

June 18, 2021

**P.E.I.  
Public Forests**



**Woodlot Management Plan**

**Property Number: 59402**

**Location: Derby**

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## Goals and Management Objectives

***Forest Management on Prince Edward Island (P.E.I.) means different things to different people. Public Forest Lands are managed for a variety of reasons including timber and non-timber values, wildlife enhancement, soil and water preservation, demonstration techniques, training and recreation and aesthetics.***

The primary goal for management of P.E.I. Public Forest Land is to enhance the overall forest quality. To accomplish this, it may be necessary to remove some of the lower quality trees on the property and nurture those of higher quality. This will in turn improve genetic quality, species distribution and diversity through careful tree selection and natural regeneration. Allowing acceptable growing stock the chance to thrive and provide a seed source for the surrounding areas will ensure that quality natural regeneration has an opportunity to establish. Enhancement or enrichment planting may be necessary in areas where there is inadequate or unsuitable natural regeneration. Trees native to P.E.I. that are suitable to the site conditions will be chosen for any required reforestation on the property. Prescribing treatments in some stands while leaving others untreated will provide for a range of forest types. Converting stands from a single species to multiple species is desirable. This can be accomplished by retaining some of the natural regeneration in areas that have been previously planted and by planned tree selection in stand improvement treatments. Planted and natural stands on the property will be assessed for health and growth of desired species on an on-going basis. This information will be used to determine when and where future treatments will be carried out. Through time, a favourable healthy mixture of short-lived and long-lived species will provide for an abundance of quality forest products, biodiversity, wildlife, and recreational opportunities as well as a range of ecological goods and services (such as clean air and water).

## **Property Overview**

### **Location**

Property #59402 is located on the Beaton Road, in the community of Derby, PEI (Appendix A). The total area of this property is 32.4 hectares (80 acres) and the midpoint of the property is Latitude N 46.643177 decimal degrees, Longitude W -64.170275 decimal degrees.

### **Past Information**

Local records and aerial photography from 1968 show that the south half (approximately 13 hectares) of this property was cleared and used for agricultural purposes early in the 20<sup>th</sup> century. This area has since grown back into forested land. Beavers have flooded large areas within the woodlot that are now designated as open water wetlands. To better illustrate this, a map with 1968 aerial photography can be seen in Appendix B.

### **Property Information**

The information in Appendix C has been taken from the 2010 Corporate Land Use Inventory. An explanation of forestry code meanings can be seen in Appendix D. Any stands that have proposed silvicultural treatment prescriptions are to have on-ground stand assessments completed prior to any work being started. This on-ground assessment information is included in this plan as updated stand tally sheets (Appendix E) and supplements the extrapolated data where applicable. A topographic map of the property shows the general terrain profile, the ranges in elevation and the plantations currently on the property (Appendix F).

## **Wetland and Watercourses**

There are no streams or watercourses on this property, however, there is a four hectare open water wetland located in the central portion of the woodlot (Appendix A). Two smaller open water wetlands also exist in the southern third of the site, totalling approximately 0.5 hectares, and a small 0.7 hectare closed wetland in the northern portion. A 15 metre buffer zone is to be maintained around these wetlands.

## **Property Access**

Access to this property is obtained from the Beaton Road, located on the southern boundary of the property. A small 1.3km road is located on the western portion of the property, but access is restricted due to a large (approximately 300m) beaver pond. The first 430m is a Class 2 Road, but is not trafficable due to severe wetness and former rutting. The remainder of the road is a hymax road, however beavers have impeded road use along large open water wetland. Road upgrade and maintenance will be required in order to use make this road functional. For silviculture purposes (i.e., plantation maintenance), access through private property to the west (ID #59220) will be required. Permission from this the adjacent landowner is required.

## **Property Boundaries**

This property is bounded on the south and east and west by private land. The southern boundary fronts on the Beaton Road.

## **Fire Protection**

This property is located within the jurisdiction of the O'Leary Fire Department. The amount of personnel and equipment used to fight any forest fires will depend greatly upon the size and severity of the fire. Protection of our woodland from forest fire is the responsibility of the Forestry Division and our

local community fire brigades. In the Western District, there is a 900 gallon (gal) four wheel drive forestry fire truck housed at each of the Wellington and West Point Fire Departments. These heavy duty trucks are available to assist the local fire department responsible for this area. Additional forestry fire trucks, off road tracked vehicles, portable pumps and specialized forest fire suppression equipment are available if needed. The open water wetlands can provide a water supply in the event of a fire.

### **Planting and Silviculture**

There are five plantations on the property. It is recommended that any trees planted on the property be assessed at regular intervals. These assessments will determine if the planted trees require manual maintenance or fill planting as specified in the Forest Management Standards manual (Eco-Manual). A list of all silviculture treatments completed on the property from 1991 to present is shown in Appendix G.

### **Proposed Treatments**

The 2006 Forest Policy “Moving to Restore a Balance in Island Forests” lays out the framework for Public Land Forest management. The Eco-Manual provides details for prescribed treatments. All work completed on this property must comply with that manual. Table 1 provides a summary of the prescribed treatments on this property. This table will be updated as required when additional treatments are prescribed. For a better understanding of the treatments prescribed, a more detailed explanation is available in the ECOSYSTEM-BASED FOREST MANAGEMENT STANDARDS MANUAL (“Eco Manual”)

[www.princeedwardisland.ca/sites/default/files/publications/2018\\_eco\\_manual\\_technical\\_version -](http://www.princeedwardisland.ca/sites/default/files/publications/2018_eco_manual_technical_version_-_final.pdf)

[\\_final.pdf](http://www.princeedwardisland.ca/sites/default/files/publications/2018_eco_manual_technical_version_-_final.pdf). Any additional information may be obtained by contacting a Provincial Forest representative at the District Forestry Office in Wellington.

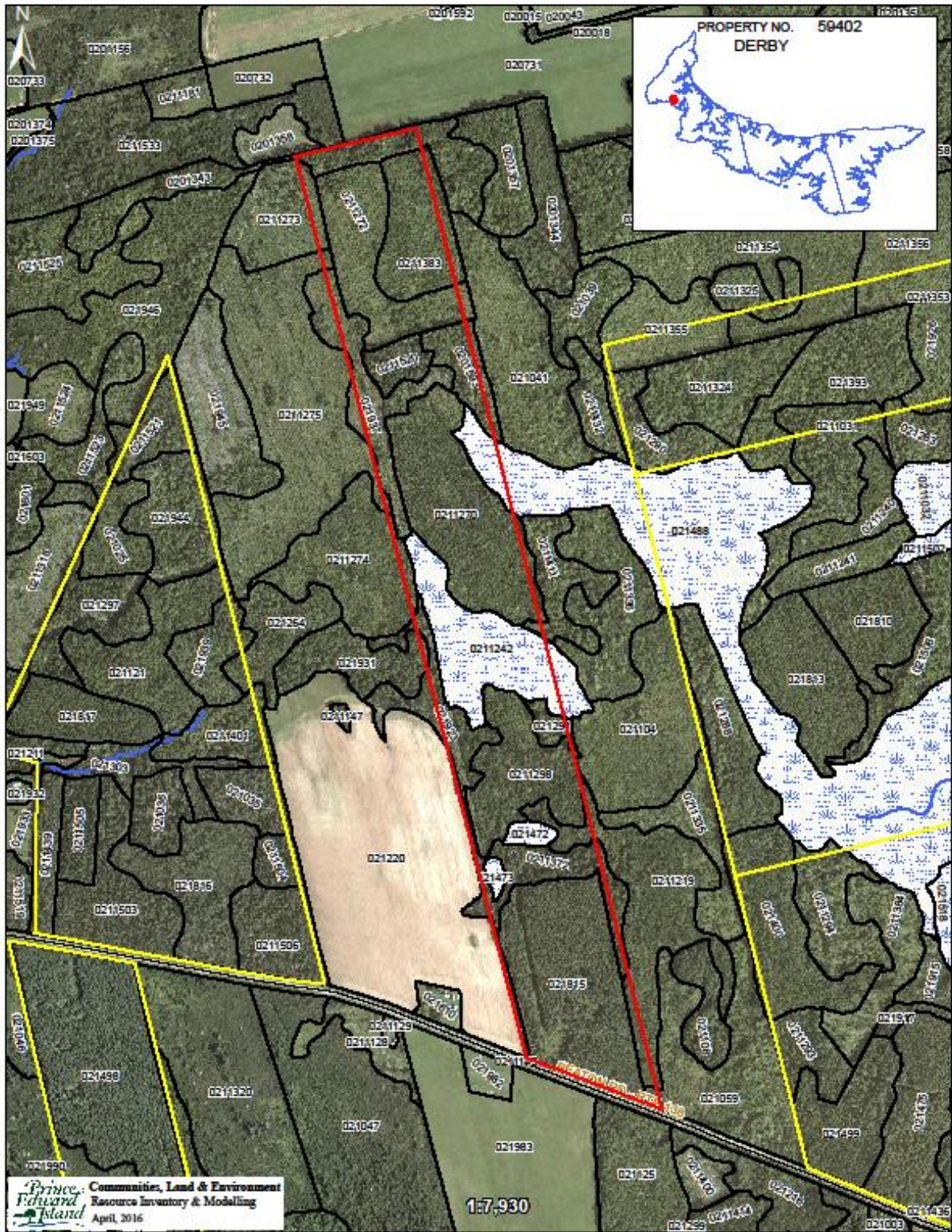
**Table 1. Proposed Treatment Summary**

Stand Number and Plantation Number	Treatment Type	Treatment Year	Amount Proposed	2018 Eco-Manual Reference	Comments	Goals
Road	Road Maintenance Road Construction	2023	All	Pg 9, 11	Beavers have created 300m long pond across road. Impossible to walk. Reconstruct and maintain road once beaver threat eliminated	Improve road access
PN# 3030021	Manual Maintenance	2023	6.7 Ha	Pg 17	Monitor for 2 <sup>nd</sup> brushing.	Improve growth of crop trees
PN 3821651	Block Harvest	2022	6.6 ha	Pg 30	Severe blowdown from hurricane and subsequent LA bark beetle infestation	Salvage wood before further deterioration
PN 3821651	Mechanical and/or Manual Site Preparation	2023	6.6 ha	Pg 14	Herbaceous vegetation heavily expressed. Site is wet. May require mechanical as well as manual site preparation.	Create plantable spots
PN 3821651	Full Planting	2023	6.6 ha	Pg 16	Plant species suited to the site. Site is wet to east and north.	Reforest Site
PN 3821651	Manual Maintenance	2025	6.6 ha	Pg 17	Remove competing vegetation	Improve growth of crop trees

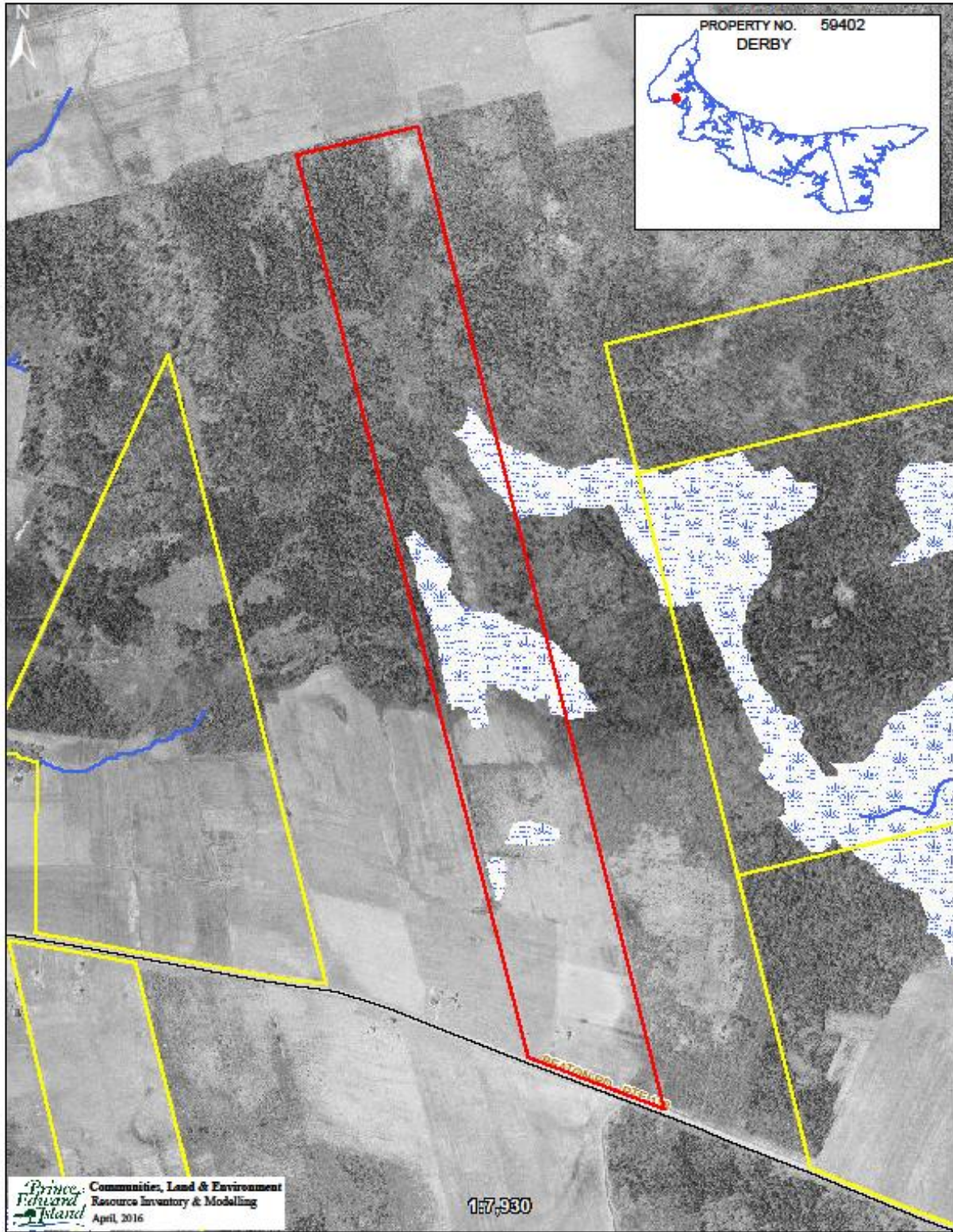
## **Appendices**



Appendix A. Map of Property with Locator Map



Appendix B. 1968 Aerial Photography



### Appendix C. 2010 Corporate Land Use Inventory

FIELDID	COV1	PER1	COV2	PER2	COV3	PER3	COV4	PER4	COV5	PER5	HT	CROWN	HA
0211520	RS	7	BF	2	DT	1		0		0	14	70	0.79
0211273	WP	9	RP	1		0		0		0	0	0	0.32
021488	RM	5	BF	2	BS	2	LA	1		0	14	75	0.67
0211272	BS	10		0		0		0		0	0	0	3.50
0211275	BS	10		0		0		0		0	0	0	0.13
021815	LA	10		0		0		0		0	14	85	6.51
0211274	LA	7	AL	2	RM	1		0		0	3	55	0.26
0211270	LA	10		0		0		0		0	4	85	5.54
0211372	RM	3	WS	3	BF	2	LA	1	WB	1	15	45	1.51
0201593	RM	2	WB	2	PO	2	DT	2	RS	2	16	60	0.96
0211298	BS	3	PO	3	RM	2	AL	2		0	4	60	3.32
021931	RM	4	PO	3	WS	2	BF	1		0	16	70	0.06
021059	CC	10		0		0		0		0	0	0	0.08
021937	CC	10		0		0		0		0	0	0	1.92
0211219	CC	10		0		0		0		0	0	0	0.82
021923	AL	10		0		0		0		0	4	75	1.16
0211383	BS	3	AL	3	RM	2	WB	1	PC	1	2	65	2.43
021291	RM	6	BF	2	WB	2		0		0	17	65	0.36
0211411	RM	6	BF	2	WB	2		0		0	17	65	0.06
0201343	RM	3	WB	2	PO	2	LA	2	WS	1	16	80	0.80

## Appendix D. Forest Inventory Codes

### EXPLANATION OF FOREST CODES; SPECIES

<b>WS</b>	White Spruce	<b>JL</b>	Japanese Larch	<b>WB</b>	White Birch
<b>BF</b>	Balsam Fir	<b>EL</b>	European Larch	<b>PO</b>	Poplar
<b>HE</b>	Hemlock	<b>NS</b>	Norway Spruce	<b>RM</b>	Red Maple
<b>WP</b>	White Pine	<b>PC</b>	Pin Cherry	<b>RO</b>	Red Oak
<b>RP</b>	Red Pine	<b>MA</b>	Apple	<b>WA</b>	White Ash
<b>JP</b>	Jack Pine	<b>SP</b>	Scots Pine	<b>EM</b>	Elm
<b>CE</b>	Cedar	<b>AP</b>	Austrian Pine	<b>GB</b>	Gray Birch
<b>LA</b>	Larch	<b>YB</b>	Yellow Birch	<b>AL</b>	Alders
<b>BS</b>	Black Spruce	<b>SM</b>	Sugar Maple	<b>LI</b>	Linden
<b>RS</b>	Red Spruce	<b>BE</b>	Beech		

### PERCENT

<b>0</b>	1 - 9%
<b>1</b>	10 - 19%
<b>2</b>	20 - 29 %
<b>3</b>	30 - 39 %
<b>4</b>	40 - 49 %
<b>5</b>	50 - 59 %
<b>6</b>	60 - 69 %
<b>7</b>	70 - 79 %
<b>8</b>	80 - 89 %
<b>9</b>	90 - 100 %

### CROWN CLOSURE

<b>A</b>	91 % - 100%
<b>B</b>	81 % - 90 %
<b>C</b>	71 % - 80 %
<b>D</b>	61 % - 70 %
<b>E</b>	51 % - 60 %
<b>F</b>	41 % - 50 %
<b>G</b>	31 % - 40 %
<b>H</b>	21 % - 30 %
<b>I</b>	11 % - 20 %
<b>J</b>	0 % - 10 %

### ORIGIN AND HISTORY

<b>BR</b>	Burn	<b>DI</b>	Disease-Insect
<b>WF</b>	Wind Fall	<b>OF</b>	Old Field
<b>PC</b>	Partial Cut	<b>PN</b>	Plantation
<b>CC</b>	Clear Cut	<b>HR</b>	Hedgerow
<b>TH</b>	Thinning	<b>EP</b>	Excavation Pit

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### SAMPLE DESCRIPTIONS

#### FOREST STAND DESCRIPTIONS

75401 – Stand No.

SM5RM4 – Sugar Maple 50%, Red Maple40%

WS1 12A – White Spruce 10%, Height, Crown Closure

OF – Origin History Old Field

Stand Numbering relates to the position of the stand within a 100 X 100 grid cell over lay with the minimum values in the southwest corner and the maximum values in the northeast corner.

A stand labeled 75 40 1 would be positioned within easting grid 75 and northing grid 40 and would be the first stand within that grid cell.

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### NON-FOREST LAND TYPES

<b>BO</b>	Bog	<b>AL</b>	Alders
<b>CL</b>	Clear Land	<b>FL</b>	Flowerage
<b>SO</b>	Swamps – Open	<b>AG</b>	Agricultural Land
<b>EP</b>	Excavation Pit	<b>SD</b>	Sand Dune
<b>PL</b>	Power Line	<b>UR</b>	Urban
<b>C</b>	Cemetery	<b>WW</b>	Water

### FOREST GROUND CONDITION

<b>SW</b>	Wet – Swampy
<b>ST</b>	Steep
<b>SY</b>	Sandy

### Appendix E. Stand Tally Sheets from on the Ground Assessment

STAND TALLY SHEET																							
CRUISER		Sue Rankin			STAND #		211272, 211383		PLANTATION #		3030021												
PROPERTY #		59402 - Alaska			AREA		6.2 ha		Date		4 / 4 / 2016												
								D		M Y													
SAMPLE TREE INFORMATION																							
TREE #	SPP.	AGE	D.B.H.	HEIGHT	TREE #	SPP.	AGE	D.B.H.	HEIGHT														
1	RS	13	2	3	4																		
2	RM			6	5																		
3					6																		
STAND INFORMATION																							
Stand Basal Area		SW		M <sup>2</sup> /Ha		SWSL		M <sup>2</sup> /Ha		HW		M <sup>2</sup> /Ha		HWSL		M <sup>2</sup> /Ha							
Species and (%)		RM 6 %		GB 3 %		BS 1 %		LA 1 %															
Even-aged		X		Uneven-aged								Biomass		X									
Slope				Aspect																			
Stand Origin:		Old Field		Partial Cut		Burn		Unploughed															
		Windfall		Non Forest				Ploughed															
		Clear Cut		X		Unknown																	
Stand Maturity Class:		Regeneration		Immature		X		Mature		Over-mature													
Stand Stocking:		Understocked		X		Fully Stocked		Overstocked		Patchy													
Density:		SW 1400-2200		HW 2000-20000																			
Advanced Regeneration:		Understocked		X		Fully Stocked		Overstocked		Patchy													
Regeneration:		1. Spp. BS		Height		0.3		2. Spp.		Height													
		3. Spp.		Height				4. Spp.		Height													
GROUND OBSERVATIONS																							
Ground Vegetation Species Present:				Sheep laurel, scrubby wood stem species																			
Ground Hemlock				Y / N		N																	
Invasive Species Present				Y / N		N		If yes then what species:															
Site Indicators				Y / N		N		If yes then what species:															
ENVIRONMENTAL OBSERVATIONS																							
Water Course		N		Bog		N		Pond		N		Stream		N		Seeps		N		Beaver Present		N Y / N	
Drainage:		Poor		X		Moderate		Good		Excellent		Erosion Control Required		N		Y / N							
Snag Trees:		Adequate		Inadequate		X																	
Coarse Woody Material:		Adequate		X		Inadequate																	
Dens		N		Nests (Raptors, songbirds, etc.)		N																	
Wildlife Observed		None observed.																					
Comments																							
STAND PRESCRIPTION																							
No Treatment				Regeneration Cut				Crop Tree Release				Block Cut											
Shelterwood Cut				Selection Cut				Patch Cut				Strip Cut											
Commercial Thinning				Afforestation				Site Preparation															
Pre-commercial Thinning				Reforestation				Riparian Zone Mgmt															
Pln. Maint.		Y		Y / N		Stems/Ha																	
Comments:		Portions of this plantation are NSR; however, large portions that can be maintained.																					

STAND TALLY SHEET											
CRUISER	Sue Rankin			STAND #	21815			PLANTATION #	3821651		
PROPERTY #	59402 - Alaska			AREA	6.6	ha	Date	8 /	6 /	2021	
								D	M	Y	
SAMPLE TREE INFORMATION											
TREE #	SPP.	AGE	D.B.H.	HEIGHT	TREE #	SPP.	AGE	D.B.H.	HEIGHT		
1	LA	38	25cm	16m	4						
2					5						
3					6						
STAND INFORMATION											
Stand Basal Area	SW		M <sup>2</sup> /Ha	SWSL		M <sup>2</sup> /Ha	HW		M <sup>2</sup> /Ha	HWSL	M <sup>2</sup> /Ha
Species and (%)	LA 9	%	GB 1	%		%					
Even-aged	X		Uneven-aged						Biomass	X	
Slope	Level	%	Aspect								
Stand Origin:	Old Field	X	Partial Cut		Burn		Unploughed				
	Windfall	X	Non Forest				Ploughed				
	Clear Cut		Unknown								
Stand Maturity Class:	Regeneration		Immature	X	Mature		Over-mature				
Stand Stocking:	Understocked		Fully Stocked	X	Overstocked		Patchy				
Density:	SW	1600	HW	200							
Advanced Regeneration:	Understocked		Fully Stocked		Overstocked		Patchy				
Regeneration:	1. Spp.		Height		2. Spp.		Height				
	3. Spp.		Height		4. Spp.		Height				
GROUND OBSERVATIONS											
Ground Vegetation Species Present:	Raspberry, blackberry, dewberry, red oiser dogwood, sensitive fern, ferns, other herbaceous, woodyshrubs. Vegetation heavily expressed.										
Ground Hemlock		Y / N	N								
Invasive Species Present		Y / N	N		If yes then what species:						
Site Indicators		Y / N	N		If yes then what species:						
ENVIRONMENTAL OBSERVATIONS											
Water Course	N	Bog	Y	Pond	N	Stream	N	Seeps	N	Beaver Present	N / Y / N
Drainage:	Poor	X	Moderate		Good		Excellent		Erosion Control Required	N / Y / N	
Snag Trees:	Adequate	X	Inadequate								
Coarse Woody Material:	Adequate	X	Inadequate								
Dens	N	Nests (Raptors, songbirds, etc.)	N								
Wildlife Observed	None observed.										
Comments											
STAND PRESCRIPTION											
No Treatment			Regeneration Cut		Crop Tree Release		Block Cut	X			
Shelterwood Cut			Selection Cut		Patch Cut		Strip Cut				
Commercial Thinning			Afforestation		Site Preparation	X					
Pre-commercial Thinning			Reforestation	X	Riparian Zone Mgmt						
Pln. Maint.	X	Y / N	Stems/Ha								
Comments:	This site is quite wet along the east edge and north edge.. Hurricane caused severe blowdown followed by subsequent bark beetle infestation killing a high portion of the stand. Block harvest salvaging as much wood as possible. Herbaceous vegetation is heavily expressed and expected to impede seedling establishment. Site prepare and plant LA and WS. Control vegetation as required.										

STAND TALLY SHEET															
CRUISER	Sue Rankin			STAND #	211372			PLANTATION #							
PROPERTY #	59402 - Alaska			AREA	2.7	ha	Date	4 /	4 /	2016					
								D	M	Y					
SAMPLE TREE INFORMATION															
TREE #	SPP.	AGE	D.B.H.	HEIGHT		TREE #	SPP.	AGE	D.B.H.	HEIGHT					
1						4									
2						5									
3						6									
STAND INFORMATION															
Stand Basal Area	SW	M <sup>2</sup> /Ha		SWSL	M <sup>2</sup> /Ha		HW	M <sup>2</sup> /Ha		HWSL	M <sup>2</sup> /Ha				
Species and (%)	WS 2	%	RM 4	%	AL 2	%	GB 1	%							
Even-aged	Uneven-aged		X							Biomass					
Slope	Level	%	Aspect												
Stand Origin:	Old Field	Partial Cut		X		Burn	Unploughed								
	Windfall	X		Non Forest		Ploughed									
	Clear Cut	Unknown													
Stand Maturity Class:	Regeneration		Immature		X		Mature	Over-mature		X					
Stand Stocking:	Understocked		X		Fully Stocked		Overstocked		Patchy						
Density:	SW	400	HW	1,200											
Advanced Regeneration:	Understocked		X		Fully Stocked		Overstocked		Patchy						
Regeneration:	1. Spp.	BS	Height		0.4m		2. Spp.	BF	Height		0.3 - 2.0m				
	3. Spp.		Height				4. Spp.		Height						
GROUND OBSERVATIONS															
Ground Vegetation Species Present:	None.														
Ground Hemlock	Y / N	N													
Invasive Species Present	Y / N	N		If yes then what species:											
Site Indicators	Y / N	N		If yes then what species:											
ENVIRONMENTAL OBSERVATIONS															
Water Course	N	Bog	Y		Pond	N		Stream	N		Seeps	N	Beaver Present	N	Y / N
Drainage:	Poor	X		Moderate			Good			Excellent			Erosion Control Required	N	Y / N
Snag Trees:	Adequate	X		Inadequate											
Coarse Woody Material:	Adequate	X		Inadequate											
Dens	N		Nests (Raptors, songbirds, etc.)		N										
Wildlife Observed	None observed.														
Comments	Wetland requires 15m buffer zone.														
STAND PRESCRIPTION															
No Treatment			X		Regeneration Cut		Crop Tree Release				Block Cut				
Shelterwood Cut					Selection Cut		Patch Cut				Strip Cut				
Commercial Thinning					Afforestation		Site Preparation								
Pre-commercial Thinning					Reforestation		Riparian Zone Mgmt								
Pln. Maint.	Y / N			Stems/Ha											
Comments:	Retain as WTP riparian. Scraggly stand.														

STAND TALLY SHEET											
CRUISER	Sue Rankin			STAND #	21923			PLANTATION #			
PROPERTY #	59402 - Alaska			AREA	1.2	ha	Date	4 /	4 /	2016	
								D	M	Y	
SAMPLE TREE INFORMATION											
TREE #	SPP.	AGE	D.B.H.	HEIGHT		TREE #	SPP.	AGE	D.B.H.	HEIGHT	
1	BS	est. 58		13m		4					
2	RM			7m		5					
3						6					
STAND INFORMATION											
Stand Basal Area	SW		M <sup>2</sup> /Ha	SWSL		M <sup>2</sup> /Ha	HW		M <sup>2</sup> /Ha	HWSL	M <sup>2</sup> /Ha
Species and (%)	RM 6 %	BS 2 %	GB 2 %	AL %							
Even-aged		Uneven-aged	X						Biomass	X	
Slope	Level	%	Aspect								
Stand Origin:	Old Field		Partial Cut	X	Burn		Unploughed				
	Windfall		Non Forest				Ploughed				
	Clear Cut		Unknown								
Stand Maturity Class:	Regeneration		Immature	X	Mature		Over-mature	X			
Stand Stocking:	Understocked	X	Fully Stocked		Overstocked		Patchy				
Density:	SW	200	HW	1,000							
Advanced Regeneration:	Understocked		Fully Stocked		Overstocked		Patchy				
Regeneration:	1. Spp.		Height		2. Spp.		Height				
	3. Spp.		Height		4. Spp.		Height				
GROUND OBSERVATIONS											
Ground Vegetation Species Present:	Raspberry, sheep laurel, partially covered in snow.										
Ground Hemlock	Y / N	N									
Invasive Species Present	Y / N	N			If yes then what species:						
Site Indicators	Y / N	N			If yes then what species:						
ENVIRONMENTAL OBSERVATIONS											
Water Course	N	Bog	Y	Pond	N	Stream	N	Seeps	N	Beaver Present	Y / N
Drainage:	Poor	X	Moderate		Good		Excellent		Erosion Control Required		Y / N
Snag Trees:	Adequate	X	Inadequate								
Coarse Woody Material:	Adequate	X	Inadequate								
Dens	X	Nests (Raptors, songbirds, etc.)	X								
Wildlife Observed	None										
Comments											
STAND PRESCRIPTION											
No Treatment		X	Regeneration Cut		Crop Tree Release		Block Cut				
Shelterwood Cut			Selection Cut		Patch Cut		Strip Cut				
Commercial Thinning			Afforestation		Site Preparation						
Pre-commercial Thinning			Reforestation		Riparian Zone Mgmt						
Pln. Maint.	Y / N	Stems/Ha									
Comments:	RM has suckered. Scattered BS. Scraggly stand that is not productive. Leave as riparian and WTP.										
	Does not warrant investment now or ever.										



STAND TALLY SHEET													
CRUISER	Sue Rankin			STAND #	211298			PLANTATION #	3010151				
PROPERTY #	59402 - Alaska			AREA	2	ha	Date	4 /	4 /	2016			
								D	M	Y			
SAMPLE TREE INFORMATION													
TREE #	SPP.	AGE	D.B.H.	HEIGHT	TREE #	SPP.	AGE	D.B.H.	HEIGHT				
1	BS	14	3	4	4								
2	GB	15	3	7	5								
3					6								
STAND INFORMATION													
Stand Basal Area	SW	M <sup>2</sup> /Ha		SWSL	M <sup>2</sup> /Ha		HW	M <sup>2</sup> /Ha		HWSL	M <sup>2</sup> /Ha		
Species and (%)	GB 2 %	WB1 %	AL6 %	BS 1 %									
Even-aged	X	Uneven-aged										Biomass	X
Slope	Level	%	Aspect										
Stand Origin:	Old Field	Partial Cut		Burn	Unploughed								
	Windfall	Non Forest		Ploughed									
	Clear Cut	X	Unknown										
Stand Maturity Class:	Regeneration		Immature	X	Mature	Over-mature							
Stand Stocking:	Understocked	X	Fully Stocked	Overstocked		Patchy							
Density:	SW	800	HW	20,000									
Advanced Regeneration:	Understocked		X	Fully Stocked	Overstocked		Patchy						
Regeneration:	1. Spp.	BF	Height	0.5m	2. Spp.	Height							
	3. Spp.		Height		4. Spp.	Height							
GROUND OBSERVATIONS													
Ground Vegetation Species Present:	Blackberry, grass (winter, partially snow covered)												
Ground Hemlock	Y / N	N											
Invasive Species Present	Y / N	N	If yes then what species:										
Site Indicators	Y / N	N	If yes then what species:										
ENVIRONMENTAL OBSERVATIONS													
Water Course	N	Bog	Y	Pond	N	Stream	N	Seeps	N	Beaver Present	N	Y / N	
Drainage:	Poor	X	Moderate	Good	Excellent		Erosion Control Required		N	Y / N			
Snag Trees:	Adequate	Inadequate		X									
Coarse Woody Material:	Adequate		Inadequate		X								
Dens	N	Nests (Raptors, songbirds, etc.)		N									
Wildlife Observed	None observed.												
Comments	Put 15m buffer zone on wetland.												
STAND PRESCRIPTION													
No Treatment	X		Regeneration Cut	Crop Tree Release		Block Cut						10yrs	
Shelterwood Cut			Selection Cut	Patch Cut		Strip Cut							
Commercial Thinning			Afforestation	Site Preparation									
Pre-commercial Thinning			Reforestation	Riparian Zone Mgmt									
Pln. Maint.	Y / N	Stems/Ha											
Comments:	BS suppressed and over topped by HW. Pockets of SR but deformed and spindly. Not worth conducting a maintenance. Harvest for biomass in 5-10 years. Plant BS or LA. Needed to be bushed 5-8 years ago.												

STAND TALLY SHEET											
CRUISER	Sue Rankin			STAND #	211298			PLANTATION #	3010161		
PROPERTY #	59402 - Alaska			AREA	1.8	ha	Date	4 /	4 /	2016	
								D	M	Y	
SAMPLE TREE INFORMATION											
TREE #	SPP.	AGE	D.B.H.	HEIGHT	TREE #	SPP.	AGE	D.B.H.	HEIGHT		
1	BS	15	2	3	4						
2	GB	15	3	6	5						
3					6						
STAND INFORMATION											
Stand Basal Area	SW	M <sup>2</sup> /Ha		SWSL	M <sup>2</sup> /Ha		HW	M <sup>2</sup> /Ha		HWSL	M <sup>2</sup> /Ha
Species and (%)	GB 7	%	AL 2	%	BS 1	%					
Even-aged	X	Uneven-aged								Biomass	X
Slope	Level	%	Aspect								
Stand Origin:	Old Field		Partial Cut		Burn		Unploughed				
	Windfall		Non Forest				Ploughed				
	Clear Cut	X	Unknown								
Stand Maturity Class:	Regeneration			Immature	X	Mature		Over-mature			
Stand Stocking:	Understocked	X	Fully Stocked		Overstocked		Patchy				
Density:	SW	600	HW	20,000							
Advanced Regeneration:	Understocked		X	Fully Stocked		Overstocked		Patchy			
Regeneration:	1. Spp. BF		Height	0.3m	2. Spp.		Height				
	3. Spp.		Height		4. Spp.		Height				
GROUND OBSERVATIONS											
Ground Vegetation Species Present:	Winter. Wet in places.										
Ground Hemlock	Y / N	N									
Invasive Species Present	Y / N	N					If yes then what species:				
Site Indicators	Y / N	N					If yes then what species:				
ENVIRONMENTAL OBSERVATIONS											
Water Course	N	Bog	Y	Pond	N	Stream	N	Seeps	N	Beaver Present	Y / N
Drainage:	Poor	X	Moderate		Good		Excellent		Erosion Control Required	N	Y / N
Snag Trees:	Adequate		Inadequate	X							
Coarse Woody Material:	Adequate		Inadequate	X							
Dens	N	Nests (Raptors, songbirds, etc.) N									
Wildlife Observed	None observed.										
Comments	15m buffer along wetland. Beaver hut in open water wetland.										
STAND PRESCRIPTION											
No Treatment		X	Regeneration Cut		Crop Tree Release		Block Cut	10yrs			
Shelterwood Cut			Selection Cut		Patch Cut		Strip Cut				
Commercial Thinning			Afforestation		Site Preparation						
Pre-commercial Thinning			Reforestation		Riparian Zone Mgmt						
Pln. Maint.	Y / N		Stems/Ha								
Comments:	BS stocking is sporadic. Suppressed and in poor form. Spindly. No treatment warranted. Good for biomass in 8-10 years.										

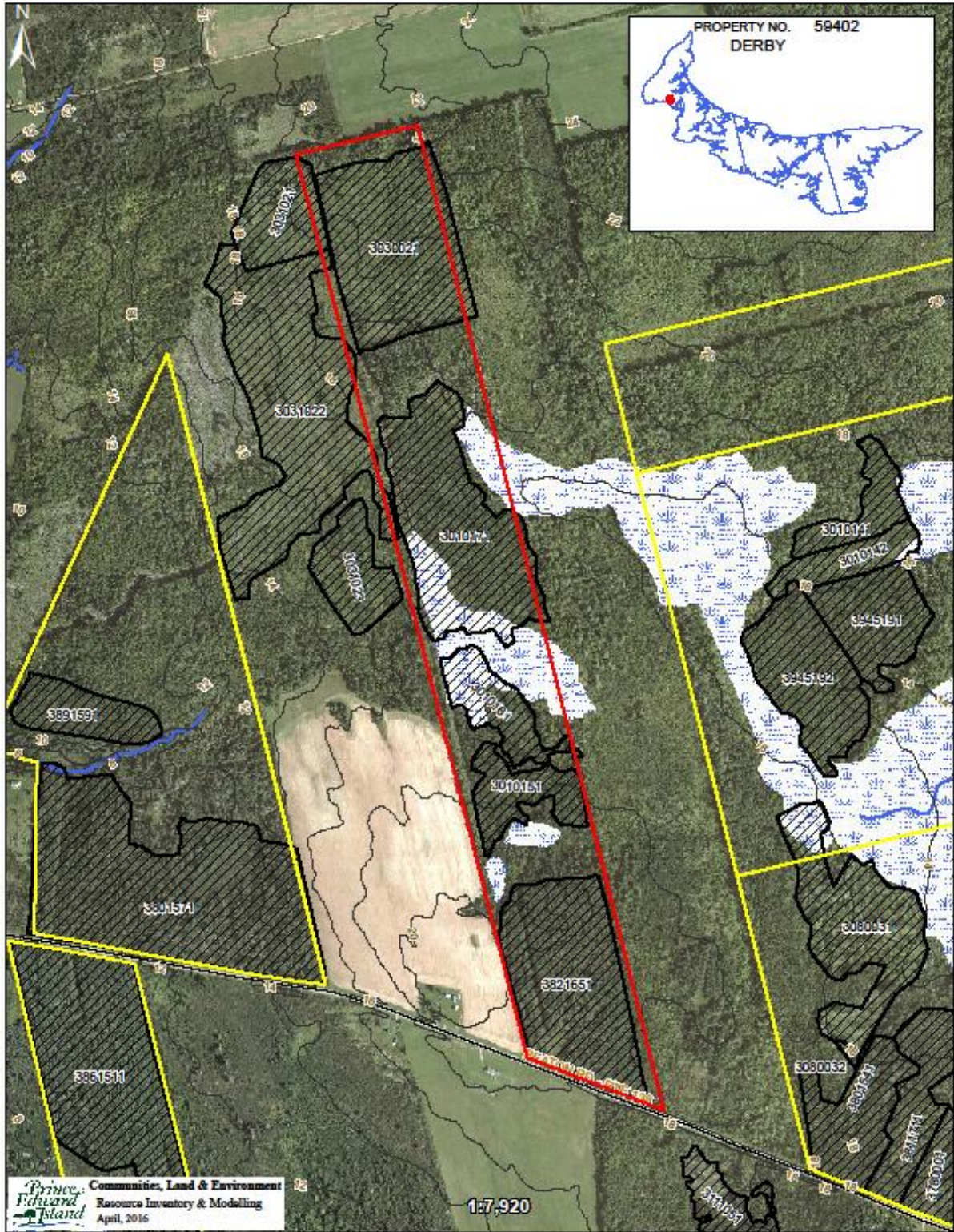
STAND TALLY SHEET																		
CRUISER	Sue Rankin		STAND #			PLANTATION #			3010717									
PROPERTY #	59402 - Alaska		AREA	6.9	ha	Date	4 /	4 /	2016									
							D	M	Y									
SAMPLE TREE INFORMATION																		
TREE #	SPP.	AGE	D.B.H.	HEIGHT	TREE #	SPP.	AGE	D.B.H.	HEIGHT									
1	LA	15			4													
2					5													
3					6													
STAND INFORMATION																		
Stand Basal Area	SW	M <sup>2</sup> /Ha		SWSL	M <sup>2</sup> /Ha		HW	M <sup>2</sup> /Ha		HWSL	M <sup>2</sup> /Ha							
Species and (%)	LA 7 %	GB 1 %	AL 1 %	RM 1 %														
Even-aged	X		Uneven-aged															
Biomass																		
Slope	Level	%	Aspect															
Stand Origin:	Old Field	Partial Cut		Burn		Unploughed												
	Windfall	Non Forest		Ploughed														
	Clear Cut	X		Unknown														
Stand Maturity Class:	Regeneration		Immature		X		Mature		Over-mature									
Stand Stocking:	Understocked		Fully Stocked		X		Overstocked		Patchy									
Density:	SW	1600	HW	800														
Advanced Regeneration:	Understocked		X		Fully Stocked		Overstocked		Patchy									
Regeneration:	1. Spp.	BF	Height	0.5 - 3.0m		2. Spp.			Height									
	3. Spp.		Height			4. Spp.			Height									
GROUND OBSERVATIONS																		
Ground Vegetation Species Present:	Winter; snow covered.																	
Ground Hemlock	Y / N																	
Invasive Species Present	Y / N		If yes then what species:															
Site Indicators	Y / N		If yes then what species:															
ENVIRONMENTAL OBSERVATIONS																		
Water Course	N		Bog	Y		Pond	N		Stream	N		Seeps	N		Beaver Present	Y		Y / N
Drainage:	Poor		Moderate		Good		Excellent		Erosion Control Required		N		Y / N					
Snag Trees:	Adequate		Inadequate		X													
Coarse Woody Material:	Adequate		Inadequate		X													
Dens	X		Nests (Raptors, songbirds, etc.)		X													
Wildlife Observed	None																	
Comments	15m along wetlands. Open water wetland w/ beaver is much larger then GIS. Beaver damming up along road																	
STAND PRESCRIPTION																		
No Treatment	X		Regeneration Cut				Crop Tree Release				Block Cut 25yrs							
Shelterwood Cut			Selection Cut				Patch Cut				Strip Cut							
Commercial Thinning			Afforestation				Site Preparation											
Pre-commercial Thinning			Reforestation				Riparian Zone Mgmt											
Pln. Maint.	Y / N		Stems/Ha															
Comments:	Leave as is. Stocking does not warrant CT. LA doing well. Not supressed by GB. A lot of southern part of the stand is now beaver pond.																	

STAND TALLY SHEET												
CRUISER	Sue Rankin			STAND #	21937			PLANTATION #				
PROPERTY #	59402 - Alaska			AREA	1.9	ha	Date	4 /	4 /	2016		
								D	M	Y		
SAMPLE TREE INFORMATION												
TREE #	SPP.	AGE	D.B.H.	HEIGHT		TREE #	SPP.	AGE	D.B.H.	HEIGHT		
1	BS	76	8cm	10m		4						
2						5						
3						6						
STAND INFORMATION												
Stand Basal Area	SW	M <sup>2</sup> /Ha		SWSL	M <sup>2</sup> /Ha		HW	M <sup>2</sup> /Ha		HWSL	M <sup>2</sup> /Ha	
Species and (%)	BS 7 %	BF 1 %	GB 1 %	RM 1 %								
Even-aged	Uneven-aged		X		Biomass							
Slope	Level	%	Aspect									
Stand Origin:	Old Field	Partial Cut		Burn			Unploughed					
	Windfall	X	Non Forest		Ploughed							
	Clear Cut	Unknown										
Stand Maturity Class:	Regeneration		X	Immature		X	Mature		X	Over-mature		X
Stand Stocking:	Understocked		X	Fully Stocked			Overstocked		Patchy			
Density:	SW	200	HW	100								
Advanced Regeneration:	Understocked		X	Fully Stocked			Overstocked		Patchy			
Regeneration:	1. Spp.	BS	Height		0.3	2. Spp.	Height					
	3. Spp.	BF	Height		0.3	4. Spp.	Height					
GROUND OBSERVATIONS												
Ground Vegetation Species Present:	Sheep laurel, bog woody shrubs.											
Ground Hemlock	Y / N	N										
Invasive Species Present	Y / N	N		If yes then what species:								
Site Indicators	Y / N	N		If yes then what species:								
ENVIRONMENTAL OBSERVATIONS												
Water Course	N	Bog	?	Pond	N	Stream	N	Seeps	N	Beaver Present		N / Y / N
Drainage:	Poor	Very	Moderate	Good	Excellent			Erosion Control Required				N / Y / N
Snag Trees:	Adequate		X	Inadequate								
Coarse Woody Material:	Adequate		X	Inadequate								
Dens	N	Nests (Raptors, songbirds, etc.)										N
Wildlife Observed	None observed.											
Comments												
STAND PRESCRIPTION												
No Treatment	X		Regeneration Cut			Crop Tree Release			Block Cut			
Shelterwood Cut	Selection Cut			Patch Cut			Strip Cut					
Commercial Thinning	Afforestation			Site Preparation								
Pre-commercial Thinning	Reforestation			Riparian Zone Mgmt								
Pln. Maint.	Y / N	Stems/Ha										
Comments:	Very poor drainage. Not a productive sign. Retain as a WTP.											

STAND TALLY SHEET												
CRUISER	Sue Rankin			STAND #	201593			PLANTATION #				
PROPERTY #	59402 - Alaska			AREA	1.0	ha	Date	4 /	4 /	2016		
								D	M	Y		
SAMPLE TREE INFORMATION												
TREE #	SPP.	AGE	D.B.H.	HEIGHT		TREE #	SPP.	AGE	D.B.H.	HEIGHT		
1	BS	68	28	16		4						
2						5						
3						6						
STAND INFORMATION												
Stand Basal Area	SW	M <sup>2</sup> /Ha		SWSL	M <sup>2</sup> /Ha		HW	M <sup>2</sup> /Ha		HWSL	M <sup>2</sup> /Ha	
Species and (%)	RM 4	%	PO 2	%	BS 3	%	WB 1	%				
Even-aged	X		Uneven-aged						Biomass			
Slope	Level	%	Aspect									
Stand Origin:	Old Field		Partial Cut	X	Burn		Unploughed					
	Windfall	X	Non Forest			Ploughed						
	Clear Cut		Unknown									
Stand Maturity Class:	Regeneration		Immature		Mature		Over-mature		X			
Stand Stocking:	Understocked		Fully Stocked		X		Overstocked		Patchy			
Density:	SW	600	HW	800								
Advanced Regeneration:	Understocked		X		Fully Stocked		Overstocked		Patchy			
Regeneration:	1. Spp.	BS	Height	0.2 - 0.5m		2. Spp.	BF	Height	0.4 - 3.0m			
	3. Spp.		Height			4. Spp.		Height				
GROUND OBSERVATIONS												
Ground Vegetation Species Present:	Bracken fern, sheep laurel, woody stemmed shrub brush.											
Ground Hemlock	Y / N		N									
Invasive Species Present	Y / N		N									
Site Indicators	Y / N		N									
	If yes then what species:											
	If yes then what species:											
ENVIRONMENTAL OBSERVATIONS												
Water Course	N		Bog	Y		Pond	N		Stream	N		
Drainage:	Poor	X		Moderate			Good			Excellent		
Snag Trees:	Adequate		X		Inadequate							
Coarse Woody Material:	Adequate		X		Inadequate							
Dens	N		Nests (Raptors, songbirds, etc.)									
Wildlife Observed	None observed.											
Comments	15m along adjacent wetland.											
STAND PRESCRIPTION												
No Treatment			X		Regeneration Cut				Crop Tree Release		Block Cut	
Shelterwood Cut					Selection Cut				Patch Cut		Strip Cut	
Commercial Thinning					Afforestation				Site Preparation			
Pre-commercial Thinning					Reforestation				Riparian Zone Mgmt			
Pln. Maint.	Y / N		Stems/Ha									
Comments:	Not economical to harvest or treat. Stand breaking up and natural regeneration establishing. Retain as WTP.											

STAND TALLY SHEET											
CRUISER	Sue Rankin			STAND #	211520		PLANTATION #				
PROPERTY #	59402 - Alaska			AREA	0.8	ha	Date	4 /	4 /	2016	
								D	M	Y	
SAMPLE TREE INFORMATION											
TREE #	SPP.	AGE	D.B.H.	HEIGHT		TREE #	SPP.	AGE	D.B.H.	HEIGHT	
1	BS	73	23	14		4					
2						5					
3						6					
STAND INFORMATION											
Stand Basal Area	SW	M <sup>2</sup> /Ha	SWSL	M <sup>2</sup> /Ha	HW	M <sup>2</sup> /Ha	HWSL	M <sup>2</sup> /Ha			
Species and (%)	BS 6 %	LA 3 %	RM 1 %								
Even-aged	X	Uneven-aged							Biomass		
Slope	Level %	Aspect									
Stand Origin:	Old Field	Partial Cut		Burn		Unploughed					
	Windfall	X	Non Forest			Ploughed					
	Clear Cut		Unknown								
Stand Maturity Class:	Regeneration		Immature		Mature		Over-mature	X			
Stand Stocking:	Understocked		Fully Stocked	X	Overstocked		Patchy				
Density:	SW 10000	HW 600									
Advanced Regeneration:	Understocked	X	Fully Stocked		Overstocked		Patchy				
Regeneration:	1. Spp. BS	Height 0.3 - 0.5m	2. Spp.	Height							
	3. Spp.	Height	4. Spp.	Height							
GROUND OBSERVATIONS											
Ground Vegetation Species Present:	Sheep laurel, bunch berry, scrubby woody stem shrubs.										
Ground Hemlock	Y / N	N									
Invasive Species Present	Y / N	N		If yes then what species:							
Site Indicators	Y / N	N		If yes then what species:							
ENVIRONMENTAL OBSERVATIONS											
Water Course	N	Bog	N	Pond	N	Stream	N	Seeps	N	Beaver Present	N Y / N
Drainage:	Poor X	Moderate		Good		Excellent		Erosion Control Required	N	Y / N	
Snag Trees:	Adequate	X	Inadequate								
Coarse Woody Material:	Adequate	X	Inadequate								
Dens	N	Nests (Raptors, songbirds, etc.)	N								
Wildlife Observed	None										
Comments											
STAND PRESCRIPTION											
No Treatment		X	Regeneration Cut		Crop Tree Release		Block Cut				
Shelterwood Cut			Selection Cut		Patch Cut		Strip Cut				
Commercial Thinning			Afforestation		Site Preparation						
Pre-commercial Thinning			Reforestation		Riparian Zone Mgmt						
Pln. Maint.	Y / N	Stems/Ha									
Comments:	Not economical to treat. Small stand and long haul. Road is not usable at front of property. Not bad towards back but could not bring haul truck in as a beaver dam has damaged the road (Hymac Road)										

Appendix F. Plantation Map with Contour Lines



### Appendix G. Work Completed

Activity Number	Treatment Code	Amount Completed	Treatment Date	Treatment Description
0	14	1.3	3/31/1994	Boundary Line Establishment
0	14	1.02	1/12/1995	Boundary Line Establishment
3010151	29	0.92	7/25/2001	Raking Crawler Tractor-Root Rake:per Ha
3010161	29	0.83	7/25/2001	Raking Crawler Tractor-Root Rake:per Ha
3010171	29	7.13	7/25/2001	Raking Crawler Tractor-Root Rake:per Ha
3010151	33	1.8	7/3/2001	Drainage: per Plantation Ha
3010151	51W	5518	8/14/2001	BLACK SPRUCE - WESTERN
3010161	51W	5518	8/20/2001	BLACK SPRUCE - WESTERN
3030021	51W	18414	10/15/2003	BLACK SPRUCE - WESTERN
3010171	59W	16900	8/14/2001	EASTERN LARCH - WESTERN
3010171	92	7.13	1/19/2001	Clearcut Block
3010161	92	1.89	1/19/2001	Clearcut Block
3010151	92	1.97	1/19/2001	Clearcut Block
	83E	2.7	2/15/2018	Class 5 Manual Pn Cleaning:20001-25000/Ha >6 m
3030021	83E	2.7	10/9/2018	Class 5 Manual Pn Cleaning:20001-25000/Ha >6 m