

*The United Counties of Prescott and Russell
County Forest Lands
Forest Management Plan
2009-2028*



Section C: Five Year Operating Plan (2016-2020)

Prepared by: Steven Hunter, R.P.F.
Forester, United Counties of Prescott and Russell

THE UNITED COUNTIES OF PRESCOTT AND RUSSELL
COUNTY FOREST LANDS:
FOREST MANAGEMENT PLAN

Documents

SECTION A: FOREST POLICY PLAN

SECTION B: TWENTY YEAR MANAGEMENT PLAN (2009 to 2028)

SECTION C: FIVE YEAR OPERATING PLANS

Commonly Used Terms and Acronyms

United Counties of Prescott and Russell	“UCPR” or “County”
UCPR County Forest	“County Forest” or “Forest”
Eastern Ontario Model Forest	EOMF
Forest Resource Inventory	FRI
Geographic Information System	GIS
Ontario Ministry of Natural Resources	OMNR
Registered Professional Forester	R.P.F.

THE UNITED COUNTIES OF PRESCOTT AND RUSSELL
COUNTY FOREST LANDS:
FOREST MANAGEMENT PLAN

TABLE OF CONTENTS

<u>Section C: Five Year Operating Plan (2016-2020)</u>	Page
C-1.0 REPORT ON PAST FOREST OPERATIONS.....	4
C-1.1 Summary of Forest Management for the 2011-2015 Operating Period	4
C-2.0 FIVE YEAR OPERATING PLAN.....	11
C-2.1 Management Direction	13
C-2.2 Commercial Harvest	13
C-2.2.1 Annual Harvest Area	13
2.2.1.1 Conversion.....	15
C-2.2.2 Intensive Management Areas	15
C-2.2.3 Compartments Selected For Harvest Operations.....	17
C-2.2.4 Contingency Harvest Areas.....	20
C-2.2.5 Salvage Harvest.....	20
C-2.3 Renewal and Tending.....	20
C-2.3.1 Regeneration	21
C-2.3.2 Manual and Chemical Tending	21
C-2.3.3 Pre-Commercial Thinning and Stand Improvement.....	21
Appendix A – Compartments Selected For Harvest Operations For The 2016-2020 Operating Period	23
Appendix B – Compartments Selected For Regeneration Treatment For The 2016-2020 Operating Year	36
Appendix C – Compartments Selected For Tending For The 2016-2020 Operating Period.....	36

C-1.0 REPORT ON PAST FOREST OPERATIONS

C-1.1 Summary of Forest Management for the 2011-2015 Operating Period

Forest management activities were steady during the 2011-2015 operating period and strengthening market conditions for forest products suggest that this will continue into the next operating period. Plantation thinning, harvesting to establish regeneration, crop tree release, site preparation, tree planting and tending of planted stock are some examples of the forest management activities that occurred during the period.

Operations plans for the UCPR County Forest describe a sustainable annual harvest area and provide areas where forest operations are an option during the five year term of the plan. Field sampling by a forester confirms treatment eligibility and provides the basis for the development of harvest prescriptions. Renewal and tending is also addressed in operations plans.

Table 1 compares the area prepared harvest during the 2011-2015 to the allowable harvest area for each forest unit. Harvesting activities are summarized in Table 2, tending activities are summarized in Table 3, renewal activities are summarized in Table 4 and forest access road work is summarized in Table 5.

Table 1. Comparison of area prepared for harvest to the calculated annual harvest area summarized by forest unit for the 2011-2015 operating period.

Forest Unit	5 Yr Annual Harvest Area (ha)	Actual 5 Yr Harvest Area (ha)	% Difference
Pr	371.5	365.2	(1.7)
Pw	174.0	114.4	(34.2)
Sw	201.5	174.4	(13.4)
OC (plantation)	25.0	42.8	71.2
OC (natural)	0.0	0.0	0
IH	63.0	14.9	(76.3)
MH and TH	82.5	112.9	36.8
Total	917.5	824.6	(10.1)

Table 2. Summary of harvesting activities performed on the UCPR County Forest during the 2011-2015 operating period. Note: This table includes all harvest blocks that were prepared and sold under the 2011-2015 operating period. However, harvest and revenues reflect actuals for the period.

Harvest Activities								
Tender Sale #	Compartment(s)	Contractor	Area (ha)	Species	Volume Harvested (m3)	Utility Poles	Revenue	Harvest Status
2011-01	78	Produits Forestiers Startrees	40.0	Pr, Pw	3,664	3010	\$320,090	Complete
2011-02	98, 99	Guillaume Racine	41.3	Mh, Mr, Ag, OH	1,513	0	\$19,049	Complete
2011-03	294, 295, 300, 301 (salvage)	Guillaume Racine	71.5	Pw, Pr, Sw	n/a	0	n/a	Complete
2011-04	80, 81, 103	M. W. Miller	30.0	Pr, Pw, Sw	2,609	0	\$54,340	Complete
2011-05	79, 80, 81, 330	M. W. Miller	29.5	Pr, Pw, Sw	4,384	0	\$61,590	Complete
2011-06	134	M. W. Miller	11.9	Pr	n/a	n/a	n/a	Incomplete
2011-07	135, 136	M. W. Miller	29.9	Pr, Po, Sw, Pw	4,413	0	\$73,959	In-Progress
2011 Total			254.1		16,583	3010	\$529,028	
2012-01	64, 65, 83, 107, 365	M. W. Miller	18.4	Pr	2,535	0	\$72,070	Complete
2012-02	63, 64, 365	Lavern Heideman and Sons	31.0	Sn/Sw, Pw, Pr, Ta	873	0	\$12,186	In-Progress
2012-03	334, 335, 356	M. W. Miller	22.3	Pr, Pj, Ps, Pw	2,677	934	\$118,445	Complete
2012-04	22, 30	Lavern Heideman and Sons	13.8	Pw, Sw, Pr	2,572	0	\$32,615	Complete
2012-05	317, 318, 319	Lavern Heideman and Sons	18.3	Pr, Pw, Sw	n/a	0	n/a	Incomplete
2012-06	2, 6, 318, 319	n/a	10.6	Po, Mr	n/a	n/a	n/a	No bid
2012-07	18, 19, 20, 21	Lavern Heideman and Sons	21.4	Pr, Pw, Sw, Ta, Po	n/a	n/a	n/a	Incomplete
2012-08	18, 19	n/a	26.7	Mr, Ash, Po, Mh	n/a	n/a	n/a	No bid
2012 Total			162.5		8,657	934	\$235,316	
2013-01	157, 179, 180	M. W. Miller	42.5	Pr, Pw	3,184	0	\$84,127	Complete
2013-02	179, 180	n/a	24.8	Pr	n/a	n/a	n/a	Re-tender
2013-03	179, 180, 200	M. W. Miller	30.8	Pr, Sw, Pw	4,392	0	\$119,671	Complete
2013-04	244, 245, 246	Lavern Heideman and Sons	49.8	Pw, Pr, Sw, Ta, Po	3,389	0	\$36,303	In-Progress
2013-05	18, 19	Produits Forestiers Startrees	26.7	Mr, Ash, Po, Mh	n/a	n/a	n/a	Cancelled
2013-06	124	Guillaume Racine	9.6	Pr, Pw	1,149	450	\$73,195	Complete
2013 Total			184.2		12,051	450	\$313,296	

Harvest Activities								
Tender Sale #	Compartment(s)	Contractor	Area (ha)	Species	Volume Harvested (m3)	Utility Poles	Revenue	Harvest Status
2014-01	210, 211, 230	n/a	28.2	Mr, Po, Bf, OH	n/a	n/a	n/a	No bid
2014-02	171, 193, 208, 209, 210, 374	Lavern Heideman and Sons	37.0	Pr, Sw	2,865	0	\$70,196	In-Progress
2014-03	228, 229, 230	Lavern Heideman and Sons	64.6	Pr, Pw, Sw	n/a	n/a	n/a	Incomplete
2014-04	204, 205	Lavern Heideman and Sons	44.7	Pw, Ta, Sw, Pr, Mr, Po	477	n/a	\$12,890	Incomplete
2014-05	220	Lavern Heideman and Sons	10.6	Pw, Mr, Sw, Ta	n/a	n/a	n/a	Incomplete
2014-06	82, 83, 105	Lavern Heideman and Sons	68.1	Pr, Pw, Mr, Sw	n/a	n/a	n/a	Incomplete
2014-07	179, 180	Lavern Heideman and Sons	24.6	Pr, Pw	3,896	1,465	\$196,490	Complete
2014 Total			277.8		7,238	1,465	\$279,576	
2015-01	255, 256, 264, 265	M.W. Miller	60.4	Pw, Sw, Pr, Ta/La, Mr, Sn, Po	n/a	n/a	n/a	Incomplete
2015-02	163, 184, 185, 202, 203, 343	M.W. Miller	63.7	Pw, Ta/La, Pr, Mr	n/a	n/a	n/a	Incomplete
2015-03	225, 226, 242, 243	Lavern Heideman and Sons	58.3	Pr, Pw, Po	n/a	n/a	n/a	Incomplete
2015-04	210, 211, 230	Colin Morrison Timber Management	28.2	Mr, Po, Bf, OH	n/a	n/a	n/a	Incomplete
2015 Total					0	0	\$0	
Grand Total					44,529		\$1,357,216	

Table 3. Summary of tending activities performed during the 2011-2015 operating period.

Year	Compartment	Sub-Compartment	Forest Unit	Treatment Type			Comments
				Manual and/or Chemical Tending (ha)	Pre-commercial Thinning (ha)	Stand Improvement (ha)	
2011	138	b	Pr	4.6	0.0	0.0	Backpack chemical tending
2011	247	f	Pr	0.8	0.0	0.0	Brushsaw
2011	324	b	Pr	0.7	0.0	0.0	Brushsaw
2011	340	d	Pr	2.0	0.0	0.0	Brushsaw and chemical tending
Sub-Total				8.3	0.0	0.0	
2012	139	b	Pr	1.7	0.0	0.0	Brushsaw
Sub-Total				1.7	0.0	0.0	
2013	294	a	Sw	2.0	0.0	0.0	Brushsaw
2013	295	d	Sw	5.4	0.0	0.0	Brushsaw
Sub-Total				7.4	0.0	0.0	
2014	294	d	Pw	1.0	0.0	0.0	Brushsaw
2014	300	b	Pr	1.6	0.0	0.0	Brushsaw
Sub-Total				2.6	0.0	0.0	
2015	163	g	Pw	0.0	2.4	0.0	Prepared and included in 2015 tenders.
2015	185	h	UH	0.0	0.0	6.0	Prepared and included in 2015 tenders.
2015	203	b	UH	0.0	0.0	2.9	Prepared and included in 2015 tenders.
2015	343	g	Pw	0.0	2.8	0.0	Prepared and included in 2015 tenders.
Sub-Total				0.0	5.2	8.9	

Table 4. Summary of renewal activities performed during the 2011-2015 operating period.

Year	Compartment	Sub-Compartment	Forest Unit	Treatment Type		
				Scarification / Site Preparation (ha)	Tree Planting	
					Area (ha)	# of trees
2011	139	a	Pr	0.0	2.0	2400
2011	294	a	Pw	0.0	2.5	8,600
		b	Sw	1.6	0.0	
2011	295	d	Pw	0.0	0.8	
		c	Pr	4.6	0.0	
		d	Sw	0.0	2.9	
2011	300	f	Sw	1.5	0.0	
2011	300	b	Pr	0.0	0.5	4,000
2011	301	d	Pr	0.0	1.8	
2011	341	b	Pw	1.0	0.0	0
		c	Pw	1.0	0.0	0
2011	357	a	IH	5.9	0.0	0
2011	375	h	OC	1.5	0.0	0
Sub-Total				17.1	10.5	15,000
2012	294	b	Sw	1.6	0.0	0
2012	295	c	Pr	4.6	0.0	0
		f	Sw	1.5	0.0	0
2012	340	d	Pr	1.7	0.0	0
2012	341	b	Pw	1.0	0.0	0
		c	Pw	1.0	0.0	0
2012	357	a	IH	5.9	0.0	0
2012	375	h	OC	1.5	0.0	0
Sub-Total				18.8	0.0	0

Table 4. continued

Year	Compartment	Sub-Compartment	Forest Unit	Treatment Type		
				Scarification / Site Preparation (ha)	Tree Planting	
					Area (ha)	# of trees
2013	79	a	Sw	13.4	0.0	0
2013	140	b	Pw	3.3	0.0	0
2013	219	a	Pw	3.9	0.0	0
		b	Pr	1.7	0.0	0
2013	294	b	Sw	0.0	1.6	2,325
2013	295	c	Pr	0.0	4.6	5,015
		d	Sw	0.0	1.2	1,235
		f	Sw	0.0	1.5	2,325
2013	340	d	Pr	0.0	1.7	1,350
2013	341	b	Pw	0.0	1.0	2,800
		c	Pw	0.0	1.0	
2013	357	a	IH	0.0	5.9	0
2013	375	h	OC	0.0	1.5	2,800
Sub-Total				22.3	20.0	17,850
2014	79	a	Sw	13.4	0.0	0.0
2014	85	d	Pw	2.0	0.0	0.0
2014	98	b	UH	1.0	0.0	0.0
2014	111	a	Sw	15.9	0.0	0.0
		d	Sw	1.6	0.0	0.0
2014	140	b	Pw	3.3	0.0	0.0
2014	219	a	Pr	0.0	3.9	8,080
		b	Pw	0.0	1.7	
2014	357	a	IH	0.0	1.2	1,770
Sub-Total				35.9	6.8	9,850

Table 4. continued

Year	Compartment	Sub-Compartment	Forest Unit	Treatment Type		
				Scarification / Site Preparation (ha)	Tree Planting	
					Area (ha)	# of trees
2015	79	a	Sw	0.0	8.8	13,560
2015	85	d	Pw	2.0	0.0	0
2015	98	b	UH	0.0	1.0	620
2015	111	a	Sw	15.9	0.0	0
		d	Sw	1.6	0.0	0
2015	135	c	Sw	1.0	0.0	0
		f	Sw	0.6	0.0	0
		g	Sw	2.1	0.0	0
		j	Sw	3.7	0.0	0
2015	136	c	Pr	3.8	0.0	0
2015	140	b	Pw	0.0	3.3	5915
Sub-Total				27.3	13.1	20,095
2011-2015 Total				121.4	50.4	62,975

Table 5. Summary of road construction and maintenance for the 2011-2015 operating period.

Year(s)	Road Name	Road Type	# of km	Type of Work
Annual	25 Trail	Permanent	11.1	Maintenance
Annual	4, 6, 7, 8, 9, 10, 11 Concession	Permanent	18.2	Maintenance
Annual	De La Tour	Permanent	1.8	Maintenance
Annual	Gagnon Trail	Permanent	6.3	Maintenance
Annual	Perron Trail	Permanent	6.8	Maintenance
Total				42.4 km
2011	Cumberland Trail (2011-01)	Forest Access Road	0.4	Maintenance
2011	JGL Logging Road	Forest Access Road	0.8	Maintenance
2011	Walnut Trail (2010-03)	Forest Access Road	0.2	Maintenance
2011	Whispering Pines Road (2010-04)	Forest Access Road	0.4	Maintenance
2012	Lepage Trail (2011-06)	Forest Access Road	0.7	Maintenance
2013	Cathedral Road (2013-06)	Forest Access Road	0.9	Maintenance
2013	Forêt Morin Road (2013-03)	Forest Access Road	0.9	Maintenance

2013	Railway Road (2010-05)	Forest Access Road	0.4	Maintenance
2013	Sugarbush Road (2011-02)	Forest Access Road	1.2	Maintenance
2014	White Pine Road	Forest Access Road	0.7	Maintenance
Total				6.6 km
2012	Wildlife Trail (2011-07)	Forest Access Road	0.2	Reconstruction
2012	Seed Tree Road (2011-07)	Forest Access Road	1.0	Reconstruction
2013	Boileau Road	Permanent	0.6	Reconstruction
2015	Chemin Des Pins	Permanent	3.0	Reconstruction
Total				4.8 km

C-2.0 FIVE YEAR OPERATING PLAN

C-2.1 Management Direction

UCPR County Forest is guided by two documents that provide direction concerning the long-term sustainability of its management; UCPR County Forest Lands – Forest Management Plan and the Protection and Development Plan of Larose Forest.

The Forest Management Plan outlines the goals and objectives for the management of the Forest. It also provides management targets and describes the tools that will be used to meet those targets (e.g. silvicultural treatment options, operational prescriptions for areas of concern, etc.). Finally, it provides the means of evaluating management efforts in an effort to adapt should deficiencies be discovered.

The Protection and Development Plan of Larose Forest (PDP) focused primarily on the recreational and environmental aspects of the management of the “Main Block” of the UCPR County Forest. In 2010, an update to the PDP was prepared that incorporated forest management into the document to ensure consistency and to further ensure the sustainable management of the Larose Forest.

C-2.2 Commercial Harvest

C-2.2.1 Annual Harvest Area

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 and by treatment type (see Section B-2 of the Forest Management Plan for a more detailed description of the forest).

As part of UCPR’s commitment to adaptive management, the annual harvest areas are recalculated for each five year period. The updated annual harvest area calculations for this operations plan took into account the management direction contained in the Forest Management Plan and the updated PDP, as well as changes in ownership, updates to forest management guides (e.g. Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales), updates to the forest resource inventory and

knowledge gained through the implementation of the previous operations plans. The annual harvest area for each forest unit is summarized in Table 4. The annual harvest area for the UCPR forest represents roughly 2% of the forested land base.

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 it has been and will be subjected to. Typically, plantation thinning is on a shorter cutting cycle (e.g. red pine) than single-tree selection in an upland hardwood forest or a clearcut in a poplar stand.

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, underplanting, 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 unique silvicultural treatment based upon its stage of management and the objectives outlined in the Forest Management Plan. 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-4.0 of the Forest Management Plan.

Cutting cycles should continue to be evaluated as more current information about the forest (species composition, stocking, diameter, etc.) becomes available and once the response to silvicultural treatments have been monitored. Forest information that has been collected since 2005 and data from the monitoring of silvicultural treatments have been 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. cleared, beaver meadows, treed bogs, etc.)

- 5) Areas where forest management is excluded to meet other objectives (e.g. Protected Area, High Conservation Value Forest, Areas of Concern, etc.)

The AHA is calculated for each forest unit as follows:

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

C-2.2.1.1 Conversion

The areas provided under the title of “conversion” are sites that are typically capable of growing forest products, but for one reason or another are not currently doing so and have minimal potential to improve without intervention. Some examples include plantations of species that were not well suited for the site, severe ice storm damage and insect or disease infestation.

White spruce was widely planted on the UCPR County Forest, but unfortunately it is poorly suited to the wet sand sites that it was planted on. As a result, there has been widespread decline of white spruce on the UCPR County Forest and the regeneration of spruce is not a priority on many sites. Conversion to other forest units is expected to be quite common and will result in a steady decline in the representation of white spruce on the UCPR County Forest.

Several red pine plantations have exhibited decline and mortality in recent years, primarily due to Armillaria root rot. In plantations that have suffered significant decline, a salvage harvest is likely to be performed to recover maximum value from the forest products before the trees succumb to the disease. Since Armillaria resides in the soil and tree roots and since persists long after the trees die or after they are harvested, replacing the salvaged trees with red pine is not possible. Conversion to another forest unit is necessary in this situation. There are limited opportunities to establish new red pine plantations on the landscape and as a result the representation of red pine on the UCPR County Forest is expected to decline somewhat over time.

A preliminary evaluation of candidate sites for conversion has been performed using aerial photography and knowledge of the forest managers. Field investigation will confirm suitability for conversion.

C-2.2.2 Intensive Management Areas

Intensive Forest Management Areas (IFMA) have been identified in the update to the Protection and Development Plan. These areas represent existing plantations or areas that could be converted to plantations that have potential to grow high value forest

products over a shorter timeframe than normal when subjected to intensive plantation management. Approximately 769 ha of existing plantations were identified as being candidates for intensive forest management; 590 ha of red pine and 179 ha of white pine. No forested sites were identified to be converted to plantation. During the term of this plan, 181.1 ha of red pine plantation and 18.8 ha of white pine plantation have been identified as potential harvest areas. Suitability of these sites for intensive forest management areas will be confirmed to determine whether or not this is a viable option for the site. In order to maintain Forest Stewardship Council (FSC) certification on the UCPR County Forest, no more than 5% of the forested landbase (i.e. 485 ha) can be converted from natural forest to plantation and the combined area of existing and converted plantations may not exceed 10% of the forested landbase (i.e. 969 ha). For more information on what is considered plantation and on their management, consult the FSC Forest Certification Standards for the Great Lakes – St. Lawrence Region.

The PDP update also identified approximately 546 ha that may be suitable for Intensive Wildlife Management Areas. They represent areas where human intervention may improve the quality of the candidate sites from a wildlife perspective. Candidate areas typically have little merchantable material present and as a result interventions have been scheduled to occur in conjunction with a harvest operation whenever possible to reduce the cost. A total of 153.5 ha of potential intensive wildlife management areas have been identified for treatment during the 2016-2020 operational planning period.

Table 4. Annual harvest area for the UCPR County Forest summarized by forest unit and by stage of management for the 2016-2020 operational planning period.

Forest Unit	Treatment Type	Area (ha)	Eligibility	Cutting Cycle	Annual Harvest Area (ha)	Five Year Harvest Target (ha)
Red Pine	Thinning	1,192.8 (75%)	65%	12	64.6	323.0
	Uniform Shelterwood	238.6 (15%)	50%	20	6.0	30.0
	Clearcut with Seed Trees	79.5 (5%)			n/a	n/a
	Conversion	79.5 (5%)			n/a	n/a
	Sub-Total	1,590.4			70.6	353.0
White Pine	Thinning	257.6 (30%)	70%	15	12.0	60.0
	Uniform Shelterwood	515.1 (60%)	70%	20	18.0	90.0
	Conversion	85.8 (10%)			n/a	n/a
	Sub-Total	858.5			30.0	150.0

Forest Unit	Treatment Type	Area (ha)	Eligibility	Cutting Cycle	Annual Harvest Area (ha)	Five Year Harvest Target (ha)
White Spruce	Thinning	404.3 (20%)	25%	20	5.1	25.5
	Uniform Shelterwood	505.4 (25%)	75%	20	19.0	95.0
	Conversion	1,112.0 (55%)			n/a	n/a
	Sub-Total	2,021.7			24.1	120.5
Other Conifer	Thinning	86.9 (25%)	40%	20	1.7	8.5
	Uniform Shelterwood	52.1 (15%)	40%	20	1.0	5.0
	Clearcut	191.2 (55%)	30%	80	0.7	3.5
	Conversion	17.4 (5%)			n/a	n/a
	Sub-Total	347.7			3.4	17.0
Intolerant Hardwood	Clearcut	1,441.7 (62%)	30%	80	5.4	27.0
	Conversion	581.3 (25%)			n/a	n/a
	Intensive Wildlife Management Areas	546.3 (23%)	25%	20	6.8	34.0
	Sub-Total	2,325.3			12.2	61.0
Mid-Tolerant and Tolerant Hardwood	Single-Tree and Group Selection	367.5 (20%)	50%	20	9.2	46.0
	Uniform Shelterwood	1,469.6 (80%)	10%	20	7.3	36.5
	Sub-Total	1,837.6			16.5	82.5
Grand Total		9,693.6			156.8	784.0

C-2.2.3 Compartments Selected For Harvest Operations

Candidate harvest areas have been selected (Appendix A), and priority has been placed on plantations that have not received thinning 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 and the total harvest amount by forest

unit and treatment type. As a result, the area selected for operations may vary from the calculated AHA (Table 5).

Table 5. Total area selected for harvest operations summarized by harvest year, forest unit and treatment type.

Forest Unit	Treatment Type	Area (ha) by Harvest Year					Annual Harvest Area (ha)	5 Year Harvest Target (ha)	Planned 5 Year Harvest (ha)
		2016	2017	2018	2019	2020			
Red Pine	Thinning	73.9	63.8	79.3	58.1	69.3	65.5	327.5	343.7
	Uniform Shelterwood Regeneration and 1 st Removal Cut	13.2	5.2	0.0	12.4	3.7	8.1	40.5	33.2
	Conversion	1.0	7.6	0.0	1.2	0.0	n/a	n/a	9.8
	Sub-Total (w/o Conversion)	87.1	69.0	79.3	70.5	73.0	73.6	368.0	378.9
	Sub-Total	88.1	76.6	79.3	71.7	73.0	n/a	n/a	388.7
White Pine	Thinning	2.5	14.9	9.5	30.3	6.4	12.0	60.0	63.6
	Uniform Shelterwood Regeneration and 1 st Removal Cut	14.4	17.7	16.0	35.2	0.0	18.0	90.0	83.3
	Conversion	0.0	0.0	0.0	0.0	0.0	n/a	n/a	0.0
	Sub-Total (w/o Conversion)	16.9	32.6	25.5	65.5	6.4	30.0	150.0	146.9
	Sub-Total	16.9	32.6	25.5	65.5	6.4	n/a	n/a	146.9
White Spruce	Thinning	7.1	9.1	0.0	6.6	0.0	5.1	25.5	22.8
	Uniform Shelterwood Regeneration and 1 st Removal Cut	0.0	24.6	14.4	15.6	21.3	19.0	95.0	100.0
	Conversion	1.4	24.5	8.1	0.0	6.4	n/a	n/a	40.4
	Intensive Wildlife Management Areas	0.0	0.0	0.0	0.0	11.7	n/a	n/a	11.7
	Sub-Total (w/o Conversion and IWMA)	7.1	33.7	14.4	22.2	45.4	24.1	120.5	122.8

Forest Unit	Treatment Type	Area (ha) by Harvest Year					Annual Harvest Area (ha)	5 Year Harvest Target (ha)	Planned 5 Year Harvest (ha)
		2016	2017	2018	2019	2020			
	Sub-Total	8.5	58.2	22.5	22.2	63.5	n/a	n/a	174.9
Other Conifer	Thinning	0.0	9.5	0.0	0.0	2.2	0.7	3.5	11.7
	Uniform Shelterwood Regeneration and 1 st Removal Cut	0.0	3.0	0.0	0.0	0.0	1.0	5.0	7.1
	Clearcut	0.0	0.0	0.0	0.0	0.0	0.6	3.0	0.0
	Conversion	2.7	0.0	0.0	0.0	0.0	n/a	n/a	2.7
	Sub-Total (w/o Conversion)	0.0	12.5	0.0	0.0	2.2	2.3	11.5	14.7
	Sub-Total (w Conversion)	2.7	12.5	0.0	0.0	2.2	n/a	n/a	17.4
Intolerant Hardwood (IH)	Clearcut	0.0	4.0	14.5	9.0	1.7	5.2	26.0	29.2
	Conversion	0.0	0.0	0.0	0.0	10.9	n/a	n/a	10.9
	Intensive Wildlife Management Areas	13.1	24.5	0.0	45.3	35.1	n/a	n/a	118.0
	Sub-Total (w/o Conversion and IWMA)	0.0	4.0	14.5	9.0	1.7	5.2	26.0	29.2
	Sub-Total	13.1	28.5	14.5	54.3	47.7	n/a	n/a	158.9
Mid-Tolerant and Tolerant Hardwood (LH and UH)	Single-Tree and Group Selection	15.1	12.9	0.0	22.2	0.0	9.1	45.5	61.6
	Uniform Shelterwood Regeneration and 1 st Removal Cut	3.9	3.5	0.0	0.0	22.4	7.3	36.5	18.4
	Intensive Wildlife Management Areas	7.1	0.0	0.0	0.0	0.0	n/a	n/a	7.1
	Sub-Total (w/o IWMA)	19.0	16.4	0.0	22.2	22.4	16.4	82.0	80.0
	Sub-Total	26.1	16.4	0.0	22.2	22.4	n/a	n/a	87.1
Total Area w/o Conversion and IWMA		130.1	168.2	133.7	189.4	151.1	151.6	758.0	795.7
Total Area		155.4	224.8	141.8	220.3	234.5			1,024.3

C-2.2.4 Contingency Harvest Areas

To compensate for areas that are ultimately found not to be feasible, contingency areas have been included in this plan as additional commercial harvest options. Should these areas not be required during the term of this plan, they may be carried forward to the 2021-2025 Five Year Operating Plan. Contingency areas are described in Appendix A.

C-2.2.5 Salvage Harvest

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 not possible 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 can cause rapid decline. An effort has been made to estimate the amount of salvage harvest that may occur during the term of the plan and the area eligible for harvest has been adjusted when calculating the Annual Harvest Area. If significant salvage is required, the Annual Harvest Area may require adjustment before the end of the plan term.

C-2.3 Renewal and Tending

Renewal and tending operations are silvicultural treatments that are undertaken where the revenue generated, if any, does not offset the cost of the treatment. Some examples include, tree planting, tending, stand improvement, etc.). These types of treatments may be required to meet the objectives and targets that are described in the Forest Management Plan.

Some examples of positive impacts of renewal and tending include;

- 1) management of non-native, invasive species,
- 2) reintroduction of under-represented tree species,
- 3) movement toward a pre-settlement forest condition,
- 4) the maintenance of healthy, vigorous, well-formed trees that improve the stand's resistance to disease, insect outbreaks and extreme weather events,
- 5) increased growth rates (i.e. shorter cutting cycle),
- 6) a higher proportion of high quality forest products in subsequent commercial harvests (e.g. veneer vs. sawlog vs. pulp distribution),
- 7) the establishment and/or release of adequate amounts of desirable regeneration,
- 8) the creation of opportunities to stimulate forest diversity which allow for adaptation in the face of ever-changing forest product markets.

Renewal and tending operations do not contribute toward the target harvest level since they have already been accounted for when the AHA was calculated. Where appropriate, these stands were not considered eligible for commercial harvest and the

AHA was adjusted accordingly.

C-2.3.1 Regeneration

Adequate regeneration after harvest treatments is a priority for the County Forest and natural regeneration is the preferred option. However, there are situations where stocking of desirable regeneration is insufficient or where suitable seed sources are not available. In these cases, additional silvicultural treatments may be required to meet the long-term objectives for the site. Site preparation (mechanical and/or chemical), prescribed burning, scarification and tree planting may be undertaken to ensure that the UCPR County Forest is successfully regenerated to desirable species after harvesting. Note that establishing regeneration is not the primary goal of plantation thinning. However, if desirable regeneration exists prior to thinning or becomes established after thinning, it will be encouraged.

Forecasting and scheduling specific treatments to be applied to ensure successful establishment of desirable regeneration is difficult to do in advance with any certainty. Harvest prescriptions may vary from what is anticipated, harvest operations can take several years and on-site investigation after harvest is required to determine if desirable regeneration is establishing naturally or if additional silvicultural treatments are required.

Throughout the period of this plan, post-harvest monitoring will be performed on areas as harvest is completed, focusing on areas where regeneration establishment was identified as a target in the forest operations prescription to confirm where and what additional treatments may be required.

C-2.3.2 Manual and Chemical Tending

Many woody and non-woody plant species (e.g. buckthorn, raspberry, ferns, etc.) compete with desirable regeneration for space, light, nutrients, etc. resulting in suppressed growth or even mortality of desirable regeneration. To ensure that desirable regeneration survives and thrives to maturity and produces a quality forest product in the future, such competition must be controlled. It is safe to assume that most sites that are treated with a uniform shelterwood regeneration harvest will require tending of some kind to ensure desirable regeneration reaches maturity. Due to numerous factors (e.g. site productivity, seed source, drainage, etc.) it is not possible to predict what type of tending treatment will be required, as well as when that treatment should be scheduled. Manual and/or chemical tending areas will be sought out during the period of the plan and will be scheduled as they are encountered.

C-2.3.3 Non-commercial Silvicultural Treatments

In an effort to promote a healthy and productive forest, non-commercial silvicultural treatment such as pre-commercial thinning and stand improvement may be prescribed.

Pre-commercial thinning is performed on even-aged stands, usually young conifer, to release the dominant and co-dominant trees from lateral competition, thus allowing them to grow faster. Stand improvement treatments are performed on uneven-aged stands, usually second-growth mid-tolerant and/or tolerant hardwoods, focusing on the removal of defective stems (e.g. disease, insect, mechanical damage, etc.) to improve the health of the residual stand, to improve growth rates of the better quality stems and to promote stand structure. Both treatments can be used to alter species composition to favour higher value species, uncommon/rare trees, promote wildlife values (e.g. mast producers), etc.

Although these types of treatments do not typically generate enough revenue to offset the initial cost of the treatment, the improvements to the future value and the shorter time it takes to obtain that value make these treatments viable options.

A total of 11.1 ha have been selected as candidate sites for pre-commercial thinning and ha stand improvement treatments during the 5 year period of this plan (Appendix C).

Appendix A – Compartments Selected For Harvest Operations For The 2016- 2020 Operating Period

Areas Selected For Operations – 2016 Operating Year

Stand Number	Forest Unit	Age in 2016	Stand Area (ha)	Potential Intensive Management Areas		Treatment Type					
				Forest Management (ha)	Wildlife Management (ha)	Thinning	Uniform Shelterwood	Single-Tree or Group Selection	Clearcut	Conversion	Total Harvest Area
292	Pr	83	3.3	0.0	0.0	0.0	3.3	0.0	0.0	0.0	3.3
295	Pr	83	8.5	6.9	0.0	7.5	0.0	0.0	0.0	1.0	8.5
297	Pr	84	45.7	40.7	0.0	45.7	0.0	0.0	0.0	0.0	45.7
599	Pr	65	11.2	0.0	0.0	10.0	0.0	0.0	0.0	0.0	10.0
672	Pr	66	3.5	0.0	0.0	3.5	0.0	0.0	0.0	0.0	3.5
1182	Pr	57	5.7	0.0	0.0	0.0	5.7	0.0	0.0	0.0	5.7
1190	Pr	66	9.5	0.0	0.0	6.4	0.0	0.0	0.0	0.0	6.4
1328	Pr	66	0.8	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.8
1830	Pr	83	4.2	0.0	0.0	0.0	4.2	0.0	0.0	0.0	4.2
Total	Pr		92.4	47.6	0.0	73.9	13.2	0.0	0.0	1.0	88.1
285	Pw	82	10.9	0.0	0.0	0.0	10.9	0.0	0.0	0.0	10.9
296	Pw	57	2.5	0.0	0.0	2.5	0.0	0.0	0.0	0.0	2.5
1327	Pw	66	1.6	0.0	0.0	0.0	1.6	0.0	0.0	0.0	1.6
1831	Pw	82	1.9	0.0	0.0	0.0	1.9	0.0	0.0	0.0	1.9
Total	Pw		16.9	0.0	0.0	2.5	14.4	0.0	0.0	0.0	16.9
598	Sw	65	7.1	0.0	0.0	7.1	0.0	0.0	0.0	0.0	7.1
1829	Sw	37	1.4	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4
Total	Sw		8.5	0.0	0.0	7.1	0.0	0.0	0.0	1.4	8.5
1822	OC	88	2.7	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.7
Total	OC		2.7	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.7
1331	IH	66	21.6	0.0	13.1	0.0	0.0	0.0	0.0	0.0	0.0
Total	IH		21.6	0.0	13.1	0.0	0.0	0.0	0.0	0.0	0.0
462	LH	59	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0
600	LH	81	12.2	0.0	7.1	0.0	3.9	0.0	0.0	0.0	3.9
2105	LH	70	23.0	0.0	0.0	0.0	0.0	13.1	0.0	0.0	13.1
Total	UH/LH		37.2	0.0	7.1	0.0	3.9	15.1	0.0	0.0	19.0

Areas Selected For Operations – 2017 Operating Year

Stand Number	Forest Unit	Age in 2016	Stand Area (ha)	Potential Intensive Management Areas		Treatment Type					
				Forest Management (ha)	Wildlife Management (ha)	Thinning	Uniform Shelterwood	Single-Tree or Group Selection	Clearcut	Conversion	Total Harvest Area
286	Pr	57	2.2	0.0	0.0	0.0	2.2	0.0	0.0	0.0	2.2
287	Pr	57	1.6	0.0	0.0	0.0	1.6	0.0	0.0	0.0	1.6
289	Pr	83	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.7
366	Pr	83	7.1	0.0	0.0	7.1	0.0	0.0	0.0	0.0	7.1
372	Pr	90	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	6.0
373	Pr	90	1.4	0.0	0.0	0.0	1.4	0.0	0.0	0.0	1.4
697	Pr	70	35.5	28.1	0.0	27.9	0.0	0.0	0.0	7.6	35.5
1020	Pr	55	2.1	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.8
1212	Pr	70	18.3	16.9	0.0	18.3	0.0	0.0	0.0	0.0	18.3
1213	Pr	70	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0	1.5
1823	Pr	70	1.5	1.5	0.0	1.5	0.0	0.0	0.0	0.0	1.5
Total	Pr		77.9	46.5	0.0	63.8	5.2	0.0	0.0	7.6	76.6
299	Pw	87	2.6	0.0	0.0	2.6	0.0	0.0	0.0	0.0	2.6
689	Pw	65	10.5	0.0	0.0	0.0	10.5	0.0	0.0	0.0	10.5
764	Pw	67	7.2	0.0	0.0	0.0	7.2	0.0	0.0	0.0	7.2
800	Pw	64	4.5	0.0	0.0	4.5	0.0	0.0	0.0	0.0	4.5
1295	Pw	87	0.5	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.5
1453	Pw	64	7.3	0.0	0.0	7.3	0.0	0.0	0.0	0.0	7.3
Total	Pw		32.6	0.5	0.0	14.9	17.7	0.0	0.0	0.0	32.6
367	Sw	80	2.1	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.1
368	Sw	80	3.4	0.0	0.0	0.0	0.0	0.0	0.0	3.4	3.4
370	Sw	88	3.5	0.0	0.0	0.0	0.0	0.0	0.0	3.5	3.5
755	Sw	59	3.1	0.0	0.0	0.0	0.0	0.0	0.0	3.1	3.1
756	Sw	67	3.7	0.0	0.0	0.0	3.7	0.0	0.0	0.0	3.7
758	Sw	67	1.6	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6
799	Sw	66	18.2	0.0	0.0	0.0	18.2	0.0	0.0	0.0	18.2
801	Sw	52	12.4	0.0	0.0	9.1	0.0	0.0	0.0	0.0	9.1
1194	Sw	70	3.9	0.0	0.0	0.0	0.0	0.0	0.0	3.9	3.9
1452	Sw	64	3.7	0.0	0.0	0.0	0.0	0.0	0.0	3.7	3.7
1455	Sw	59	2.1	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.1
1456	Sw	71	1.1	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1

Stand Number	Forest Unit	Age in 2016	Stand Area (ha)	Potential Intensive Management Areas		Treatment Type					
				Forest Management (ha)	Wildlife Management (ha)	Thinning	Uniform Shelterwood	Single-Tree or Group Selection	Clearcut	Conversion	Total Harvest Area
1457	Sw	69	2.7	0.0	0.0	0.0	2.7	0.0	0.0	0.0	2.7
Total	Sw		61.5	0.0	0.0	9.1	24.6	0.0	0.0	24.5	58.2
2	OC	57	7.7	0.0	0.0	7.7	0.0	0.0	0.0	0.0	7.7
374	OC	88	1.8	0.0	0.0	1.8	0.0	0.0	0.0	0.0	1.8
754	OC	96	3.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0
Total	OC		12.5	0.0	0.0	9.5	3.0	0.0	0.0	0.0	12.5
3	IH	61	26.0	0.0	24.5	0.0	0.0	0.0	0.0	0.0	0.0
698	IH	73	14.1	0.0	0.0	0.0	0.0	0.0	4.0	0.0	4.0
Total	IH		40.1	0.0	24.5	0.0	0.0	0.0	4.0	0.0	4.0
695	LH	79	3.5	0.0	0.0	0.0	3.5	0.0	0.0	0.0	3.5
1019	UH	76	12.9	0.0	0.0	0.0	0.0	12.9	0.0	0.0	12.9
Total	UH/LH		16.4	0.0	0.0	0.0	3.5	12.9	0.0	0.0	16.4

Areas Selected For Operations – 2018 Operating Year

Stand Number	Forest Unit	Age in 2016	Stand Area (ha)	Potential Intensive Management Areas		Treatment Type					
				Forest Management (ha)	Wildlife Management (ha)	Thinning	Uniform Shelterwood	Single-Tree or Group Selection	Clearcut	Conversion	Total Harvest Area
161	Pr	79	9.2	6.8	0.0	9.2	0.0	0.0	0.0	0.0	9.2
164	Pr	78	29.8	27.5	0.0	29.8	0.0	0.0	0.0	0.0	29.8
195	Pr	78	0.4	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.4
260	Pr	69	7.9	0.0	0.0	2.3	0.0	0.0	0.0	0.0	2.3
278	Pr	80	8.4	8.4	0.0	8.4	0.0	0.0	0.0	0.0	8.4
279	Pr	80	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0
280	Pr	80	1.3	1.3	0.0	1.3	0.0	0.0	0.0	0.0	1.3
675	Pr	71	19.4	0.0	0.0	19.4	0.0	0.0	0.0	0.0	19.4
1777	Pr	66	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0
1832	Pr	80	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.2
1845	Pr	80	6.3	6.3	0.0	6.3	0.0	0.0	0.0	0.0	6.3
Total	Pr		84.9	50.3	0.0	79.3	0.0	0.0	0.0	0.0	79.3
160	Pw	52	3.7	0.0	0.0	3.7	0.0	0.0	0.0	0.0	3.7
196	Pw	78	0.8	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.8
257	Pw	69	16.0	0.0	0.0	0.0	16.0	0.0	0.0	0.0	16.0
2042	Pw	78	5.0	3.6	0.0	5.0	0.0	0.0	0.0	0.0	5.0
Total	Pw		25.5	3.6	0.0	9.5	16.0	0.0	0.0	0.0	25.5
192	Sw	76	1.6	0.0	0.0	0.0	1.6	0.0	0.0	0.0	1.6
193	Sw	44	2.4	0.0	0.0	0.0	0.0	0.0	0.0	2.4	2.4
194	Sw	76	4.4	0.0	0.0	0.0	4.4	0.0	0.0	0.0	4.4
1539	Sw	64	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0
1844	Sw	76	2.7	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.7
1852	Sw	73	2.1	0.0	0.0	0.0	2.1	0.0	0.0	0.0	2.1
1853	Sw	73	6.3	0.0	0.0	0.0	6.3	0.0	0.0	0.0	6.3
Total	Sw		22.5	0.0	0.0	0.0	14.4	0.0	0.0	8.1	22.5
1847	IH	B-S	27.5	0.0	0.0	0.0	0.0	0.0	14.5	0.0	14.5
Total	IH		27.5	0.0	0.0	0.0	0.0	0.0	14.5	0.0	14.5

Areas Selected For Operations – 2019 Operating Year

Stand Number	Forest Unit	Age in 2016	Stand Area (ha)	Potential Intensive Management Areas		Treatment Type					
				Forest Management (ha)	Wildlife Management (ha)	Thinning	Uniform Shelterwood	Single-Tree or Group Selection	Clearcut	Conversion	Total Harvest Area
165	Pr	79	3.5	0.0	0.0	3.5	0.0	0.0	0.0	0.0	3.5
191	Pr	78	4.0	4.0	0.0	4.0	0.0	0.0	0.0	0.0	4.0
198	Pr	78	3.4	0.0	0.0	3.8	0.0	0.0	0.0	0.0	3.8
446	Pr	66	11.1	0.0	0.0	0.0	11.1	0.0	0.0	0.0	11.1
447	Pr	75	2.4	0.0	0.0	2.4	0.0	0.0	0.0	0.0	2.4
521	Pr	59	0.9	0.9	0.0	0.9	0.0	0.0	0.0	0.0	0.9
523	Pr	75	9.1	9.1	0.0	9.1	0.0	0.0	0.0	0.0	9.1
525	Pr	75	0.7	0.7	0.0	0.7	0.0	0.0	0.0	0.0	0.7
1175	Pr	79	1.1	0.0	0.0	1.1	0.0	0.0	0.0	0.0	1.1
1209	Pr	73	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.7
1215	Pr	76	4.0	0.0	0.0	2.8	0.0	0.0	0.0	1.2	4.0
1216	Pr	59	1.9	1.9	0.0	1.9	0.0	0.0	0.0	0.0	1.9
1217	Pr	61	1.3	0.0	0.0	0.0	1.3	0.0	0.0	0.0	1.3
1219	Pr	61	9.7	9.7	0.0	9.7	0.0	0.0	0.0	0.0	9.7
1221	Pr	75	9.2	9.2	0.0	9.2	0.0	0.0	0.0	0.0	9.2
1861	Pr	59	1.2	1.2	0.0	1.2	0.0	0.0	0.0	0.0	1.2
1867	Pr	75	0.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.6
1943	Pr	72	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0	1.5
2091	Pr	72	5.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	5.0
Total	Pr		70.0	36.7	0.0	58.1	12.4	0.0	0.0	1.2	71.7
449	Pw	73	2.3	0.0	0.0	0.0	2.3	0.0	0.0	0.0	2.3
524	Pw	75	1.6	0.0	0.0	1.6	0.0	0.0	0.0	0.0	1.6
2041	Pw	78	61.6	14.7	0.0	28.7	32.9	0.0	0.0	0.0	61.6
Total	Pw		65.5	14.7	0.0	30.3	35.2	0.0	0.0	0.0	65.5
448	Sw	73	4.8	0.0	0.0	0.0	4.8	0.0	0.0	0.0	4.8
450	Sw	73	5.3	0.0	0.0	5.3	0.0	0.0	0.0	0.0	5.3
518	Sw	59	1.3	0.0	0.0	1.3	0.0	0.0	0.0	0.0	1.3
1214	Sw	76	3.6	0.0	0.0	0.0	3.6	0.0	0.0	0.0	3.6
1865	Sw	73	1.5	0.0	0.0	0.0	1.5	0.0	0.0	0.0	1.5
1866	Sw	73	5.7	0.0	0.0	0.0	5.7	0.0	0.0	0.0	5.7
Total	Sw		22.2	0.0	0.0	6.6	15.6	0.0	0.0	0.0	22.2

Stand Number	Forest Unit	Age in 2016	Stand Area (ha)	Potential Intensive Management Areas		Treatment Type					
				Forest Management (ha)	Wildlife Management (ha)	Thinning	Uniform Shelterwood	Single-Tree or Group Selection	Clearcut	Conversion	Total Harvest Area
358	IH	67	17.3	0.0	13.7	0.0	0.0	0.0	3.6	0.0	3.6
444	IH	79	13.1	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0
445	IH	76	11.1	0.0	9.8	0.0	0.0	0.0	0.0	0.0	0.0
451	IH	76	30.8	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
514	IH	66	58.5	0.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0
1211	IH	67	2.7	0.0	0.0	0.0	0.0	0.0	2.7	0.0	2.7
1863	IH	71	5.0	0.0	2.3	0.0	0.0	0.0	2.7	0.0	2.7
1868	IH	79	2.1	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
1871	IH	79	1.9	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
1872	IH	79	2.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
Total	IH		144.5	0.0	45.3	0.0	0.0	0.0	9.0	0.0	9.0
204	LH	90	15.3	0.0	0.0	0.0	0.0	15.3	0.0	0.0	15.3
1838	LH	90	6.9	0.0	0.0	0.0	0.0	6.9	0.0	0.0	6.9
Total	UH/LH		22.2	0.0	0.0	0.0	0.0	22.2	0.0	0.0	22.2

Areas Selected For Operations – 2020 Operating Year

Stand Number	Forest Unit	Age in 2016	Stand Area (ha)	Potential Intensive Management Areas		Treatment Type					
				Forest Management (ha)	Wildlife Management (ha)	Thinning	Uniform Shelterwood	Single-Tree or Group Selection	Clearcut	Conversion	Total Harvest Area
186	Pr	69	5.7	5.7	0.0	5.7	0.0	0.0	0.0	0.0	5.7
254	Pr	69	0.9	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.9
259	Pr	69	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.7
260	Pr	69	7.9	0.0	0.0	5.6	0.0	0.0	0.0	0.0	5.6
261	Pr	69	4.4	0.0	0.0	4.4	0.0	0.0	0.0	0.0	4.4
263	Pr	69	0.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.6
270	Pr	69	0.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.6
352	Pr	69	8.3	0.0	0.0	8.3	0.0	0.0	0.0	0.0	8.3
438	Pr	56	3.1	0.0	0.0	0.0	3.1	0.0	0.0	0.0	3.1
733	Pr	64	2.2	0.0	0.0	2.2	0.0	0.0	0.0	0.0	2.2
734	Pr	64	0.4	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.4
735	Pr	64	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0
736	Pr	64	0.8	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.8
737	Pr	64	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.3
738	Pr	65	4.4	0.0	0.0	4.4	0.0	0.0	0.0	0.0	4.4
740	Pr	63	7.1	0.0	0.0	7.1	0.0	0.0	0.0	0.0	7.1
742	Pr	63	0.4	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.4
789	Pr	69	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0
790	Pr	56	4.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	4.0
1170	Pr	69	2.6	0.0	0.0	2.6	0.0	0.0	0.0	0.0	2.6
1325	Pr	65	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.3
1716	Pr	63	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.5
1717	Pr	65	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.5
1721	Pr	66	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.2
1722	Pr	66	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1
1725	Pr	66	0.4	0.4	0.0	0.4	0.0	0.0	0.0	0.0	0.4
1895	Pr	67	2.5	0.0	0.0	2.5	0.0	0.0	0.0	0.0	2.5
2062	Pr	66	12.4	12.4	0.0	12.4	0.0	0.0	0.0	0.0	12.4
2089	Pr	64	16.7	0.0	16.7	0.0	0.0	0.0	0.0	0.0	0.0
Total	Pr		91.3	18.6	16.7	69.3	3.7	0.0	0.0	0.0	73.0
262	Pw	69	2.5	0.0	0.0	2.5	0.0	0.0	0.0	0.0	2.5

Stand Number	Forest Unit	Age in 2016	Stand Area (ha)	Potential Intensive Management Areas		Treatment Type					
				Forest Management (ha)	Wildlife Management (ha)	Thinning	Uniform Shelterwood	Single-Tree or Group Selection	Clearcut	Conversion	Total Harvest Area
1887	Pw	67	2.2	0.0	0.0	2.2	0.0	0.0	0.0	0.0	2.2
1920	Pw	44	1.7	0.0	0.0	1.7	0.0	0.0	0.0	0.0	1.7
Total	Pw		6.4	0.0	0.0	6.4	0.0	0.0	0.0	0.0	6.4
188	Sw	67	2.6	0.0	0.0	0.0	2.6	0.0	0.0	0.0	2.6
190	Sw	69	14.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0
252	Sw	69	12.0	0.0	0.0	0.0	12.0	0.0	0.0	0.0	12.0
253	Sw	69	12.1	0.0	0.0	0.0	12.1	0.0	0.0	0.0	12.1
254	Sw	69	2.5	0.0	0.0	0.0	2.5	0.0	0.0	0.0	2.5
258	Sw	69	4.2	0.0	0.0	0.0	4.2	0.0	0.0	0.0	4.2
266	Sw	69	2.7	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.7
271	Sw	69	14.7	0.0	5.3	0.0	5.7	0.0	0.0	0.0	5.7
739	Sw	B-S	3.3	0.0	0.0	0.0	0.0	0.0	0.0	3.3	3.3
1888	Sw	69	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
1925	Sw	69	1.8	0.0	0.0	0.0	1.8	0.0	0.0	0.0	1.8
1926	Sw	69	1.6	0.0	0.0	0.0	1.6	0.0	0.0	0.0	1.6
1927	Sw	69	0.7	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.7
1929	Sw	69	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5
1934	Sw	69	0.9	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.9
1946	Sw	69	0.8	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.8
Total	Sw		74.8	0.0	11.7	0.0	45.4	0.0	0.0	6.4	51.8
1057	OC	57	2.2	0.0	0.0	2.2	0.0	0.0	0.0	0.0	2.2
Total	OC		2.2	0.0	0.0	2.2	0.0	0.0	0.0	0.0	2.2
150	IH	67	11.9	0.0	11.9	0.0	0.0	0.0	0.0	0.0	0.0
151	IH	67	1.7	0.0	0.0	0.0	0.0	0.0	1.7	0.0	1.7
152	IH	67	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
154	IH	75	24.0	0.0	13.5	0.0	0.0	0.0	0.0	7.3	7.3
794	IH	36	3.6	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0
1707	IH	70	5.2	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0
1894	IH	67	2.2	0.0	2.2	0.0	0.0	0.0	0.0	2.2	2.2
1905	IH	67	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
Total	IH		50.0	0.0	35.1	0.0	0.0	0.0	1.7	10.9	12.6
146	LH	76	11.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0	11.0
1058	LH	76	11.4	0.0	0.0	0.0	11.4	0.0	0.0	0.0	11.4
Total	UH/LH		22.4	0.0	0.0	0.0	22.4	0.0	0.0	0.0	22.4

Areas Selected For Contingency Harvest

Forest Unit	Treatment Type	Contingency Harvest (ha)
Red Pine (Pr)	Thinning	54.4
	Uniform Shelterwood Regeneration and 1 st Removal Cut	44.3
	Sub-Total	98.7
White Pine (Pw)	Thinning	24.2
	Uniform Shelterwood Regeneration and 1 st Removal Cut	15.5
	Sub-Total	39.7
White Spruce (Sw)	Thinning	2.8
	Uniform Shelterwood Regeneration and 1 st Removal Cut	20.3
	Conversion	68.8
	Sub-Total	86.3
Other Conifer Plantation (OC)	Thinning	0.0
	Uniform Shelterwood Regeneration and 1 st Removal Cut	20.1
	Clearcut	15.5
	Sub-Total	35.6
Intolerant Hardwood (IH)	Clearcut	30.6
	Conversion	11.4
	Sub-Total	56.1
Mid and Tolerant Hardwood (LH and UH)	Single-Tree and Group Selection	69.8
	Uniform Shelterwood Regeneration and 1 st Removal Cut	6.9
	Sub-Total	76.7
Total Area		408.9

Areas Selected For Contingency Harvest

Stand Number	Forest Unit	Age in 2016	Stand Area (ha)	Potential Intensive Management Areas		Treatment Type					
				Forest Management (ha)	Wildlife Management (ha)	Thinning	Uniform Shelterwood	Single-Tree or Group Selection	Clearcut	Conversion	Total Harvest Area
200	Pr	79	15.3	0.0	0.0	0.0	15.3	0.0	0.0	0.0	15.3
452	Pr	65	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0
454	Pr	65	5.8	0.0	0.0	5.8	0.0	0.0	0.0	0.0	5.8
455	Pr	65	4.1	0.0	0.0	0.0	4.1	0.0	0.0	0.0	4.1
458	Pr	65	15.1	0.0	0.0	0.0	15.1	0.0	0.0	0.0	15.1
461	Pr	65	23.4	0.0	0.0	23.4	0.0	0.0	0.0	0.0	23.4
593	Pr	76	1.6	0.0	0.0	0.0	1.6	0.0	0.0	0.0	1.6
653	Pr	66	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0	1.5
657	Pr	61	1.4	0.0	0.0	1.4	0.0	0.0	0.0	0.0	1.4
667	Pr	63	4.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	4.0
671	Pr	63	12.9	0.0	0.0	7.8	5.1	0.0	0.0	0.0	12.9
1038	Pr	79	1.9	0.0	0.0	1.9	0.0	0.0	0.0	0.0	1.9
1241	Pr	42	2.1	0.0	0.0	2.1	0.0	0.0	0.0	0.0	2.1
1674	Pr	68	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0	1.5
1675	Pr	68	1.4	0.0	0.0	1.4	0.0	0.0	0.0	0.0	1.4
1676	Pr	68	0.4	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.4
1792	Pr	49	1.2	1.2	0.0	1.2	0.0	0.0	0.0	0.0	1.2
1793	Pr	49	3.1	0.2	0.0	0.0	3.1	0.0	0.0	0.0	3.1
1907	Pr	69	1.4	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
Total	Pr		98.7	1.4	0.0	55.9	44.3	0.0	0.0	0.0	100.1
362	Pw	73	9.7	9.7	0.0	9.7	0.0	0.0	0.0	0.0	9.7
591	Pw	65	1.6	0.0	0.0	1.6	0.0	0.0	0.0	0.0	1.6
596	Pw	63	8.9	8.9	0.0	8.9	0.0	0.0	0.0	0.0	8.9
837	Pw	68	7.2	0.0	0.0	0.0	7.2	0.0	0.0	0.0	7.2
852	Pw	62	8.3	0.0	0.0	0.0	8.3	0.0	0.0	0.0	8.3
1546	Pw	64	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0
1850	Pw	72	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0
Total	Pw		39.7	19.6	0.0	24.2	15.5	0.0	0.0	0.0	39.7
516	Sw	59	2.3	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.9
589	Sw	59	0.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.6
584	Sw	66	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0

Stand Number	Forest Unit	Age in 2016	Stand Area (ha)	Potential Intensive Management Areas		Treatment Type					
				Forest Management (ha)	Wildlife Management (ha)	Thinning	Uniform Shelterwood	Single-Tree or Group Selection	Clearcut	Conversion	Total Harvest Area
654	Sw	66	8.8	0.0	0.0	0.0	8.8	0.0	0.0	0.0	8.8
658	Sw	46	1.8	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8
659	Sw	65	3.9	0.0	0.0	0.6	0.0	0.0	0.0	3.3	3.9
660	Sw	44	3.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	2.1
661	Sw	63	10.8	0.0	0.0	0.0	0.0	0.0	0.0	10.8	10.8
663	Sw	64	1.1	0.0	0.0	0.0	1.1	0.0	0.0	0.0	1.1
665	Sw	64	6.5	0.0	0.0	0.0	6.5	0.0	0.0	0.0	6.5
670	Sw	B-S	30.9	0.0	0.0	0.0	0.0	0.0	0.0	30.9	30.9
1132	Sw	51	3.9	0.0	0.0	0.0	0.0	0.0	0.0	3.9	3.9
1133	Sw	51	2.2	0.0	0.0	2.2	0.0	0.0	0.0	0.0	2.2
1268	Sw	B-S	1.8	0.0	0.0	0.0	1.8	0.0	0.0	0.0	1.8
1768	Sw	64	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
1779	Sw	44	1.3	0.0	1.3	0.0	0.0	0.0	1.3	0.0	1.3
1781	Sw	44	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
1783	Sw	63	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0
1790	Sw	B-S	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
1791	Sw	46	3.7	0.0	0.0	0.0	0.0	0.0	0.0	3.7	3.7
1794	Sw	41	3.6	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0
1795	Sw	41	1.6	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6
1798	Sw	42	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
Total	Sw		61.9	0.0	1.3	2.8	20.3	0.0	0.0	68.8	86.3
453	OC	70	3.2	0.0	0.0	0.0	0.0	0.0	0.0	3.2	3.2
655	OC	B-S	17.6	0.0	0.0	0.0	17.6	0.0	0.0	0.0	17.6
792	OC	66	12.3	0.0	0.0	0.0	0.0	0.0	12.3	0.0	12.3
1134	OC	B-S	2.5	0.0	0.0	0.0	2.5	0.0	0.0	0.0	2.5
Total	OC		35.6	0.0	0.0	0.0	20.1	0.0	15.5	0.0	35.6
590	IH	76	6.3	0.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0
592	IH	76	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5.6	5.6
594	IH	B-S	2.6	0.0	0.0	0.0	0.0	0.0	2.6	0.0	2.6
597	IH	76	6.9	0.0	2.8	0.0	0.0	0.0	6.9	0.0	6.9
1128	IH	81	5.8	0.0	2.7	0.0	0.0	0.0	0.0	5.8	5.8
1129	IH	B-S	3.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1131	IH	76	9.7	0.0	0.0	0.0	0.0	0.0	8.6	0.0	8.6
1218	IH	71	12.5	0.0	0.0	0.0	0.0	0.0	12.5	0.0	12.5

Stand Number	Forest Unit	Age in 2016	Stand Area (ha)	Potential Intensive Management Areas		Treatment Type					
				Forest Management (ha)	Wildlife Management (ha)	Thinning	Uniform Shelterwood	Single-Tree or Group Selection	Clearcut	Conversion	Total Harvest Area
Total	IH		56.3	0.0	14.1	0.0	0.0	0.0	30.6	11.4	42.0
28	LH	71	14.0	0.0	0.0	0.0	0.0	14.0	0.0	0.0	14.0
37	LH	88	12.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0	12.0
673	LH	81	6.9	0.0	0.0	0.0	6.9	0.0	0.0	0.0	6.9
741	LH	74	17.2	0.0	0.0	0.0	0.0	17.2	0.0	0.0	17.2
1063	LH	77	8.6	0.0	0.0	0.0	0.0	8.6	0.0	0.0	8.6
1118	LH	71	2.8	0.0	0.0	0.0	0.0	2.8	0.0	0.0	2.8
1119	LH	75	15.2	0.0	0.0	0.0	0.0	15.2	0.0	0.0	15.2
Total	LH/UH		76.7	0.0	0.0	0.0	6.9	69.8	0.0	0.0	76.7

Appendix B – Compartments Selected For Non-Commercial Silvicultural Treatments For The 2016-2020 Operating Period

Stand Number	Forest Unit	Treatment Type	
		Pre-commercial Thinning (ha)	Stand Improvement (ha)
105	PR	0.6	0.0
578	IH	0.0	19.1
690	LH	0.0	16.7
694	LH	0.0	8.8
1029	PW	1.6	0.0
1106	PR	1.6	0.0
1174	LH	0.0	5.8
1353	PR	0.9	0.0
2036	PR	0.5	0.0
2037	PR	2.9	0.0
2104	IH	0.0	26.6
Total		8.1	77.0