following reports from the Inventory are attached:

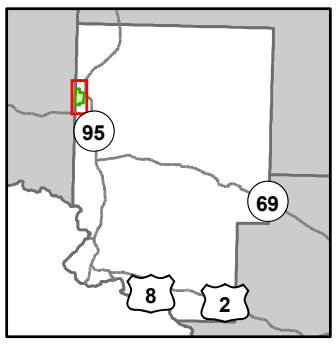
- **Total Acres by Cover Type and Age Class**
- **Cover Type by Harvest Method**
- **Proposed Treatments – No Limiting Factors**
- **Proposed Treatments – With Limiting Factors**
- **Stand Details (Forested and Nonforested)**
- **Dedicated and Proposed Special Conservation Areas**
- **Site Condition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

Cover Type & Treatments Map

Compartment: 46
T43N, R30W, Sec. 18, 19
County: Dickinson
Unit: Crystal Falls
Mgmt Area: Ralph Ground Moraine
YOE: 2021
Acres: 1,066 GIS Calculated
Examiner: Jacob Siler
Map Revised: 1/27/2020
Map Phase: Post-Review



N

- Miris Corners
- Remonumented Section Corners
- Survey Grade Corners
- Field Grade Corners
- Counties
- DNR - Primary Forest Road
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State Highway
- Federal / State / County - Paved Road
- Private - Dirt / Gravel Road
- Active Railroads
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Toilet
- Berms
- Boating Access Site
- Compartment Boundary
- 411 - Northern Hardwood
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 423 - Other Upland Conifers
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- 310 - Herbaceous Openland
- 622 - Lowland Shrub

Stand Boundary Map

Compartment: 46
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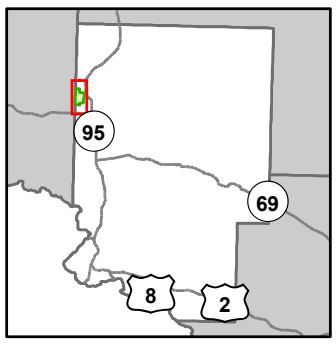

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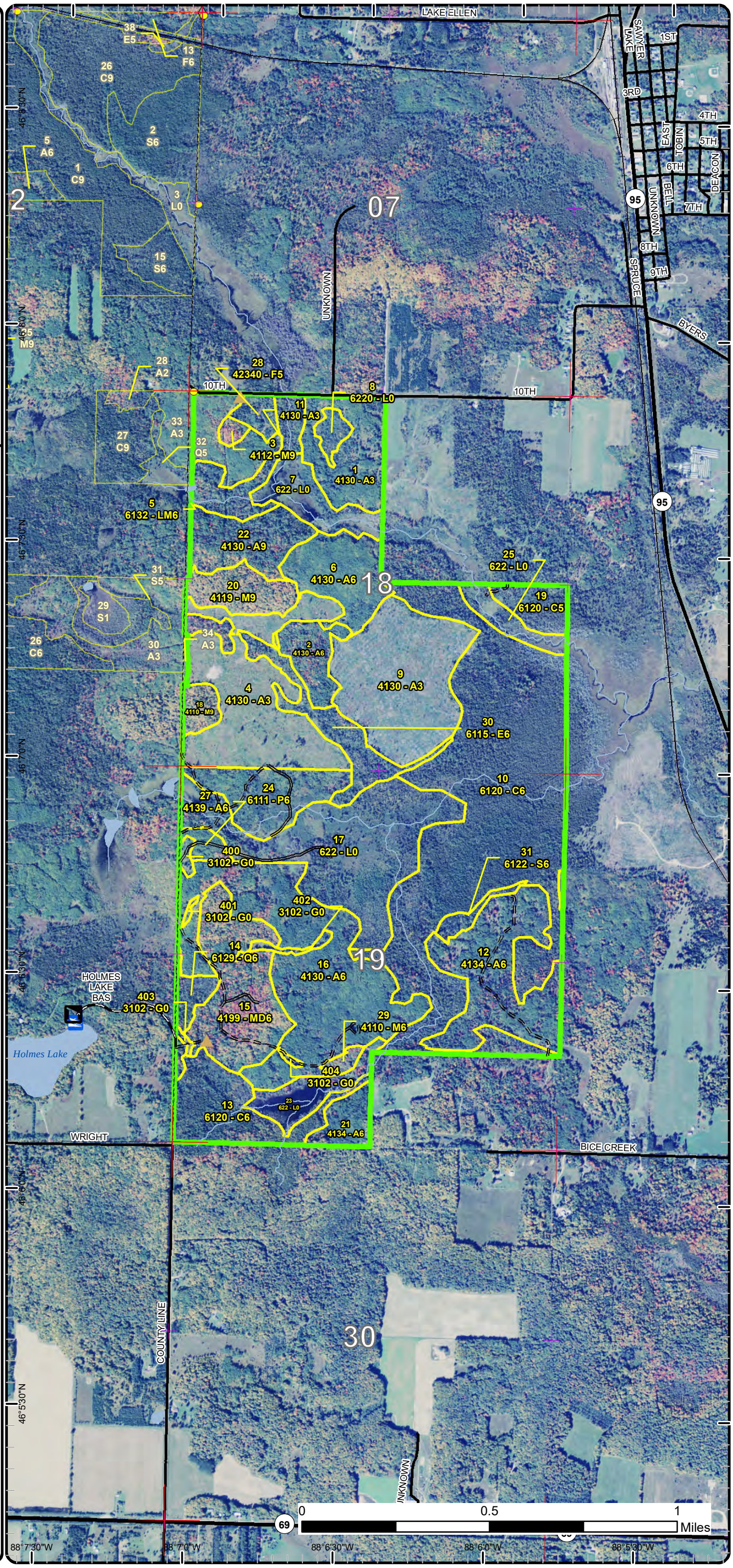

Special Conservation Areas & Site Conditions Map

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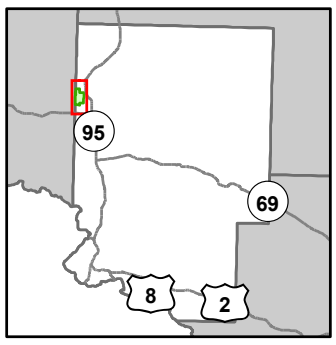

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- Lake/Pond
- Perennial River
- Lakes and Rivers
- Toilet
- Berms
- Boating Access Site
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2G: Too wet (sensitive soils, does not include access issues)
- 3J: Water quality / BMPs (stream, river, or lake)
- Stand Boundaries
- Cold Water Streams
- High Priority Trout Stream Buffer
- Deer Winter Range

Report 1 – Total Acres by Cover Type and Age Class

Crystal Falls Mgt. Unit **Compartment 46** **Year of Entry 2021**

Jacob Siler : Examiner

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	147	20	106	146	0	45	0	0	0	0	0	0	0	0	0	0	0	**464**
Cedar	0	0	0	0	0	0	0	0	0	264	0	0	0	0	0	0	0	0	**263**
Herbaceous Openland	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**7**
Lowland Aspen/Balsam Poplar	0	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	**31**
Lowland Conifers	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	**7**
Lowland Deciduous	0	0	0	0	0	0	0	0	0	29	0	0	0	0	0	0	0	0	**29**
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	**21**
Lowland Shrub	145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**145**
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	**5**
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	**55**
Northern Hardwood	0	0	0	0	0	0	0	0	0	29	0	0	0	0	0	0	0	3	**32**
Upland Spruce/Fir	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	**7**
Total	**152**	**147**	**20**	**106**	**177**	**0**	**52**	**0**	**0**	**329**	**5**	**0**	**21**	**0**	**0**	**0**	**0**	**58**	**1066**

Report 2 – Treatment Summary

Crystal Falls Mgt. Unit

Year of Entry: 2021

Acres of Harvest

Compartment 46

Total Compartment Acres: 1,066

Commercial Harvest - 96

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
Aspen	37	0	0	0	0	0	0	0	0	**37**
Lowland Conifers	3	0	0	0	0	0	0	0	0	**3**
Mixed Upland Deciduous	51	0	0	0	0	0	0	0	0	**51**
Northern Hardwood	0	0	0	0	0	6	0	0	0	**6**
Total	**90**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**96**

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	96	0	0	0	0	0	0	0	0	**96**
Next Step	0	0	0	0	0	0	90	0	0	**90**
Total	**96**	**0**	**0**	**0**	**0**	**0**	**90**	**0**	**0**	**186**

Proposed Treatments:

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
2	12046002-Cut	15.8	4130 - Aspen	Poletimber Well	56	Unspecified	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	No

Prescription Specs: Cut all trees 2 inches and greater at dbh. Cut all spruce/fir with 1 or more pulp sticks. Do not cut red pine, white pine and cedar. Leave dense spruce/fir & vernal as retention. Buffer vernal one tree length. Cut in winter or dry summer.

Next Step Treatments: Monitoring, Natural Regen (Re-Inventory)

Acceptable Regen: Aspen, maple

Other Comment: Include small bubble of slightly younger aspen in the north east corner to even age classes.

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
3	12046003-Cut	2.8	4112 - Maple, Beech, Cherry Association	Sawtimber Well	82	111-140	Harvest	Crown Thinning	411 - Northern Hardwood	Even-Aged	No

Prescription Specs: Thin Stand to 70 basal area. Cut all aspen, spruce and fir with one or more pulp sticks. Do not mark hemlock.

Next Step Treatments:

Acceptable Regen: northern hardwood associates

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
14	12046014-Cut	2.9	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	84	81-110	Harvest	Clearcut	612 - Lowland Coniferous Forest	Even-Aged	No

Prescription Specs: Cut all trees with one or more pulp sticks. Do not cut white pine, cedar and hemlock. Cut in winter or dry summer.

Next Step Treatments: Monitoring, Natural Regen (Re-Inventory)

Acceptable Regen: lowland conifer, white pine, hemlock

Other Comment: North half of stand would not get treated; its too wet.

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
15	12046015-Cut	50.5	4199 - Other Mixed Upland Deciduous	Poletimber Well	70	111-140	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	No

Prescription Specs: Cut all trees 2 inches at dbh and up. Do not cut pine, cedar and hemlock. Red line out 2 or 3 larger hardwood patches. Red line out 4 one acre patches of dense spruce/fir or equivalent amount. Distributed spruce/fir patches across the stand.

Next Step Treatments: Monitoring, Natural Regen (Re-Inventory)

Acceptable Regen: aspen, mixed hardwood, mixed softwood.

Other Comment: Hardwood patches designated in current treatment.

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
22	12046022-Cut	20.9	4130 - Aspen	Sawtimber Well	56	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	No

Prescription Specs: Cut all trees that are 2 inches and larger at DBH. Cut all spruce/fir with 1 or more pulp sticks. Do not cut cedar and pine. Buffer Ford River 300 feet. Buffer Ford River tributary 300 feet.

Next Step Treatments: Monitoring, Natural Regen (Re-Inventory)

Acceptable Regen: aspen, balsam poplar, paper birch

Other Comment: Retention in buffer

Site Condition

Proposed Start Date: 10/1 /2020

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
29	12046029-Cut	3.0	4110 - Sugar Maple Association	Poletimber Well	83	141-170	Harvest	Crown Thinning	411 - Northern Hardwood	Even-Aged	No

Prescription Specs: Thin to 70 basal area. Cut all aspen, spruce and fir with one or more pulpwood sticks. Do not cut cedar.

Next Step Treatments:

Acceptable Regen: northern hardwood associates

Other Comment:

Site Condition

Proposed Start Date: 10/1 /2020

Total Treatment Acreage Proposed: 95.9

Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Jacob Siler : Examiner

Compartment: 46

Year of Entry: 2021

Availability for Management

Total Acres	Acres Available	*Acres Avail With Condition*	Acres Not Available		Dominant Site Conditions *5C*	2G	3H	3J
464	445	***0***	18	**Aspen**		0	0	18
264	0	***0***	264	**Cedar**			264	
7	7	***0***	0	**Herbaceous Openland**				
31	31	***0***	0	**Lowland Aspen/Balsam Poplar**		0		
7	3	***0***	4	**Lowland Conifers**		4		
29	0	***0***	29	**Lowland Deciduous**		29		
21	0	***0***	21	**Lowland Mixed Forest**				21
145	145	***0***	0	**Lowland Shrub**		0	0	0
5	0	***5***	0	**Lowland Spruce/Fir**	***5***			
55	55	***0***	0	**Mixed Upland Deciduous**		0		
32	32	***0***	0	**Northern Hardwood**				
7	0	***5***	2	**Upland Spruce/Fir**	***5***			2
1,066	717	***9***	339	Total Forested Acres	***9***	34	264	41
	67%	***1%***	32%	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**	**3J: Water quality / BMPs (stream, river, or lake)**	40	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
	Comments:							
2		**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	30	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:							

3	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	5	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
4	**Unavailable**	**3J: Water quality / BMPs (stream, river, or lake)**	1	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
5	**Unavailable**	**2G: Too wet (sensitive soils, does not include access issues)**	4	Unspecified	Unspecified	Unspecified	Unspecified
	Comments:						
6	**Unavailable**	**3H: Deer Wintering Area - habitat is incompatible with harvest at this time**	36	5A: Not able to obtain desirable regeneration	Unspecified	Unspecified	Unspecified
	Comments: Far north portion of stand within deer wintering area.						
7	**Unavailable**	**3H: Deer Wintering Area - habitat is incompatible with harvest at this time**	228	5A: Not able to obtain desirable regeneration	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified
	Comments: Most of stand is within deer wintering area.						
8	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	5	Unspecified	Unspecified	Unspecified	Unspecified
	Comments: Mix of mature aspen, young aspen, openings, spruce, and fir. Majority of mature aspen located within buffer.						

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

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.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
1	4130 - Aspen	Sapling Well	32.7	29	Immature	N/A	Stand was cut in 1991. Trace amounts of hemlock, sugar maple, red maple, yellow birch, elm, cedar and larger balsam fir and white spruce in the canopy. Scattered small open patches with low density trees. Tag alder found in stand occurs in small patches. Larger mature aspen can be found on the west side of stand bordering the Q type where it would most likely fall in the stream buffer.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	85	Sapling/Pole	4	29
Balsam Poplar	10	Sapling/Pole	4	29

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	Variable	Sapling
Bracken Fern	Medium	Unspecified	Non-Wood
White Spruce	Low	Variable	Sapling
Blackberry/Raspberry	Medium	< 5 feet	Tall Shrub
Cherry (spp.)	Low	Variable	Sapling
Tag Alder	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
2	4130 - Aspen	Poletimber Well	16.4	56	Unspecified	N/A	Stand has 2 ages of aspen one being 54 and the other being 45. If harvested incorporate younger (45) aspen in the north east corner of stand to even age class. Trace amounts of paper birch and red pine.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	75	Log/Pole	10	56
Red Maple	15	Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	Variable	Sapling
White Spruce	Low	Variable	Sapling
Black Spruce	Low	Variable	Sapling
Tag Alder	Low	5 - 10 feet	Tall Shrub
Black Ash	Trace	Variable	Sapling
Paper Birch	Trace	Variable	Sapling
Blackberry/Raspberry	Trace	< 5 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
3	4112 - Maple, Beech, Cherry Association	Sawtimber Well	2.8	82	111-140	N/A	

Canopy Species	% Cover	Size Class	DBH	Age
Sugar Maple	75	Log/Pole	11	82
Red Maple	25	Log/Pole	11	

Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	Low	Variable	Sapling
Ironwood	Low	Variable	Sapling
Balsam Fir	Trace	Variable	Sapling
White Spruce	Trace	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
4	4130 - Aspen	Sapling Well	73.0	6	Immature	N/A	Harvested 2013- Aspen regeneration cut. Stand was overmature at time of harvest. Chipping was done as part of harvest.Trace amounts of maple and white pine in the super canopy. (2018)

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	100	Sapling	1	6

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Trace	5 - 10 feet	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
5	6132 - Mixed Lowland Forest with Cedar	Poletimber Well	21.2	111	111-140	N/A	Lowland stand along stream. Stand slopes up from cedar and tag alder along stream to mature aspen. Trace amounts of elm and red maple in the canopy

Canopy Species	% Cover	Size Class	DBH	Age
Northern White Cedar	40	Log/Pole	10	111
Quaking Aspen	22	Pole/Log	9	58
Balsam Poplar	30	Pole/Log	9	

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	High	5 - 10 feet	Tall Shrub
White Spruce	Low	Variable	Sapling
Balsam Fir	Medium	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
6	4130 - Aspen	Poletimber Well	31.1	33	Unspecified	N/A	Trace amounts of cherry, black ash, and red maple. Some small low spots present.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	98	Pole/Sapling	5	33

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Sapling
White Spruce	Trace	Variable	Sapling
Cherry (spp.)	Trace	Variable	Sapling
Paper Birch	Trace	Variable	Sapling
Red Maple	Trace	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
7	622 - Lowland Shrub	Nonstocked	21.3		Unspecified	No	Lowland stand that includes some of the buffers from surrounding stands. (2018)

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
8	6220 - Alder/willow	Nonstocked	5.2	0	Unspecified	No	

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	High	5 - 10 feet	Tall Shrub
Balsam Poplar	Low	Variable	Sapling
Quaking Aspen	Low	Variable	Sapling
Balsam Fir	Low	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
9	4130 - Aspen	Sapling Well	74.0	6	Immature	N/A	Harvested 2014- Aspen was overmature, clearcut to promote regeneration.Trace amounts of elm, white pine, cherry, red maple, balsam fir, paper birch, and white spruce. (2018)

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	100	Sapling	1	6

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
10	6120 - Lowland Cedar	Poletimber Well	214.1	89	141-170	N/A	Trace amounts of red maple, paper birch, and quaking aspen. (2018)

Canopy Species	% Cover	Size Class	DBH	Age
Northern White Cedar	73	Log/Pole	10	89
Black Spruce	20	Log/Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Trace	Variable	Sapling
Tag Alder	Low	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
11	4130 - Aspen	Sapling Well	20.2	17	Immature	N/A	Trace amounts of red maple, elm, red pine, and basswood in canopy.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	95	Sapling	2	17

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Sapling
White Spruce	Low	Variable	Sapling
Tag Alder	Trace	5 - 10 feet	Tall Shrub
Red Maple	Medium	Variable	Sapling
Blackberry/Raspberry	Trace	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
12	4134 - Aspen, Spruce/Fir	Poletimber Well	61.1	29	Unspecified	N/A	OPIC - FMD: TORNADO AND BUDWORM DAMAGE.Canopy closure looks to be more towards 75% with the scattered openings. Trace amounts of oak, black spruce, cedar and, super canopy white pine. (2018)

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	70	Pole/Sapling	5	29
Balsam Fir	25	Pole	6	

Sub-Canopy Species	Density	Avg. Height	Size
Cherry (spp.)	Low	Variable	Sapling
Black Raspberry	High	5 - 10 feet	Tall Shrub
Balsam Fir	Medium	Variable	Sapling
Red Maple	Low	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
13	6120 - Lowland Cedar	Poletimber Well	36.4	88	141-170	N/A	OPIC - FMD: OI Stand Year Origin was 1917High spot along the south line with some spruce, aspen, maple and birch. Stand 26, that was between stands 13 and 21, was combined with 13. (2018)

Canopy Species	% Cover	Size Class	DBH	Age
Northern White Cedar	73	Pole/Log	8	88
Black Spruce	10	Pole	8	
Tamarack	10	Log/Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Sapling
Tag Alder	High	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
14	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	7.3	84	81-110	N/A	Trace amounts of red pine, hemlock, yellow birch, red maple, aspen, and paper birch. North part of stand has significantly more black ash, cedar and tag alder. (2018)

Canopy Species	% Cover	Size Class	DBH	Age
Black Spruce	30	Pole	8	
White Pine	20	Log/Pole	12	
Tamarack	40	Pole	9	84

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Sapling
Tag Alder	Medium	5 - 10 feet	Tall Shrub
Tamarack	Low	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
15	4199 - Other Mixed Upland Deciduous	Poletimber Well	54.6	70	111-140	N/A	Ash saplings on far north side of stand are thick in areas but overall low density.(2018)Stand 14 was combined with stand 15 (2018)Part of stand was cut in 1974 (2018)

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	37	Pole/Log	9	54
Red Maple	46	Pole/Log	9	70
Basswood	10	Log/Pole	13	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	High	Variable	Sapling
Northern White Cedar	Low	Variable	Pole
Ash (spp.)	Low	Variable	Sapling
Paper Birch	Trace	Variable	Sapling
Balsam Fir	Medium	Variable	Pole
White Spruce	Low	Variable	Sapling
White Spruce	Medium	Variable	Pole

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
16	4130 - Aspen	Poletimber Well	109.1	35	Unspecified	N/A	OPIC - FMD: OI Stand Year Origin was 1985Some pockets of thick balsam fir saplings and a few scattered low pockets. Trace amounts of cherry, black ash, and red maple. (2018)

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	96	Pole	7	35

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Sapling
Red Maple	Low	Variable	Sapling
Black Ash	Trace	Variable	Sapling
Cherry (spp.)	Trace	Variable	Sapling
Yellow Birch	Trace	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
17	622 - Lowland Shrub	Nonstocked	90.4		Unspecified	No	Lowland shrub stand with scattered trees. Various species along the edge of stand, e.g., aspen, balsam poplar, cedar, maple, pine, and ash. (2018)

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
18	4110 - Sugar Maple Association	Sawtimber Well	7.4	86	81-110	N/A	Trace amounts of cedar and red maple. (2018)

Canopy Species	% Cover	Size Class	DBH	Age
Sugar Maple	79	Log/Pole	12	86
Basswood	20	Log/Pole	16	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Sapling
Ironwood	High	Variable	Sapling
White Spruce	Low	Variable	Sapling
Balsam Fir	Trace	>20 feet	Pole
Paper Birch	Trace	>20 feet	Pole

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
19	6120 - Lowland Cedar	Poletimber Medium	13.2	88	81-110	N/A	Small section of stand is higher ground with scattered large aspen and spruce. BA is very low on the higher ground.

Canopy Species	% Cover	Size Class	DBH	Age
Black Spruce	8	Log/Pole	12	
Northern White Cedar	88	Pole/Sap/Log	9	88

Sub-Canopy Species	Density	Avg. Height	Size
Aspen (spp.)	Trace	Variable	Sapling
Black Raspberry	Low	5 - 10 feet	Tall Shrub
White Spruce	Trace	Variable	Sapling
Tag Alder	High	5 - 10 feet	Tall Shrub
Balsam Fir	Trace	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
20	4119 - Mixed Northern Hardwoods	Sawtimber Well	18.9	86	81-110	N/A	Thinned 2013Ironwood sub- canopy thicker around edges. (2018)

Canopy Species	% Cover	Size Class	DBH	Age
Sugar Maple	80	Log/Pole	13	86
Basswood	20	Log	16	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Sapling
White Spruce	Low	Variable	Sapling
Sugar Maple	Low	Variable	Sapling
Yellow Birch	Trace	Variable	Sapling
Blackberry/Raspberry	Low	< 5 feet	Tall Shrub
Ironwood	Medium	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
21	4134 - Aspen, Spruce/Fir	Poletimber Well	12.0	29	Unspecified	N/A	Trace amounts of larger maple. (2018)

Canopy Species	% Cover	Size Class	DBH	Age
Balsam Fir	30	Pole	8	
Quaking Aspen	70	Pole/Sapling	6	29

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Trace	5 - 10 feet	Tall Shrub
Balsam Fir	Medium	Variable	Sapling
Black Raspberry	Medium	5 - 10 feet	Tall Shrub
Maple (spp.)	Trace	Variable	Sapling
Ironwood	Low	Variable	Sapling
White Spruce	Trace	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
22	4130 - Aspen	Sawtimber Well	28.7	56	81-110	N/A	Trace amounts of elm in the canopy (2018)

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	65	Log/Pole	11	56
Sugar Maple	10	Log/Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Medium	Variable	Sapling
Paper Birch	Low	Variable	Sapling
Sugar Maple	Low	Variable	Sapling
White Spruce	Low	Variable	Sapling
Ironwood	Low	Variable	Sapling
Tag Alder	Trace	5 - 10 feet	Tall Shrub
Sugar Maple	Low	>20 feet	Pole
Red Maple	Low	>20 feet	Pole
Yellow Birch	Trace	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
23	622 - Lowland Shrub	Nonstocked	16.8		Unspecified	No	Mostly water with some trees around the perimeter. Most perimeter trees are cedar and some aspen to the north that was a buffer. (2018)

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
24	6111 - Lowland Balsam Poplar	Poletimber Well	31.1	32	Unspecified	N/A	OPIC - FMD: OI Stand Year Origin was 1988 Trace amounts of white pine, paper birch, tamarack, and red pine. (2018)

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	50	Pole/Sapling	6	32
Balsam Poplar	43	Pole/Sapling	6	

Sub-Canopy Species	Density	Avg. Height	Size
Elm (Spp.)	Trace	Variable	Sapling
Tag Alder	Medium	5 - 10 feet	Tall Shrub
Blackberry/Raspberry	High	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
25	622 - Lowland Shrub	Nonstocked	11.1		Unspecified	No	Scattered trees on the edge of stand and center. Mostly cedar.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
27	4139 - Aspen, Mixed Deciduous	Poletimber Well	5.4	32	Unspecified	N/A	OPIC - FMD: OI Stand Year Origin was 1988Trace amounts of red maple, hemlock, white pine, cedar, and aspen.

Canopy Species	% Cover	Size Class	DBH	Age
Balsam Poplar	40	Sapling/Pole	4	
Quaking Aspen	58	Pole/Sapling	5	32

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Low	Variable	Sapling
Tag Alder	Trace	5 - 10 feet	Tall Shrub

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
28	42340 - Upland Spruce/Fir	Poletimber Medium	6.7	58	Unspecified	N/A	Very diverse stand. Mix of mature aspen, young aspen, openings, spruce, and fir. Most of the mature aspen is located on the east side of the stand where it buffers the ford. Trace amounts of basswood and paper birch.

Canopy Species	% Cover	Size Class	DBH	Age
Quaking Aspen	30	Log/Pole	10	58
Balsam Fir	50	Pole/Sapling	7	58
White Spruce	20	Pole/Sapling	7	

Sub-Canopy Species	Density	Avg. Height	Size
Tag Alder	Trace	5 - 10 feet	Tall Shrub
Quaking Aspen	High	Variable	Sapling
Cherry (spp.)	Trace	Variable	Sapling
Balsam Fir	Medium	Variable	Sapling
White Spruce	Low	Variable	Sapling
Apple (spp.)	Trace	Variable	Sapling
Balsam Poplar	High	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
29	4110 - Sugar Maple Association	Poletimber Well	3.0	83	141-170	N/A	

Canopy Species	% Cover	Size Class	DBH	Age
Red Maple	10	Log/Pole	10	
Sugar Maple	88	Log/Pole	10	83

Sub-Canopy Species	Density	Avg. Height	Size
Balsam Fir	Trace	Variable	Sapling
Ironwood	Trace	Variable	Pole
Northern White Cedar	Trace	Variable	Pole

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
30	6115 - Lowland Ash	Poletimber Well	29.1	86	81-110	N/A	Variable BA within stand. Most of stand is lowland with the only uplands occurring on the edges. Trace amounts of paper birch, white pine and maple. (2018)

Canopy Species	% Cover	Size Class	DBH	Age
Black Ash	80	Pole	7	86
Northern White Cedar	10	Log/Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
Paper Birch	Trace	Variable	Sapling
Balsam Fir	Trace	Variable	Sapling
Tag Alder	High	5 - 10 feet	Tall Shrub
Black Spruce	Trace	Variable	Sapling
Balsam Poplar	Trace	Variable	Sapling
Cherry (spp.)	Trace	Variable	Sapling
Red Pine	Trace	Variable	Sapling
White Spruce	Trace	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
31	6122 - Black Spruce	Poletimber Well	4.8	92	141-170	N/A	Trace amounts of cedar, red maple, and paper birch.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Black Spruce	96	Pole	8	92	Balsam Fir	Trace	Variable	Sapling

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
400	3102 - Grass	Nonstocked	2.0		Unspecified	No	OPIC - FMD: OI Stand Year Origin was
401	3102 - Grass	Nonstocked	0.6		Unspecified	No	OPIC - FMD: OI Stand Year Origin was
402	3102 - Grass	Nonstocked	2.8		Unspecified	Managed Opening	OPIC - FMD: OI Stand Year Origin was
403	3102 - Grass	Nonstocked	0.9		Unspecified	No	OPIC - FMD: OI Stand Year Origin was
404	3102 - Grass	Nonstocked	0.6		Unspecified	No	OPIC - FMD: OI Stand Year Origin was