

# Report

Date March 2, 2016

File: 8930-20 ANN

To Council

From Darrell Frank, Municipal Forester

Endorsed:

Subject 2015 Annual Report

## 2015 Annual Report

Listed below are the 2015 Forestry Program highlights.

### Harvesting

The 2015 budget was 23,000m<sup>3</sup>, generating \$1,817,000, with logging expenses of \$667,000. The actual accomplishment was 22,271m<sup>3</sup>, generating \$1,562,018, with logging costs of \$558,485. The average cut block size was 7.6 ha.

#### Accomplishments:

Logging Sales	\$1,562,018	22,271m <sup>3</sup>	\$70.14/m <sup>3</sup>
Direct Logging Costs	\$558,485	20,226m <sup>3</sup>	\$27.61/m <sup>3</sup>

#### Firewood Permits

Revenue: \$3,000.

Budget: \$1,000.

The public purchased 95 cords of firewood, and Cowichan Valley Alternate School purchased 15 cords of wood.

#### Lesser Vegetation Permits

Revenue: \$360.

Budget: \$500.

The public purchased 6 permits for salal and 2 permits for boughs.

### Planting

Costs: \$57,238

Budget: \$70,000

#### Accomplishments:

43.4 ha were planted with 54,398 seedlings. All planting was initial planting with no fill plantings. Seedling costs were \$1.05/seedling.

#### Accomplishments:

Douglas-fir	49,118	seedlings	90%
Western White Pine	3,120	seedlings	6%
Western Red Cedar	2,160	seedlings	4%
	<u>54,398</u>	<u>seedlings</u>	<u>100%</u>

Fertilizer application was done at planting to 42,380 seedlings.

## Historical Accomplishments

The Municipality has planted 2,037,734 seedlings since the start of its intensive silviculture program in 1982, and harvested 1,680 ha.

## Surveys

Survival surveys were established in the 2015 plantations to monitor seedling survival rates by our summer student. The 2015 plantations had a survival rate of 99%. The 2014 plantations were revisited and they had a survival rate of 94% after two growing seasons.

Root rot surveys were conducted for 32 ha (four blocks) at a cost of \$1,588, or \$50/ha.

## Tree Protection

Costs: \$22,802

Budget: \$28,000

### Accomplishments:

Deer repellent, Plantskydd, was applied to the Douglas-fir and western red cedar 2015 planting stock prior to planting at a cost of \$0.03/tree. Tree cages were installed on 2,160 western red cedar. Installation costs were \$1.50/tree, plus the cost of the new stakes and cages. Bobex deer repellent was applied in the field to nine blocks over 48.2ha at a cost of \$9,600, or \$199.17/ha. Blocks treated included M-152, M-500, M-650, M-452, M-21, SH-203, SH-206, T-101, and T-102. Cages were removed from two blocks, T-101 and T-102, and the cages were recycled for use again. Cage maintenance was carried out on five blocks on 25.7 ha at a cost of \$149/ha, or total cost of \$3,840.

## Road Construction and Maintenance

Costs: \$166,968

Budget: \$310,000

Road construction, maintenance, and deactivation were:

### Activity

Major road construction, improvements, and temporary roads	2.6	km
Road maintenance post-harvesting cleanup	1.3	km
New culverts installed by North Cowichan	6	
Quarries: rock developed	4,600	m <sup>3</sup>
Debuilt roads	0	m
Recovered rock from debuilt road	0	m <sup>3</sup>
Road grading	22.2	km
Snowplowing	0	km
Roadside brush cutting for roadside visibility improvements	18.1	km
Gate installation	0	
Dust lay Mt. Prevost Rd and Grace Rd	1.6	km

The Forestry Department maintains an estimated 170km of roads in the Municipal Forest Reserve.



Accomplishments:	Ha	Budget	Costs	Cost/ha
Plantation brushing – mechanical	113.1	\$25,000	\$25,883	\$229/ha
Plantation brushing – hand pulling	78.3	\$10,000	\$14,308	\$183/ha
Invasive species – Tansy Ragwort - Herbicides - gross area	16.2	\$25,000	\$6,590	\$407/ha
Deer repellent application on seedlings in the field	48.2	\$4,000	\$9,600	\$199/ha
White pine pruning	66.5	\$20,000	\$37,519	\$564/ha
Tree caging installations (2,160)		\$14,000	\$3,240	\$1.50/tree
Tree caging maintenance and cone recovery	25.7	\$10,000	\$8,380	

### Plantation Brushing

\*Manual Treatment: is carried out as required on a spot basis. The treatments are done where the plantations have been established with evenly distributed potential crop trees. Cutting is done where the competing vegetation will impact the growth of crop trees.

\*\*Herbicide Treatment: is carried out where we have had problems getting a conifer plantation established. Competing vegetation, such as broom, has grown aggressively and spread through the cut block. The herbicide treatments will allow fill planting to get these areas back to restocked and healthy young stands of conifers.

With the addition of this year's activities, the municipality has completed the following activities since 1982:

Juvenile Spacing	2,206	ha
Pruning	1,102	ha
White Pine Pruning	1,093	ha
Plantation Brushing	3,386	ha
Harvesting	1,683	ha

### Community Relations:

The Forestry Department took part in four Mount Prevost garbage cleanup days with Cowichan Secondary School's Outdoor class. Over the course of four field trips, 110 students and staff collected 1,100 Kg of garbage and recyclables. Other highlights include the use of the Municipal Forest Reserve for the Cowichan Challenge Triathlon, Gutbuster trail running race, the Prevost Downhill Mountain Bike Race, the six hours of Maple Mountain Bike Race, Maple Mountain Enduro Mountain Bike Race, and five bike demo days.

Donations/Scholarship/Bursaries funded by the Forestry Department:

Three logging truckloads of firewood	\$2,100
One Bursary @ \$600, two Scholarships @ \$1,200 each	\$3,000
Prizes for the Value-added Woodworking contest through our local high schools	\$980
Cowichan Secondary School garbage cleanup – Mt. Prevost	\$500
International Forestry Students Symposium	\$500

Please find attached, the following:

Appendix A	2015 Harvesting Summary
Appendix B	1987 to 2015 Harvesting
Appendix C	2015 Direct Employment created from the Municipal Forest Reserve
Appendix D	2015 Tours
Appendix E	2015 Revenue and Expenditures

**Recommendation**

That the 2015 Annual Report be received for information

Attachment(s): 5

**Appendix A**

**2015 Harvesting Summary**

Block	Ha (Gross)	Treatment	Vol m <sup>3</sup> /ha	Total Vol m <sup>3</sup>	Net Profit \$/m <sup>3</sup>	Net Revenue	Net Revenue Per/Ha	Costs Stump to Dump \$/m <sup>3</sup>	Total Logging Costs	Gross Revenue	Gross Revenue Per m <sup>3</sup>	Gross Revenue Per Ha
P-130	9.7	Patch Cut GTR/Hoe Forwarding	435	4,216	\$48.13	\$194,480	\$20,049	\$28.15	\$118,670	\$313,150	\$74	\$32,283
P-137	N/A	Patch Cut GTR/Hoe Forwarding	N/A	456	\$28.93	\$13,178	N/A	\$29.00	\$13,211	\$26,389	\$58	N/A
P-36A	5.9	Patch Cut GTR/Hoe Forwarding	427	2,516	\$51.43	\$129,411	\$21,934	\$27.56	\$89,351	\$198,762	\$79	\$33,688
P-547	6.9	Patch Cut GTR/Hoe Forwarding	661	4,560	\$50.97	\$232,399	\$33,881	\$28.17	\$128,434	\$360,834	\$79	\$52,295
T-110	7.4	Patch Cut GTR/Hoe Forwarding	483	3,571	\$44.43	\$158,643	\$21,438	\$25.52	\$91,129	\$249,772	\$70	\$33,753
R-355	9.1	Patch Cut GTR/Hoe Forwarding	493	4,489	\$45.33	\$203,479	\$22,360	\$27.87	\$125,135	\$328,614	\$73	\$36,111
Stoney Hill RoW	6.5	Right of way clearing	292	1,901	\$20.47	\$38,913	\$5,987	\$0.00	\$0	\$38,913	\$20	\$5,987
M-630-RoW	0.4	Right of way clearing	657	283	#REF!	\$14,771	\$36,926	\$23.25	\$6,107	\$20,878	\$79	\$52,194
P-549RoW	0.3	Right of way clearing	735	221	\$55.45	\$12,233	N/A	\$28.00	\$6,177	\$18,410	\$83	\$61,368
Misc	0.5	Partial cutting	158	79	\$76.39	\$6,027	N/A	\$3.42	\$270	\$6,297	\$80	\$12,594
<b>Total</b>	<b>46.7</b>		<b>477</b>	<b>22,271</b>	<b>\$45.06</b>	<b>\$1,003,533</b>	<b>\$21,489</b>	<b>\$25.08</b>	<b>\$558,485</b>	<b>\$1,562,018</b>	<b>\$70</b>	<b>\$33,448</b>

GTR Green Tree Retention

Logging Costs per m<sup>3</sup> \$25.08

**Silviculture Systems Summary**

	Ha
Patch Cut GTR	46.70
Commercial Thinning	0.00
Individual Tree Harvesting	0.00
Seed Tree	0.00
<b>Total</b>	<b>46.70</b>

Average Cut Block Size (Ha)

7.6

**Conifer and Hardwood Component**

	Volume	Volume By Percent	Net Revenue	Revenue \$/M <sup>3</sup>	Revenue By %
Hardwoods	728	3.3%	\$24,565	\$33.75	2.45%
Conifer	21,543	96.7%	\$978,968	\$45.44	97.55%
<b>Total</b>	<b>22,271</b>	<b>100.0%</b>	<b>\$1,003,533</b>	<b>\$45.06</b>	<b>100.00%</b>

Appendix B

1987 To 2015 Harvesting Summary

Year	Ha	Volume m <sup>3</sup>	Volume/Ha	Net Revenue	Net Revenue \$/m <sup>3</sup>
1987	63.4	13,159	208	\$204,772	\$15.56
1988	73.9	18,602	252	\$354,256	\$19.04
1989	43.2	14,798	343	\$272,913	\$18.44
1990	36.1	10,969	304	\$254,831	\$23.23
1991	32.2	12,740	396	\$271,217	\$21.29
1992	63.3	12,935	204	\$289,102	\$22.35
1993	55.2	14,907	270	\$542,821	\$36.42
1994	58.6	16,160	276	\$692,414	\$42.85
1995	78	21,556	276	\$1,205,329	\$55.92
1996	48.7	14,427	296	\$639,017	\$44.29
1997	32.3	13,371	414	\$625,437	\$46.78
1998	30.2	12,085	400	\$444,933	\$36.82
1999	41	16,428	401	\$564,867	\$34.38
2000	35.9	13,378	373	\$564,778	\$42.22
2001	39.34	15,538	395	\$660,924	\$42.54
2002	39.9	13,880	348	\$580,631	\$41.83
2003	49.2	15,841	322	\$661,089	\$41.73
2004	64.47	19,126	297	\$773,940	\$40.47
2005	54.6	16,018	293	\$672,876	\$42.01
2006	53.4	17,518	328	\$792,562	\$45.24
2007	65.6	21,153	322	\$804,375	\$38.03
2008	39.5	13,703	347	\$619,866	\$45.24
2009	46.5	14,296	307	\$439,936	\$30.77
2010	42.1	16,418	390	\$451,287	\$27.49
2011	45.5	17,775	391	\$664,170	\$37.37
2012	42.7	17,142	401	\$618,045	\$36.05
2013	60.4	24,355	403	\$1,110,159	\$45.58
2014	51.7	20,226	391	\$1,063,196	\$52.57
2015	46.7	22,271	477	\$1,003,533	\$45.06
<b>Total</b>	<b>1433.61</b>	<b>470,775</b>	<b>328</b>	<b>\$17,843,277</b>	<b>\$37.90</b>
<b>Average</b>	<b>49.4</b>	<b>16,234</b>	<b>328</b>	<b>\$615,285</b>	<b>\$37.90</b>

Summary 1987 to 2015      328 MF/ha      \$12,446 /Ha  
 Net Revenue from the MFR 1987 to 2015      \$3,301,707      \$7.01 /M<sup>3</sup>

**2015 Averages**  
**477 M<sup>3</sup> / Ha**  
**\$21,494/ Ha Net Revenue**

Forestry Program Profit

Annual Profit	Profit \$/m <sup>3</sup>	Annual Forestry Profit Split As Follows:					
		General Revenues	Reserve Fund	Forest Legacy Fund	Scholarship Fund	Land Purchases	Acres
-\$24,825	-\$1.89	\$0	-\$24,825	\$0	\$0	\$0	\$0
\$115,885	\$6.23	\$0	\$115,885	\$0	\$0	\$0	\$0
\$38,486	\$2.60	\$0	\$38,486	\$0	\$0	\$0	\$0
\$48,571	\$4.43	\$0	\$48,571	\$0	\$0	\$0	\$0
-\$12,370	-\$0.97	\$0	-\$12,370	\$0	\$0	\$0	\$0
\$67,231	\$5.20	\$45,000	\$22,231	\$0	\$0	\$0	\$0
\$272,276	\$18.27	\$240,000	\$32,276	\$0	\$0	\$0	\$0
\$275,880	\$17.07	\$250,000	\$25,880	\$0	\$0	\$0	\$0
\$755,771	\$37.24	\$489,230	\$33,313	\$92,308	\$0	\$140,920	35 acres
\$131,057	\$9.08	\$65,000	\$51,057	\$15,000	\$0	\$0	\$0
\$24,815	\$1.86	\$24,815	\$0	\$0	\$0	\$0	\$0
\$47,420	\$3.92	\$0	\$37,935	\$9,485	\$0	\$0	\$0
\$97,579	\$6.04	\$29,274	\$48,789	\$19,516	\$0	\$0	26 acres*
\$33,745	\$2.52	\$9,865	\$17,057	\$6,823	\$0	\$0	\$0
\$111,851	\$7.20	\$100,666	\$11,185	\$0	\$0	\$0	\$0
\$95,375	\$6.87	\$28,612	\$47,688	\$19,075	\$0	\$0	\$0
\$94,484	\$5.96	\$52,162	\$22,273	\$18,609	\$1,440	\$0	\$0
\$121,932	\$6.38	\$29,183	\$68,880	\$19,455	\$4,414	\$0	\$0
\$29,901	\$1.87	\$14,951	\$0	\$14,950	\$0	\$0	\$0
\$30,343	\$1.73	\$15,171	\$0	\$15,172	\$0	\$0	\$0
\$65,344	\$3.09	\$0	\$65,344	\$0	\$0	\$0	\$0
-\$20,393	-\$1.29	\$0	-\$20,393	\$0	\$0	\$0	\$0
-\$119,382	-\$6.24	\$0	-\$119,382	\$0	\$0	\$0	\$0
-\$137,409	-\$8.37	\$0	-\$137,409	\$0	\$0	\$0	\$0
-\$55,879	-\$3.14	\$0	-\$55,879	\$0	\$0	\$0	\$0
\$9,602	\$0.56	\$0	\$9,602	\$0	\$0	\$0	\$0
\$435,606	\$17.89	\$130,682	\$217,803	\$87,121	\$601	\$0	\$0
\$409,430	\$20.24	\$122,829	\$204,715	\$81,886	\$715	\$0	\$0
\$359,381	\$16.14	\$239,381	\$0	\$120,000	\$803	\$0	\$0
<b>\$3,301,707</b>	<b>\$7.01</b>	<b>\$1,886,821</b>	<b>\$748,712</b>	<b>\$519,400</b>	<b>\$7,973</b>	<b>\$140,920</b>	<b>61 Ac</b>
<b>\$113,852</b>	<b>\$7.01</b>	<b>\$65,063</b>	<b>\$25,818</b>	<b>\$17,910</b>	<b>\$275</b>	<b>\$4,859</b>	

- \* Note: the 2011 transfer from Forest Reserve Fund includes a \$10,000 to Public Works for the new Fire Truck, \$9,000 for the truck replacement fund
- \* Note: The contribution for 2001 to Forest Reserve Fund went into the Fire Fighting Contingency Fund
- \* Note: The Land Purchase of 26 acres done in 1999 was paid for by a transfer out of the Forestry Dept Reserve Acc't
- \* Note: Profit from 1995 includes \$47,000 carried forward to 96 for 5 yr plan unspent in 1995 to 96
- \* Note: Interest income from 2005 and on is not shown in revenues to comply with the finance dept accounting practices. Interest income for 2005 and on was retained in the Forest Reserve and Scholarship funds respectively.

**Proposed profit distribution for 2015**  
 \$120,000 to Forest Legacy Fund  
 \$239,381 to General Revenues  
 \$359,381 Total Profit

### Appendix C 2015 Direct Employment Created from the Municipal Forestry Program

Activity	Description	Accomplishments	Accomplishments / yr / person	Person years	Person days
Harvesting	Hoe-forwarding/ Log Salvage Swing Yarder/High Lead Trucking	22,271 m <sup>3</sup>	4,200	5.30	928.0
		0 m <sup>3</sup>	3,000	0.00	0.0
		556 Loads	880	0.63	139.0
		<b>Total</b>		<b>5.93</b>	<b>1067.0</b>
Tree Planting	Planting Supervision and marking Root Rot areas	54,398 Trees	140,000	0.39	68.0
		<b>Total</b>		<b>0.40</b>	<b>71.2</b>
Road Construction, Road Maintenance, and Road Debuilding	Rubber-tired Backhoe, Gravel Truck, Excavator, Cat, & Lowbed Grading, Snow Plowing, and Dust Lay Blasting Labour			0.59	130.0
				0.11	23.4
				0.06	13.8
		<b>Total</b>		<b>0.76</b>	<b>167.2</b>
Site Preparation	Excavator & Rubber Tired Backhoe Piling Slash Labour - burning			0.01	2.3
		<b>Total</b>		<b>0.01</b>	<b>3.2</b>
Silviculture	Plantation Brushing - Mechanical Invasive Species - Herbicide Invasive Species - Manual Apply Deer Repellant on Seedlings Tree Caging and Maintenance White Pine Pruning	113.1 Ha		0.28	57.7
		16.2 Ha		0.05	10.6
		78.3 Ha		0.22	48.6
		48.2 Ha		0.14	30.0
		25.7 Ha		0.17	37.6
		66.5 Ha		0.55	121.7
<b>Total</b>		<b>1.39</b>	<b>306.2</b>		
Engineering, Security, Surveying, & Fire Fighting	Cut Block layout, Silviculture Prescriptions, Wildlife & tree assessments Security Trail Maintenance & Construction Land Assessments			0.30	64.9
				0.04	7.8
				0.02	4.3
				0.00	0.0
Job Creation	Forest Fuel Reduction, & Control of Invasive Species			0.00	0.0
<b>Total</b>			<b>0.35</b>	<b>76.9</b>	
Staff Time	Two full time staff and 40% of secretary Summer student			2.40	528.0
		<b>Total</b>		<b>0.37</b>	<b>81.7</b>
<b>Total</b>				<b>11.62</b>	<b>2301.3</b>
<i>Indirect Jobs — Applying a Multiplier effect of 2 times the number of direct jobs</i>				<b>23.25</b>	
Total Direct and Indirect Jobs Managing the Municipal Forest				<b>34.87</b>	



## APPENDIX D

## TOURS 2015

TOUR NO.	GROUP/CLUB	DATE	PARTICIPANTS	COSTS	STAFF TIME			Site Visits	
					FORESTER		TECH		
1	Cowichan Secondary School	Jan 15/15	20	0	3	Hr	0	Hr	Mt Prevost collected 390kg of garbage
2	Cowichan Secondary School	Sept 17/15	34	0	3		0		Mt Prevost collected 305kg of garbage
3	Cowichan Secondary School	Oct 8/15	34	0	3		0		Mt Prevost collected 310kg of garbage
4	Cowichan Secondary School	Nov 25/15	21	0	3		0		Mt Prevost collected 95kg of garbage
				0			0		
			<b>109</b>	<b>\$0</b>	<b>12</b>	<b>HR</b>		<b>HR</b>	
<b>Or as Expressed in Days</b>									
					<b>1.7</b>	<b>Days</b>		<b>1</b>	<b>Days</b>

Municipal Forest Reserve outdoor events held in 2015:

Cowichan Challenge Triathlon, Gutbuster trail running race,  
 Prevost Downhill Mountain Bike Race, Six hours of Maple Mt Bike Race,  
 Maple Mountain Enduro Mt Bike Race, and  
 Five different Mt Bike Demo Days

## Appendix E

## Statement of Operations and Reserve Balances, December 31, 2015

		2015 Budget		Year to Date Jan 1 to Dec 31, 2015
<b>Revenue</b>				
Log Sales	23,000m <sup>3</sup>	1,817,000	22,271m <sup>3</sup>	1,562,018
<b>Cost of Sales</b>				
Logging		667,000		558,485
Scaling		500		-
Contract Engineering		35,000		15,833
Road Construction		230,000		129,721
Road Maintenance		65,000		37,247
Road Deactivation		5,000		-
Site Preparation		15,000		5,864
Planting		70,000		57,238
Brushing and Weeding		25,000		25,883
Brushing and Herbicides		25,000		6,590
Pruning		20,000		37,519
Tree Protection		28,000		22,802
		<u>1,185,500</u>		<u>897,182</u>
Gross Margin	35%	631,500	43%	664,836
Other Revenue		15,400		17,143
Rentals (Cell Towers)		83,105		83,085
		<u>730,005</u>		<u>765,064</u>
<b>Expenses</b>				
Administration		350,000		324,379
Fire Protection		16,000		9,801
Security		15,000		7,808
Five year Development Plan		5,000		-
Watershed Analysis		4,000		-
Tours		500		-
Integrated Resource Mgmt		20,000		6,046
Community Wild Fire Protection		-		-
Forestry contractor		12,000		8,500
Juvenile Spacing		-		-
Recreation Roads Maintenance		10,000		-
Scholarships		2,400		1,800
Grants in Aid		7,300		2,388
Invasive Species Control		10,000		14,308
Breen Lake Dam		8,000		-
Vehicles		31,000		28,601
Fire Truck		4,000		2,052
		<u>495,200</u>		<u>405,683</u>
Net Income		234,805		359,381
Reserve Fund End of year 2015		1,537,081		1,549,883
Interest				21,478
*Capital Expenditures		-		0
***Forest Legacy Projects		N/A		N/A
Scholarship / Bursary		-2,400		-
Total		<u>1,534,681</u>		<u>1,571,361</u>