

Date: February 22, 2023

**P.E.I.**

**Public Forests**



**Woodlot Management Plan**

**Property Number: 15396**

**Location: Kildare Capes**

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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 #15396 is located on the Fitzpatrick Road in the community of Kildare Capes, P.E.I., (Appendix A). The total area of this property is 17.6 hectares (44 acres) and the midpoint of the property is Latitude N 46.907614 decimal degrees, Longitude W -64.011531 decimal degrees.

### **Past Information**

Local records and previous aerial photography show that a large portion of the property was used for agricultural purposes early in the 20<sup>th</sup> century. To better illustrate this 1935 and 1968 photography can be seen in Appendix B and C respectively. Since, the property was a local dump site which has been abandoned. It is used intermittently with specific authorization.

### **Property Information**

The information in Appendix D has been taken from the 2010 Corporate Land Use Inventory. An explanation of forestry code meanings can be seen in Appendix E. 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 F) 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 G).

## **Wetland and Watercourses**

There are two unnamed tributaries that run through the property: one in the northwest and one in the south east. They flow into a larger tributary that empties into Round Pond. This observation can be viewed in Appendix A. The watercourses require a 15m riparian buffer.

## **Property Access**

The property is accessed from the Fitzpatrick Road. It is to be noted that the Fitzpatrick Road is not plowed in the winter; therefore, harvest operations are to occur when roads are open. A woods road within the property is not required.

## **Property Boundaries**

This property is bounded on the south by the Fitzpatrick Road and the west, north and east by private land.

## **Fire Protection**

This property is located within the jurisdiction of the Tignish 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 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 streams that flows through the north west and south east sections of the property would be a suitable site to setup a portable fire pump system depending on seasonal waterflows.

## **Planting and Silviculture**

There are two 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”)

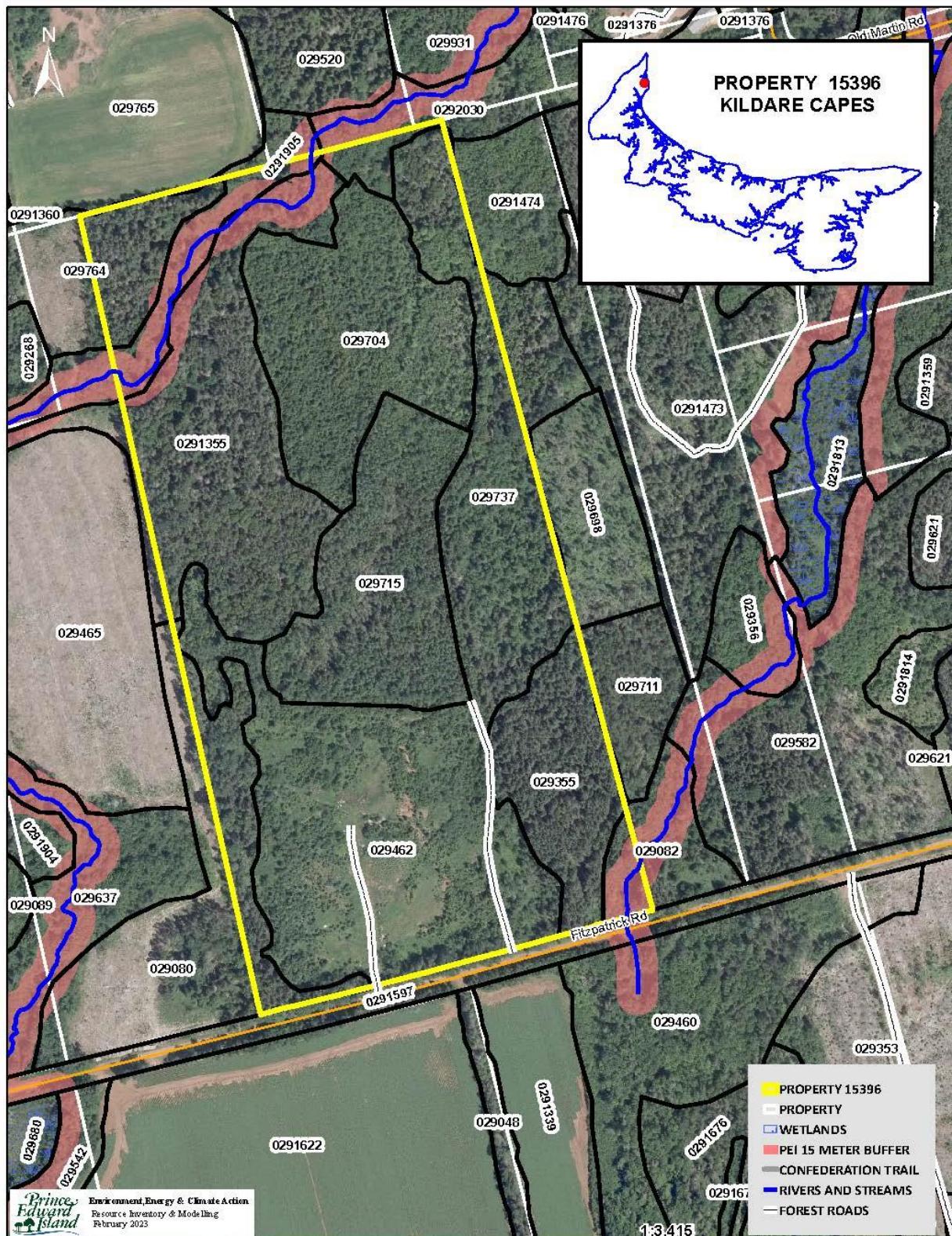
[www.princeedwardisland.ca/sites/default/files/publications/2018\\_eco\\_manual\\_technical\\_version\\_-final.pdf](http://www.princeedwardisland.ca/sites/default/files/publications/2018_eco_manual_technical_version_-final.pdf) . Any additional information may be obtained by contacting a Provincial Forest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

**Table 1. Proposed Treatment Summary**

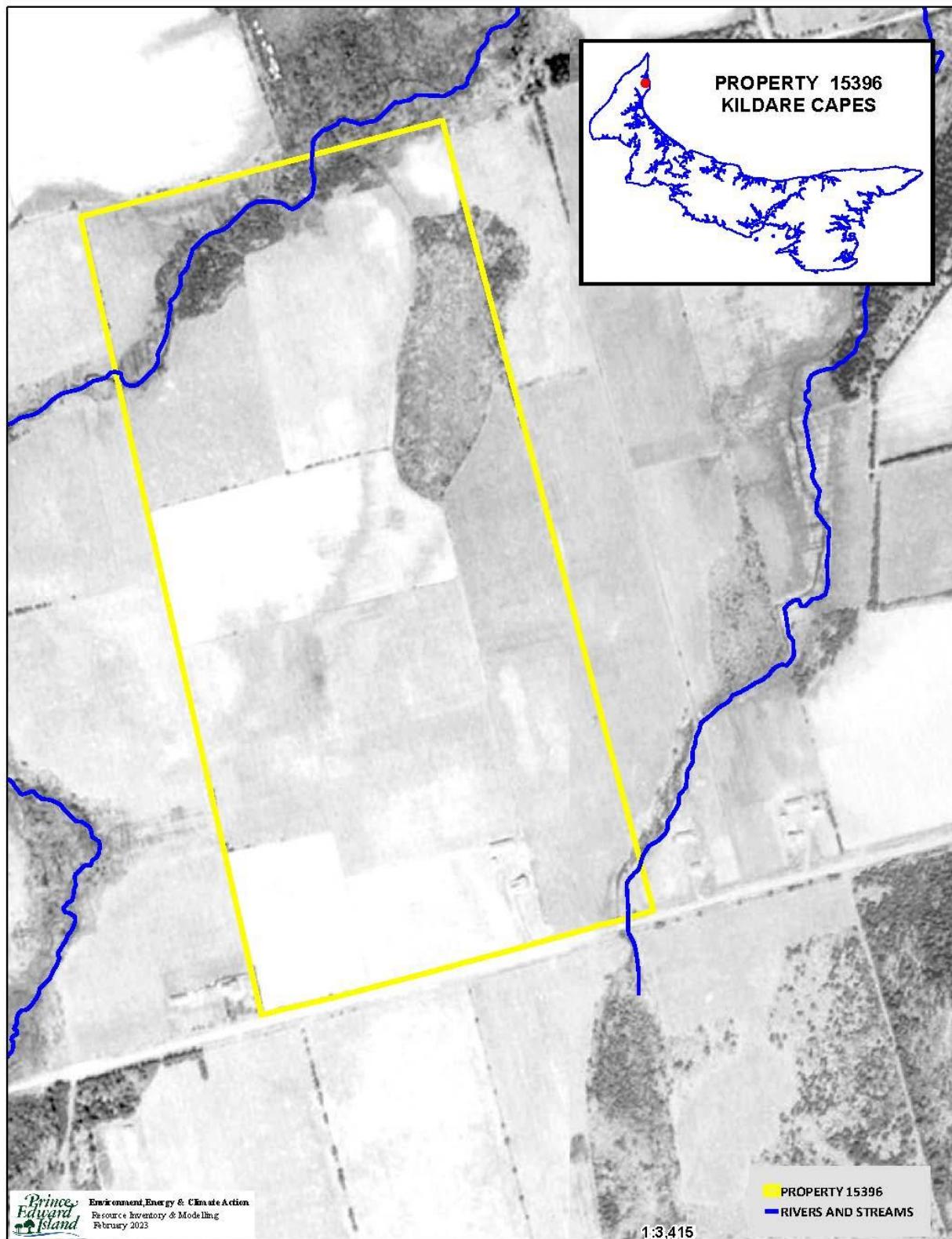
Stand Number and Plantation Number	Treatment Type	Treatment Year	Amount Proposed	2018 Eco-Manual Reference	Comments	Goals
PN 3210010 (ST 291355, 29080) PN 3210011 (ST 29355)	Plantation Maintenance	2023+	4.1	Pg. 17	<p>The site's vegetation exploded in 2021 with mostly PO, GB, PC which is providing competition for the planted trees. Herbaceous vegetation is severe along the main road and along the west boundary. It appears planted trees may not have survived in this area.</p> <p>The trees were browsed by rabbits in winter 2021. The trees survived and are doing well. Two manual maintenances are expected.</p>	Control competing vegetation

## **Appendices**

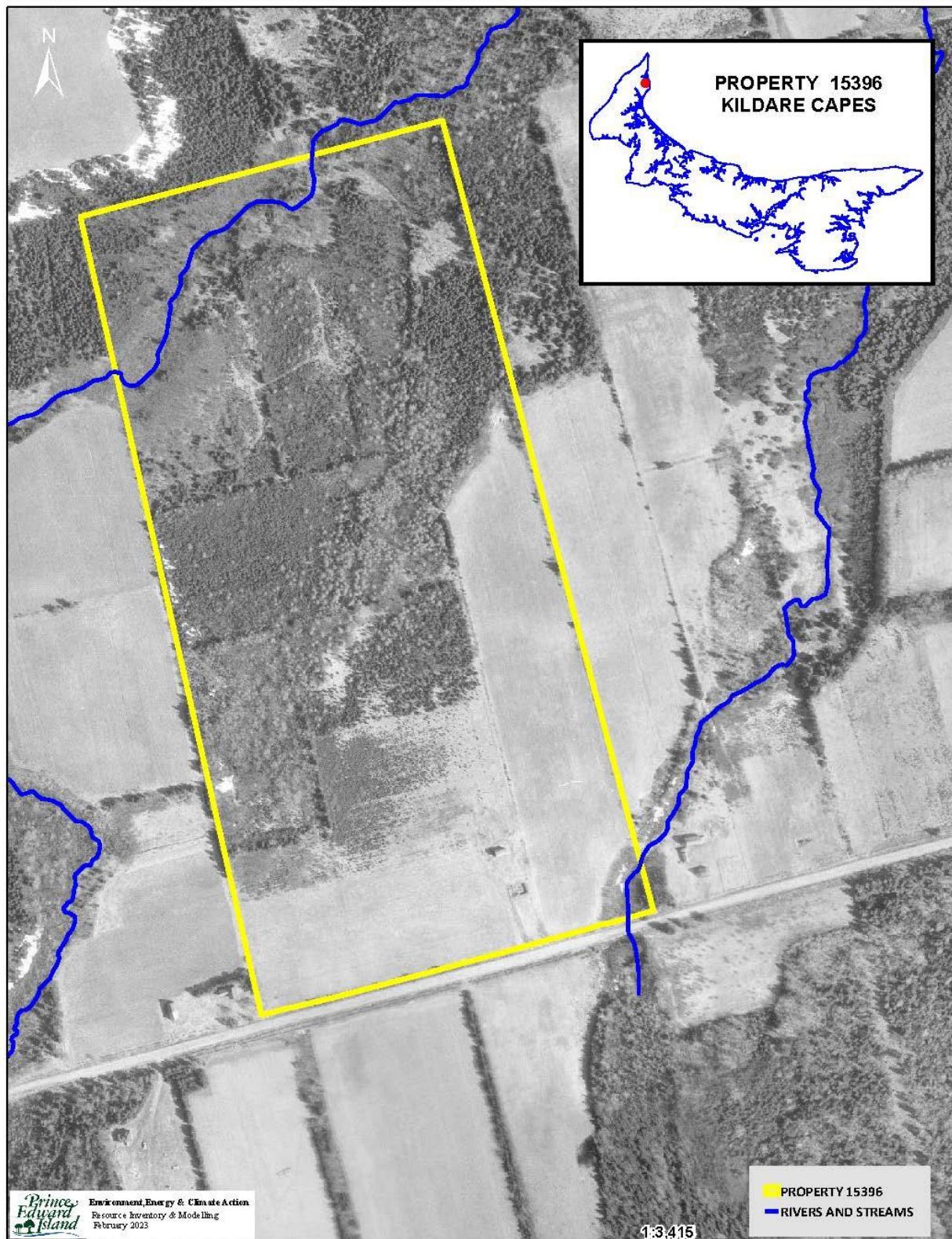
## Appendix A. Map of Property with Locator Map



## Appendix B. 1935 Aerial Photography



## Appendix C. 1968 Aerial Photography



**Appendix D. 2010 Corporate Land Use Inventory**

FIELDID	COV1	PER1	COV2	PER2	COV3	PER3	COV4	PER4	COV5	PER5	HT(m)	HECTARES
029737	DT	3	LA	2	WS	2	PO	2	BF	1	15	2.30
029355	WS	8	LA	2		0		0		0	15	1.35
0292030	WS	3	PO	3	LA	2	RM	2		0	14	0.19
0291355	WS	8	PO	1	BF	1		0		0	18	3.05
029704	NS	8	AL	2		0		0		0	4	2.57
029764	WS	8	DT	1	LA	1		0		0	17	0.61
029715	LA	8	WP	1	PO	1		0		0	10	2.23
029080	WS	6	LA	2	PO	2		0		0	14	0.79
0291905	AL	9	WS	1		0		0		0	4	0.51
029082	AL	9	WS	1		0		0		0	4	0.20

## Appendix E. 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		

<b>PERCENT</b>		<b>CROWN CLOSURE</b>		<b>ORIGIN AND HISTORY</b>		
<b>0</b>	1 - 9%	<b>A</b>	91 % - 100%	<b>BR</b>	Burn	<b>DI</b> Disease-Insect
<b>1</b>	10 - 19%	<b>B</b>	81 % - 90 %	<b>WF</b>	Wind Fall	<b>OF</b> Old Field
<b>2</b>	20 - 29 %	<b>C</b>	71 % - 80 %	<b>PC</b>	Partial Cut	<b>PN</b> Plantation
<b>3</b>	30 - 39 %	<b>D</b>	61 % - 70 %	<b>CC</b>	Clear Cut	<b>HR</b> Hedgerow
<b>4</b>	40 - 49 %	<b>E</b>	51 % - 60 %	<b>TH</b>	Thinning	<b>EP</b> Excavation Pit
<b>5</b>	50 - 59 %	<b>F</b>	41 % - 50 %			
<b>6</b>	60 - 69 %	<b>G</b>	31 % - 40 %			
<b>7</b>	70 - 79 %	<b>H</b>	21 % - 30 %			
<b>8</b>	80 - 89 %	<b>I</b>	11 % - 20 %			
<b>9</b>	90 - 100 %	<b>J</b>	0 % - 10 %			

### **SAMPLE DESCRIPTIONS**

#### FOREST STAND DESCRIPTIONS

75401 – Stand No.

SM5RM4 – Sugar Maple 50%, Red Maple 40%

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.

### **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 F. Stand Tally Sheets from on the Ground Assessment

STAND TALLY SHEET												
CRUISER	S. Rankin		STAND #	291355, 29080, 29355		PLANTATION #	PN 3210010, 3210011					
PROPERTY #	15396		AREA	4.1	ha	Date	12	8	/ 2022			
						D	M		Y			
SAMPLE TREE INFORMATION												
TREE #	SPP.	AGE	D.B.H.	HEIGHT		TREE #	SPP.	AGE	D.B.H.	HEIGHT		
1	WS	2	1	15 cm		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 (%)	WS3	%	PO3	%	GB3	%	PCRMWB1					
Even-aged	X	Uneven-aged					Biomass					
Slope level	%	Aspect										
Stand Origin:	Old Field	X	Partial Cut		Burn		Unploughed					
	Windfall		Non Forest				Ploughed					
	Clear Cut		Unknown									
Stand Maturity Class:	Regeneration	X	Immature		Mature		Over-mature					
Stand Stocking:	Understocked		Fully Stocked		Overstocked	X	Patchy					
Density:	SW	1800	HW	15,000								
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, red osier dogwood, ferns, herbaceous. Mostly POGB.											
Ground Hemlock	Y	/	N	X								
Invasive Species Present		Y	/	N	If yes then what species:							
Site Indicators		Y	/	N	If yes then what species:							
ENVIRONMENTAL OBSERVATIONS												
Water Course	Y	Bog	N	Pond	N	Stream	Y	Seeps	N	Beaver Present	N	Y / N
Drainage:	Poor	X	Moderate	X	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	A 15 m+ riparian was retained along the watercourses during harvest.											
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.	X	Y / N		Stems/Ha								
Comments:	This is a WS plantation. There was rabbit browse on seedlings in 2021 which stunted their growth.											
	The site exploded with PO, GB, PC and other woody stems along with herbaceous vegetation in 2021.											
	Herbaceous vegetation is severe on the narrow strip along the Fitzpatrick Rd and west boundary.											
	Planted trees died here. The remainder of the PN was OK. The PN needs a maintenance right away.											

### STAND TALLY SHEET

CRUISER	S. Rankin	STAND #	29462	PLANTATION #			
PROPERTY #	15396	AREA	4.3	ha	Date	12, 8 / 2022	
					D	M	Y

#### SAMPLE TREE INFORMATION

TREE #	SPP.	AGE	D.B.H.	HEIGHT	TREE #	SPP.	AGE	D.B.H.	HEIGHT
1	abandoned dump				4				
2					5				
3					6				

#### STAND INFORMATION

Stand Basal Area	SW	M <sup>2</sup> /Ha	WSL	M <sup>2</sup> /Ha	HW	M <sup>2</sup> /Ha	HWSL	M <sup>2</sup> /Ha
Species and (%)	WS8	%	BF1	%	GBRM1	%		
Even-aged	X	Uneven-aged					Biomass	
Slope	%	Aspect						
Stand Origin:	Old Field	X	Partial Cut		Burn		Unploughed	
	Windfall		Non Forest				Ploughed	
	Clear Cut		Unknown					
Stand Maturity Class:	Regeneration	X	Immature		Mature		Over-mature	
Stand Stocking:	Understocked	X	Fully Stocked		Overstocked		Patchy	X
Density:	SW	400	HW					
Advanced Regeneration:	Understocked		Fully Stocked		Overstocked		Patchy	X
Regeneration:	1. Spp. WS		Height 0.5-3.5m		2. Spp.		Height	
	3. Spp.		Height		4. Spp.		Height	

#### GROUND OBSERVATIONS

Ground Vegetation Species Present:	grasses	
Ground Hemlock	Y / N X	
Invasive Species Present	Y / N	If yes then what species:
Site Indicators	Y / N	If yes then what species:

#### ENVIRONMENTAL OBSERVATIONS

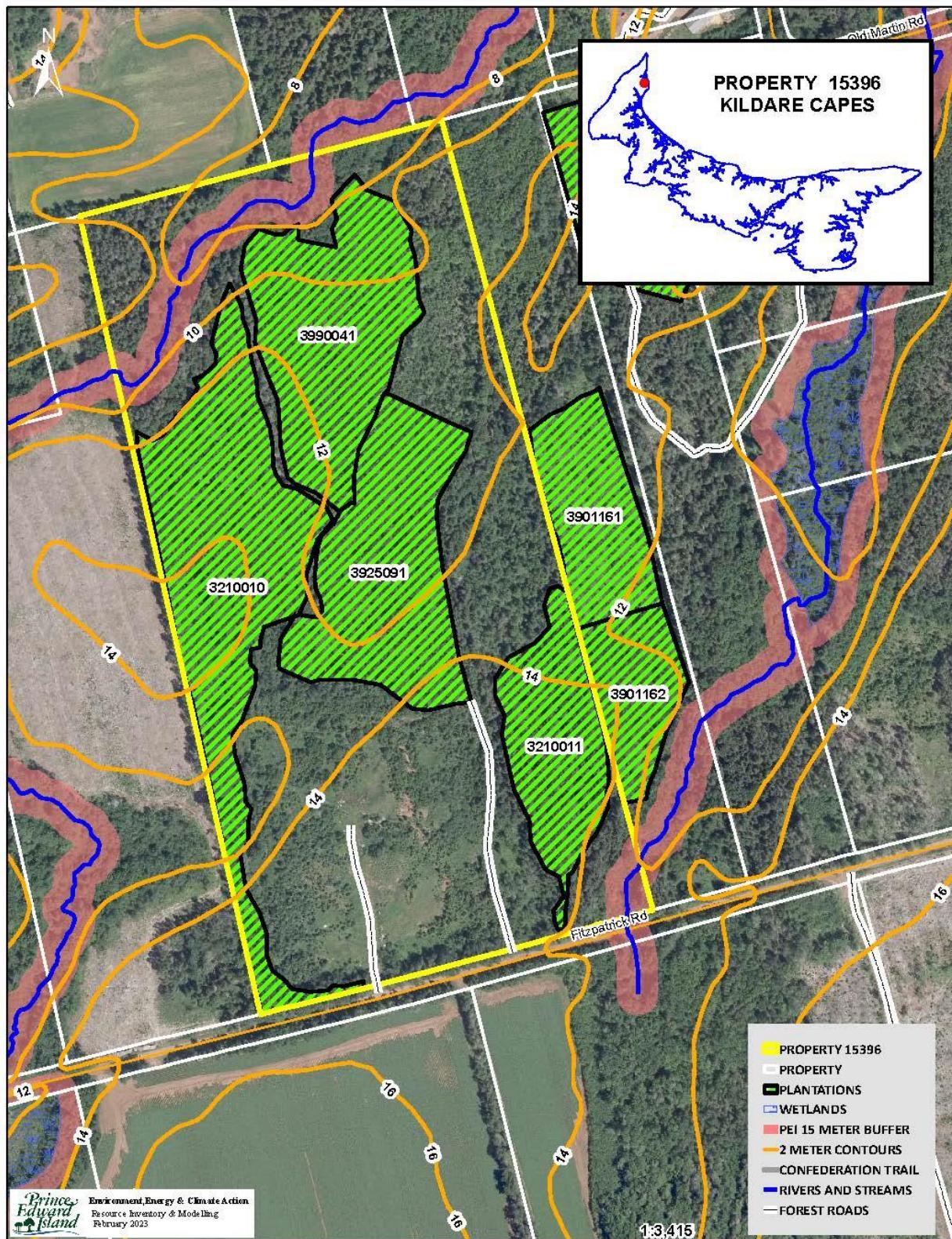
Water Course	N	Bog	N	Pond	N	Stream	N	Seeps	N	Beaver Present	N	Y / N
Drainage:	Poor		Moderate		Good	X	Excellent			Erosion Control Required	N	Y / N
Snag Trees:	Adequate		Inadequate	X								
Coarse Woody Material:	Adequate		Inadequate	X								
Dens	N	Nests (Raptors, songbirds, etc.)	N									
Wildlife Observed	none											
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:	This is an old dump site that has been filled in and abandoned. There is intermittent use with special authorization. Natural ingress of WS is occurring with a minor component of BF, GB and RM. No work is recommended for this site at this time. There are piezometers on-site for monitoring purposes.											

STAND TALLY SHEET												
CRUISER	S. Rankin		STAND #	29704		PLANTATION #						
PROPERTY #	15396		AREA	0.5	ha	Date	12, 8 / 2022	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 (%)	AL3 %	RM2 %	LA2 %	GB1 %	PO2							
Even-aged	Uneven-aged	X					Biomass					
Slope depres %	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								
Stand Stocking:	Understocked X	Fully Stocked	Overstocked	Patchy	X							
Density:	SW	HW										
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:	sphagnum											
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	N	Pond	N	Stream	N	Seeps	N	Beaver Present	N	Y / N
Drainage:	VPoor 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	standing water											
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:	This site borders the east edge of PN 3990041. It is a very wet site. There is no wood of any type to harvest now or ever. Leave this stand as it will serve as a WTP.											

## Appendix G. Plantation Map with Contour Lines



## Appendix H. Work Completed

Activity Number	Treatment Code	Amount Completed	Treatment Date	Treatment Description
	170	0.6	2/13/2021	Salvage
3925091	23B	1.77	9/5/1991	Rhyme Disc Double Pass - Per Ha
3990041	29	2.14	12/11/1998	Raking Crawler Tractor-Root Rake:per Ha
3210010	30B	4963	6/10/2021	Manual Site Preparation per Site (Hawk)
3210011	30B	1906	6/10/2021	Manual Site Preparation per Site (Hawk)
3990041	38A	2.14	3/29/1999	Slash Pile Burn Less Than 4 Ha.
3210010	55W	4914	6/10/2021	WHITE SPRUCE - WESTERN
3210011	55W	1890	6/10/2021	WHITE SPRUCE - WESTERN
3925095	56W	1168	6/15/1992	WHITE PINE - WESTERN
3210010	56W	49	6/10/2021	WHITE PINE - WESTERN
3210011	56W	16	6/10/2021	WHITE PINE - WESTERN
3925071	59W	3645	6/15/1992	EASTERN LARCH - WESTERN
3990041	67W	6036	8/13/1999	NORWAY SPRUCE - WESTERN
3990041	82B	2.03	10/17/2001	Herbicide:Broadcast : 1st Treatment
3200520	92	3.7	2/15/2021	Clearcut Block