

Report

Date June 21, 2023
Subject 2022 Annual Forestry Report

File:

PURPOSE

To provide a general summary of the metrics and activities conducted within the Forestry Department in 2022.

BACKGROUND

Each year the Municipal Forester prepares an annual report containing key Municipal Forest 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 2022 Annual Forestry Report is being brought forward directly to Council at the same time as the Municipal Annual Report.

Forestry management practices in the MFR have changed significantly since the MFR went under review in 2019., Harvesting and operational practices have been greatly reduced while the municipality explores a variety of new sustainable approaches to future forest management. Until such future forestry management plans are developed, staff continue to perform important forestry management practices such as danger tree removal, forestry road maintenance, tree protection, planting, security, silviculture, fire protection, forestry tours, community contributions, and continuing important dialogue and discussions with provincial agencies.

While the 2022 Annual Forestry Report describes MFR metrics and activities consistent with the MFR management model currently under review, it is anticipated that future annual reports will be consistent with any new or altered forest management models adopted by Council.

DISCUSSION

Harvest Summary

Total Area = 0.3ha
Total Volume = 253m³
Harvest Cost = \$17,130 = \$68/ m³
Gross Revenue = \$41,487 = \$164/m³
Net Revenue = \$24,357 = \$96/m³

Forestry Program Total Net Loss = (\$310,641)

- Timber was harvested on Maple Mountain at the site of a future water storage reservoir that will be constructed as part of a nearby development in Crofton. This new reservoir will provide fire protection and increased water pressure for the new development and surrounding area of Crofton.
- Danger trees and/or blown-down trees accessible from the roadsides were salvaged on Maple Mountain. This work is part of regular road maintenance to reduce safety risks for road users and emergency vehicle access.

Log Sales Summary

Domestic sales = 84m³ (33%)

*Export sales = 169m³ (67%)

*Includes United States

Planting

Costs \$ 19,053 Budget \$ 14,580

In spring 2022, ~17ha were fill planted with 12,570 seedlings. The total cost for each tree planted was \$1.77/tree. Seedling costs were \$0.52/tree*, and planting costs were \$1.25/tree (includes fertilizer).

*seedling costs include seed purchase, cold storage and shipping

Planting Summary:

Species Planted	# Planted	% of Total Planted
Douglas Fir	11,610	92%
Western White Pine	960	8%

Tea-bag fertilizer application at the time of planting = 2,090

Since 1987, the Municipality has planted 2,298,722 seedlings and harvested 1567ha – all of which have been replanted.

Road Maintenance

Costs \$11,690 Budget \$26,800

- Danger tree removal along forestry roads throughout the MFR allows safe access for forestry activities, public users, and emergency vehicle access.
- Maple Mountain forestry road repair from 2021 flood damage. The majority of the cost (90%) is covered through Emergency Management British Columbia.
- Dust control was applied to the forestry road entrance to Mount Prevost.

- Culvert/ditch cleaning and road grading/repair of forestry roads completed on Mount Richards, Mount Prevost, Mount Sicker and Grace Road.
- Parking lot improvements completed on Grace Road.
- Road repair and maintenance on Mount Prevost access road to the Cairn parking lot.

Fire Protection

Costs \$ 7,079 Budget \$ 13,500

- There were no large forest fires within the MFR in 2022.
- Additional firefighting 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 hazards on July 27 and re-opened on October 27.

Security and Vandalism

Costs \$ 14,872 Budget \$15,000

Staff regularly encounter garbage dumping, timber theft, campfires, and overnight camping in various locations within the MFR. There has been a noticeable decrease since implementing enhanced initiatives in 2021, signalling that these measures are working to reduce these types of activities. Staff continued with the following initiatives:

- Promoting public awareness, education, and reporting by installing/maintaining signage through media/TV interviews and social media posts
- Ongoing regular patrols within the MFR
- Working with RCMP and the Bylaw Services Team on various initiatives
- Implementing video surveillance options and strategies
- Working with Crime Stoppers to increase public reporting of illegal activity

Silviculture

Activity	Type	Area Treated	Cost	Budget
Plantation Brushing	Manual	1.5ha	\$1,795	\$12,500
	Herbicide	0	0	\$0
Invasive Species Control	Manual	*see below	\$12,145	\$15,000
White Pine Pruning	Manual	0ha	\$0	\$4,080
Silviculture Surveys	Various	92ha	Completed by Forestry staff/contractor	

*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 \$ 39,618 Budget \$ 45,580

- Removed & re-packaged 364 browse protectors. (\$4.49/tree)
- Installed 6,843 browse protectors. (\$2.09/tree)
- Re-Use 2,640 browse protectors. (\$1.23/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 were chosen - \$2,400 awarded.
 - ~\$158,400 total awarded since 1998
- Annual high school woodworking contest winners are chosen with \$1,000 in prizes awarded. A total of 6 students entered their entryway bench 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 sold to the public.
- There were no Forest Legacy-funded projects in 2022.

Forest Tours

Self-Guided Tour - Maple Mountain

- In response to feedback from the Maple Mountain public forestry tour in September 2021, staff created a pamphlet and map, providing enough information for anyone interested to embark on a self-guided forestry tour that mirrored the public tour provided by the Municipal Forester.

<https://www.northcowichan.ca/EN/main/departments/forestry/forestry-tours.html>

Other Notable Activities

- Forestry staff:
 - Continue to support work by 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.
 - Continue to support work by a research ecologist with the Ministry of Forests, to maintain a study site for a coast plant phenology and climate change research project on Maple Mountain.

- Continue to support representatives from the Ministry of Water, Land and Resource Stewardship as they continue work in areas of high conservation value on Maple Mountain and Mount Richards. This work is funded through the federal Priority Places Program to protect Garry Oak ecosystems.
 - Supported work by an independent research group that obtained funding through the federal Habitat Stewardship Program to conduct survey work for the endangered Sharp-tailed snake on Maple Mountain.
 - Continue to support the BC Purple Martin Stewardship & Recovery Program as they continue to work with their Coastal Purple Martin colony monitoring and nest-checking program on Mount Richards and Maple Mountain.
 - Coordinated and provided salvaged timber to the Cowichan Trail Stewardship Society for the purposes of producing materials to be used for trail infrastructure maintenance and construction.
 - Supported Cowichan Tribes by providing and coordinating security measures to support a safe space to hold private ceremonial work undertaken by Cowichan Elders and community members on Mount Prevost.
- Due to road safety concerns, Forestry staff contracted a professional geologist to conduct a road hazard assessment on Grace Road West. As a result of the assessment, staff restricted year-round public vehicular access to Grace Road West by closing the forestry gate at the south end of the road and installing barriers at the north end.
 - The 2021 FireSmart projects were completed. The project included detailed treatment prescriptions in identified high fire risk areas as per the 2020 Community Wildfire Protection Plan on Mount Tzouhalem, Maple Mountain and Mount Richards. FireSmart assessments for North Cowichan owned critical infrastructure and the creation of the draft wildfire development permit area were also completed.
 - Received ~\$143,000 through the 2022 Community Resiliency FireSmart Community grant program to begin conducting fuel hazard reduction treatments on Mount Tzouhalem.

RECOMMENDATION

THAT Council receive for information the 2022 Annual Forestry Report provided by the Municipal Forester.

Report prepared by:

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Community Services

Report reviewed by:



George Farkas
General Manager, Planning, Development and

Approved to be forwarded to Council:



Ted Swabey
Chief Administrative Officer

Attachment(s):

- (1) 2022 Harvesting Summary
- (2) 2022 Harvest and Profit Summary
- (3) 2022 Statement of Account
- (4) 2022 Annual Forestry Report Photos

Appendix A

2022 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
Water Reservoir Site - Maple Mountain	0.3	487	146	25,530	7,695	17,835	122	53
Danger Tree Salvage - Maple Mountain	0.0	N/A	107	15,958	9,435	6,523	61	88
Total	0.3		253	\$41,487	\$17,130	\$24,357	\$96	\$68

Average Harvest Area Size = 0.3

Appendix B - Harvest and Profit Summary

1987 To 2022 Harvesting Summary

Year	Ha	Volume m ³	Volume/Ha	Net Revenue	Net Revenue \$/m ³
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
36 2022	0.3	253	0	\$24,357	\$96.27
Total	1567.91	528,500		\$21,659,954	\$40.98
Average	43.6	14,681	337	\$601,665	

Forestry Program Profit

Annual Profit	Annual Profit \$/m ³	Annual Forestry Profit Split As Follows:					
		General Revenues	Forest Reserve Fund	Forest Legacy Fund	Scholarship Fund	Land Purchases	Hectares
-\$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	14.2
\$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	10.5
\$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	
-\$310,641	-\$1,227.83	\$0	-\$310,641	\$0		\$0	
\$3,091,236	\$5.85	\$2,292,858	-\$68,336	\$719,940	\$5,854	\$140,920	24.7
\$85,868		\$63,691	-\$1,898	\$19,998	\$163	\$3,914	

Summary 1987 to 2022 337 M³/Ha \$13,815 /Ha
 Net Revenue from the MFR 1987 to 2022 \$3,091,236 \$5.85 \$/M³

Profit distribution for 2022
 \$ (310,641) to Forest Reserve Fund
 \$ - to Forest Legacy Fund
 \$ - to General Revenues
\$ (310,641) Total Loss

Appendix C - 2022 Statement of Account

	<u>2022 Budget</u>	<u>Year to Date Jan 1 to Dec 31, 2022</u>
Revenue		
Log Sales	0m ³ -	253m ³ 41,487
A	SUBTOTAL - LOGGING SALES	41,487
Grants	213,380	97,061
Rentals (Cell Towers)	90,150	98,248
Other Revenue	9,000	10,325
B	SUBTOTAL - OTHER REVENUE	205,634
C	TOTAL REVENUE	247,121
Expenses		
Harvesting	-	17,130
Scaling	-	-
Contract Engineering	-	-
Road Construction	-	-
D	SUBTOTAL - LOGGING COSTS	17,130
Road Maintenance	21,800	5,055
Road Deactivation	-	-
Site Preparation	-	-
Planting	14,580	19,053
Brushing and Weeding	12,500	1,795
Brushing and Herbicides	-	-
Pruning	4,080	-
Tree Protection	45,580	39,618
Administration	357,231	293,721
Fire Protection	226,880	58,246
Security	15,000	14,872
Tours	3,600	-
Integrated Resource Mgmt	3,000	2,400
Municipal Forest Review	64,130	77,371
Forestry contractor	-	4,725
Recreation Roads Maintenance	5,000	6,635
Scholarships	2,400	2,451
Grants in Aid	2,500	2,545
Invasive Species Control	15,000	12,145
Vehicles (included with Admin)	-	-
E	SUBTOTAL - FORESTRY OPERATIONS	540,632
F	TOTAL LOGGING OPERATIONS (A-C)	24,357
G	TOTAL FORESTRY OPERATIONS (B-D)	(334,998)
	NET INCOME (LOSS) (F+G)	(310,641)
Reserve Fund Beginning of year 2022	1,740,129	1,250,600
Interest	(53)	(2,209)
Reserve Contribution	20,000	20,000
Forestry Profits 50%	(509,476)	(310,641)
Reserve Fund End of Year 2022	1,250,600	957,750

Appendix D - 2022 Forestry Photos



Planting and browse protector installation on Maple Mountain



Invasive species control – Road right of way brushing of Scotch Broom in Stoney Hill



Invasive species control - Road right of way brushing of Scotch Broom on Mount Tzouhalem



Invasive species control - Road right of way brushing of Scotch Broom on Maple Mountain

Road Maintenance



Grace Road - Roadside brushing

Road grading



Mount Prevost – Road grading and ditching

Speed control

High school woodworking contest – “Entryway Bench” project



1st Place



2nd Place



3rd Place