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# AN ANNOTATION OF VANCOUVER DISTRICT SLASH BURNING STATISTICS

by  
S. J. Muraro

FOREST RESEARCH LABORATORY  
VICTORIA, BRITISH COLUMBIA  
INFORMATION REPORT BC-X-30

FORESTRY BRANCH  
DEPARTMENT OF FISHERIES AND FORESTRY  
MARCH, 1969

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The annual reports of the B. C. Forest Service contain a wealth of information on various aspects of the year's protection activities. Of particular and recurring interest are the statistics dealing with prescribed burning for logging slash abatement in the Vancouver Forest District. These statistics are generally consistent in their presentation and have been maintained for a long enough period to provide an indication of the impact of various protection policies. Because only the current year's slash related activities are contained in each annual issue, a tedious task of sifting through numerous volumes and a number of tables faces even the casual trend seeker. In addition there is always some confusion concerning the applicability and possible duplication of various totals.

To alleviate procurement of future slash and wildfire data, it was decided to extract the various statistics most often required, verify their applicability, define their meaning, and publish them for restricted use in the form of an Information Report.

Because the hazard abatement burning program is often affected by the particular season's wildfire activities, an annotation of the annual wildfire activity damages and costs are also included. In the text pre-

ceding the tables, the 1961 Annual Report is used as a reference, and the page and table numbers refer to that report.

In each annual report, the table number and page number wherein a particular set of statistics are contained vary. The appendix provides a quick means of finding the appropriate page on which the tables cited herein are located.

Missing values result from changes in table presentation that deleted the required values.

Part I - Slash Hazard Abatement Statistics

col 0 - year

col 1 - Total area logged - acres. This figure appears in table 40, "Summary of Logging Slash Reported in 1961, Vancouver Forest District", page 116. The same figure also appears in an adjacent table dealing with snag felling. It reports the total area of logging during the calendar year, including logging occurring after the fall slash burning period.

col 2 - Total area of slash dealt with - acres. This is the acreage of slash that was considered for various means of treatment during the operational burning season of the year. It includes the acreage requiring disposal, col 5, and thus includes "carry over" from previous years' logging, col 3. The difference between this figure and that

shown in col 5 is the acreage from previous years and the current year and slash exempted from burning. The figure shown in col 2 includes the area of logging slash from the start of the previous burning season (Sept.) to the current burning season that was examined; in addition, extensions from previous years are also included. This figure is in table 41, "Acreage Analysis of Slash Disposal Required, 1961 Vancouver Forest District", page 117.

- col 3 - Required disposal, from previous years - acres. This figure is contained in table 41, "Acreage Analysis of Slash Disposal required, 1961 Vancouver Forest District", page 117. It includes slash acreage from previous years' logging that was either granted extensions because of adverse burning conditions and/or slash instructed to burn but created after the normal burning season of the previous year, i.e. fall of 1960.
- col 4 - Required disposal - acres. This figure is from the same table and adjacent to the figure in col 3. It is the total acreage of slash created from Jan. 1961 to the fall burning period that carried instructions for burning. This figure is often footnoted with the acreage created too late for treatment in the current year.
- col 5 - Required disposal - Total - acres. This figure

also appears in table 41, page 117 and is the total of cols 3 and 4. It describes quantitatively the task to be accomplished during that year's burning period to maintain the slash hazard abatement schedule. In table 41, the figures in cols 3 and 4 are further divided by type of burning; however, in this summary no distinction has been made.

- col 6 - Disposal achieved of old slash - acres. This appears in table 42, "Analysis of Progress in slash disposal, 1961 Vancouver Forest District," page 117. This is the acreage of slash actually disposed in the same category as col 3.
- col 7 - Disposal achieved of current slash - acres. This figure is also from table 42 and relates to col 4 in the same way that col 6 relates to col 3.
- col 8 - Disposal achieved - Total - acres. This figure is also in table 42 and describes the achievement against the problem posed by col 5. A comparison of col 8 and col 5 is one means of determining the favorability of the particular burning season. As for cols 3, 4 & 5, the original figures were segregated according to type of burn; however, only the totals were felt to be of sufficient importance to include in this summary.
- col 9 - Cost of Treatment - Dollars. This figure is

the sum of the individual treatment costs listed in table 43, "Summary of Slash-Burn Damage and Costs, 1961 Vancouver Forest District." page 118, and is the cost, as reported by operators, of treating the acreage shown in col 8. Undoubtedly some of this cost can be applied as a cost of suppression to the acreage involved in escaped slash burns (col 10). Since no distinction has been made in the annual reports, it will be treated only as a cost of burning in this summary.

- col 10 - Forest Cover Burned in Treatment - acres. This figure in the annual acreage forest cover burned by escaped intentional slash fires resulting from treating the number of acres shown in col 7. This figure appears in table 43, "Summary of Slash-Burn Damage and Costs, 1961 Vancouver Forest District." This acreage does not include the area of slash involved in escaped from intentional burns or the area of slash involved in accidental fires.
- col 11 - Damage to Forest Cover - Dollars. This figure is the value of the destroyed forest cover on the acreage shown in col 10. It appears in the same table as the total acreage shown in col 10.
- col 12 - Total damage - Dollars. This figure is the total value destroyed by the acreage burned

during treatment in col 10; in addition to damage to forest cover, it includes the losses to cut products and to equipment and property. This figure is in table 43, "Summary of Slash-Burn Damage and Costs, 1961 Vancouver Forest District."



## Part II Wildfire Statistics

Because the objective of hazard abatement is to reduce the wildfire acreage, and because wildfire occurrence for any one year may affect that year's prescribed burning program, the following annual wildfire statistics are summarized to collate hazard abatement and wildfire activity in the Vancouver Forest District.

col 0 - year

col 1 - Total area burned by wildfire - acres. This figure is the total acreage from table 49, "Damage to Forest Cover Caused by Forest Fires" - 1961. This acreage does not include the acreage burned by escaped intentional slash burns.

col 2 - Total damage by wildfire - Dollars. This figure is the total damage through stumpage loss from forest cover only during the course of burning the acreage reported in col 1. This figure is also from table 49, "Damage to Forest Cover Caused by Forest Fires" - 1961.

col 3 - Direct costs of Wildfire Suppression to Forest Service - Dollars. This figure is reported in table 37, "Forest Protection Expenditures by the Forest Service for Fiscal year 1960-61." The figure reported in each annual report is applicable to the previous year's fire activity because this figure is reported on the basis of a fiscal year of March 31. The cost is for

direct suppression costs sustained by the Forest Service.

- col 4 - Indirect Costs of Wildfire Suppression to Forest Service - Dollars. This figure is reported in table 37, and is the sum of all expenditures other than direct suppression costs, and is also on a fiscal year basis. Expenses included are permanent staff, salaries and expenses of temporary staff, tools and equipment, improvements and other costs.
- col 5 - Total costs of Wildfire suppression to Forest Service - Dollars. This figure is the sum of the costs shown in table 37, and is the sum of cols 3 and 4.
- col 6 - Direct Cost of Wildfire Suppression to Industry - Dollars. This figure is from the column entitled "Fires" in table 38, "Reported Approximate Expenditure in Forest Protection by Other Agencies" - 1961. This is the direct cost of wildfire suppression expended by other than government agencies and is an equivalent cost, primarily to industry, as that shown for the Forest Service in col 3.
- col 7 - Indirect Cost of Wildfire Control to Industry - Dollars. This figure is the sum of all other columns in table 38 except that shown for fires. It represents industrial expenditures for patrol

and prevention, tools and equipment and improvements.

- col 8 - Total Cost of Wildfire Control to Industry - Dollars. This is the total yearly expenditure by industry for fire control. It is the total figure from table 38, and is also the sum of cols 6 and 7.
- col 9 - Total Cost of Wildfire Control - Dollars. This is the total cost of wildfire control in the Vancouver Forest District by provincial and other agencies and is the total of cols 5 and 8.
- col 10 - Area Burned by Wildfire in untreated logging slash - acres. This figure is contained in table 49, "Damage to Forest Cover Caused by Forest Fires" - 1961, Part II, and does not include burned acreage resulting from escaped prescribed burns. There is no distinction as to age of slash, or if the area is operationally involved or is not scheduled for burning.
- col 11 - Area Burned by Wildfire in treated logging slash - acres. This figure is adjacent to the figure in col 10 in table 49 and reports the total acreage of logged and abated area involved in wildfire; there is no distinction as to age of treatment.
- col 12 - Damage to property other than Forests - Dollars. This figure is the result from forest fires to forest products, buildings, logging and sawmill

equipment and other related damages that are not related to the forest cover. This figure is found in table 48, "Damage to Property other than Forests." This figure is placed in this position because indications are that the bulk of it is comprised of damage to forest products in various stages of extraction and therefore probably result largely from the acreage shown in col 10, i.e. that occurring in untreated logging slash. Total damage from wildfire is attained by adding col 2 and col 12. Again this figure does not include damage resulting from escaped prescribed burns.

col 13 - Number of Fires resulting from Industrial Causes. This is the annual number of fires in the Vancouver Forest District according to the general cause, category of industrial operations, and is shown in table 45, "Number and Causes of Forest Fires" - 1961. This does not include the number of escaped prescribed burns.

col 14 - Total number of Forest Fires. This is the total number of wildfires reported during the year in the Vancouver Forest District, excluding a large number of railway tie fires. This figure represents the number of fires during which the acreage shown in col 1, Part II, was burned, involving the expenditures shown in cols 2, 9 and 12.

Appendix

To facilitate easy reference to the source of figures, an appendix is provided, consisting of a reference table showing page and table numbers wherein the values, in each column, for a particular year, are found.

TABLE I - SLASH HAZARD ABATEMENT STATISTICS

Col.0	Col.1	Col.2	Col.3	Col.4	Col.5	Col.6	Col.7	Col.8	Col.9	Col.10	Col.11	Col.12
Year	Total Area Logged Acres	Total Area of Slash Dealt With Acres	Previous Year's Slash Acres	Current Year's Slash Acres	Total of Columns 3 and 4 Acres	Previous Year's Slash Burned Acres	Current Year's Slash Burned Acres	Total of Columns 6 and 7 Acres	Total Cost of Burns \$	Damage to Forest Cover Acres	Cost of Damage to Forest Cover \$	Total Cost of Damage \$
1943	53540	36318	12477	23841	36318	27032	12989	40012	66816	5805	23178	133660
1944	56885	47600	20362	27238	47600	14098	13180	27278	49364	502	1149	4864
1945	59699	33948	6486	27462	33948	27011	19456	46467	58169	206	1577	23623
1946	58502	37323	5661	31662	37323	10024	15474	25498	41447	258	1467	5810
1947	76313	47006	7215	39791	47006	15895	18519	34414	84970	1741	3865	5865
1948	76667	47737	13212	34525	47737	13343	17309	30552	44960	52	37	477
1949	70414	31706	688	31018	31706	31277	22866	53543	78685	1085	5274	59625
x	64574	40234	9443	45077	40234	19811	17027	36837	60630	1379	5221	33560
1950	75503	76545	20742	27067	47809	18525	12514	25039	54012	823	6606	109279
1951	71751	75271	16073	19924	35997	7014	3422	10436	53273	63	1125	8625
1952	75291	96140	33962	21631	55593	26496	12568	39064	474628	10744	81128	226365
1953	79198	88171	20707	23233	43940	13437	8783	22220	46799	4	2	2
1954	81833	84752	17874	26467	44341	24697	16805	41502	67217	20	268	2468
1955	84484	77997	18321	20165	38486	12502	12168	24671	49994	12	526	2517
1956	90661	44257	11964	24325	36289	10802	8749	19551	48643	NIL	NIL	NIL
1957	70862	69871	16318	20451	36769	36306	14739	51045	195600	1670	29114	174258
1958	57576	45012	8950	13433	22383	11350	9522	20872	101857	370	4548	42118
1959	72392	61101	15010	19212	34222	12852	13450	26302	232782	NIL	NIL	4430
x	75955	71912	17992	21591	39583	16798	11272	28070	132480	1371	12331	57006
1960	76958	72883	21057	21495	42552	30189	18574	48763	232782	487	13330	21818
1961	72264	59634	18333	20139	38472	17146	18327	35473	154612	6735	122711	154629
1962	90014	73948	22801	26379	49180	24768	20134	44902	145762	627	12444	27262
1963	90548	78361	25413	27236	52649	32924	23009	55933	200310	487	14779	16122
1964	100590	83408	30814	34894	65708	24501	20102	44603	154425	362	7414	8018
1965	99694	77181	28356	37044	65400	52237	32411	84648	447072	14471	162984	277037
1966	100067	83906	35630	35973	71603	37403	28955	66358	101857	795	52674	52929
1967	94136	75989	33986	32496	66482	40765	21533	62298	232782	20679	558545	846024
1968												
1969												
x	90534	75664	27049	29457	56550	32492	22881	55372	222494	5580	118110	175480
TOTAL AVERAGES												
x	77434	64243	18496	26684	45194	22664	16598	39262	134094	2720	44190	88353

TABLE II - WILDFIRE STATISTICS

Col. 0	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14
Year	Total Area Burned by Wildfire Acres	Total Damage to Forest Cover by Wildfire \$	Direct Cost of Wildfire to Forest Service \$	Indirect Cost of Wildfire to Forest Service \$	Total of Columns 3 and 4 \$	Direct Cost of Wildfire to Industry \$	Indirect Cost of Wildfire to Industry \$	Total of Columns 6 and 7 \$	Total of Columns 5 and 8 \$	Area of Wildfire -- Unrestored Slash Acres	Area of Wildfire -- Treated Slash Acres	Damage Other Than Forests \$	Number of Fires Industry	Number of Fires Total
1943	6110	4773	4464	152357	156821	43239	112530	155769	312590	2096	804	65444	14	318
1944	31071	88349	29866	215509	245136	167019	119014	316033	561470	4644	3684	186304	42	481
1945	21883	68918	60426	205650	266076	151211	189085	340296	606373	3897	5279	272777	22	389
1946	10570	23858	10816	212737	223754	115857	248308	364165	587720	2320	605	141983	28	426
1947	4231	8859	6462	315729	322192	84264	242172	326436	648628	2663	207	240347	29	394
1948	3008	6504	2479	266437	288916	43191	352419	395611	684527	2215	11	81603	16	202
1949	3752	8204	16361	330563	346925	99410	403711	503121	850046	1468	484	200098	43	496
x	11518	29924	18696	245578	264274	100599	242462	343061	607336	2757	1582	169793	28	387
1950	4610	15493	19408	436003	455411	162901	379317	542218	997629	1683	787	333439	54	390
1951	109101	670564	536639	53314	1071953	724607	634889	1359496	2431449	21561	15672	1314377	56	659
1952	23208	264033	174208	333500	507708	280020	596692	876712	1384420	3857	2254	349722	32	579
1953	347	2153	5873	322470	328343	22402	472444	494846	823189	18	29	3329	19	318
1954	1629	17796	7605	320443	328048	62506	433166	475672	803720	215	35	33349	20	239
1955	634	6855	12982	332281	345263	23178	444218	467396	812659	199	2	49256	20	319
1956	11171	86961	85630	348712	434343	374148	544895	919043	1353386	2872	512	224000	52	1424
1957	3044	4270	7906	354491	362392	62993	399600	452593	814985	1126	185	65345	20	565
1958	73556	1584328	769058	373550	1142608	371984	425424	797408	1940016	3805	2304	155458	39	1690
1959	1832	45908	131145	404080	535226	41245	571985	613230	1148456	565	30	199035	17	826
x	22913	269836	175045	376084	551130	212598	487263	699861	1250992	3590	2181	272731	33	701
1960	8010	143637	94237	460278	554215	165698	600416	766114	1320629	782	402	157638	28	1866
1961	32200	549099	592584	477112	1069248	200385	496131	696516	1765764	3958	187	193492	48	550
1962	4022	45135	168381	202476	202476	168381	612306	780687	2304	2304	417	250167	31	261
1963	4482	90513	503576	18760	503576	202476	598541	706087	1143	1143	315	153613	43	424
1964	498	3750	18760	617301	617301	18760	598541	617301	74	74	8	24872	18	248
1965	16775	817657	724233	1398003	1398003	673770	724233	1398003	3098	3098	645	378701	92	597
1966	667	11742	114200	709482	823682	114200	709482	823682	188	188	32	41929	44	402
1967	27916	929111	873426	1381657	2255083	873426	1381657	2255083	5074	5074	1975	357778	103	496
1968														
1969														
x	11821	323830	343410	468695	811881	302137	703292	1005429	1543196	2078	498	194898	51	605
TOTAL AVERAGES														
x	16173	219939	135166	337751	472894	209890	487484	697739	1044614	2873	1474	219002	37	582





APPENDIX II - INDEX TO ANNUAL REPORTS - WILDFIRE INFORMATION

Col. 0	Col. 1	Col. 2	Col. 3*	Col. 4*	Col. 5*	Col. 6	Col. 7	Col. 8	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14
1943	P-63		P-53	P-53	P-53	P-43	P-43	P-43	P-63	P-63	P-60	P-59	P-59
1944	P-69	P-56-T-40	P-56-T-40	P-56-T-40	P-56-T-40	P-52	P-52	P-52	P-69	P-69	P-68	P-67	P-67
1945	P-78-T-52	P-90-T-40	P-90-T-40	P-90-T-40	P-90-T-40	P-57-T-41	P-57-T-41	P-57-T-41	P-78-T-52	P-78-T-52	P-77-T-51	P-76-T-48	P-76-T-48
1946	P-95-T-51"	P-100-T-41	P-100-T-41	P-100-T-41	P-100-T-41	P-91-T-41	P-91-T-41	P-91-T-41	P-95-T-51"	P-95-T-51"	P-95-T-50	P-94-T-47	P-94-T-47
1947	P-106-T-52"	P-105-T-40	P-105-T-40	P-105-T-40	P-105-T-40	P-101-T-42	P-101-T-42	P-101-T-42	P-106-T-52"	P-106-T-52"	P-105-T-51	P-104-T-48	P-104-T-48
1948	P-111-T-51"	P-131-T-40	P-131-T-40	P-131-T-40	P-131-T-40	P-106-T-41	P-106-T-41	P-106-T-41	P-111-T-51"	P-111-T-51"	P-110-T-50	P-109-T-47	P-109-T-47
1949	P-136-T-51"	P-122-T-40	P-122-T-40	P-122-T-40	P-122-T-40	P-132-T-41	P-132-T-41	P-132-T-41	P-136-T-51"	P-136-T-51"	P-135-T-50	P-134-T-47	P-134-T-47
1950	P-128-T-54"	P-142-T-41	P-142-T-41	P-142-T-41	P-142-T-41	P-123-T-41	P-123-T-41	P-123-T-41	P-128-T-54"	P-128-T-54"	P-127-T-53	P-126-T-50	P-126-T-50
1951	P-148-T-55"	P-159-T-41	P-159-T-41	P-159-T-41	P-159-T-41	P-143-T-42	P-143-T-42	P-143-T-42	P-148-T-55"	P-148-T-55"	P-147-T-54	P-146-T-51	P-146-T-51
1952	P-166-T-55"	P-155-T-41	P-155-T-41	P-155-T-41	P-155-T-41	P-160-T-42	P-160-T-42	P-160-T-42	P-166-T-55"	P-166-T-55"	P-165-T-54	P-164-T-51	P-164-T-51
1953	P-161-T-55"	P-137-T-44	P-137-T-44	P-137-T-44	P-137-T-44	P-156-T-42	P-156-T-42	P-156-T-42	P-161-T-55"	P-161-T-55"	P-160-T-54	P-159-T-51	P-159-T-51
1954	P-143-T-58"	P-134-T-44	P-134-T-44	P-134-T-44	P-134-T-44	P-138-T-45	P-138-T-45	P-138-T-45	P-143-T-58"	P-143-T-58"	P-142-T-57	P-141-T-54	P-141-T-54
1955	P-140-T-58"	P-137-T-43	P-137-T-43	P-137-T-43	P-137-T-43	P-135-T-45	P-135-T-45	P-135-T-45	P-140-T-58"	P-140-T-58"	P-139-T-57	P-138-T-54	P-138-T-54
1956	P-144-T-58	P-116-T-42	P-116-T-42	P-116-T-42	P-116-T-42	P-138-T-44	P-138-T-44	P-138-T-44	P-144-T-58	P-144-T-58	P-143-T-57	P-142-T-54	P-142-T-54
1957	P-122-T-57	P-111-T-41	P-111-T-41	P-111-T-41	P-111-T-41	P-117-T-43	P-117-T-43	P-117-T-43	P-122-T-57	P-122-T-57	P-121-T-56	P-120-T-53	P-120-T-53
1958	P-117-T-55	P-110-T-37	P-110-T-37	P-110-T-37	P-110-T-37	P-112-T-42	P-112-T-42	P-112-T-42	P-117-T-55	P-117-T-55	P-116-T-54	P-115-T-51	P-115-T-51
1959	P-117-T-49	P-108-T-37	P-108-T-37	P-108-T-37	P-108-T-37	P-111-T-38	P-111-T-38	P-111-T-38	P-117-T-49	P-117-T-49	P-116-T-48	P-115-T-45	P-115-T-45
1960	P-115-T-49	P-115-T-37	P-115-T-37	P-115-T-37	P-115-T-37	P-109-T-38	P-109-T-38	P-109-T-38	P-115-T-49	P-115-T-49	P-114-T-48	P-113-T-45	P-113-T-45
1961	P-125-T-49	P-125-T-49	P-125-T-49	P-125-T-49	P-125-T-49	P-116-T-38	P-116-T-38	P-116-T-38	P-125-T-49	P-125-T-49	P-124-T-48	P-119-T-45	P-119-T-45
1962	P-115-T-47	P-115-T-47	P-115-T-47	P-115-T-47	P-115-T-47	P-109-T-36	P-109-T-36	P-109-T-36	P-115-T-47	P-115-T-47	P-114-T-46	P-112-T-43	P-112-T-43
1963	P-109-T-115	P-109-T-115	P-109-T-115	P-109-T-115	P-109-T-115	P-103-T-103	P-103-T-103	P-103-T-103	P-109-T-115	P-109-T-115	P-108-T-114	P-106-T-110	P-106-T-110
1964	P-109-T-115	P-109-T-115	P-109-T-115	P-109-T-115	P-109-T-115	P-102-T-103	P-102-T-103	P-102-T-103	P-109-T-115	P-109-T-115	P-108-T-114	P-105-T-110	P-105-T-110
1965	P-112-T-108	P-112-T-108	P-112-T-108	P-112-T-108	P-112-T-108	P-107-T-102	P-107-T-102	P-107-T-102	P-112-T-108	P-112-T-108	P-111-T-107	P-108-T-104	P-108-T-104
1966	P-109-T-108	P-109-T-108	P-109-T-108	P-109-T-108	P-109-T-108	P-105-T-102	P-105-T-102	P-105-T-102	P-109-T-108	P-109-T-108	P-108-T-107	P-106-T-104	P-106-T-104
1967	P-106-T-108	P-106-T-108	P-106-T-108	P-106-T-108	P-106-T-108	P-102-T-102	P-102-T-102	P-102-T-102	P-106-T-108	P-106-T-108	P-105-T-107	P-102-T-104	P-102-T-104

\*Note: For columns 3, 4 and 5, look in following year's report.