

Canadian Salmon Catch and Enhanced Salmon Production 2017–2020

by

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ABSTRACT

This document reports final catch estimates for 2017–2019 and preliminary catch estimates for 2020 for the six major salmon species in British Columbia (B.C.) and Yukon fisheries. Catch is reported for commercial fisheries (numbers and total weight) in tidal waters, and recreational (numbers only) and aboriginal fisheries (numbers only) in tidal and non-tidal waters. Catches include non-Canadian origin fish caught in B.C. and exclude Canadian origin fish caught in fisheries outside B.C. This document also summarizes information for enhanced salmon production, including steelhead trout from Fisheries and Oceans Canada (DFO) and the Freshwater Fisheries Society of B.C. enhancement facilities.

INTRODUCTION

The six species of salmon native to B.C. contribute to commercial, recreational, and aboriginal fisheries. Commercial net fisheries tend to focus on sockeye (*Oncorhynchus nerka*), chum (*O. keta*), and pink (*O. gorbuscha*) salmon, while recreational harvesters catch mostly Chinook (*O. tshawytscha*), coho (*O. kisutch*), and steelhead (*O. mykiss*). All species of salmon are valued by aboriginal fisheries, which typically occur in terminal areas within freshwater, but harvest also occurs in marine waters. Steelhead trout constitute a relatively minor component of the catch.

This document reports final catch estimates for 2017–2019 and preliminary 2020 catch estimates of Pacific salmon in B.C. and Yukon fisheries. Estimates are reported by species for retained commercial catch (numbers and total weight in metric tonnes MT) in tidal waters and recreational (numbers only) and aboriginal non-commercial catch (numbers only) in tidal and non-tidal waters. Catches include non-Canadian origin fish caught in B.C. and exclude Canadian origin fish caught outside B.C.

This document also reports numbers of enhanced salmon production releases. The objectives of the DFO Salmonid Enhancement Program (SEP) are to rebuild stocks and increase catch through the expanded use of enhancement technology. The program produces Chinook, coho, chum, pink, and sockeye salmon, as well as small numbers of steelhead and cutthroat trout (*O. clarki*). Steelhead and cutthroat enhancement takes place at SEP facilities under a cooperative arrangement with the Government of B.C. Projects include hatcheries, spawning and rearing channels, and small classroom incubators; annual releases range in size from nearly 100 million juveniles from spawning channels, to less than one hundred from school classroom projects.

CATCH ESTIMATES

A brief description of the data and sources of information for the four major fishery types follows:

Commercial Catch Estimates

The Fishery Operations System (FOS) is the official salmon commercial fishery catch database for DFO in the Pacific Region (except for Yukon fisheries). FOS maintains various fisher-produced data (e.g., logbooks, at-sea interviews) and fisher-independent data (e.g., on-board

observers and dockside monitors). The final commercial catch estimates reported here are manager-determined estimates based on resolution of all data sources.

Commercial catch estimates for 2017–2020 are presented as numbers and weights (Table 1) of fish retained by commercial salmon vessels (salmon gill net, salmon seine net, and salmon troll). Weights are based on sale slip data and are given as round (i.e., whole fish) equivalents. Sale slips record gear type, area of catch, date of landing, and landed weight and value by species. Since the value of the landing and resulting payments are based primarily on the landed weight, weight estimates are considered reasonably accurate (Sandher et al. 2012).

Piece estimates recorded on sale slips are usually estimated by applying an estimated average weight to the landed weight, particularly for high volume net landings (i.e., net landings of sockeye, pink and/or chum salmon). The average weight estimates are obtained by weighing counted samples of landed catch during offloading. Sampling for average weights is conducted to allow relatively accurate and precise species-, area-, time- and gear-specific estimates of average weights to be generated. Such estimates have been widely available for Chinook and coho salmon since the early 1980s and for sockeye, chum, and pink salmon since 1994.

The commercial catch reported here includes test fishery catch and First Nations harvest during Economic Opportunity, Demonstration and Harvest Agreement fisheries. For some species (e.g., sockeye and Chinook), test fishery catch (Table 2) has been the only component or the vast majority of the commercial category in years with no commercial openings.

Commercial catch estimates were stratified into seven regions: Fraser River, South Coast, West Coast Vancouver Island, Central Coast, North Coast, Haida Gwaii, and Yukon (Figure 1). The FOS commercial estimates for the Fraser River region include only Pacific Fishery Management Areas (PFMAs) 28 and 29 (Figure 2). However, economic opportunity and demonstration fisheries include catch estimates from upstream, interior Fraser areas. Fraser River catch was included as part of the South Coast region for the recreational and subsistence categories.

Recreational Catch Estimates (non-Steelhead)

Recreational salmon catch estimates (non-Steelhead) for 2017–2020 are reported in pieces (Table 3). Creel surveys are the primary source of recreational catch data, resulting in estimates by DFO PFMA and month. Creel surveys generally cover the times and areas with relatively large effort and catch, but typically not times and areas where fishing is open with relatively low effort and/or catch rates. Catch from sport fishing lodges are based on logbook programs where they are in use. Catch from lodges not reporting via logbooks is incorporated in creel survey-based estimates. Further, the numbers provided here are the unexpanded estimates from the creel and logbook programs; they do not include estimates for catch from times and areas not surveyed. Consequently, recreational catch estimates reported here underestimate total catch.

Recreational Steelhead Catches—A Historical Overview

Although there are no targeted fisheries on steelhead in marine waters, valuable freshwater recreational fisheries occur and are a provincial responsibility delegated from the Government of Canada. The B.C. management objectives for these fisheries are:

1. Maintain a diversity of sustainable recreational angling opportunities for steelhead in British Columbia.

2. Maintain, protect, and restore the productive capacity of the freshwater environment to produce steelhead (B.C. Ministry of Forests, Lands and Natural Resource Operations, July 2014).

There has been no retention of wild steelhead in B.C. sport fisheries since April 1, 2007; recreational fisheries that currently operate on non-enhanced rivers are strictly catch and release. Recreational fisheries also occur in approximately 13 hatchery-augmented rivers, where an angler is allowed to harvest one fish per day (with a maximum 10 per season). Total catches are estimated via the Steelhead Harvest Analysis—a questionnaire mailed to 50% of all B.C. and 100% of non-B.C. residents who purchased a steelhead conservation surcharge stamp. Estimates are currently available up to the end of the 2017/2018 fiscal year (M. Beere, B.C. Ministry of Forests, Lands and Natural Resource Operations, Smithers; pers. comm., March 12, 2019; Table 4). Data for 2018/2019 fiscal year were only available for the North Coast at the time of writing this report. In February 2018, COSEWIC assessed the Thompson and Chilcotin Designatable Units (DUs) of Interior Fraser River Steelhead as Endangered. The subsequent SARA Listing Process was concluded on July 11, 2019, when the Minister of Fisheries announced that Cabinet had decided not to list these populations under the Species at Risk Act, opting instead to implement measures to recover these stocks through existing regulatory mechanisms under the Fisheries Act. It is expected that actions taken as a result of this listing process will impact future catches of steelhead in B.C. waters.

Aboriginal Catch Estimates

Aboriginal (subsistence) catch represents retained catch and is reported in pieces (Table 5). Aboriginal catch statistics can usually be resolved to PFMA and year, but areas may be grouped in some cases. A variety of approaches have been used to generate estimates. While aboriginal catch estimation programs cover many of the largest aboriginal fisheries, coverage is incomplete both temporally and spatially. Similar to recreational catch, aboriginal catch estimates presented here do not include catch from times and areas not covered by catch estimation programs, and therefore underestimate total catch.

ENHANCED PRODUCTION

Annual egg and juvenile stock production targets for hatcheries are set pre-season, in consultation with project managers, fisheries managers, stock assessment biologists and harvest management biologists. Production objectives include conservation or rebuilding, harvest and/or assessment. Other considerations include potential species and stock interactions, effects on natural stocks, harvest concerns, habitat capacity and project capacity. The production plan is finalized after review by industry, the public and other interested groups in the Salmon Integrated Fisheries Management Planning process.

Depending on the species and enhancement approach, juvenile fish are released at various life stages. Chum and pink salmon are released either immediately after emergence as unfed fry or after one month of feeding (fed fry). Coho are released as fry, either at emergence or after three to five months of rearing, or as smolts after one year of rearing. In B.C. sockeye enhancement is typically conducted using spawning and rearing channels rather than hatcheries, and juveniles emigrate volitionally soon after emergence. Sockeye are also enhanced through lake fertilization programs, and most migrate to sea after one year of lake rearing. Coastal ocean-type Chinook

stocks are released after three to four months of rearing. Interior stream-type stocks are frequently reared for one year, and generally constitute a very small component of the total numbers of Chinook released. Releases from hatcheries are usually estimated by subtracting known egg and fry mortalities from egg numbers. Releases from rearing channels are estimated by sampling out-migrants.

Release information for salmon from DFO enhancement facilities and the Fraser Valley Trout Hatchery (Freshwater Fisheries Society) in B.C. is summarized in Table 6. Approximately 361.6, 262.4, and 339.4, and 208.7 million salmon were released, in 2017, 2018, 2019, and 2020, respectively. In these years, sockeye and chum releases accounted for the majority of enhanced production. A large portion of the releases for these two species comes from spawning channels in the Fraser River and South Coast regions for chum, and from the BC Interior, Fraser River, and North Coast regions for sockeye (Table 7).

Since 2016, all thirteen hatcheries augmenting steelhead production have conducted smolt release programs, releasing approximately 354,000, 287,000, 81,000, and 192,000 steelhead smolts in 2017, 2018, 2019, and 2020, respectively (Table 6).

It is not possible to conduct assessments of each enhancement project and/or release strategy individually. Consequently, certain stocks are used as indicators, their production is tagged or marked annually, and rigorous fishery and escapement sampling and estimation programs are conducted. Survival and exploitation-rate estimates are used for time series analyses of both wild and enhanced populations. Enhanced contributions and survival rates of Chinook, coho, and chum salmon are normally estimated by applying a tag and /or external mark to a portion of the fish released and subsequently recovering these marked fish through sampling programs in the fisheries, on the spawning grounds and at enhancement sites. Visual marks are mainly characterized by the removal of the adipose fin, with some Chinook and coho stocks also receiving an implanted coded wire tag to enable identification of stock and release year. Beginning in 1996, most enhanced coho from southern B.C. have been marked with a fin clip to enable the prosecution of mark-selective fisheries. Some species and stocks are given a thermal otolith mark to estimate enhanced contributions to terminal areas. Thermal marking is coordinated with the DFO Salmon Assessment Section and is reported separately.

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REFERENCES

Ministry of Forests, Lands and Natural Resource Operations (FLNRO). 2014. Provincial Framework for Steelhead Management in British Columbia. Fish, Wildlife and Habitat Management Branch, Victoria, B.C. DRAFT Report, July 2014.
http://www.bcfdf.com/bcfdf_news/Framework.pdf

Sandher, J., C. Lynch, D. Willis, R. Cook and J. R. Irvine. 2012. Canadian enhanced salmonid production during 1977–2011 (1976–2010 brood years). NPAFC Doc. 1420. 10 p. Fisheries and Oceans Canada. (Available at <https://npafc.org>).

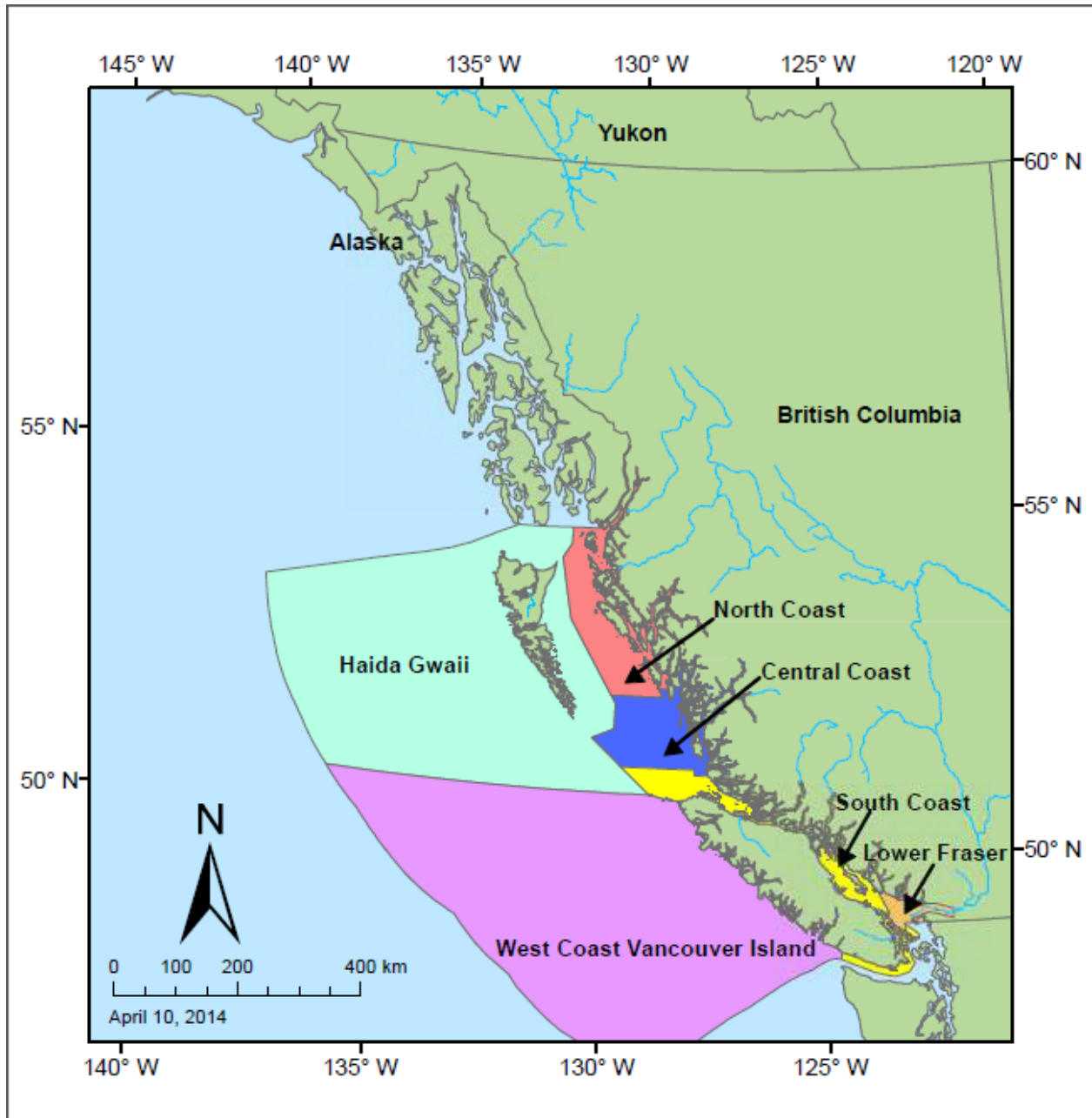


Figure 1. Map of geographic areas identified for aggregation of catches in this report.

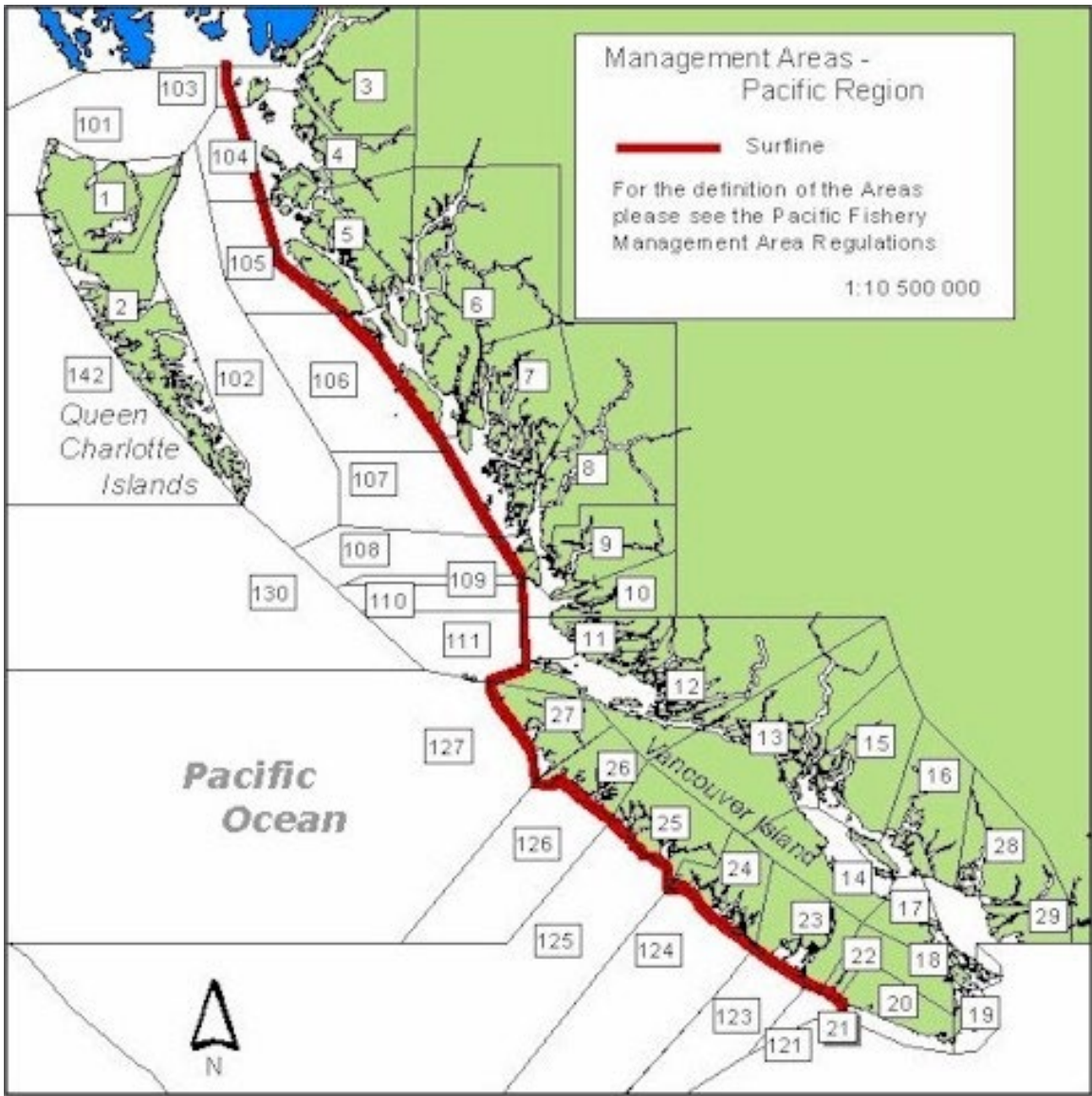


Figure 2. Map of DFO's Pacific Fishery Management Areas.

Table 1. Canadian commercial catch estimates of Pacific salmon (excluding steelhead) for 2017–2020, presented in pieces (000’s) and weights (MT). Catch estimates from test fisheries and First Nations commercial fisheries are included.

Reporting Area	Year	Commercial Catch Number (000's)						Commercial Catch Round Weight (MT)					
		Pink	Chum	Sockeye	Coho	Chinook	Total	Pink	Chum	Sockeye	Coho	Chinook	Total
Fraser River	2017	11.80	199.59	7.40	0.73	1.74	221.26	9.31	936.10	15.68	2.76	11.72	975.57
	2018	0.04	9.70	1898.47	0.44	2.42	1911.08	0.10	45.06	4990.49	1.74	12.24	5049.63
	2019	235.34	3.95	1.50	0.27	4.27	245.32	513.49	20.17	2.96	0.67	25.50	562.80
	2020	0.00	46.88	2.70	0.75	3.37	53.69	0.00	183.14	3.21	2.99	19.88	209.22
South Coast	2017	37.24	746.33	11.00	0.46	61.00	856.03	82.84	3596.42	27.34	1.51	327.62	4035.72
	2018	97.27	216.91	1917.88	0.78	0.31	2233.15	173.45	947.38	5237.47	2.32	1.69	6362.31
	2019	13.61	5.22	5.53	0.16	0.22	24.75	24.28	22.79	15.10	0.47	1.23	63.87
	2020	1.80	200.16	17.78	0.29	0.16	220.20	4.32	1162.09	48.55	0.74	0.90	1216.61
West Coast Vancouver Island	2017	0.03	56.64	30.45	1.13	78.97	167.21	0.05	270.42	62.05	3.76	460.01	796.29
	2018	0.02	27.56	41.50	4.31	41.40	114.78	0.05	126.56	101.51	16.34	167.96	412.41
	2019	0.13	6.84	9.93	3.29	69.04	89.23	0.33	39.94	20.73	11.97	400.11	473.07
	2020	0.00	9.04	13.49	0.01	54.19	76.72	0.00	39.50	27.59	0.02	337.23	404.33
Central Coast	2017	744.92	316.50	0.77	1.90	3.00	1067.09	1655.00	1711.66	1.96	5.60	20.35	3394.57
	2018	48.48	452.44	3.56	0.00	4.60	509.09	107.85	2375.58	9.32	0.00	21.32	2514.06
	2019	10.07	146.03	0.25	0.65	6.09	163.09	21.41	856.86	0.63	1.92	44.93	925.75
	2020	21.49	13.16	0.20	0.00	4.13	38.97	51.17	76.20	0.44	0.00	29.45	157.25
North Coast	2017	831.50	77.31	38.61	78.48	1.93	1027.82	1845.98	400.34	96.36	250.97	10.89	2604.54
	2018	122.15	46.96	120.60	35.55	0.51	325.76	264.25	235.16	256.50	113.39	3.00	872.29
	2019	61.53	21.17	22.34	15.57	0.47	121.09	129.75	122.52	53.90	45.25	2.64	354.06
	2020	1578.69	1.77	26.42	8.43	0.54	1615.84	3773.74	10.57	50.21	23.97	3.08	3861.57
Haida Gwaii	2017	33.06	0.34	0.00	273.19	97.59	404.18	55.65	1.49	0.00	816.34	655.68	1529.15
	2018	27.97	3.18	0.00	142.19	70.28	243.62	62.19	14.52	0.00	413.34	470.65	960.71
	2019	56.42	0.90	0.01	163.59	42.80	263.71	131.53	3.71	0.04	469.01	311.66	915.94
	2020	316.49	0.03	0.00	81.22	30.10	427.83	651.76	0.10	0.00	237.98	227.84	1117.67
Yukon / Transboundary	2017		2.40	63.10	13.20	1.30	80.00		8.49	154.56	54.49	7.84	225.38
	2018	0.10	0.53	35.27	13.19	0.00	49.09	0.13	1.89	69.83	43.56	0.00	115.41
	2019	0.00	1.73	32.21	17.37	0.00	51.31	0.00	6.16	63.77	57.37	0.00	127.30
	2020	0.17	0.07	18.01	12.07	0.00	30.32	0.31	0.19	44.93	38.32	0.00	83.75
Whole Country	2017	1658.53	1399.11	151.32	369.10	245.52	3823.58	3648.82	6924.92	357.95	1135.43	1494.11	13561.23
	2018	296.04	757.28	4017.28	196.46	119.51	5386.57	608.01	3746.14	10665.12	590.69	676.86	16286.82
	2019	377.10	185.85	71.77	200.89	122.88	958.49	820.77	1072.14	157.14	586.67	786.07	3422.79
	2020	1918.65	271.089	78.594	102.757	92.486	2463.57	4481.29	1471.79	174.9367	304.018	618.37697	7050.41

Table 2. Canadian test fishery catch estimates of Pacific salmon (excluding steelhead) for 2017–2020, presented in pieces (000's) and weights (MT). Test fishery catch is one of the components included in the commercial category in Table 1.

Reporting Area	Year	Test Fishery Catch Number (000's)						Test Fishery Catch Round Weight (MT)					
		Pink	Chum	Sockeye	Coho	Chinook	Total	Pink	Chum	Sockeye	Coho	Chinook	Total
Fraser River	2017	11.80	10.68	7.40	0.34	1.73	31.95	9.31	50.73	15.67	1.23	11.65	88.58
	2018	0.00	7.71	68.40	0.32	1.80	78.23	0.00	35.82	54.94	1.26	9.11	101.13
	2019	14.40	3.92	1.50	0.26	4.26	24.35	19.89	20.03	2.96	0.67	25.50	69.05
	2020	0.00	7.14	2.70	0.61	3.37	13.81	0.00	27.06	3.21	2.43	19.88	52.59
South Coast	2017	36.54	34.85	10.99	0.16	61.00	143.54	81.28	167.95	27.33	0.53	327.61	604.70
	2018	5.98	23.36	87.36	0.08	0.05	116.83	10.66	102.04	238.56	0.23	0.28	351.77
	2019	13.61	5.22	5.53	0.16	0.22	24.75	24.28	22.79	15.10	0.47	1.23	63.87
	2020	0.85	33.82	3.49	0.29	0.16	38.61	2.03	196.33	9.54	0.74	0.90	209.55
West Coast Vancouver Island	2017	0.00	0.00	4.05	0.02	0.95	5.01	0.00	0.00	8.25	0.05	5.51	13.81
	2018	0.00	0.00	4.95	0.25	0.47	5.68	0.00	0.00	12.11	0.95	1.92	14.98
	2019	0.02	0.00	3.95	0.37	0.34	4.68	0.04	0.00	8.26	1.34	1.96	11.60
	2020	0.00	0.00	6.45	0.00	0.00	6.45	0.00	0.00	13.19	0.00	0.00	13.19
North Coast	2017	2.44	0.07	3.67	0.55	0.40	7.12	5.43	0.36	9.15	1.74	2.25	18.92
	2018	0.24	0.09	5.17	0.10	0.51	6.11	0.51	0.43	11.00	0.32	3.00	15.27
	2019	1.18	0.13	2.24	0.22	0.46	4.23	2.49	0.73	5.40	0.65	2.61	11.87
	2020	0.82	0.01	3.61	0.26	0.54	5.25	1.96	0.08	6.87	0.75	3.08	12.73
Whole Country	2017	50.78	45.60	26.11	1.06	64.07	187.62	96.01	219.04	60.41	3.55	347.01	726.01
	2018	6.22	31.16	165.88	0.75	2.84	206.84	11.17	138.29	316.62	2.76	14.31	483.15
	2019	29.21	9.26	13.22	1.02	5.29	58.00	46.69	43.55	31.72	3.13	31.30	156.39
	2020	1.67	40.97	16.25	1.16	4.07	64.12	3.99	223.47	32.81	3.92	23.86	288.06

Table 3. Canadian recreational catch estimates of Pacific salmon for 2017–2020, presented in pieces (000’s). Fraser River recreational catches are included in the South Coast region.

Reporting Area	Year	Recreational Catch Numbers (000's)						Total
		Pink	Chum	Sockeye	Coho	Chinook	Steelhead	
South Coast	2017	29.16	2.64	0.24	23.55	101.49		157.08
	2018	4.73	0.73	61.02	34.21	111.81		212.50
	2019	54.54	0.52	0.04	18.95	77.85		151.90
	2020	5.50	2.34	0.02	32.60	53.38		93.84
West Coast Vancouver Island	2017	2.43	0.03	11.45	27.04	95.21		136.16
	2018	0.07	0.01	5.84	46.01	82.19		134.12
	2019	2.27	0.00	0.59	36.23	80.61		119.70
	2020	0.05	0.05	5.02	15.01	50.10		70.23
North Coast	2017	3.96	0.27	0.29	58.50	18.03	24.05	105.11
	2018	1.39	0.18	0.03	10.44	5.82	40.98	58.84
	2019	5.35	0.98	0.18	76.20	69.33	24.43	176.46
	2020	3.11	0.02	1.75	29.24	10.17		44.29
Haida Gwaii	2017	1.15	0.90	0.17	35.10	45.60		82.92
	2018	1.95	0.95	0.17	34.20	36.70		73.97
	2019	0.91	0.70	0.13	36.10	45.20		83.04
	2020	0.78	0.17	0.01	3.20	6.09		10.25
Whole Country	2017	36.70	3.84	12.15	144.19	260.33	24.05	481.26
	2018	8.14	1.87	67.06	124.86	236.52	40.98	479.43
	2019	63.07	2.20	0.93	167.48	272.99	24.43	531.10
	2020	9.44	2.58	6.80	80.05	119.74		218.61

Table 4. Canadian recreational catch estimates of steelhead since 2005/2006, presented in pieces (000's). Estimates for 2018/2019 and 2019/2020 were not available at the time of preparing this report. Total catches are estimated via the Steelhead Harvest Analysis (FLNRO 2014). B.C. Regions are defined as follows: 1=Vancouver Island; 2=Lower Mainland; 3=Thompson; 4=Kootenay; 5=Cariboo; 6=Skeena. Data provided by M. Beere, B.C. Ministry of Forests, Lands and Natural Resource Operations, Smithers.

Year	B.C. Region					Unknown	Annual Total
	1	2	3	5	6		
2005/2006	16.842	22.624	2.730	2.635	32.311	0.259	77.401
2006/2007	22.330	11.466	1.813	3.698	25.366	0.372	65.045
2007/2008	15.929	14.031	0.809	2.491	26.951	0.358	60.569
2008/2009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2009/2010	20.137	9.637	1.204	2.017	38.790	0.579	72.364
2010/2011	18.021	23.400	0.023	4.389	45.265	0.370	91.468
2011/2012	16.592	27.163	1.633	5.230	36.311	0.235	87.164
2012/2013	14.123	25.681	1.922	6.777	55.479	0.333	104.315
2013/2014	8.294	19.299	2.005	3.693	41.895	0.501	75.687
2014/2015	13.003	23.603	1.361	5.341	51.240	0.769	95.317
2015/2016	8.100	14.191	0.244	8.027	43.237	0.525	74.324
2016/2017	6.259	11.149	0.561	5.530	44.081	0.854	68.434
2017/2018	8.042	10.196	0.141	3.600	24.050	0.175	46.204

Table 5. Canadian subsistence catch estimates of Pacific salmon for 2017–2020, presented in numbers (000's). Fraser River subsistence catches are included in the South Coast region.

Reporting Area	Year	Subsistence Catch Numbers (000's)						
		Pink	Chum	Sockeye	Coho	Chinook	Steelhead	Total
South Coast	2017	46.35	82.68	71.65	16.59	30.56		247.83
	2018	3.94	78.15	872.87	1.82	36.35		993.13
	2019	8.92	8.10	261.08	2.41	8.92		289.42
	2020	0.01	55.07	32.11	5.36	37.24		129.78
West Coast Vancouver Island	2017	0.02	54.91	24.67	14.15	49.96		143.71
	2018		41.65	17.97	10.35	31.79		101.76
	2019	0.20	1.19	21.10	3.35	5.27		31.11
	2020		1.45		23.38	12.32		37.15
North Coast	2017	30.88	4.71	168.91	22.25	20.60	1.62	248.97
	2018	4.76	0.96	176.34	8.13	15.62	4.09	209.90
	2019	23.02	0.83	99.47	3.45	7.60	0.61	134.98
	2020	12.15	0.98	165.39	4.69	13.35	1.03	197.59
Haida Gwaii	2017			4.87				4.87
	2018	5.00	4.00	7.17		1.00		17.17
	2019							0.00
	2020			1.94				1.94
Yukon / Transboundary	2017	0.00	3.30	9.40	0.80	1.10		14.60
	2018	0.00	2.87	5.43	0.03	3.27		11.60
	2019	0.00	2.03	6.15	0.11	3.72		12.02
	2020	0.00	0.10	5.88	0.07	3.51		9.56
Whole Country	2017	77.25	145.60	279.49	53.79	102.21	1.62	659.97
	2018	13.70	127.64	1079.78	20.32	88.04	4.09	1333.56
	2019	32.14	12.15	387.80	9.32	25.51	0.61	467.53
	2020	12.16	57.60	205.32	33.50	66.42	1.03	376.02

Table 6. DFO Salmon Enhancement Program and Fraser Valley Hatchery enhanced Pacific salmon releases in 2017–2020, presented in numbers (000's). Spawning and rearing channel production is included.

Reporting Area	Release Year	Enhanced Salmon Releases (000's)						Total
		Pink	Chum	Sockeye	Coho	Chinook	Steelhead	
B.C. Interior	2017			14,902	174,411	1,206		16,283
	2018			3,276	350	1,270		4,896
	2019			25,800	436	1,282		27,518
	2020			2,334	391	1,238		3,963
Fraser River	2017		9,382	1,488	1,786	2,229	193	15,078
	2018	526	13,274	25,729	1,760	2,249	200	43,738
	2019		9,875	16,329	1,931	2,396		30,531
	2020	1039	9,634	2,598	1,867	3,624	164	18,926
South Coast	2017	11,044	83,156	256,851	3,771	14,428	68	112,724
	2018	14,195	27,780	1011	4,121	15,006	48	62,161
	2019	9,319	16,406	353	4,162	15,015	33	45,288
	2020	8,224	7,314	555	4,216	15,411	28	35,748
West Coast Vancouver Island	2017		30,968		963	15,899	40.739	47,871
	2018		11,124		916	15,270		27,310
	2019		21,477		971	15,380		37,828
	2020		8,703		721	16,825		26,249
Central Coast	2017		9,257	133,476	30,476	2,429		11,849
	2018		8,619	63	73	2,363		11,118
	2019		7,551	60	66	2,644		10,321
	2020		8,076	44	64	2,482		10,666
North Coast	2017		1,767	152,634	682	2,224	51.992	157,358
	2018		883	109,063	845	1,948	39	112,778
	2019		1636	183,462	545	1,763	48	187,454
	2020		1808	107,745	950	2,246		112,749
Haida Gwaii	2017		131,378		195,815	88.3		415
	2018		155		129	118		402
	2019		143		55	218		416
	2020		57		102	210		369
Whole Country	2017	11,044	134,661	169,414	7,603	38,503	354	361,579
	2018	14,721	61,835	139,142	8,194	38,224	287	262,403
	2019	9,319	57,088	226,004	8,166	38,698	81	339,356
	2020	9263	35592	113276	8311	42036	192	208,670

Table 7. DFO Salmon Enhancement Program and Fraser Valley Hatchery enhanced Pacific salmon releases from spawning and rearing channel production in 2017–2020, presented in numbers (000's). Spawning and rearing channel production is one of the enhancement activities included in Table 6.

Reporting Area	Release Year	Spawning Channel Releases (000's)						Total
		Pink	Chum	Sockeye	Coho	Chinook	Steelhead	
B.C. Interior	2017	0	0	9,724	0	0	0	9,724
	2018	0	0	2,047	0	0	0	2,047
	2019	0	0	21,693	0	0	0	21,693
	2020	0	0	2,314	0	0	0	2,314
Fraser River	2017	0	1,180	140	0	0	0	1,320
	2018	390	4,960	24,800	0	0	0	30,150
	2019	0	1,270	15,690	0	0	0	16,960
	2020	170	398	1,970	0	0	0	2,538
South Coast	2017	0	74,518	0	0	0	0	74,518
	2018	0	19,199	0	0	0	0	19,199
	2019	0	7,553	0	0	0	0	7,553
	2020	0	890	0	0	0	0	890
West Coast	2017	0	0	0	0	0	0	0
Vancouver Island	2018	0	0	0	0	0	0	0
	2019	0	0	0	0	0	0	0
	2020	0	0	0	0	0	0	0
Central Coast	2017	0	0	0	0	0	0	0
	2018	0	0	0	0	0	0	0
	2019	0	0	0	0	0	0	0
	2020	0	0	0	0	0	0	0
North Coast	2017	0	0	148,084	0	0	0	148,084
	2018	0	0	104,764	0	0	0	104,764
	2019	0	0	183,462	0	0	0	183,462
	2020	0	0	107,745	0	0	0	107,745
Haida Gwaii	2017	0	0	0	0	0	0	0
	2018	0	0	0	0	0	0	0
	2019	0	0	0	0	0	0	0
	2020	0	0	0	0	0	0	0
Whole Country	2017	0	75,698	157,948	0	0	0	233,646
	2018	390	24,159	131,611	0	0	0	156,160
	2019	0	8,823	220,845	0	0	0	229,668
	2020	170	1,288	112,029	0	0	0	113,487