

The United Counties of Stormont, Dundas and Glengarry
SDG County Forest

Forest Management Plan
2007-2026



Section C: Five Year Operating Plan (2017-2021)

Prepared By: Jim Hendry, R.P.F.
Hendry Forestry Service

Date: _____

Copy #: _____

SDG COUNTY FOREST: FOREST MANAGEMENT PLAN

Documents

- SECTION A: FOREST POLICY PLAN**
- SECTION B: TWENTY YEAR MANAGEMENT PLAN (2007 to 2026)**
- SECTION C: FIVE YEAR OPERATING PLAN (2017 to 2021)**
- SECTION D: AMENDMENT TO THE TWENTY YEAR MANAGEMENT PLAN (2007 TO 2026)**

Terms and Acronyms

Annual Harvest Area	ANA
Digital Raster Aerial Photography for Eastern Ontario	DRAPE
Eastern Ontario Model Forest	EOMF
Forest Management Planning	FMP
Forest Resource Inventory	FRI
Geographic Information System	GIS
High Conservation Value	HCV
Ontario Ministry of Natural Resources and Forestry	OMNRF
Ontario Professional Foresters Association	OPFA
Raisin Region Conservation Authority	RRCA
Registered Professional Forester	R.P.F.
SDG County Forest	County Forest or Forest
South Nation Conservation	SNC
United Counties of Stormont, Dundas and Glengarry	SDG or County

SDG COUNTY FOREST: FOREST MANAGEMENT PLAN

Section C: Five Year Operating Plan (2017-2021)

TABLE OF CONTENTS

C-1.0 REPORT ON PAST FOREST OPERATIONS	4
C-1.1 Summary of Forest Management for the 2012-2016 Operating Period	4
C-1.2 Financial Summary	5
C-2.0 FIVE YEAR OPERATING PLAN	8
C-2.1 Annual Harvest Area.....	8
C-2.2 Selection of Harvest Areas.....	10
C-2.2.1 Contingency Harvest Sites	12
C-2.2.2 Scheduled Salvage Operation.....	12
C-2.3 Managing Ash Stands – Preparing for Emerald Ash Borer	13
C-2.4 Potential Maple Tapping Stands	17
C-2.4 High Conservation Value Forests	18
Appendix A – Overview Map of Areas Selected For Harvest Operations for the 2017-2021 Operating Period	20
Appendix B – Maps of Individual Harvest Areas Selected for Operations for the 2017-2021 Operating Period	21
Appendix C – Sample Maple Tapping Lease Agreement.....	31
Appendix D – High Conservation Value Forest for SDG Forest.....	38
References.....	47

C-1.0 REPORT ON PAST FOREST OPERATIONS

C-1.1 Summary of Forest Management for the 2012-2016 Operating Period

Table 1 summarizes the forest operations that occurred on the SDG County Forest and harvest areas that were prepared during the 2012-2016 operating period. Forest management activities during the 2012-2016 period addressed a number of carry-over sites from the previous two 5-year periods, specifically sites SDG 22/23, 49/64, 44, and 45/50. Harvest areas planned for but not completed during the 2012-2016 operating period will be carried forward to the 2017-2021 5-Year Operating Plan.

Table 1:

Summary of Forest Operations on SDG County Forest During 2012-2016 Operating Period							
Property	Softwood			Hardwood			Year(s) of Operation
	Area (ha)	Species	Volume (m3)	Area (ha)	Species	Volume (m3)	
Actual Harvest areas							
22/23				22.0	LH	636.0	2012,2013
49/64				17.1	TH	639.50	2013
44	14.6	Sw	948.7	12.6	TH	851.0	2013, 2014
7,8	20.9	Pr	1,598.9				2015
26	4.1	Pr	545.5	incidental	TH	17.0	2015
26	6.5	Sw	372.4	incidental	TH	4.6	2016
45/50	19.5	Sw	1,280.7	incidental	LH	216.5	2016
Total	65.6		4,746.2	51.7		2,364.7	
Areas marked: Carry forward to 2017-2021							
14/15	3.4	Pw					2015
14/15	9.6	Sw					2015
26	6.3	Pr					2014
26	6.0	Sw					2014
88/91				30.9	TH		2015
88/91				30.6	LH		2015
Total	25.3			61.5			

Table 2 compares the planned harvest area to the actual harvest area, for new allocations only, during the 2012-2016 operating period. The new allocation areas in 2012-2016 were: SDG 7/8, 26, 44 (8.3 ha), and 49/64 (3.5 ha).

The actual harvest area was 28% less than the planned harvest area. This difference was due to several factors including market conditions for certain species, logging contractor availability, site access, weather conditions, and insufficient volume or

stocking. Harvest levels for most species remains below the allowable AHA.

Market conditions for red pine and white spruce forest units were strong over the period and resulted in good demand for both species. This condition enabled additional spruce stands to be added to the SDG 45/50 harvest block. Poor weather conditions resulted in a contract extension for SDG 26 in 2016, for red pine and white spruce stands. This operation is scheduled to be completed by March 31, 2017.

Poor market conditions for white pine have persisted, resulting in no harvest operations in this forest unit. White pine stands in SDG 20/21, and 14/15 were marked for harvest. In addition, lowland and tolerant hardwood forests were marked for harvest in SDG 88/91, all these areas will be carried forward into the next 5-year period.

Table 2:

Comparison of Planned Harvest Area and Actual Harvest Area (new allocation areas only) for 2012-2016 Operating Period			
Forest Unit	Allowable Harvest Area (ha)	Planned Harvest Area (ha)	Actual Harvest Area (ha) new allocation areas only
Red Pine (Pr)	21.5	25.0	25.0
White Pine (Pw)	15.5	0.0	0.0
White Spruce (Sw)	25.5	14.0	21.3
Other Conifer Plantation	As encountered	As encountered	0.0
Other Conifer (OC) Natural	14.5	9.8	0.0
Intolerant Hardwood (IH)	5.5	9.4	0.0
Lowland Hardwood (LH)	21.0	10.5	0.0
Tolerant Hardwood (TH)	18.0	0.0	3.5
Total	121.5	68.7	49.7

C-1.2 Financial Summary

The Business Plan for the SDG County Forest indicated that during the initial 10-year period (2000-2010) of management the County should anticipate a net annual Property Management cost of \$5,950.00. The actual 10-year average cost for Property Management was \$5,223.30, (Section C: Five Year Operations Plan 2012-2016). As the plan stated, this limited investment will “increase the long-term revenues for SDG County while providing benefits to the local economy and environment. Revenues will continue to increase after year 20 as the forest continues to improve in quality”.

Table 3 summarizes the revenues and costs incurred over the past fifteen years as provided in the Annual Reports for the SDG County Forest. The costs are broken down into two elements: *Property Management* costs that include both Forestry and Property

Administration and *Forest Management Planning*. FMP costs are associated with the preparation of the 20-Year Forest Management Plan, Plan Amendments and 5-Year Operating Plans. The costs of the FMP are shown separately to reflect that they were not anticipated in the original Business Plan. Costs associated with GIS support are not reported as they are addressed directly by County staff.

The planning costs in 2005 and 2006 were associated with the preparation of the 20-Year FMP. The planning cost in 2009 was associated with the amendment to the 20-Year FMP. This amendment was related to the acquisition of approximately 416.4 ha (1,028.5 acres) of new properties. The forest management planning costs in 2012 and 2016 were associated with the preparation of the 2012-2016 and 2017-2021 5-Year Operating Plans.

The annual average Property Management cost is **\$6,784.47** and the annual average FMP cost is **\$2,864.93**, over the fifteen year period. Therefore, the average annual total cost is **\$9,649.39**, which represents an annual cost of **\$1.02** per acre.

Table 3:

Financial Summary of Property Management and Forest Management Planning Costs for SDG County Forest, 2002 - 2016						
Year	Property	Revenue	Property Management Cost (PMC)	Annual Revenue – PMC	Forest Management Planning Cost	Total Revenue (Cost)
2002	21,22,23 47,57	\$10,132.00 \$5,663.61	\$17,000.00	\$1,204.39	\$0.00	\$1,204.39
2003	9,10 56	\$19,200.00 \$2,510.27	\$9,785.00	\$11,925.27	\$0.00	\$11,925.27
2004	56	\$3,221.73	\$11,590.00	\$8,368.27	\$0.00	\$8,368.27
2005	2,24,25,93 (deposit)	\$16,500.00	\$12,486.03	\$4,013.97	\$14,547.10	\$10,533.13
2006	2,24,88/91 (deposit)	\$18,702.96	\$20,239.24	\$1,536.28	\$8,979.61	\$10,515.89
2007	2,25, 88/91 (deposit)	\$16,401.71	\$15,949.80	\$451.91	\$0.00	\$451.91
2008	44 (deposit)	\$345.67	\$15,508.69	\$15,163.02	\$0.00	\$15,163.02
2009	3/4, 93,21-23 (deposit)	\$4,383.38	\$18,259.40	\$22,642.78	\$6,531.12	\$29,173.90
2010	3/4,21-23 (deposit) 44 (pre-payment), Trans Northern Pipeline, Riverside Snowmobile Club	\$8,130.28	\$22,735.26	\$14,604.98	\$0.00	\$14,604.98
2011	3/4,20-23,45/50, Riverside Snowmobile Club, Hydro One	\$3,958.10	\$9,062.60	\$5,104.50	\$0.00	\$5,104.50
2012	22/23, Riverside Snowmobile Club	\$3,127.00	\$21,775.02	\$18,648.02	\$3,601.05	\$22,249.07
2013	22/23,44,49/64, Riverside Snowmobile Club, Hydro One	\$13,321.00	\$23,151.46	\$9,830.46	\$0.00	\$9,830.46
2014	20-23 (deposit),44,45/50 (deposit), Riverside Snowmobile Club	\$6,708.64	\$26,743.52	\$20,034.88	\$0.00	\$20,034.88
2015	7/8, 26 (extension fee), Riverside Snowmobile Club	\$44,671.15	\$37,564.25	\$7,106.90	\$0.00	\$7,106.90
2016	45/50,26, Riverside Snowmobile Club	\$13,118.03	\$21,245.50	\$8,127.47	\$9,315.00	\$17,442.47
Total		\$181,328.77	\$283,095.77	\$101,767.00	\$42,973.88	\$144,740.88
Annual Average		\$12,088.58	\$18,873.05	\$6,784.47	\$2,864.93	\$9,649.39

Note: Property Management includes: Forestry and Property Administration activities.

C-2.0 FIVE YEAR OPERATING PLAN

C-2.1 Annual Harvest Area

Determining an annual harvest area (AHA) is one method of ensuring the long-term sustainability of forest management. It refers to the annual harvest level that could continue indefinitely without exceeding the productive capacity of the forest. An AHA is calculated based on assumptions made regarding the length of time required for stands to grow enough merchantable volume to support a commercial harvest (i.e. cutting cycle) and the area that could support a commercial harvest during the term of the next cutting cycle (i.e. harvest eligibility). Due to species variability and differences due to stage of management, an AHA is calculated for each forest unit (see Section D: Amendments to the Twenty Year Management Plan (2007 to 2026), D-1.5 Forests of the SDG County Forest, pages 11 and 12).

1) Cutting Cycle and Stage of Management

Cutting cycle is a term used to describe the length of time expected between treatments for an average stand of merchantable age. The length of time between treatments varies depending on the species involved and the type of silvicultural treatments applied. Typically, plantation thinning occurs on a shorter cutting cycle (e.g. 10-20 years) than single-tree selection in an upland hardwood forest (20-30 years) or a clear-cut in a poplar stand (>80 years).

Two stands of the same forest unit but located on different site types, of different age and/or subjected to different natural events (e.g. ice storm, disease, etc.) or human intervention (e.g. thinning, under-planting, etc.) will likely be at different stages of management. In order to meet the objectives for the stand, each stand will need to be subjected to a specific silvicultural treatment based upon its stage of management. Every silvicultural treatment affects a stand in a different way that will ultimately affect the length of the cutting cycle. Silvicultural treatment options are described further in Section B-8.3 Forest Units of the Forest Management Plan.

Cutting cycles should be evaluated periodically as more current information about the forest (species composition, stocking, diameter, etc.) becomes available and once the response to silvicultural treatments is monitored. Forest information collected since 2002 and data from the monitoring of silvicultural treatments were used to predict the likely stage of management and to set appropriate cutting cycles.

2) Harvest Eligibility

Harvest eligibility is an estimate of the amount of area that is likely to support a commercial harvest operation during the next cutting cycle. Several factors impact the amount of area that is eligible for harvest. These include:

- 1) Stands that are less than merchantable age/size;
- 2) Stands that have low stocking levels (failed plantations, ice-storm damaged stands);
- 3) Stands with operability limitations due to poor access, poor drainage, or small area of the potential treatment site;
- 4) Areas unable to support a commercially viable harvest at any age (e.g. beaver meadows, treed bogs, etc.); and
- 5) Areas where forest management is excluded to meet other objectives (e.g. Protected Area, Areas of Concern, etc.).

The AHA is calculated as follows:

$$AHA (ha/yr.) = \frac{(Area\ of\ Forest\ Unit\ (ha) \times Proportion\ Eligible\ for\ Harvest\ (\%))}{Cutting\ Cycle\ (yrs.)}$$

The AHA has changed slightly from the 2012-2016 period. The productive forest area for the white pine forest unit has increased from 104.8 to 115.8 hectares. The increase is a result of the 2006 acquisition. Accordingly, this area was not accounted for in the previous plan.

The AHA for each forest unit is summarized in Table 4. The AHA for the Forest represents less than 1% of the productive forest.

Table 4:

Annual Harvest Area for SDG County Forest by Forest Unit and Treatment Type for 2017-2021 Operational Plan						
Forest Unit	Treatment Type	Productive Area (ha)	Eligibility	Cutting Cycle	Annual Harvest Area (ha)	Five Year Harvest Target (ha)
Red Pine	Thinning and Uniform Shelterwood	108.6	60%	15	4.3	21.5
White Pine	Thinning	115.8	40%	15	3.1	15.5
White Spruce	Thinning	338.4	30%	20	5.1	25.5
Other Conifer (Plantation)	Thinning	83.5	As encountered			
Other Conifer (Natural)	Single-tree Selection, Group Shelterwood or Patch clear-cut	357.1	20%	25	2.9	14.5
Intolerant	Clear-cut	423.5	15%	60	1.1	5.5

Hardwood						
Hybrid Poplar	Thinning or clear-cut	55.0	As encountered			
Lowland Hardwood	Single-Tree and Group Selection or Uniform Shelterwood	1,042.6	10%	25	4.2	21.0
Tolerant Hardwood	Single-Tree and Group Selection	606.8	15%	25	3.6	18.0
Total					24.3	121.5

C-2.2 Selection of Harvest Areas

The FRI, DRAPE aerial photographs from 2014 and field investigation were employed to select the harvest areas for the 2017-2021 operating period. Matching actual harvest allocations to planned harvest area for each forest unit is very difficult on a small, fragmented forest like the SDG County Forest. Priority was given to areas that have not received treatment in the past, although any area that is beyond the recommended rotation for the forest unit/stage of management combination may be eligible for treatment. Operational feasibility has influenced where and when the harvest areas should be prepared as well as the total harvest amount by forest unit and treatment type. As a result, the area selected for operations differs from the calculated AHA. Efforts have been made to reach the harvest targets by forest unit over the 5-year term and annual harvest allocations were selected using the total AHA as a guide.

Table 5 provides a summary of areas that were selected for harvest operations during the 2017-2021 operating period and those that will be carried forward from previous operating periods. An overview map of the scheduled harvest areas is presented in Appendix A and individual harvest areas are presented in Appendix B. Both Appendix A and B include harvest areas that were carried forward from previous operating periods.

Scheduling of harvest will occur during the operating period based on market demand and availability of harvest contractors. Standing timber will be sold through tender in accordance with SDG policy.

Similar to the previous Operating Plan (2012-2016), field investigation in the preparation of this Operating Plan revealed there were several areas in the white pine, red pine, lowland, and intolerant hardwood forest units that were not ready for commercial harvest operations. The following are some of the reasons for the lack of harvest potential in these forest units:

- 1) FRI information did not adequately reflect the actual conditions encountered in the field, e.g. understocked stands, small diameter overstocked stands, etc. Several natural events have occurred since the inventory was performed (e.g. Ice Storm 1998, severe wind storms, etc.) and as a result, the stand condition has

changed since the inventory was performed.

- 2) Some of the stands that would be eligible for harvest, have received treatment and are not yet ready for a return harvest during this operating period. In some cases, operational feasibility required the allocation of areas beyond the annual harvest area. This leaves less area available during the term of this plan.
- 3) Some areas that had received a harvest in the past and should have been ready for a return harvest during this operating period were found to have insufficient size and/or basal area to support a harvest operation. The cutting cycle for these forest units was likely not long enough.

These factors were noted in the previous Operating Plan and were incorporated into the calculation of the ANA. No changes were made to the percent eligibility for the forest units in the preparation of this ANA calculation (Table 4).

Several of the eligible lowland hardwood and tolerant hardwood areas are stocked with polewood (10-24 cm) and small sawlog (26-36 cm) trees. These stands would benefit greatly from a thinning operation that would release future crop trees, increase the rate of growth, and improve stand operability. The lowland hardwood and tolerant hardwood stands selected for harvest during this operating period are consistent with the above statement. These stands (SDG 90) will produce only fuelwood and/or pulpwood providing limited return in the short-term, but this investment will significantly increase returns over the long-term.

Table 5:

Areas Selected for Harvest Operations During the 2017-2021 Operating Period and Areas Carried Forward From Previous Operating Periods										
Compartment(s)	Treatment Type	Forest Unit Area (hectares)								Total Area (hectares)
		Pr	Pw	Sw	OC	IH		LH	TH	
11	shelterwood	6.5								6.5
12	shelterwood	1.9								1.9
12	thinning			2.1						2.1
13	thinning		10.5							10.5
14/15	thinning		3.4*	9.6*						13.0
20/21	thinning		21.6*							21.6
21/22/23	thinning			23.1						23.1
25	salvage	1.9*								1.9
25	thinning	1.4		3.5						4.9
26	thinning	6.3*		6.0*						12.3
34	thinning				9.8*			6.8*		16.6
86	thinning							7.3*		7.3
88/91	thinning					2.8*		27.8*	30.9*	61.5
90	thinning							11.2	21.6	32.8
5-Year Harvest Targets		21.5	15.5	25.5	14.5	5.5		21.0	18.0	121.5
New Allocation		9.8	10.5	28.7	0.0	0.0		11.2	21.6	81.8
Carried Forward		8.2	25.0	15.6	9.8	2.8		41.9	30.9	134.2
Total Harvest for 2017-2021										216.0

Note: * indicates harvest that has been carried forward from previous operating periods.

C-2.2.1 Contingency Harvest Sites

Table 6 lists four stands for contingency harvest operations. These stands could be considered for harvest within this operating period under the following conditions: EAB located within the stand or in close proximity, strong market support for firewood, and/or partnership opportunities with local First Nation communities related to the use of bitternut hickory. These stands should be included in the 2022 – 2026 5-Year Operating Period if harvest operations do not take place during this period.

Table 6:

Contingency Harvest Sites					
Compartment	Stand	Forest Unit	Stand Composition	Year of Origin	Area (ha)
1	3	TH	Mh5 Bd2 Aw1 Sw1Ew1	1941	3.6
3	3	TH	Ms6 Ab2 Ce1 L1	1941	6.7
3	8	TH	Hi4 Mh3 Bd1 Aw1 Ew1	1936	9.9
4	7	TH	Hi4 Mh3 Bd1 Aw1 Ew1	1936	0.9
Total Contingency Area					21.1

C-2.2.2 Scheduled Salvage Operation

Unforeseen circumstances can lead to an unscheduled harvest operation to salvage trees before significant value is lost due to disease, insect damage, flooding or extreme weather events (e.g. wind or ice storms). It is difficult to forecast how much of this type of harvest may occur over the term of this plan since the effects of the damaging agents typically present themselves suddenly and cause rapid decline. If significant salvage is required, the Annual Harvest Area may require adjustment before the end of the plan term.

There is one scheduled salvage harvest operation scheduled for the 2017-2021 operating period. SDG 25, stand 13, a 1.9 hectare red pine plantation. This stand underwent a thinning operation in 2007 and partial salvage operation in 2014. The red pine were exhibiting signs of decline and pockets of mortality since 2007. The decline and mortality is due to nutrient deficiency and poor drainage.

Natural regeneration of hardwoods, primarily green ash, exists in this stand but tree planting is recommended to fill in gaps in stocking and to add diversity to the regeneration. The following silvicultural operations are recommended:

- Herbicide control of prickly ash prior to salvage operation;
- Herbicide spot spraying site preparation prior to planting, following salvage operation;
- Planting bur oak and white spruce; and
- Tending, brush blanket application at time of planting and herbicide spot spray

one year after planting will be required. Monitoring of the planted stock for survival will determine if additional silvicultural operations are required.

C-2.3 Managing Ash Stands – Preparing for Emerald Ash Borer

The emerald ash borer (EAB) is a wood boring insect that was introduced to North America from Asia, most likely in wood packaging materials. It was first discovered in Ontario in 2002 in Essex County and has since spread throughout all Southern, North – Eastern and North-Western Ontario. It is also found throughout Western Quebec and in 31 States in the continental United States. It was discovered in SDG County in 2014.

The Canadian Food Inspection Agency (CFIA) regulates the movement of ash material and firewood from areas under Ministerial Order. These areas are known as “Regulated Areas”, see Figure 1 EAB Regulated Areas in Canada. Ash material and firewood may move within and between Regulated Areas. SDG is within a Regulated Area.

This insect poses a significant threat to the SDG County Forest. Ash is an important colonizing species on abandoned agricultural lands that make up the majority of the SDG County Forest. In fact, ash is present on every SDG Forest compartment. Appendix C of the 2012-2016 Five-Year Operating Plan provides a geographic illustration of the ash distribution and concentration throughout the Forest.

The forest inventory indicates 53% of the Forest (2,012.3 ha or 3,942 acres) contains at least 10% ash and 11 % of the Forest (416.3 ha or 1,028 acres) contains at least 30% ash. Approximately half (218.9 ha or 541 acres) of the stands where ash makes up at least 30%, has trees that are of merchantable size, see Table 7. These stands should be considered a potential for harvest or salvage operations in the event of EAB infestation.

The remaining ash-dominated stands are young and/or poorly stocked (e.g. Compartment 99) or on treed wetlands (e.g. Compartment 72). These areas will be impacted by EAB, but in most cases these stands have little if any potential from a forest products standpoint. There would be little value in a harvest operation on these sites since most of the trees would not be of merchantable size.

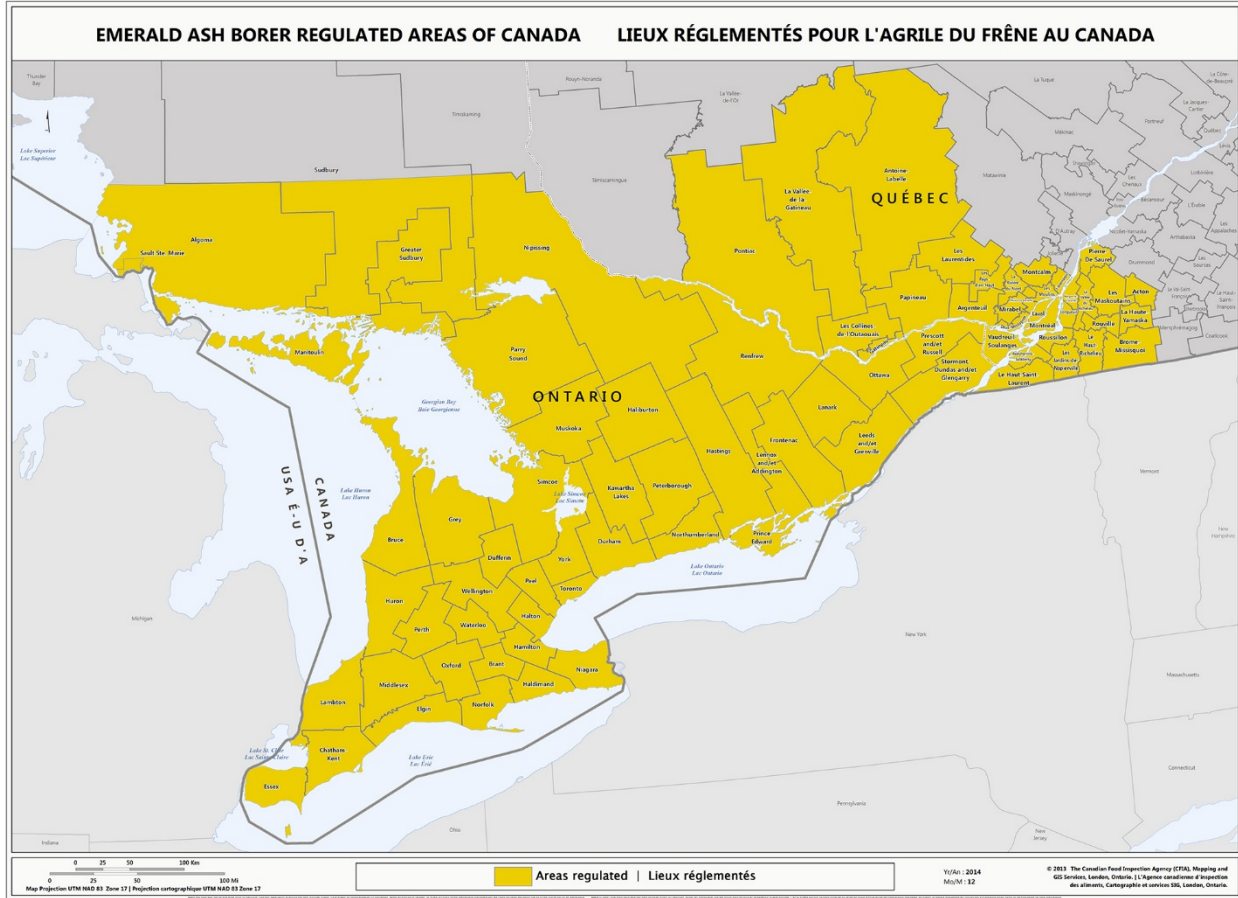


Figure 1: EAB Regulated Areas in Canada, December 2016

Source: www.inspection.gc.ca/plants/plant-pests-invasive-species/insects/emerald-ash-borer/areas-regulated/eng/

Table 7:

Stands With ≥ 30% Ash of Merchantable Size.				
Compartment	Stands	Area (ha)	Age in 2017	Species Composition
4	4	4.3	75	Aw4Ms2Ce2Hi1Ew1
5	1	0.9	70	Ms6Aw3Ew1
5	2	1.3	125	Ms7Aw3
8	10	2.2	80	Aw6Po2Ms1Ew1
11	9	1.7	70	Sw5Aw4Po1
16	1	4.5	86	Aw4Ms3Po1Pw1Ew1
23	3	4.0	80	Aw5Ms3Ew1By1
23	4	10.1	80	Aw5Ms2Ew1By1Ab1
26	3	4.0	80	Aw3Ce2Po2Ew1Sw1Ms1
28	1	7.0	90	Ms5Ab3Ce1Po1
29	6	1.0	75	Aw4Bd2Mh2He1By1
32	3	5.8	75	Aw4Mh1Bd1Ew1Po1Ce1Ms1
32	4	3.8	90	Aw4Be3Mh2Ew1

Stands With \geq 30% Ash of Merchantable Size.				
Compartment	Stands	Area (ha)	Age in 2017	Species Composition
33	6	4.6	75	Ms4Ab3Ew2Ce1
33	7	3.3	75	Aw5Po2Mh1Ms1Ew1
35	1	3.6	85	Aw7Ew2Ms1
35	3	0.5	85	Aw5Ms3Ew2
35	4	0.3	85	Aw5Ms3Ew2
38	23	3.0	80	Mh3Aw3Ew2Hi1Bd1
43	10	8.0	70	Po5Ab3Ew1Ce1
47	21	0.8	75	Ms7Aw3
48	11	0.3	85	Aw4Ms2Ab2Ce1L1
49	2	13.1	65	Aw4Po2Mh1Bd1Ew1Ms1
50	7	1.5	65	Aw6Po1Ms1Ce1Ew1
51	2	6.6	75	Ab5Ms3Ce1Ew1
51	23	2.9	64	Aw2 Po3Ab2Ms2Ce1
51	24	1.2	81	Ab4Ms3Bw2Ce1
51	25	0.2	81	Ab4Ms3Bw2Ce1
56	9	0.3	70	Aw5Ms2Ew1Po1Bd1
56	12	3.1	75	Po5Aw3Ms2
56	18	3.5	70	Ms4Aw3Po2Ew1
56	19	2.0	70	Po6Aw3Ms1
56	21	0.8	75	Aw6Mw2Po1Ew1
57	2	9.5	70	Mh3Aw3Bd2W1Ew1
57	4	1.6	70	Ms7Aw3
57	12	1.8	74	Aw6Bd1Ms1Ew1By1
57	13	0.5	74	Aw6Bd1Ms1Ew1By1
58	18	3.1	65	Mh4Aw4Bd2
58	19	0.9	65	Aw8Po1Bd1
63	1	7.0	85	Aw7Ew2Ms1
63	3	4.0	85	Aw5Ms3Ew2
63	4	2.9	75	Aw4Ms3Ce1Ew1By1
67	3	9.3	80	Aw3Ms2Ce2By1Ew1Po1
67	6	1.0	80	Aw3Ms2Ce2By1Ew1Po1
68	12	0.5	70	Ms6Ab3Ce1
68	13	2.1	70	Ms6Ab3Ce1
69	3	3.7	60	Ab3Ms3Ce1Ew1Bd1By1
72	1	0.2	85	Aw4Ms2Ab2Ce1L1
74	2	11.7	70	Ms4Ab3Po2Ew1
74	3	6.6	70	Ab5Po2Ms2Ew1
75	3	5.3	85	Ab7Ms3
76	10	7.5	85	Ab7Ms3
80	8	3.4	127	Mh5Aw3Bd1By1
81	5	2.5	60	Aw4Ms3Po1Bd1Ew1
83	6	3.3	75	Po5Aw3Ce1Ew1
87	13	0.7	65	Aw4Mh2Bd2Ew1Bw1
88*	2	0.3	75	Ms3Aw3By1Ab1Mh1Po1
88*	5	0.3	75	Ms3Aw3By1Ab1Mh1Po1
88*	10	4.0	75	Ms7Aw3
89	8	2.8	85	Aw4Ms2Ab2Ce1L1
91*	1	0.5	75	Ms3Aw3By1Ab1Mh1Po1
92	7	5.7	70	Ab5Ce2Ms2L1
92	11	1.8	85	Ms4Ab3Ce2Po1
99	35	4.2	75	Aw4Mh2Bd1Ms1Ce1Po1

Stands With \geq 30% Ash of Merchantable Size.				
Compartment	Stands	Area (ha)	Age in 2017	Species Composition
Total		218.9		

**Indicates compartments that were selected for harvest operations during the 2017-2021 operating period or that were carried forward from previous operating periods.*

Monitoring the spread of EAB populations is key to making appropriate management decisions. It is not recommended to perform proactive salvage operations, especially in stands where ash dominates. Broad scale removal of ash in these situations can result in long-term alterations of the site (e.g. water table fluctuations, invasive plant establishment, etc.) that would prevent or delay the re-establishment of a forest community.

It is recommended that stands with an ash component greater 10% be managed according to the following two scenarios. Stands listed in Table 8 above could be used as a tool to prioritize management activity.

1. Stands infested with EAB; and
2. Stands not known to be infested with EAB.

Management guidelines for these two scenarios are based on Williams and Schwan (2011) and Streit, Scarr and Farintosh (2012). Examples of harvest prescriptions are provided by Williams and Schwan (2011) for scenario 2.

Scenario 1: Stands infested with EAB

- a. Perform an immediate harvest to salvage large ash sawlogs and poor quality ash in all size classes;
- b. Retain a proportion of healthy medium and small sawlog and polewood ash that will provide growing stock, seed source, and wildlife habitat;
- c. Total basal area reduction should generally not exceed 40%;
- d. Retain all non-ash species; and
- e. Consider tree planting after salvage to address low species diversity and/or stocking levels.

Scenario 2. Stands not known to be infested with EAB,

- a. Perform harvest in accordance with 5-Year Operations Plan harvest schedule;
- b. If possible, arrange stand entries (harvest operations) every 10 years. As described in Williams and Schwan (2011), current guidelines suggest three or four entries spaced 5-10 years apart. Given the distribution of ash stands throughout the Forest this would be difficult to achieve;
- c. Reduce ash component within the stand with each successive entry. Focus removal on poor quality ash in all size classes;
- d. Ash trees with significant wildlife value should be retained to meet tree marking guidelines;

- e. Retain good quality ash trees, vigorous trees with few defects, in all size classes;
- f. When comparing trees of similar quality, remove ash to release non-ash species;
- g. Focus retention and release on non-ash species;
- h. Avoid reducing the crown closure below 70% in shelterwood, or reducing the basal area by more than 30% in single-tree or group selection; and
- i. Monitor regularly post-harvest for EAB and for establishment of desirable regeneration.

C-2.4 Potential Maple Tapping Stands

Currently a number of community forests throughout Ontario lease maple stands for the purpose of sap production. Locally these include the United Counties of Prescott and Russell, South Nation Conservation, and Lanark County. The leasing of maple stands for sap production could provide an additional source of revenue for the Forest, while contributing to a growing demand for maple products across Ontario and provide local producers with an opportunity to increase production (Economic Impacts of the Maple Syrup Industry in Ontario, January 2013).

A feasibility study to examine potential maple stands for the purpose of maple tapping would be required. The study would evaluate a number of potential stands based on maple sap production characteristic and determine suitability for tapping operations (Maple Syrup in Larose Forest: Feasibility Study, 2011).

The characteristic that would be evaluated for potential maple tapping stands includes: species composition, site index, tree health, crown volume, crown position, stocking and stand structure, regeneration, potential taps, and physical characteristics of the site. This evaluation would help to determine the economic feasibility of whether or not to proceed with maple tapping leases for the Forest.

Table 8 provides a preliminary list of potential maple tapping stands in the SDG Forest. This preliminary list is based on the following criteria: stands having at least 40% sugar maple species composition, greater than 80 years old, and greater than 7 hectares. This criteria would meet the minimum maple sap production characteristics as outlined in the Feasibility Study for Larose Forest, mentioned above.

Table 8:

Potential Maple Tapping Stands in the SDG Forest				
Compartment	Stand	Area (ha)	Age in 2017	Species Composition
27	8	9.8	86	Mh4Bd2Aw1Ew1lw1By1
42	13	7.5	86	Mh6Pw1Aw1Bd1Ms1
44	4	12.6	80	Mh3Hi3Bd2Ag1Oh1
49/64	4	13.5	91	Mh3Aw2Bd2He1Ag1Be1
90	2	8.6	106	Mh5Aw2Ms1Bd1Hi1
94	1	19.4	86	Mh4Bd2lw1Bw1Po1

If suitable, these sites could be used to gauge maple producer interest for small tapping agreements (less than 1,000 taps). A sample maple tapping lease agreement is provided in Appendix C for future reference.

It should be noted that the overall potential of establishing maple tapping stands in the Forest is considered low and that the tapping leases would be typically small agreements (less than 1,000 taps), given the average age and size of maple stands.

The following next steps are recommended within the term of this Operating Plan:

1. Undertake a feasibility study of the potential maple stands identified in Table 8;
2. Schedule single-tree selection harvest operations for all suitable stands;
3. Discuss interest in small scale tapping lease agreements with members of the Eastern Ontario Maple Syrup Producers Association to gauge local market interests; and
4. Tender sale for the rights to collect sap from the most suitable maple stands (ranked using feasibility study results).

C-2.4 High Conservation Value Forests

High Conservation Value Forests (HCVFs) are defined as forests of outstanding and critical importance because of their high environmental, biodiversity, or landscape values. The purpose of identifying HCVFs is to ensure these rare or unique ecosystems are maintained/enhanced within forests certified through the Eastern Ontario Model Forest (EOMF) Forest Certification Program.

There are six categories derived from the definition of HCVFs. The six categories are:

- Category 1: Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia);
- Category 2: Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance;
- Category 3: Forest areas that are in or contain rare, threatened or endangered ecosystems;
- Category 4: Forest areas that provide basic services of nature in critical situations (e.g., watershed protection, erosion control);
- Category 5: Forest areas fundamental to meeting basic needs of local communities (e.g., subsistence, health); and,
- Category 6: Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

Each stand within the Forest is assessed for presence of HCVFs and monitoring is undertaken on a regular basis as outlined in Auditing, Monitoring and Assessments - Standard Operating Procedures 5.0. New HCVFs are added and updated as new information becomes available. Maintenance and enhancement of HCVFs generally occurs during silvicultural activities, through modified harvest prescriptions and no-cut areas of concern.

Appendix D provides the latest HCVF assessment for the SDG Forest, updated March 23, 2016.

**Appendix A – Overview Map of Areas Selected
For Harvest Operations for the 2017-2021
Operating Period**

**Appendix B – Maps of Individual Harvest Areas
Selected for Operations for the 2017-2021
Operating Period**

Areas Selected for Harvest Operations – Compartments 11, 12 and 13

Compartment	Stand #	Forest Unit	Stand Composition	Year of Origin	Area (ha)
11	3	Pr	Pr9Sw1	1946	2.0
	14	Pr	Pr9Pj1	1946	4.5
12	6	Pr	Pr9Sw1	1949	1.9
	11	Sw	Sw9Aw1	1945	2.1
13	5	Pw	Pw5Sw4Sn1	1951	2.4
	8	Pw	Pw5Sw4Sn1	1958	4.9
	11	Pw	Pw7L2Po1	1947	3.2
Total Harvest Area					21.0

Areas Selected for Harvest Operations – Compartments 14 and 15

Compartment	Stand #	Forest Unit	Stand Composition	Year of Origin	Area (ha)
14	5	Sw	Sw8Po2	1961	1.3
14	6	Pw	Pw8Sw2	1951	3.4
14	7	Sw	Sw8Po2	1961	1.1
15	5	Sw	Sw8Po2	1961	7.2
Total Harvest Area					13.0

Areas Selected for Harvest Operations – Compartments 20 – 23

Compartment	Stand #	Forest Unit	Stand Composition	Year of Origin	Area (ha)
20	1	Pw	Pw10	1956	10.7
20	2	Pw	Pw6Sw2Ew2	1961	2.1
21	6	Pw	Pw8Ew1Mh1	1956	8.8
21	3	Sw	Sw8Aw1Bd1	1956	13.2
22	1	Sw	Sw10	1956	0.5
22	9	Sw	Sw10	1956	4.0
23	1	Sw	Sw7Mh2Oh1	1936	5.4
Total Harvest Area					44.7

Areas Selected for Harvest Operations – Compartment 25

Compartment	Stand #	Forest Unit	Stand Composition	Year of Origin	Area (ha)
25	9	Pr	Pr10	1957	1.4
	13	Pr	Pr9Aw1	1966	1.9
	8	Sw	Sw9Ce1	1966	0.9
	12	Sw	Sw7Ew2Ce1	1956	2.6
Total Harvest Area					6.8

Areas Selected for Harvest Operations – Compartment 26

Compartment	Stand #	Forest Unit	Stand Composition	Year of Origin	Area (ha)
26	9	Sw	Sw9Ce1	1955	6.0
26	1	Pr	Pr10	1956	6.3
Total Harvest Area					12.3

Areas Selected for Harvest Operations – Compartment 34

Compartment	Stand #	Forest Unit	Stand Composition	Year of Origin	Area (ha)
34	11	LH	Ce4Ms2Ab2Ew1	1916	6.8
34	12	OC	Ce7Po2Ms1	1916	2.5
34	14	OC	Ce5Ew3Ms1Po1	1916	5.4
34	15	OC	Ce6Pw1L1Ab1Ms1	1916	1.9
Total Harvest Area					16.6

Areas Selected for Harvest Operations – Compartment 86

Compartment	Stand #	Forest Unit	Stand Composition	Year of Origin	Area (ha)
86	4	LH	Ms8Ce1By1	1921	4.2
86	5	LH	Ms8Bw1Ce1	1926	1.5
86	6	LH	Ms6Aw2Bw1Ew1	1921	1.2
86	7	LH	Ms8Bw1Ce1	1936	0.4
Total Harvest Area					7.3

Areas Selected for Harvest Operations – Compartments 88 and 91

Compartment	Stand #	Forest Unit	Stand Composition	Year of Origin	Area (ha)
88	1	UH	Mh8Po1Ms1	1931	3.1
88	2	LH	Ms3Aw3By1Ab1Mh1Po1	1941	0.3
88	3	UH	Mh3Ms3Aw1Bd1Ew1Po1	1931	6.4
88	4	UH	Ms5Mh3Po1Aw1	1931	2.0
88	5	LH	Ms3Aw3By1Ab1Mh1Po1	1941	0.3
88	6	UH	Ms5Aw2Mh2By1	1931	0.2
88	7	UH	Ms5Aw2Mh2By1	1931	1.8
88	8	UH	Mh5Aw2Ms2By1	1946	4.2
88	9	LH	Ms7By1Aw1Mh1	1946	5.4
88	10	LH	Ms7Aw3	1941	4.0
88	11	LH	Ms8Aw2	1946	1.2
88	12	LH	Ms7By1Aw1Mh1	1946	4.1
91	1	LH	Ms3Aw3By1Ab1Mh1Po1	1941	0.5
91	2	UH	Mh5Ms2Aw 2By1	1941	0.3
91	3	LH	Ms7Aw2By1	1941	2.0
91	4	UH	Mh6Aw2Ms1By1	1941	1.6
91	5	IH	Po6Mh2Ms1Aw1	1941	2.8
91	6	UH	Mh3Ms3Aw1Bd1Ew1Po1	1931	2.0
91	7	UH	Ms4Aw2Mh2Ew1By1	1941	13.1
91	8	LH	Ms8By1Aw1	1946	3.9
91	9	LH	Ms8By2	1941	0.9
91	11	LH	Ms5Po2Aw1Ew1Mh1	1941	1.4
Total Harvest Area					61.5

Areas Selected for Harvest Operations – Compartment 90

Compartment	Stand #	Forest Unit	Stand Composition	Year of Origin	Area (ha)
90	2	TH	Mh5Aw2Ms1Bd1Hi1	1911	8.6
90	3	LH	Ms7Aw2Hi1	1901	11.2
90	5	TH	Mh6Hi3Aw1	1916	5.7
90	7	TH	Ms5Aw2Hi1Ew1Mh1	1921	7.3
Total Harvest Area					32.8

Appendix C – Sample Maple Tapping Lease Agreement

**SAMPLE
MAPLE TAPPING
LEASE AGREEMENT**

THIS AGREEMENT made this ___ day of ____, Year

BETWEEN:

Community Forest Owner

(Hereinafter called the "Licensor")

OF THE FIRST PART

- And -

Maple syrup producer

(Hereinafter called the "Licensee")

OF THE SECOND PART

WHEREAS the Licensor is the registered owner of certain lands within the Community Forest outlined in yellow on the map attached hereto as Schedule "A" (hereinafter the "Lands");

TERM

1. The Licensor grants to the Licensee a licence to carry out the limited activity of Tapping on the Lands for a period commencing on the date of execution of this Agreement, and terminating on MONTH DAY, YEAR (the "Term"). At any time prior to the expiration of the Term, the Term may be extended for a period of up to five (5) years, upon such terms as may be agreed to by the parties.

LICENCE FEE

3. The Licensee shall pay to the Licensor an annual License Fee to be calculated and paid in accordance with the following:
 - a) The Licensor has identified all trees (blue tree paint) on the Lands which are eligible for Tapping, and has further identified the number of taps per eligible tree, See Schedule "B". The number and identification of eligible trees and the number of taps per eligible tree are to be re-assessed by the Licensor from time to time, at its sole discretion, throughout the Term;
 - b) On or before the 15th day of January of every year during the Term or any extension thereto, the Licensor and the Licensee shall agree on the total number of taps which the Licensee is permitted to utilize in the next Tapping season;

- c) The License Fee during each year of the Term and any extension thereto shall be calculated by multiplying the number of agreed upon taps for the upcoming year by the annual price per tap. The annual price per tap shall be:
 - i) Years 1 through 5 inclusive, sixty cents (\$0.60); *sample only*
 - ii) Years 6 through 10 inclusive, sixty-five cents (\$0.65); *sample only* and
 - iii) Years 11 through 15 inclusive, seventy cents (\$0.70). *Sample only*
- d) The Licensor shall provide to the Licensee by the 31st day of January in every year during the Term or an extension thereto, an invoice representing the License Fee for the upcoming Tapping season, and the Licensee shall make payment in full under said invoices within thirty (30) days of the invoice.
- e) The Licensor may request fee payment in maple syrup or maple products in lieu of cash payment in whole or part.

LICENSEE'S OBLIGATIONS

- 4. The Licensee acknowledges and agrees to be bound by the following restrictions on the Licensee's activities:
 - a) The Licensee shall at all times employ industry recognized best practices to maintain tree health. Only federally, provincially and industry approved cleaning agents shall be used to clean equipment (e.g. tubing, taps, holding tanks, etc.). No sanitizing materials may be used in tap holes.
 - b) Removal of or damage to trees, living or dead, may only be carried out by the Licensee upon approval by the Licensor. Notwithstanding the foregoing, the removal of downed limbs that are in the way of or have damaged tubing systems is permitted but only to the extent required for tapping purposes. The Licensee shall ensure at all times that any employees, agents or sub-contractors carrying out activities pursuant to this Agreement as adequately trained and shall keep the Licensor indemnified from any costs or damages resulting from a failure to do so.
 - c) Vehicles for use in tubing or bucket installation or sap gathering such as tractors, sleds or trailers shall be operated with care so as to prevent damage to the Lands (i.e. rutting) and scarring to the bases and roots of all trees and the Licensee will take all necessary steps to avoid any such damage.
 - d) Existing forest access trails are indicated on Schedule "A". The Licensee shall maintain all existing trails in "as good" condition than that existing

immediately prior to the execution of this Agreement.

- e) Prior to the construction, installation, or laying of any trails, ditch or crossing device which the Licensee proposes in furtherance of the activities authorized under this Agreement, the Licensee shall request and obtain in writing the authorization of the Licensor, and shall be subject to the requirement that such road, trail, ditch or crossing device shall be constructed, maintained or repaired to the standards required by the Licensor, at the Licensee's sole expense. The Licensee retains responsibility for and cost of obtaining all necessary approvals and permits associated with such installation or construction.
- f) The Licensee shall not be permitted to install or construct a building or other structure on the Lands without the prior written approval of the Licensor. The Licensee retains responsibility for and cost of obtaining all necessary approvals and permits associated with such installation or construction.
- g) Taps are to be removed by the Licensee no later than April 30th each year during the Term. Tubing systems may be left in place during the off-season.
- h) The Licensee and its authorized employees and agents shall be permitted to access the Lands and carry out Tapping and related activities in accordance with this Agreement;
- i) The Licensee and its authorized employees and agents shall at all times comply with "Ontario Maple Syrup Producers Association Best Practices Manual" however, the Licensee shall not harm, damage or destroy any tree or cause any harm or damage to the Lands where required to comply with said best practices. Where compliance with such best practices may result in harm, damage or destruction to the trees or Lands, the Licensee will pre-consult with Licensor and the Licensor's decision shall be final; and
- j) The Licensee shall at all times be solely responsible for any and all costs associated with the activities permitted by this Agreement, including but not limited to material and labour costs.
- k) The Licensee hereby acknowledges and agrees that the Licensor, and the general public, shall have access to the Lands in accordance with the Licensor's designated recreational activities;
- l) The Licensee shall watch for any evidence of insect, disease, or rodent damage which may affect forest health on the Lands and shall advise the Licensor forthwith upon the detection of such damage.

ACCESS BY LICENSOR

5. The Licensor reserves the right to enter the Lands at any time to inspect the Lands for the purposes of assessing the Licensee's compliance with the requirements of this Agreement.

INSURANCE AND WSIB

6. General Liability Insurance

The Contractor shall procure and maintain Comprehensive General Liability Insurance:

1. Having a limit of liability of not less than five million dollars (\$5,000,000) inclusive for any one occurrence;
2. Including, but not limited to, insurance against liability for bodily injury and property damage caused by vehicles or equipment owned or leased by the Contractor;
3. Being endorsed to provide that the policies will not be altered, cancelled, or allowed to lapse without thirty (30) days prior written notice to the Owner;
4. Name the Owner as an additional insured party; and
5. Contain a cross-liability clause

7. Vehicle Insurance and Licensing

The Licensee shall maintain a vehicle insurance policy to cover all licensed vehicles owned/leased by the Licensee to be used while undertaking maple syrup operation.

The Licensee shall also ensure that all sub-contractors have valid coverage with the same limits and wordings as outlined in this Section, for those licensed vehicles owned/leased by them being utilized while undertaking maple tapping operation.

The Licensee shall maintain vehicle insurance, which shall:

1. Have a limit of liability not less than two million dollars (\$2,000,000) in respect of any one accident or occurrence;
2. Include part bodily injury including death, property damage and basic accident benefits and coverage not less than the insurance wording shown in the Standard Ontario Automobile Policy Form OAP-1; and
3. Be endorsed to provide that the policies will not be altered, cancelled or allowed to lapse without thirty (30) days prior written notice to the Owner.

The Licensee shall pay for all premiums and expenses incurred for the insurance.

Should any claim(s) arise, the Licensee shall be financially responsible for paying

for any amount(s) up to and including the deductible under their Policy.

8. Proof of Insurance

The Licensee shall file with the Licensor, together with the signed Contract, a Certificate of Insurance, clearly stating that all the insurance coverage required complies with all requirements listed above, Schedule B. An updated copy of Proof of Insurance shall be provided to the Licensor by December 31st of each year of the term.

10. Workplace Safety Insurance Board (WSIB)

The Licensee shall provide, prior to the effective date of this Agreement, an up-to-date copy of a WSIB Clearance Certificate and Accident Frequency Rate documents for the Licensee and any sub-contractor executing the work under this Agreement, Schedule C. An updated copy of the WSIB Clearance and Accident Frequency Rate shall be provided to the Licensor by December 31st of each year of the term.

COMPLIANCE WITH LAWS

11. The Licensee shall comply with all federal, provincial and municipal laws, rules, regulations and by-laws, and shall hold the Licensor harmless from the consequences of its failure to do so. In addition, the Licensee will ensure that at all times the Licensee, its employees and authorized agents will wear all appropriate safety and protective equipment and/or clothing.

INDEMNIFICATION AND LIABILITY

12. The Licensee shall at all times indemnify and save harmless the Licensor from and against any and all claims, demands, losses, costs, charges, expenses, actions and other proceedings made, brought against, suffered by or imposed on the Licensor or its property in respect of any failure by the Licensee to fulfill any of its obligations under this Agreement, or for any reason whatsoever relating, directly or indirectly, to the Licensee's use of the Lands under this Agreement, or in respect of any loss, damage or injury (including injury resulting in death) to any person or property (including, without restricting the generality of the foregoing, employees, contractors, agents and property of the Licensor, any person attending the Lands, and any person to whom maple products from the Lands are eventually distributed, or directly or indirectly arising out of, resulting from or sustained by reason of the exercise of the license granted herein, or any operation in connection therewith or any fixtures or chattels thereon.
13. The Licensor shall not be liable, directly or indirectly, for any personal injuries that may be suffered or sustained by the Licensee or any other person on the Lands in accordance with this Agreement, or for any loss of or damage or injury to property

belonging to the Licensee or any other person regardless of such injury, loss or damage being due to the Licensor's negligence or default or the negligence or default of those for whom the Licensor is in law responsible. For greater clarity this provision does apply to Section 4 Licensee's Obligation, sub-section K.

TERMINATION

14. This Agreement may be terminated at any time by mutual agreement of the parties. This Agreement may be terminated by the Licensor upon the failure of the Licensee to correct any default or non-compliance of any of the requirements under this Agreement within fifteen (15) days written notice of such default or non-compliance from the Licensor.
The Licensee is responsible for the removal of all equipment and permitted structures within 60 days of termination of agreement.

NO ASSIGNMENT

16. The rights and obligations of the Licensee hereunder may not be assigned, subleased, sublicensed or in any other way transferred without the prior written consent of the Licensor, which consent may be unreasonably withheld.

IN WITNESS WHEREOF the parties hereto have executed this Agreement.

Licensee

Maple syrup producer

Witness

Licensor

Community Forest Owner

Witness

Schedule "A" – Map

Schedule "B" – Proof of Insurance

Schedule "C" – Proof of WSIB Clearance Certificate

Appendix D – High Conservation Value Forest for SDG Forest

Appendix D HCV Forest assessment for <u>United Counties of Stormont, Dundas and Glengarry (UCSDG) Forest, March 23, 2016</u>		Total (Hectares)
HCV 1	Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).	1,707.54
HCV 2	Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.	0
HCV 3	Forest areas that are in or contain rare, threatened or endangered ecosystems.	16.7
HCV 4	Forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).	65.24
HCV 5	Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).	81.16
HCV 6	Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).	61.2
	Total area	1,959.69

Item	Rationale	Sources of information	Further Guidance	EOMF HCV: <u>United Counties of Stormont, Dundas and Glengarry (UCSDG) Forests</u>						
				Comp. No,	Value	Year	Stakeholder	Management Guidance	Monitoring	Area (Ha)
Category 1) Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia)										
Forest Contains regionally significant seasonal concentrations of species	Addresses wildlife habitat requirements critical to maintaining population viability (regional 'hot spots')	The United Counties of Stormont, (Dundas and Glengarry (UCSDG) County Forest Management Plan 2007-2026	Mohawks of Akwesasne and Algonquin First Nations, Resource Stewardship SDG, OMNR	11, 12, 13	Deer Yard	2007	MCA MNR EODAC Local Communities	Deer Management Guidelines	Monitoring not required unless work is undertaken in the area. Monitoring frequency and intensity depends on the activity	56.34
Forest supports concentrations of species at the edge of their natural ranges or outlier populations	Addresses wildlife habitat requirements critical to maintaining population viability (regional 'hot spots')	The United Counties of Stormont, (Dundas and Glengarry (UCSDG) County Forest Management Plan 2007-2026	Mohawks of Akwesasne and Algonquin First Nations, Resource Stewardship SDG, OMNR	56	Eastern Cottonwood	2007		Consultation with OMNR Species at Risk Biologist and/or District Ecologists as required	Monitoring not required unless work is undertaken in the area. Monitoring frequency and intensity depends on the activity	10.14
Forest lies within a conservation area; legally designated or proposed by relevant provincial legislative	Provincially Significant Wetland (PSW) and Municipal Official Plan	The United Counties of Stormont, (Dundas and Glengarry (UCSDG) County Forest Management Plan 2007-	Mohawks of Akwesasne and Algonquin First Nations, Resource Stewardship SDG, OMNR	5, 31, 32, 42,	Summerstown Swamp	2011	OMNR	Consultation with OMNR Species at Risk Biologist and/or District Ecologists as required, OMNR Habitat	Monitoring not required unless work is undertaken in the area. Monitoring frequency and	53.44
				28	Hoasic Creek Wetland					36.79
				60	Froatburn Swamp					11.67
				25	Loch Garry Marsh					15.3

Item	Rationale	Sources of information	Further Guidance	EOMF HCV: <u>United Counties of Stormont, Dundas and Glengarry (UCSDG) Forests</u>						
				Comp. No,	Value	Year	Stakeholder	Management Guidance	Monitoring	Area (Ha)
Category 1) Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia)										
body		2026 section B-9.3.1 Wetlands		53, 54, 71, 72	Newington Bog			Protection Guidelines SDG County Forest – Forest Management, The UCSDG County Forest Management Plan 2007-2026 section	intensity depends on the activity	114.61
				15, 16, 17, 18, 19	Morewood Bog					108.77
Forest Contains a locally significant conservation area identified in a regional land use plan.	Regionally Significant Wetland	The United Counties of Stormont, (Dundas and Glengarry (UCSDG) County Forest Management Plan 2007-2026	Mohawks of Akwesasne and Algonquin First Nations, SDG, OMNR	34	Munroe Mills Swamp	2011	First Nation, OMNR, SDG, Local Communities, MCA, EODAC	Consultation with OMNR Species at Risk Biologist and/or District Ecologists, OMNR Habitat Protection Guidelines SDG County Forest – Forest Management, The UCSDG County Forest Management Plan 2007-2026 section	Monitoring not required unless work is undertaken in the area. Monitoring frequency and intensity depends on the activity	23.05
				43, 62	Concession 1 Bog					6.36
				43	Cp Swamp					9.75
				92	Dominionville Swamp					21.41
				80, 81, 82, 83	Hwy 417 Marsh					92.94
				77	Ingelside Swamp					13.27
				23, 69	Monkland Swamp					20.51
Forest Contains	Area of Natural and		Mohawks of Akwesasne and	63	Hoasic Creek	2011	First Nation, OMNR, SDG,		Monitoring not	43.5

Item	Rationale	Sources of information	Further Guidance	EOMF HCV: <u>United Counties of Stormont, Dundas and Glengarry (UCSDG) Forests</u>						
				Comp. No,	Value	Year	Stakeholder	Management Guidance	Monitoring	Area (Ha)
Category 1) Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia)										
regionally significant species	Scientific Interests (ANSIs) Addresses wildlife habitat requirements critical to maintaining population viability (regional 'hot spots')		Algonquin First Nations, SDG, OMNR				Local Communities, MCA, EODAC		required unless work is undertaken in the area. Monitoring frequency and intensity depends on the activity	
Forest lies within a conservation area; legally designated or proposed by relevant provincial legislative body Forest Contains regionally significant seasonal concentrations of species	Provincially Significant Wetland (PSW) and Municipal Official Plan Addresses wildlife habitat requirements critical to maintaining population viability (regional 'hot spots')	The United Counties of Stormont, (Dundas and Glengarry (UCSDG) County Forest Management Plan 2007-2026	Mohawks of Akwesasne and Algonquin First Nations, SDG, OMNR	6, 30, 39, 40, 41	Summerstown Swamp	2011	First Nation, OMNR, SDG, Local Communities, MCA, EODAC	Consultation with OMNR Species at Risk Biologist and/or District Ecologists as required, OMNR Habitat Protection Guidelines SDG County Forest – Forest Management, The UCSDG County Forest Management Plan 2007-2026 section, Deer Management	Monitoring not required unless work is undertaken in the area. Monitoring frequency and intensity depends on the activity	131.15
				14	Deer Yards Morewood bog Deer Yards					10.45

Item	Rationale	Sources of information	Further Guidance	EOMF HCV: <u>United Counties of Stormont, Dundas and Glengarry (UCSDG) Forests</u>						
				Comp. No,	Value	Year	Stakeholder	Management Guidance	Monitoring	Area (Ha)
Category 1) Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia)								Guidelines		
Forest lies within a conservation area; legally designated or proposed by relevant provincial legislative body	Provincially Significant Wetland (PSW) and Municipal Official Plan	The United Counties of Stormont, (Dundas and Glengarry (UCSDG) County Forest Management Plan 2007-2026	Mohawks of Akwesasne and Algonquin First Nations, SDG, OMNR	35, 36, 37, 48, 49, 59, 64, 70, 75, 76, 86, 89, 94	Hoasic Creek Wetland ANSIs	2011	First Nation, OMNR, SDG, Local Communities, MCA, EODAC	Consultation with OMNR Species at Risk Biologist and/or District Ecologists as required, OMNR Habitat Protection Guidelines SDG County Forest – Forest Management, The UCSDG County Forest Management Plan 2007-2026 section	Monitoring not required unless work is undertaken in the area. Monitoring frequency and intensity depends on the activity	516.46
				27, 29	Black Lake Swamp ANSIs					70.42
				52, 55, 61	Newington Bog ANSIs					72.57
Forest Contains regionally significant species	Provincially Significant Wetland (PSW) and Municipal Official Plan	The United Counties of Stormont, (Dundas and Glengarry (UCSDG) County Forest Management Plan 2007-2026	Mohawks of Akwesasne and Algonquin First Nations, SDG, OMNR	45, 50, 51	Hoasic Creek Wetland Deer Yards ANSIs	2011	First Nation, OMNR, SDG, Local Communities, MCA, EODAC	Consultation with OMNR Species at Risk Biologist and/or District Ecologists as required, OMNR Habitat Protection	Monitoring not required unless work is undertaken in the area. Monitoring frequency and intensity	193.98
				66, 68, 79	Newington Bog					74.66
Forest	Addresses wildlife habitat									

Item	Rationale	Sources of information	Further Guidance	EOMF HCV: <u>United Counties of Stormont, Dundas and Glengarry (UCSDG) Forests</u>						
Category 1) Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia)				Comp. No,	Value	Year	Stakeholder	Management Guidance	Monitoring	Area (Ha)
Contains regionally significant seasonal concentrations of species Forest Contains regionally significant species	requirements critical to maintaining population viability (regional 'hot spots')				Deer Yards ANSIs			Guidelines SDG County Forest – Forest Management, The UCSDG County Forest Management Plan 2007-2026 section, Deer Management Guidelines	depends on the activity. Monitoring not required unless work is undertaken in the area. Monitoring frequency and intensity depends on the activity	

Item	Rationale	Sources of information	Further Guidance	EOMF HCV:						
Category 2) Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance				Comp. No,	Value	Year Completed	Stakeholder	Management Guidance	Monitoring	Area (Ha)

Item	Rationale	Sources of information	Further Guidance	EOMF HCV:						
				Comp. No,	Value	Year Completed	Stakeholder	Management Guidance	Monitoring	Area (Ha)
Category 3) Forest areas that are in or contain rare, threatened or endangered ecosystems										
Forests contains naturally rare ecosystem type	Old Growth Forest	The United Counties of Stormont, (Dundas and Glengarry (UCSDG) County Forest Management Plan 2007-2026	Mohawks of Akwesasne and Algonquin First Nations, SDG, OMNR	7, 8,9, 65, 84	Wellhead Protection Areas	2007	SDG, Local Communities, SDG, SNC, OMNR, EODAC		Monitoring not required unless work is undertaken in the area	16.7

Item	Rationale	Sources of information	Further Guidance	EOMF HCV:						
				Comp. No,	Value	Year Completed	Stakeholder	Management Guidance	Monitoring	Area (Ha)
Category 4) Forest areas that provide basic services of nature in critical situations (e.g., watershed protection, erosion control)										
Forest provides a significant source of drinking water	Addresses wellhead areas important for the protection of drinking water	The United Counties of Stormont, (Dundas and Glengarry (UCSDG) County Forest Management Plan 2007-2026	SNC	7, 8,9, 65, 84	Wellhead Protection Areas		Municipalities, Local Communities	Source Protection Policies	Monitoring not required unless threat activity is undertaken in the area	65.24

Item	Rationale	Sources of information	Further Guidance	EOMF HCV:						
Category 5) Forest areas fundamental to meeting basic needs of local communities (e.g., subsistence, health)				Comp. No,	Value	Year	Stakeholder	Management Guidance	Monitoring	Area (Ha)
Traditional harvest areas	Access to these traditional areas	Treaty rights and noted on land deed	Traditional foods and medicines	88,91	Consult with both the Mohawk and Algonquin first Nations		UCSDG MCA Private land owners	Treaty rights Nut field tract	Work with Mohawks of Akwesasne	81.16

Item	Rationale	Sources of information	Further Guidance	EOMF HCV:						
Category 6) Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities)				Comp. No,	Value	Year	Stakeholder	Management Guidance	Monitoring	Area (Ha)
Forest Contains regionally significant species (e.g., culturally important species)		Strategy for the Sustainable Management of Black Ash. Sept 2006. Table 5.1 Preliminary Management Recommendations	UCSDG, SNC, Mohawk of Akwesasne, Algonquins communities	37, 49, 56, 69, 74, 75, 92	Black Ash and other culturally significant species	2006	Local Communities, Municipalities, First Nation, OMNR, SDG, Local Communities		Monitoring not required unless work is undertaken in the area. Monitoring frequency and intensity depends on the activity	50.2
Forested Areas contain archaeological sites	Protect these sites and prevent the degradation of these sites	Ontario Ministry of culture and Heritage	Communications with the Mohawk communities, the Algonquin communities ministry of culture and SNC and the UCSDG	22,26,41	Cultural ecological spiritually as well as historical	ongoing	Native communities Local Historians		Identify sites map and maintain database of sites	11

References

Williams and Schwan. 2011. Managing Ash in Farm Woodlots; some suggested prescriptions.

Streit, Scarr and Farintosh. 2012. Preparing for Emerald Ash Borer, A Landowner's Guide to Managing Ash Forests. Ontario ministry of Natural Resources.

EcoRessources Inc. 2013. Economic Impacts of the Maple Syrup Industry in Ontario. Ontario Maple Syrup Producers Association.

Steve Hunter. 2011. Maple Syrup in Larose Forest: Feasibility Study. South Nation Conservation.