

Report

Date June 16, 2021
 To Council
 From Shaun Mason, Municipal Forester
 Subject 2020 Annual Forestry Report

File:

Endorsed:



Purpose

To provide a general summary of the metrics and activities conducted within the Forestry Department in 2020.

Background

Each year the Municipal Forester prepares the annual report for information of key Municipal Forestry Reserve (MFR) metrics and activities from the previous year for Forest Advisory Committee (FAC) and Council review. The report is typically released at the same meeting where Council considers the Municipal Annual Report, providing additional detailed information related specifically to the MFR.

Historically, the FAC would review the annual report prior to it being presented to Council. However, with the forestry review pause directed by Council, no FAC meetings have occurred. As a result, the annual report is being brought forward directly to Council. The annual report will be brought forward to the next FAC meeting (when they resume) for information.

The 2020 Annual Forestry Report describes MFR metrics and activities consistent with the MFR management model currently under review. Given the forestry operations review, public engagement and First Nations consultation process, it is anticipated that future annual reports will be consistent with any new or altered management models that Council subsequently adopts.

Discussion

- **Harvest Summary**

*Total Area = 5.4ha

Average Harvest Area = 1.8ha

Total Volume = 2,734m³

Harvest Cost = \$125,411 = \$45.87/ m³

Gross Revenue = \$242,536 = \$89/m³

Net Revenue = \$117,125 = \$43/m³

Forestry Program Total Net Loss = (\$453,846)

*This includes the total area identified within the identified blowdown salvage areas, not the actual area harvested.

- **Log Sales Summary**

Domestic sales = 1,793m³ (66%)

Export sales = 941m³ (34%)

- **Planting**

Costs \$ 59,754 Budget \$ 68,400

In spring 2020, 43.9 ha were planted with 47,722 seedlings. The total cost for each tree planted was \$1.03/tree. Seedling costs were \$0.51/tree, and planting costs were \$0.52/tree (includes fertilizer)

*seedling costs include seed cost, cold storage and shipping

Planting Summary:

Species Planted	# Planted	% of Total Planted
Douglas Fir	41,942	88%
Western White Pine	1730	4%
Western Red Cedar	4050	8%

Tea-bag fertilizer application at time of planting = 22,870

Since 1987, the Municipality has planted 2,2257,616 seedlings and harvested 1567ha – all of which have been replanted.

- **Road Construction and Maintenance**

Costs \$15,257 Budget \$34,400

- Culvert, ditch cleaning, road grading/repair and capping for various forestry roads on Maple Mountain, Mount Prevost and Mount Sicker.
- Road repair and maintenance on the main road to the Cairn parking lot.
- Dangerous tree removal to allow safe access along forestry roads throughout the MFR for forestry activities, public access and for emergency vehicle access.
- Roadside brush cutter removed encroaching brush and overhanging branches for improved driving safety and emergency vehicle access on Mount Richards, Mount Prevost and Cottonwood road – ~9km completed.

- **Site Preparation**

Costs \$0 Budget \$ 1,000

There was no hazard abatement required in 2020 as all outstanding piles were successfully burnt in 2019.

- **Fire Protection**

Costs \$ 29,235 Budget \$ 32,000

- No large forest fires within the MFR in 2020.
- Final draft of the Community Wildfire Protection Plan was completed for final review before being submitted to the Union of British Columbia Municipalities, which was approved in 2021. The reimbursement costs for the project are captured in the 2020 budget.
- Additional fire fighting equipment was purchased to add to the current equipment inventory.
- The Mount Prevost, Mount Sicker and Grace Road gates were closed due to fire hazard concerns on July 22 and re-opened on September 22, 2020.

- **Silviculture**

Activity	Type	Area Treated	Cost	Budget
Plantation Brushing	Manual	6.8ha	\$22,013	\$10,000
	Herbicide	0	0	\$2,000
Invasive Species Control	Manual	*see below	\$7,050	\$15,000
White Pine Pruning	Manual	21.6ha (3618 Trees)	\$3,770	\$16,000
Silviculture Surveys	Various	457ha	*Completed by Forestry Staff	

Invasive Species Control Summary:

Tansy Ragwort – Various locations on Mount Richards and Maple Mountain

Scotch Broom – Various locations on Mount Richards, Maple Mountain and Stoney Hill

- **Tree Protection**

Costs \$ 31,090 Budget \$ 35,000

- Removed 4998 browse protectors (\$1.41/tree)
- Installed 9425 browse protectors (\$1.50/tree)
- Re-Use 4860 browse protectors (\$1.00/tree)
- Purchased 10,000 stakes

- **Community Relations and Contributions**

Revenue generated from the MFR pays for the associated expenses for managing the forests within the MFR and also helps fund community relations and contribution activities in a variety of ways:

- Annual high school scholarship and bursary winners chosen - \$2,400 total awarded.

- ~\$153,600 total awarded since 1998
- Annual high school woodworking contest was cancelled due to COVID-19.
- Annual firewood donations program suspended until the conclusion of the Forestry review.
- Eighteen firewood permits and five Salal permits were issued to the public.
- Forest Legacy funded projects:
 - Finished off cross trail rebuild, improved accessibility, signage, fencing, bridges, and safety mitigation ~ \$15,200

- **Forest Tours**

Association of BC Forest Professionals – Annual Conference Nanaimo February 2020

- Municipal Forester hosted and organized a half-day field tour with ~40 Forest Professionals in attendance that included stops at Maple Mountain and the Forestry Discovery Centre.

- **Other Notable Activities**

- Association of BC Forest Professionals – Municipal Forester was a host committee member and field tour organizer for the 2020 annual conference held in Nanaimo.
- A \$10,000 grant was received to help fund continued sensitive ecosystem assessments and mapping within the Municipal Forest Reserve. The opportunity was made possible through the Coastal Douglas Fir Conservation Partnership and Environment and Climate Change Canada.
- Forestry staff started working with an ecologist with the Conservation Data Center under the BC Ministry of Environment and Climate Change Strategy, conducting research and surveys looking for potential rare species of plants and ecosystems in various locations within the Municipal Forest Reserve.
- Secured a License of Occupation for a section of forestry road over Crown Land that provides an important connection (recreation, emergency vehicles/crews, and forestry) to the forest reserve that was planned to be deactivated by the Province.
- Installed plantation information signage and updated road name signage throughout MFR for both public education and to improve emergency vehicle navigation.
- Successful in receiving \$15,100 in grant funding through Community Resiliency Investment to host “chipper days.” Chipper days provided the opportunity for the residents of North Cowichan to dispose of their woody debris for free properly. It also included having a certified Local FireSmart Representative present at the debris drop-off site to provide FireSmart information and answer any questions people may have. The “chipper days” project was suspended due to COVID and extended into 2021 in hopes that provincial restrictions would allow this to occur at a future time.
- A piece of Red Cedar from a blown down tree was donated to the Chemainus Museum to act as the base for the refurbished carving of a Cougar to be placed on and be part of the main entrance display.
- The Municipal Forester was part of a student mentorship program with Vancouver Island University’s (VIU) Forest Resource Technology Program and the Canadian Institute of Forestry’s Vancouver Island Section aimed at benefitting students enrolled in Forestry at VIU.

- Continued to support the BC Purple Martin Stewardship & Recovery Program to continue their work and research on the Purple Martins that reside within the MFR.

Recommendation

The 2020 Annual Forestry Report has been provided to Council for information purposes only.

Attachments:

1. Attachment 1 – 2020 Harvesting Summary.pdf
2. Attachment 2 - 2020 Harvest and Profit Summary.pdf
3. Attachment 3 - 2020 Statement of Account.pdf
4. Attachment 4 – 2020 Annual Forestry Report Photos.pdf

Appendix A

2020 Harvesting Summary

Harvest Area	Area (ha)	Vol m ³ /ha	Total Vol m ³	Gross Revenue	Harvest Costs	Net Revenue	Net Profit \$/m ³	Harvest Cost \$/m ³
P-1000	1.5	241	361	\$34,056	\$21,674	\$12,382	\$34.30	\$60.00
S-1000	1.8	181	325	\$23,444	\$19,497	\$3,947	\$12.14	\$60.00
R-352A*	2.1	400	841	\$71,519	\$24,401	\$47,118	\$56.03	\$29.00
Maple Roadside Salvage (MRS)	n/a	n/a	65	\$8,898	\$4,603	\$4,295	\$66.08	\$70.82
Prevost Roadside Salvage (PRS)	n/a	n/a	495	\$40,751	\$25,475	\$15,276	\$30.86	\$51.46
Richards Roadside Salvage (RRS)	n/a	n/a	647	\$63,868	\$29,761	\$34,107	\$52.72	\$46.00
Total	5.4		2,734	\$242,536	\$125,411	\$117,125	\$43	\$45.87

Average Harvest Area Size = 1.8ha (This includes the total area identified within the blowdown salvage areas, not the actual area harvested.)

*R-352A Started in 2019, completed in 2020

Appendix B - Harvest and Profit Summary

1987 To 2020 Harvesting Summary

Year	Ha	Volume m ³	Volume/Ha	Net Revenue	Net Revenue \$/m ³
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
2016	36.6	17,268	472	\$1,020,010	\$59.07
2017	21.8	10,585	486	\$832,043	\$78.61
2018	25.1	11,562	461	\$977,787	\$84.57
2019	45.1	15,255	338	\$840,922	\$55.12
2020	5.4	2,734	506	\$117,125	\$42.84
Total	1567.61	528,179		\$21,631,164	\$40.95
Average	46.1	15,535	337	\$636,211	

Forestry Program Profit

Annual Profit	Profit \$/m ³	Annual Forestry Profit Split As Follows:					Acres
		General Revenues	Forest Reserve Fund	Forest Legacy Fund	Scholarship Fund	Land Purchases	
-\$24,825	-\$1.89	\$0	-\$24,825	\$0		\$0	
\$115,885	\$6.23	\$0	\$115,885	\$0		\$0	
\$38,486	\$2.60	\$0	\$38,486	\$0		\$0	
\$48,571	\$4.43	\$0	\$48,571	\$0		\$0	
-\$12,370	-\$0.97	\$0	-\$12,370	\$0		\$0	
\$67,231	\$5.20	\$45,000	\$22,231	\$0		\$0	
\$272,276	\$18.27	\$240,000	\$32,276	\$0		\$0	
\$275,880	\$17.07	\$250,000	\$25,880	\$0		\$0	
\$755,771	\$37.24	\$489,230	\$33,313	\$92,308		\$140,920	35 acres
\$131,057	\$9.08	\$65,000	\$51,057	\$15,000		\$0	
\$24,815	\$1.86	\$24,815	\$0	\$0		\$0	
\$47,420	\$3.92	\$0	\$37,935	\$9,485		\$0	
\$97,579	\$6.04	\$29,274	\$48,789	\$19,516		\$0	26 acres*
\$33,745	\$2.52	\$9,865	\$17,057	\$6,823		\$0	
\$111,851	\$7.20	\$100,666	\$11,185	\$0		\$0	
\$95,375	\$6.87	\$28,612	\$47,688	\$19,075		\$0	
\$94,484	\$5.96	\$52,162	\$22,273	\$18,609	\$1,440	\$0	
\$121,932	\$6.38	\$29,183	\$68,880	\$19,455	\$4,414	\$0	
\$29,901	\$1.87	\$14,951	\$0	\$14,950	\$0	\$0	
\$30,343	\$1.73	\$15,171	\$0	\$15,172	\$0	\$0	
\$65,344	\$3.09	\$0	\$65,344	\$0	\$0	\$0	
-\$20,393	-\$1.29	\$0	-\$20,393	\$0	\$0	\$0	
-\$119,382	-\$6.24	\$0	-\$119,382	\$0	\$0	\$0	
-\$137,409	-\$8.37	\$0	-\$137,409	\$0	\$0	\$0	
-\$55,879	-\$3.14	\$0	-\$55,879	\$0	\$0	\$0	
\$9,602	\$0.56	\$0	\$9,602	\$0	\$0	\$0	
\$435,606	\$17.89	\$130,682	\$217,803	\$87,121		\$0	
\$409,430	\$20.24	\$122,829	\$204,715	\$81,886		\$0	
\$359,381	\$16.14	\$239,381	\$0	\$120,000		\$0	
\$412,195	\$23.87	\$206,098	\$123,659	\$82,438		\$0	
\$130,165	\$12.30	\$39,049	\$65,082	\$26,033		\$0	
\$261,077	\$22.58	\$78,323	\$130,539	\$52,215		\$0	
\$275,255	\$18.04	\$82,567	\$137,634	\$55,054		\$0	
-\$469,046	-\$171.56	\$0	-\$453,846	-\$15,200		\$0	
\$3,911,353	\$7.41	\$2,292,858	\$751,781	\$719,940	\$5,854	\$140,920	61 Ac
\$115,040		\$67,437	\$22,111	\$21,175	\$172	\$4,145	

Summary 1987 to 2020 337 M³/Ha \$13,799 /Ha
 Net Revenue from the MFR 1987 to 2020 \$3,911,353 \$7.41 \$/M³

2020 Average
506m³ / Ha

Profit distribution for 2020

\$ (453,846) to Forest Reserve Fund
 \$ (15,200) to Forest Legacy Fund
 \$ - to General Revenues

\$ (469,046) Total Loss

Appendix C - 2020 Statement of Account

	2020 Budget	Year to Date Jan 1 to Dec 31, 2020
Revenue		
Log Sales	2,200m ³ 176,000	2,734m ³ 242,536
Other Revenue	11,000	10,060
Grants	-	39,170
Rentals (Cell Towers)	90,160	92,677
	<u>277,160</u>	<u>384,443</u>
Expenses		
Harvesting	101,000	125,411
Scaling	-	-
Contract Engineering	5,000	-
Road Construction	-	24
Road Maintenance	29,400	11,943
Road Deactivation	1,000	375
Site Preparation	1,000	-
Planting	68,400	59,754
Brushing and Weeding	10,000	22,013
Brushing and Herbicides	2,000	-
Pruning	16,000	3,770
Tree Protection	35,000	31,090
Administration	407,900	379,189
Fire Protection	32,000	29,235
Security	7,000	10,310
Tours	2,000	-
Integrated Resource Mgmt	5,000	4,264
Municipal Forest Review	190,000	146,775
Forestry contractor	-	-
Recreation Roads Maintenance	5,000	3,290
Scholarships	2,400	2,400
Grants in Aid	5,500	1,396
Invasive Species Control	15,000	7,050
Vehicles (included with Admin)		
	<u>940,600</u>	<u>838,289</u>
Net Income	<u>(663,440)</u>	<u>(453,846)</u>
Reserve Fund Beginning of year 2020	2,145,499	2,145,499
Interest	-	43,675
Forestry profits 50%	<u>(661,940)</u>	<u>(449,044)</u>
Reserve Fund End of year 2020	<u>1,483,559</u>	<u>1,740,129</u>

Appendix D - 2020 Forestry Photos



North Cowichan hosted a field tour as part of the Association of British Columbia Forest Professional's Annual Conference held at the Nanaimo Conference Center February 5-7. Photos from stops on Maple Mountain.



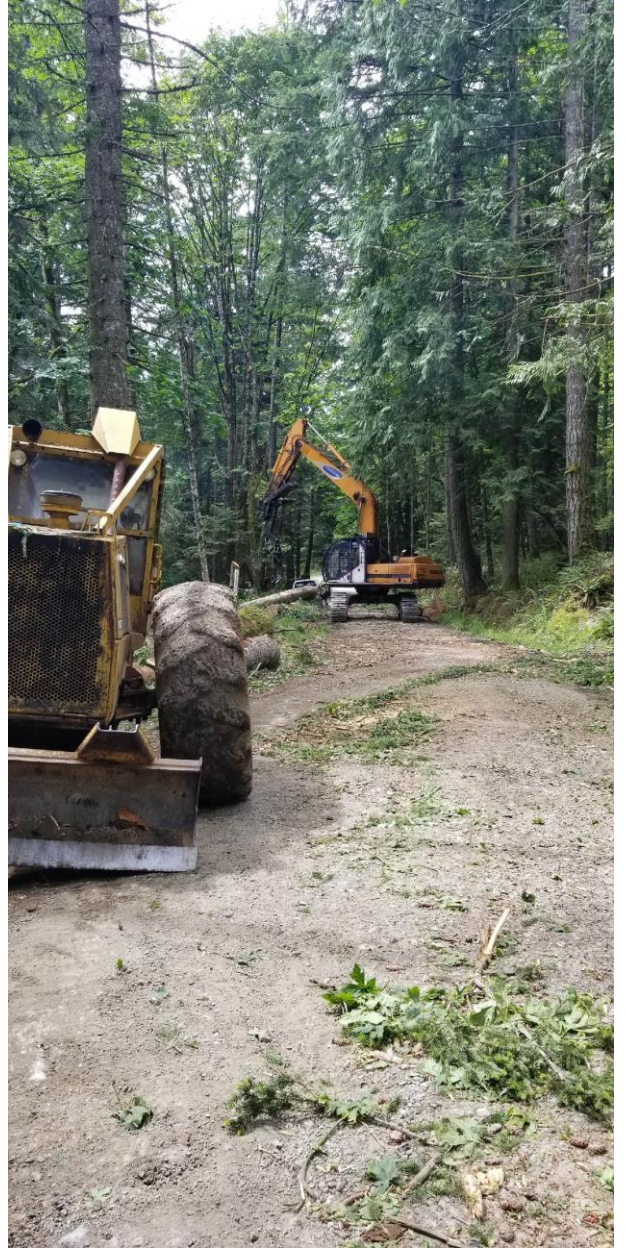
Piece of Red Cedar from a blowdown area donated to the Chemainus Museum to be the base for the restored wooden carving of a Cougar that now sits on display in the front picture window of the Chemainus Museum.



Mount Richards roadside salvage harvesting, removing blowdown and tree hazards from the roadsides.



Mount Richards roadside salvage harvesting, removing blowdown and tree hazards from the roadsides.



Mount Prevost roadside salvage harvesting removing tree hazards from the roadsides. Hazard trees shown on the left and the salvage harvesting in the same location on the right.



Mount Sicker blowdown salvage harvesting – S-1000 before



Mount Sicker blowdown salvage harvesting – S-1000 after



Mount Sicker blowdown salvage harvesting – S-1000 before



Mount Sicker blowdown salvage harvesting – S-1000 after



Mount Prevost blowdown salvage harvesting – P-1000



Mount Prevost blowdown salvage harvesting – P-1000



Maple Mountain blowdown salvage harvesting – main gate area before



Maple Mountain blowdown salvage harvesting – main gate area after



Planting and cone installation in Stoney Hill – SH-220



Planting and cone installation on Mount Tzouhalem – T-1000



Planting and cone installation – Maple Mountain gate area



Cone maintenance – Mount Prevost – P-134



Cone removal Mount Prevost – P-769 – before and after cone removal



Cone removal and processing – Maple Mountain – M-630



Brushing – manual pulling and cutting of young scotch broom on Maple Mountain – M-403 (2018 wildfire salvage area)



Brushing – manual cutting of older broom on Mount Richards – R-262



Invasive species control – road right of way brushing of scotch broom in Stoney Hill



Road maintenance – Mount Prevost – Access road to Cairn



Road maintenance – Culvert maintenance - Mount Prevost



Road maintenance - Roadside brushing – Mount Prevost – before and after