

Report

Date June 15, 2022
Subject 2021 Annual Forestry Report

File:

PURPOSE

To provide a general summary of the metrics and activities conducted within the Forestry Department in 2021.

BACKGROUND

Each year the Municipal Forester prepares an annual report containing key Municipal Forestry Reserve (MFR) metrics and information about activities from the previous year for the Forest Advisory Committee (FAC) and Council's review. The report is typically released at the same meeting where the Municipal Annual Report is brought forward to Council, 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 currently in process and no FAC meetings presently scheduled, the annual forestry report is being brought forward directly to Council with the Municipal Annual Report.

The 2021 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 processes, it is anticipated that future annual reports will be consistent with any new or altered forest management models that Council subsequently adopts.

DISCUSSION

Harvest Summary

Total Area = 0ha*

Total Volume = 68m³

Harvest Cost = \$4,710 = \$69/ m³

Gross Revenue = \$9,143 = \$134/m³

Net Revenue = \$4,433 = \$65/m³

Forestry Program Total Net Loss = (\$509,476)

*Only minor danger tree salvage harvesting was completed with no measurable area

Log Sales Summary

Domestic sales = 36m³ (53%)

Export sales = 32m³ (47%)

Planting

Costs \$ 20,467 Budget \$ 23,460

In spring 2021, 33ha were planted with 28,536 seedlings. The total cost for each tree planted was \$1.17/tree. Seedling costs were \$0.57/tree*, and planting costs were \$0.60/tree (includes fertilizer).

*seedling costs include seed cost, cold storage and shipping

Planting Summary:

Species Planted	# Planted	% of Total Planted
Douglas Fir	26,406	92%
Western White Pine	1080	4%
Western Red Cedar	1050	4%

Tea-bag fertilizer application at time of planting = 18,638

Since 1987, the Municipality has planted 2,286,152 seedlings and harvested 1567ha – all of which has been replanted.

Road Maintenance

Costs \$18,577 Budget \$24,400

- Danger tree removal along forestry roads throughout the MFR allows safe access for forestry activities, public access and emergency vehicle access.
- Southview Terrace forestry road repair and upgrade for emergency vehicle access and trail surface improvement.
- Dust control was applied to the forestry road entrance to Mount Prevost.
- Culvert and ditch cleaning along with road grading/repair of forestry roads on Maple Mountain, Mount Prevost, Mount Sicker and Grace Road.
- Road repair and maintenance on Mount Prevost access road to the Cairn parking lot.

Site Preparation (hazard abatement)

Costs \$0 Budget \$ 0

There was no hazard abatement required in 2021.

Fire Protection

Costs \$ 10,761 Budget \$ 13,500

- There were no large forest fires within the MFR in 2021.

- 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 high fire hazard on June 25 and re-opened on September 21, 2021.
- Council adopted the 2020 Community Wildfire Protection Plan (CWPP).

Security and Vandalism

Costs \$ 20,433 Budget \$ 11,000

Staff discovered significant cutting of both standing and blowdown trees throughout the MFR. There were also notable increases in gate/lock vandalism and garbage dumping. In response to stopping this activity, staff acted on several initiatives that have been successful in reducing this activity. These initiatives included:

- Promoting public awareness, education and reporting by installing additional signage, through media/TV interviews and social media posts;
- Increased and ongoing patrols within the MFR;
- Working with RCMP and the Bylaw Services Team on various initiatives;
- Increased fine amounts for non-compliance in applicable Bylaws;
- Researching and implementing video surveillance options; and,
- Working with Crime Stoppers to improve public reporting of illegal activity.

Silviculture

Activity	Type	Area Treated	Cost	Budget
Plantation Brushing	Manual	8.6ha	\$8,139	\$10,200
	Herbicide	0	0	\$0
Invasive Species Control	Manual	*see below	\$11,030	\$15,000
White Pine Pruning	Manual	25.2ha (4145 Trees)	\$14,501	\$12,000
Silviculture Surveys	Various	132ha	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

Gorse – Various locations in Stoney Hill and Genoa Bay Road

Tree Protection

Costs \$ 35,886 Budget \$ 29,950

- Removed 4,720 browse protectors. (\$1.91/tree)
- Installed 8,100 browse protectors. (\$2.02/tree)
- Re-Use 600 browse protectors. (\$2.53/tree)
- Purchased 8,000 stakes.

Community Relations and Contributions

Revenue generated from the MFR pays for all associated expenses for managing the forests within the MFR. It also helps fund community relations by contributing to activities in a variety of ways:

- Annual high school scholarship and bursary winners chosen - \$2,400 awarded.
 - ~\$156,000 total awarded since 1998
- Annual high school woodworking contest winners chosen with \$1,000 in prizes awarded. A total of 10 students entered their book shelf project into the contest.
 - ~\$19,050 total awarded since 2001
- Annual firewood donations program was suspended until the conclusion of the forestry review.
- Zero firewood permits and two salal permits were issued to the public.
- There were no Forest Legacy funded projects in 2021.

Forest Tours

Maple Mountain Public Forestry Tour – September 2021

- The Municipal Forester guided 13 participants through hiking/biking trails, stopping at various locations to talk about the MFR history, general forestry operation, silviculture practices, recreation, and recent events such as the wildfire and blowdown that occurred in 2018.

Other Notable Activities

- Forestry staff:
 - Continued 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.
 - Supported work by a Research Ecologist with the Ministry of Forests, to establish a study site for a coast plant phenology and climate change research project on Maple Mountain.
 - Supported work by the Cowichan Watershed Society on a project being conducted in the Chemainus watershed. The project has many components, including a fish habitat assessment, determination of e-flows, and a riparian vegetation assessment.

- Supported Cowichan Tribes, who conduct cultural ceremonies as part of the Ancestors Walk on Mount Prevost.
- Continued to support the BC Purple Martin Stewardship & Recovery Program as they continue work with their Coastal Purple Martin colony monitoring and nest checking program on Mount Richards and Maple Mountain.
- North Cowichan was successful in receiving approximately \$110,000 in funding through a Community Resiliency FireSmart Community grant to conduct detailed treatment prescriptions in identified high fire risk areas as per the CWPP on Mount Tzouhalem, Maple Mountain and Mount Richards. The successful application also included FireSmart assessments for North Cowichan owned critical infrastructure and to develop a wildfire development permit area.
- North Cowichan joined a regional partnership with the Cowichan Valley Regional District (CVRD) and Cowichan Tribes, who as a group were successful in receiving \$450,000 in grant funding through the UBCM 2021 FireSmart Economic Recovery Fund grant. The CVRD is managing the project on behalf of the partners, which included hiring two FireSmart Coordinators who are tasked with administering various activities that include regional public engagement and communication, providing public with technical expertise, hosting workshops/information sessions and conducting FireSmart assessments for both residential and farms/ranches. A portion of the grant funding is allocated to implementing fuel reduction treatments as recommended from the FireSmart assessments, of which Khowutzun Forest Services crews are conducting this work.
- Sustained heavy rains in November of 2021, which caused widespread road damage throughout the MFR, most notably on Maple Mountain. Road repairs where access was critical for emergency management purposes were prioritized, along with general road surface and infrastructure repairs completed throughout the MFR.

RECOMMENDATION

THAT Council receive for information the 2021 Annual Forestry Report provided by the Municipal Forester..

Report prepared by:

Shaun Mason

Shaun Mason
Municipal Forester

Report reviewed by:

Don Stewart

Don Stewart
Director, Parks and Recreation

Approved to be forwarded to Council:



Ted Swabey
Chief Administrative Officer

Attachments:

- (1) 2021 Harvesting Summary
- (2) 2021 Harvest and Profit Summary
- (3) 2021 Statement of Account
- (4) 2021 Annual Forestry Report Photos

Appendix A

2021 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
Danger Tree Salvage - Shore Pine Close	0.0	N/A	32	3064	2403	661	21	75
Danger Tree Salvage - Stoney Hill Road	0.0	N/A	36	6078	2307	3771	105	64
Total	0.0		68	\$9,142	\$4,710	\$4,432	\$65	\$69

Average Harvest Area Size = N/A

Appendix B - Harvest and Profit Summary

1987 To 2021 Harvesting Summary

Year	Ha	Volume m³	Volume/Ha	Net Revenue	Net Revenue \$/m³
1 1987	63.4	13,159	208	\$204,772	\$15.56
2 1988	73.9	18,602	252	\$354,256	\$19.04
3 1989	43.2	14,798	343	\$272,913	\$18.44
4 1990	36.1	10,969	304	\$254,831	\$23.23
5 1991	32.2	12,740	396	\$271,217	\$21.29
6 1992	63.3	12,935	204	\$289,102	\$22.35
7 1993	55.2	14,907	270	\$542,821	\$36.42
8 1994	58.6	16,160	276	\$692,414	\$42.85
9 1995	78	21,556	276	\$1,205,329	\$55.92
10 1996	48.7	14,427	296	\$639,017	\$44.29
11 1997	32.3	13,371	414	\$625,437	\$46.78
12 1998	30.2	12,085	400	\$444,933	\$36.82
13 1999	41	16,428	401	\$564,867	\$34.38
14 2000	35.9	13,378	373	\$564,778	\$42.22
15 2001	39.34	15,538	395	\$660,924	\$42.54
16 2002	39.9	13,880	348	\$580,631	\$41.83
17 2003	49.2	15,841	322	\$661,089	\$41.73
18 2004	64.47	19,126	297	\$773,940	\$40.47
19 2005	54.6	16,018	293	\$672,876	\$42.01
20 2006	53.4	17,518	328	\$792,562	\$45.24
21 2007	65.6	21,153	322	\$804,375	\$38.03
22 2008	39.5	13,703	347	\$619,866	\$45.24
23 2009	46.5	14,296	307	\$439,936	\$30.77
24 2010	42.1	16,418	390	\$451,287	\$27.49
25 2011	45.5	17,775	391	\$664,170	\$37.37
26 2012	42.7	17,142	401	\$618,045	\$36.05
27 2013	60.4	24,355	403	\$1,110,159	\$45.58
28 2014	51.7	20,226	391	\$1,063,196	\$52.57
29 2015	46.7	22,271	477	\$1,003,533	\$45.06
30 2016	36.6	17,268	472	\$1,020,010	\$59.07
31 2017	21.8	10,585	486	\$832,043	\$78.61
32 2018	25.1	11,562	461	\$977,787	\$84.57
33 2019	45.1	15,255	338	\$840,922	\$55.12
34 2020	5.4	2,734	506	\$117,125	\$42.84
35 2021	0	68	0	\$4,433	\$65.19
Total	1567.61	528,247		\$21,635,597	\$40.96
Average	44.8	15,093	337	\$618,160	

Forestry Program Profit

Annual Profit	Annual Profit \$/m³	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		
-\$20,393	-\$1.29	\$0	-\$20,393	\$0		\$0		
-\$119,382	-\$6.24	\$0	-\$119,382	\$0		\$0		
-\$137,409	-\$8.37	\$0	-\$137,409	\$0		\$0		
-\$55,879	-\$3.14	\$0	-\$55,879	\$0		\$0		
\$9,602	\$0.56	\$0	\$9,602	\$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		
-\$509,476	-\$7,492.29	\$0	-\$509,476	\$0		\$0		
\$3,401,877	\$6.44	\$2,292,858	\$242,305	\$719,940	\$5,854	\$140,920	61 Ac	
\$97,196		\$65,510	\$6,923	\$20,570	\$167	\$4,026		

Summary 1987 to 2021 337 M³/Ha \$13,802 /Ha
 Net Revenue from the MFR 1987 to 2021 \$3,401,877 \$6.44 \$/M³

Profit distribution for 2021

\$ (509,476) to Forest Reserve Fund
 \$ - to Forest Legacy Fund
 \$ - to General Revenues

2021 Average
 N/A

\$ (509,476) Total Loss

Appendix C - 2021 Statement of Account

	<u>2021 Budget</u>	<u>Year to Date Jan 1 to Dec 31, 2021</u>
Revenue		
Log Sales	0m ³ -	68m ³ 9,143
A	SUBTOTAL - LOGGING SALES	9,143
Grants	110,000	-
Rentals (Cell Towers)	90,150	100,657
Other Revenue	9,000	10,240
B	SUBTOTAL - OTHER REVENUE	110,897
C	TOTAL REVENUE	120,040
Expenses		
Harvesting	-	4,710
Scaling	-	-
Contract Engineering	-	-
Road Construction	-	-
D	SUBTOTAL - LOGGING COSTS	4,710
Road Maintenance	19,400	14,147
Road Deactivation	-	-
Site Preparation	-	-
Planting	23,460	20,467
Brushing and Weeding	10,200	8,139
Brushing and Herbicides	-	-
Pruning	12,000	14,501
Tree Protection	29,950	35,886
Administration	371,030	374,483
Fire Protection	123,500	60,223
Security	11,000	20,433
Tours	3,600	-
Integrated Resource Mgmt	2,000	2,743
Municipal Forest Review	100,000	53,437
Forestry contractor	-	1,435
Recreation Roads Maintenance	5,000	4,430
Scholarships	2,400	2,434
Grants in Aid	2,500	1,018
Invasive Species Control	15,000	11,030
Vehicles (included with Admin)	-	-
E	SUBTOTAL - FORESTRY OPERATIONS	624,806
F	TOTAL LOGGING OPERATIONS (A-C)	4,433
G	TOTAL FORESTRY OPERATIONS (B-D)	(513,909)
	NET INCOME (LOSS) (F+G)	(509,476)
Reserve Fund Beginning of year 2021	1,740,129	1,740,129
Interest	-	(53)
Reserve Contribution	-	20,000
Forestry Profits 50%	(521,890)	(509,476)
Reserve Fund End of Year 2021	1,218,239	1,250,600

Appendix D - 2021 Forestry Photos



Salvage harvesting of danger trees along the property line of a new housing build on Shore Pine Close, Mount Tzouhalem.



before



after

Danger tree salvage – Stoney Hill



Danger tree salvage – Stoney Hill



Planting and cone installation on Mount Prevost – P-119



Planting and cone installation on Mount Richards – R-355A



Manual brushing of scotch broom on Maple Mountain – M-403 (2018 wildfire salvage area)



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



White Pine Pruning on Mount Prevost – P-797



before

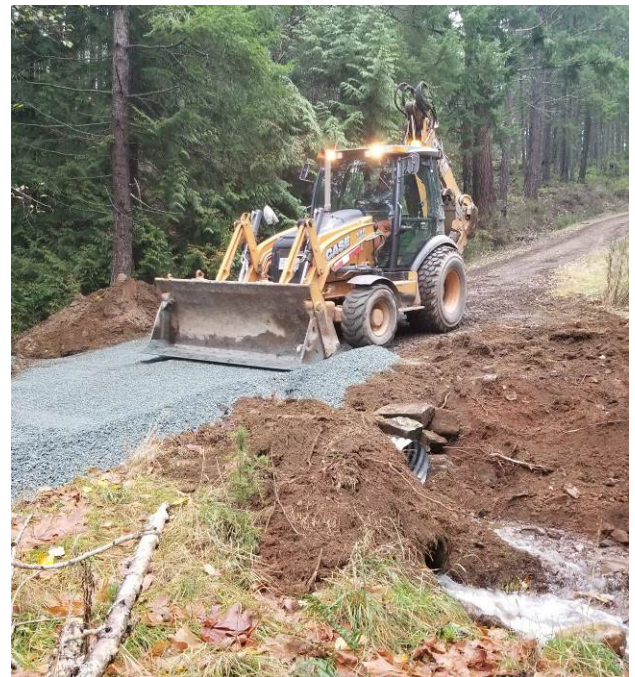


after

Illegal access control – Mount Richards



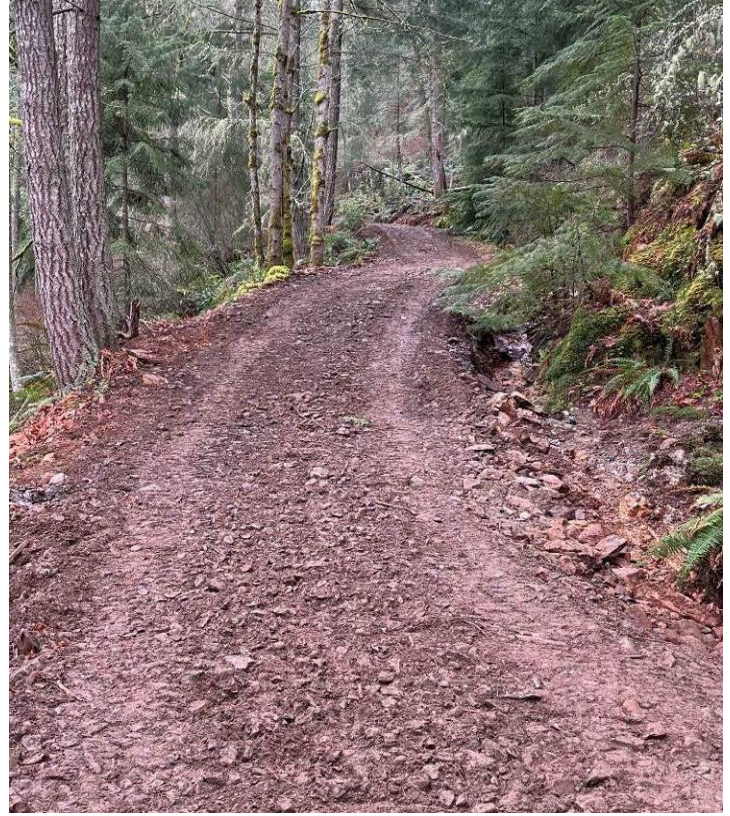
Road maintenance – Mount Prevost



Road repair – Maple Mountain



before



after

Road repair - Maple Mountain



before

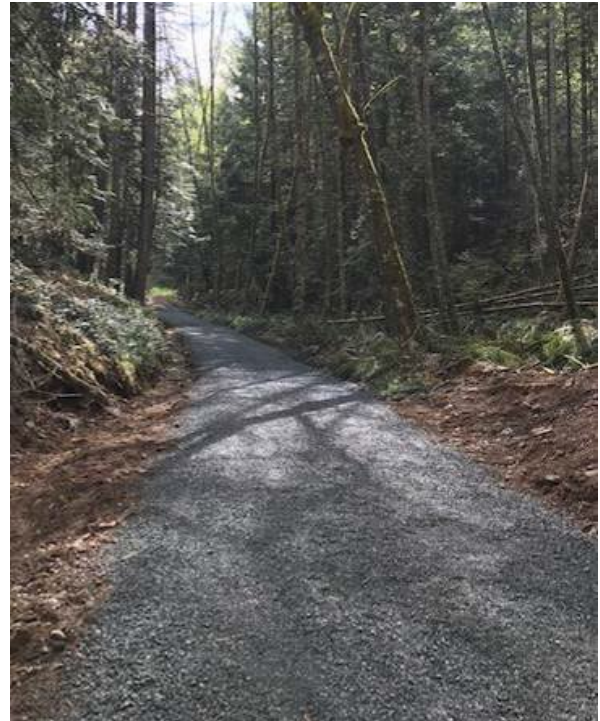


after

Road repair - Maple Mountain



before



after

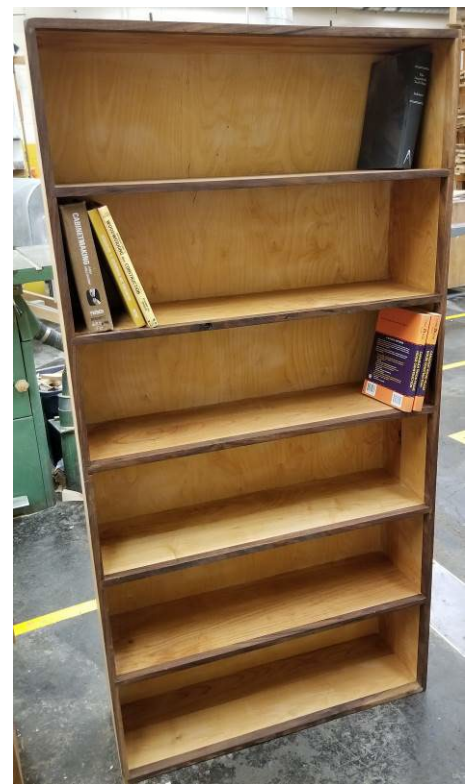
Road repair/improvement – Southview Terrace trail and emergency vehicle access – Maple Mountain



1st Place



2nd Place



3rd Place

High school woodworking contest – “bookshelf” project