


Report

Date April 8, 2015
 To Forestry Advisory Committee
 From Darrell Frank, Municipal Forester
 Subject 2014 Annual Report

File: 8930-20 ANN

Endorsed: 

2014 Annual Report

Listed below are the 2014 Forestry Program highlights.

Harvesting

The 2014 budget was \$21,000m³, generating \$1,678,668, with logging expenses of \$609,000. The actual accomplishment was 20,226m³, generating \$1,653,245, with logging costs of \$590,049. The average cut block size was 10.0 ha.

Accomplishments:

Logging Sales	\$1,653,245	20,226m ³	\$81.58/m ³
Direct Logging Costs	\$590,049	20,226m ³	\$29.17/m ³

Firewood Permits Revenue: \$3,395. Budget: \$1,000.

The public purchased 102 cords of firewood, and Cowichan Valley Alternate School purchased 38 cords of wood.

Lesser Vegetation Permits Revenue: \$1,040. Budget: \$500.

The public purchased 14 permits for salal and 2 permits for boughs.

Planting Costs: \$62,412 Budget \$66,000

Accomplishments:

56.3 ha were planted with 60,969 seedlings. All planting was initial planting with no fill plantings. Seedling costs were \$1.02/seedling.

Accomplishments:

Douglas-fir	45,559	seedlings	75%
Western White Pine	8,100	seedlings	13%
Western Red Cedar	7,310	seedlings	12%
	60,969	seedlings	100%

Fertilizer application was done at planting to 33,000 seedlings.

Historical Accomplishments

The Municipality has planted 1,983,336 seedlings since the start of its intensive silviculture program in 1982, and harvested 1,637 ha.

Surveys

Survival surveys were established in the 2014 plantations to monitor seedling survival rates by our summer student. The 2014 plantations had a survival rate of 99%. The 2013 plantations were revisited and they had a survival rate of 94% after two growing seasons.

Root rot surveys were conducted for 46 ha (five blocks) at a cost of \$2,165, or \$47/ha.

Tree Protection

Costs: \$20,909

Budget \$28,000

Accomplishments:

Deer repellent, Plantskydd, was applied to the Douglas-fir and western red cedar 2014 planting stock prior to planting at a cost of \$0.022/tree. Tree cages were installed on 7,300 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 seven block over 36.1ha at a cost of \$4,458, or \$123/ha. Blocks treated included M-152, M-153, M-650, M-99, M-701, SH-201, and SH-206. Cages were removed from 900 seedlings and the cages were recycled for use again. Cage maintenance was carried out on three block on 20.8 ha at a cost of \$175/ha, or total cost of \$3,645.

Road Construction and Maintenance Costs: \$184,393

Budget \$209,000

Road construction, maintenance, and deactivation were:

Activity

Major road construction, improvements, and temporary roads	4.0	km
Road maintenance post-harvesting cleanup	2.8	km
New culverts installed by North Cowichan	7	
Quarries: rock developed	1,400	m ³
Debuilt roads	0	m
Recovered rock from debuilt road	350	m ³
Road grading	13.5	km
Snowplowing	0	km
Roadside brush cutting for roadside visibility improvements	7.8	km
Gate installation – Mt. Tzouhalem	1	
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.

Site Preparation Costs: \$4,126 Budget: \$15,000

Accomplishments:

Logging debris piled and burned	31.7	ha
Logging debris piled for burning in 2015	38.8	ha

The fall burning program consisted of 142 piles from six blocks. Burning results were marginal, with only 77 piles burned. The wet weather proved to be challenging to accomplish our goals of removing slash with good venting. When good venting was there, we had poor ignition and spread. Burning took place from October 31 to November 13.

Burning Costs: \$10.78/pile (\$830.00)

Fire Protection Costs: \$8,928 Budget: \$11,000

The Municipal Forest Reserve was locked from July 11 and re-opened on September 5. The year was quiet, with no wildfires on the Municipal Forest Reserve.

Security and Vandalism Costs: \$7,941 Budget: \$15,000

Costs for this year were for locks and gate repairs, blocking 4x4 access points around gates, and security patrols.

Integrated Resource Management Costs: \$5,412 Budget: \$7,000

Definition, the term is used to describe the management of the Municipal Forest Reserve for other uses, including recreation, wildlife, viewsapes, and biodiversity.

All harvesting areas incorporated single and group tree retention. Old growth Douglas-fir, western white pine, wildlife trees, and ten dominant or co-dominant trees were retained in all cut blocks.

This year's expenditures were for the preparation of new maps for the Maple Mountain and Mount Tzouhalem trailheads.

Watershed Analysis – Mount Sicker Costs: \$0 Budget: \$2,000

Ongoing annual water monitoring has been done since 2003. The sampling has been done to measure the water turbidity and suspended sediment from creeks which drain through the mid-slopes of the north face of Mount Sicker. There was no new activity in this area in 2014, and, as a result, no sampling will be done until there is new activity in the way of new roads or logging.

Silviculture

Contract crews completed the following:

Accomplishments:	Ha	Budget	Costs	Cost/ha
Plantation brushing – mechanical	102.7	\$25,000	\$27,584	\$269/ha
Plantation brushing – hand pulling	26.0	\$10,000	\$6,846	\$263/ha
Invasive species – Tansy Ragwort - Herbicides - gross area	22.6	\$18,000	\$13,000	\$575/ha
Deer repellent application on seedlings in the field	36.1	\$4,000	\$4,458	\$123/ha
White pine pruning	131.5	\$20,000	\$21,657	\$165/ha
Tree caging installations (7,300)		\$14,000	\$10,950	\$1.50/tree
Tree caging maintenance and cone recovery	26.4	\$10,000	\$4,290	

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	1,026	ha
Plantation Brushing	3,179	ha
Harvesting	1,636	ha

Community Relations:

The Forestry Department took part in six woods tours. Other highlights include the Cowichan Challenge on July 13 in the Fuller Lake/Cottonwood area, the Gutbuster running race on Mount Tzouhalem on June 7, five different biking demo days on Mount Tzouhalem, the Prevost Downhill Race on June 8, six hours of a mountain biking event on Maple Mountain on May 18, and competitive horse trail riding on June 29 in the Grace Road area.

Other highlights included three field trips with Cowichan High School students and staff cleaning up garbage from Mount Prevost.

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	2014 Harvesting Summary
Appendix B	1987 to 2014 Harvesting
Appendix C	2014 Direct Employment created from the Municipal Forest Reserve
Appendix D	2014 Tours
Appendix E	2014 Revenue and Expenditures

Recommendation

That the 2014 Annual report be received for information

Attachments: 5

Appendix A

2014 Harvesting Summary

Block	Ha (Gross)	Treatment	Vol m ³ /ha	Total Vol m ³	Net Profit \$/m ³	Net Revenue	Net Revenue Per/Ha	Costs Stump to Dump \$/m ³	Total Logging Costs	Gross Revenue	Gross Revenue Per m ³	Gross Revenue Per Ha
P-120	7.2	Patch Cut GTR/Hoe Forwarding	374	2,693	\$49.30	\$132,755	\$18,438	\$29.20	\$78,624	\$211,379	\$78	\$29,358
P-130 RoW	0.7	Patch Cut GTR/Hoe Forwarding	428	299	\$58.68	\$17,568	\$25,097	\$20.00	\$5,988	\$23,556	\$79	\$33,651
P-137	10.0	Patch Cut GTR/Hoe Forwarding	542	5,418	\$53.51	\$289,916	\$28,992	\$29.02	\$157,228	\$447,145	\$83	\$44,714
P-548	N/A	Clean up	N/A	115	\$21.62	\$2,496		\$20.68	\$2,387	\$4,884	\$42	N/A
P-897	15.0	Patch Cut GTR/Hoe Forwarding	382	5,734	\$53.43	\$306,367	\$20,424	\$29.88	\$171,342	\$477,709	\$83	\$31,847
R-204	N/A	Clean up	N/A	350	\$40.73	\$14,239		\$29.85	\$10,474	\$24,712	\$71	N/A
R-351	6.8	Patch Cut GTR/Hoe Forwarding	307	2,087	\$52.45	\$109,441	\$16,094	\$28.48	\$59,428	\$168,869	\$81	\$24,834
R-355 RoW	0.5	Patch Cut GTR/Hoe Forwarding	283	142	\$63.34	\$8,976	\$17,951	\$20.00	\$2,834	\$11,809	\$83	\$23,619
S-14	11.2	Patch Cut GTR/Hoe Forwarding	291	3,262	\$54.40	\$177,478		\$30.25	\$98,675	\$276,153	\$85	\$24,656
Misc	0.3	Patch Cut GTR/Hoe Forwarding	420	126	\$31.44	\$3,961	N/A	\$24.37	\$3,069	\$7,030	\$56	\$23,433
Total	51.7		391	20,226	\$52.57	\$1,063,196	\$20,565	\$29.17	\$590,049	\$1,653,245	\$82	\$31,978

GTR Green Tree Retention

Logging Costs per m³ \$29.17

Silviculture Systems Summary

	Ha
Patch Cut GTR	51.70
Commercial Thinning	0.00
Individual Tree Harvesting	0.00
Seed Tree	0.00
Total	51.70

Average Cut Block Size (Ha)

10.0

Conifer and Hardwood Component

	Volume	Volume By Percent	Net Revenue	Revenue \$/M ³	Revenue By %
Hardwoods	146	0.7%	\$4,413	\$30.15	0.42%
Conifer	20,079	99.3%	\$1,058,783	\$52.73	99.58%
Total	20,226	100.0%	\$1,063,196	\$52.57	100.00%

Appendix B

1987 To 2014 Harvesting Summary

Year	Ha	Volume m³	Volume/Ha	Net Revenue	Net Revenue \$/m³
1987	63.4	13,159	206	\$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	20,225	391	\$1,063,196	\$52.57
Total	1386.91	448,504	323	\$16,839,744	\$37.55
Average	49.5	16,018	323	\$601,419	\$37.55

Summary 1987 to 2014 323 M³/Ha
 Net Revenue from the MFR 1987 to 2014

\$12,142 /Ha
 \$2,942,326 \$6.56 \$/M³

2014 Averages
391 M³ / Ha
\$20,565/ Ha Net Revenue

Forestry Program Profit

Annual Profit	Annual Profit \$/m³	Annual Forestry Profit Split As Follows:					Land Purchases	Acres
		General Revenues	Forest Reserve Fund	Forest Legacy Fund	Scholarship Fund			
-\$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	
\$435,806	\$17.89	\$130,882	\$217,803	\$87,121	\$601	\$0	\$0	
\$409,430	\$20.24	\$122,828	\$204,715	\$81,888	\$715	\$0	\$0	
\$2,942,326	\$6.56	\$1,647,440	\$748,712	\$399,400	\$7,170	\$140,920	61 Ac	
\$105,083	\$6.56	\$58,837	\$26,740	\$14,264	\$256	\$5,033		

- * 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 Acct
- * 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.

Appendix C
2014 Direct Employment Created from the Municipal Forestry Program

Activity	Description	Accomplishments	Accomplishments / yr / person	Person years	Person days
Harvesting	Hoe-forwarding/ Log Salvage	20,226 m ³	4,200	4.82	842.8
	Swing Yarder/High Lead	0 m ³	3,000	0.00	0.0
	Trucking	563 Loads	880	0.64	140.8
	Total			5.46	983.5
Tree Planting	Planting Supervision and marking Root Rot areas	60,969 Trees	140,000	0.44	76.2
				0.06	13.8
Total				0.50	90.0
Road Construction	Rubber Tired Backhoe, Gravel Truck, Excavator, Cat, & Lowbed			0.78	172.1
Road Maintenance, and	Grading, and Snow Plowing			0.02	4.9
Road Debuilding	Blasting			0.04	8.0
	Labour			0.00	
Total				0.84	185.0
Site Preparation	Excavator & Rubber Tired Backhoe Piling Slash Labour - burning			0.02	4.5
				0.01	2.5
Total				0.03	7.0
Silviculture	Plantation Brushing - Mechanical	102.7 Ha		0.31	67.5
	Invasive Species - Herbicide	22.6 Ha		0.08	16.5
	Invasive Species - Manual	28.0 Ha		0.06	12.4
	Apply Deer Repellant on Seedlings	38.1 Ha		0.06	13.0
	Tree Caging and Maintenance	26.4 Ha		0.06	13.9
	White Pine Pruning	131.5 Ha		0.28	61.1
Total				0.84	184.4
Engineering, Security, Surveying & Fire Fighting	Cut Block layout, Silviculture Prescriptions, Wildlife and tree assessments Security Trail Maintenance & Construction Land Assessments			0.30	64.9
				0.04	7.8
				0.02	4.3
Job Creation	Forest Fuel Reduction, & Control of Invasive Species			0.00	0.0
Total				0.35	76.9
Staff Time	Two full time staff and 40% of secretary Summer student			2.40	528.0
				0.38	82.8
Total				2.78	610.8
Total				10.79	2137.6
<i>Indirect Jobs — Applying a Multiplier effect of 2 times the number of direct jobs</i>				21.58	
Total Direct and Indirect Jobs Managing the Municipal Forest				32.37	

APPENDIX D

TOURS 2014

TOUR NO.	GROUP/CLUB	DATE	PARTICIPANTS	COSTS	STAFF TIME FORESTER		TECH		Site Visits
1	Cowichan Secondary School	04-Mar	37	0	3	Hr	0	Hr	Mt Prevost collected 160kg of garbage
2	Cowichan Secondary School	24-Apr	7	0	3	Hr	0		Mt Prevost collected 700kg of garbage
3	Forest History Association	20-Sep	10	0	2.5		0		Mount Prevost P-170, P-200, P897 and East Prevost Peak
4	Victoria Secular Humanists Association	22-Sep	10	0	3		0		Mount Prevost area
5	Nature Conservancy Canada	04-Sep	3	0	4		0		Mount Tzouhalem
6	Cowichan Secondary School								
			67	\$0	15.5	HR		HR	
Or as Expressed in Days									
					2.2	Days		1	Days

Appendix E
Statement of Operations and Reserve Balances, December 31, 2014

	2014 Budget	Year End Jan 1 to Dec 31
Revenue		
Log Sales	1,678,668	1,653,245
Volume	21,000m ³	20,226m ³
Cost of Sales		
Logging	609,000	590,049
Scaling	500	90
Contract Engineering	30,000	19,028
Road Construction	140,000	132,476
Road Maintenance	60,000	51,917
Road Deactivation	5,000	-
Site Preparation	15,000	4,126
Planting	66,000	62,412
Brushing and Weeding	25,000	27,584
Brushing and Herbicides	18,000	13,000
Pruning	20,000	21,657
Tree Protection	28,000	20,909
	<u>1,016,500</u>	<u>943,248</u>
Gross Margin	39% 662,168	43% 709,997
Other Revenue	15,400	21,069
Rentals (Cell Towers)	83,105	92,466
	<u>760,673</u>	<u>823,532</u>
Expenses		
Administration	336,430	328,881
Fire Protection	11,000	8,928
Security	15,000	7,941
Five year Development Plan	5,000	-
Watershed Analysis	2,000	-
Tours	500	-
Integrated Resource Mgmt	7,000	5,412
Community Wild Fire Protection	-	-
Forestry contractor	10,000	9,575
Juvenile Spacing	-	-
Recreation Roads Maintenance	4,000	-
Scholarships	2,400	3,000
Grants in Aid	7,300	4,097
Invasive Species Control	10,000	6,845
Breen Lake Dam	10,000	-
Vehicles	31,000	37,922
Fire Truck	4,000	1,500
	<u>455,630</u>	<u>414,101</u>
Net Income	305,043	409,431
Reserve Fund End of year 2014	1,139,848	1,148,454
Interest		25,017
*Capital Expenditures	(35,000)	(28,418)
Forest Legacy Projects	N/A	(20,000)
Scholarship / Bursary	-2,400	-
Proceeds from Land Sales		<u>250,000</u>
Reserve contribution - equip		14,443
Reserve contribution - general		105,988
Reserve contribution - forest legacy		41,597
Total	<u>1,407,491</u>	<u>1,537,081</u>

*Note: Capital Expenditure to replace 2005 Dodge Truck in 2014