

Taku River Canadian Commercial Fishery Sampling & Stock Assessment 2020

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Executive Summary

The Northern Endowment Fund (NEF) provided Fisheries and Oceans Canada (DFO) with monies to assist with biological sampling of Chinook (*Oncorhynchus tshawytscha*), sockeye (*Oncorhynchus nerka*) and coho (*Oncorhynchus kisutch*) salmon from the Taku River Canadian commercial fishery from 30 June to 22 September 2020. The Covid-19 pandemic presented some significant challenges this season, but DFO was able to modify project operations and procedures to make them safe for everyone and compliant with all Provincial and Territorial directions and guidelines, and the project was delivered successfully.

There was no directed Chinook salmon fishery in 2020 due to poor returns and all Chinook salmon caught as bycatch during the directed sockeye salmon fishery were required to be released. The sockeye salmon fishery start date was delayed 13 days later than typical and mesh size and set net restrictions were in place for the first week of this fishery to avoid encountering Chinook salmon to the largest extent possible. A total of 413 Chinook salmon were caught as bycatch during the directed sockeye fishery and all were live released by commercial fishers without being sampled. Seven spaghetti tags were returned to DFO from these 413 released Chinook salmon.

A total of 11,556 sockeye salmon were caught; 1,965 (17%) were inspected for tag loss, sampled for matched length and age, and 1,772 non-matched otolith samples were collected for stock composition analysis. A total of 226 spaghetti tags were recovered, and used to inform a concurrent Taku River sockeye salmon mark-recapture run size estimation project.

A total of 6,970 coho salmon were caught; 5,528 (79%) were inspected for marks; 65 adipose clips were observed, 62 heads were collected for CWT analysis, and 100 spaghetti tags were recovered to inform a concurrent Taku River coho salmon mark-recapture run size estimation project. A total of 1,343 coho (19%) were sampled for matched length and age .

All information gathered is integral to both in season fisheries assessment and management as well as postseason analysis and run reconstructions.

Table of Contents

Executive Summary	2
1.0 Introduction.....	4
2.0 Objectives	5
3.0 Methods.....	6
4.0 Results.....	8
4.1 Chinook Salmon.....	8
4.2 Sockeye Salmon.....	9
4.3 Coho Salmon.....	9
5.0 Discussion	10
6.0 Budget Summary	10
7.0 Acknowledgements.....	11
8.0 Literature Cited	11
9.0 Appendices.....	11

List of Figures

Figure 1. The Taku River watershed with the Canadian commercial fishing area highlighted in grey.	5
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List of Tables

Table 1. Taku River Commercial fishery sample targets for 2020.....	7
Table 2. Total samples for Chinook salmon in 2020 by statistical week.	8
Table 3. Total samples for sockeye salmon in 2020 by statistical week.	9
Table 4. Total samples for coho salmon in 2020 by statistical week.	9

List of Appendices

Appendix 1. Chinook daily commercial catches and samples, 2020.....	12
Appendix 2. Sockeye daily commercial catches and samples, 2020.....	14
Appendix 3. Coho daily commercial catches and samples, 2020.....	15
Appendix 4. Expenditures.....	18

1.0 Introduction

The Taku River drains a large watershed primarily located in northwestern British Columbia. The river system contains numerous significant tributaries which flow northwards from the headwaters then turn to flow westwards ultimately draining to the Pacific Ocean in Southeast Alaska near Juneau (Figure 1). The Taku River produces the largest runs of Chinook salmon (*Oncorhynchus tshawytscha*) and coho salmon (*Oncorhynchus kisutch*) in British Columbia north of the Skeena River, and in all of Southeast Alaska (McPherson et al. 1998a; Yanusz et al. 1999), as well as a large sockeye salmon (*Oncorhynchus nerka*) run (Pestal et al., 2020).

Salmon returning to the Taku River pass through a U.S. offshore troll fishery before entering inside Alaskan waters where they encounter commercial seine, commercial drift gillnet, subsistence, and recreational fisheries. After entering the Taku River salmon are harvested by commercial drift/set gillnet and Aboriginal fisheries in Canada.

The Canadian commercial fishery is located on the lower Taku River from approximately 50 metres upstream of the Canada/United States border, to Yellow Bluff, approximately 18 kilometres upstream of the border, excluding Flannigan and Southfork Sloughs (Figure 1).

This project involved Fisheries and Oceans Canada (DFO) Aquatic Science Technicians collaborating with lower Taku River commercial fishers in the collection of coded wire tags (CWT), spaghetti tags, otoliths, age, sex, and length samples as applicable from Chinook, sockeye and coho salmon harvest. These data are vital elements of the Taku River fishery management and stock assessment programs. CWT recovery is used in the estimation of marine survival and annual smolt production of Chinook and coho. Spaghetti tag recovery is used in the estimation of adult Chinook, sockeye and coho abundance. Otoliths are used to estimate contributions of enhanced sockeye. Age, sex and lengths comprise baseline stock assessment data used for stock recruitment analyses, forecasting, and monitoring stock health.

Technicians also collected daily commercial and Aboriginal fishery performance data to inform in season management of the fisheries.

The activities of this project are essential components of Taku River Chinook, sockeye and coho management and enhancement plans as identified in Salmon Management and Enhancement Plans for the Stikine, Taku and Alsek Rivers (PSC 2020).

The Covid-19 pandemic presented some significant challenges this season, but DFO was able to modify project operations and procedures to make them safe for everyone and compliant with all Provincial and Territorial directions and guidelines. The project was delivered successfully.

Treaty (PST). This information is used for both in-season management and postseason run reconstruction.

- Collect age, sex and length samples from Chinook, sockeye and coho salmon in order to monitor stock health and maintain long term stock-recruitment datasets used in annual forecasting.

3.0 Methods

The DFO sampling crew consisted of two technicians based out of a permanent DFO field camp located at Ericksen Slough upstream of the commercial fishery on the Taku River. The crew gathered fishery performance data and sampled commercial catch on the Taku River in Canada from 30 June to 22 September 2020 at various commercial catch landing stations.

The field crew gathered and collated all mandatory fishery reporting data daily and forwarded results back to the main DFO office in Whitehorse to inform in-season management and stock assessment programs. They sampled the landed commercial catch as directed, and assisted the Alaska Department of Fish and Game (ADF&G) with other cooperative stock assessment projects as able.

Most Taku River commercial salmon catches are landed gutted with head removed. This made sex determination by samplers impossible in most cases. The collection of heads for CWT and otolith extraction required cooperation from the commercial fishers and means that the otolith data are not matched with age and size data. The return of spaghetti tags from all species of salmon was a requirement under the commercial fishery licence conditions; therefore it is assumed that the entire catch was examined for spaghetti tags. Secondary mark sampling is conducted to verify tag reporting rates.

Chinook Salmon Sampling

Due to poor Chinook salmon returns, there was no directed commercial or assessment fisheries for Chinook salmon in 2020. Additional conservation efforts included the mandatory live release of all Chinook bycatch in directed fisheries, and the directed sockeye fishery start date was delayed 13 days later than typical and mesh size and set net restrictions were in place for the first week of this fishery to avoid encountering and ease release of Chinook salmon. As a result, traditional sampling procedures were not conducted and biological data targets (Table 1) were not completed. All Chinook caught as bycatch in the directed sockeye and coho fisheries were counted by fishers and size was estimated before live release. Any spaghetti tags observed were recovered by fishers and submitted to DFO.

Sockeye Salmon Sampling

Sockeye salmon commercial harvest was sampled for biological data as per weekly targets (Table 1). Biological sampling included measurement of cleithral arch to fork length (CAF) to the nearest 5 millimeters, and collection of five scales for aging and genetic analysis. Harvest was also inspected for any spaghetti tags not returned by fishers, or the presence of a tag scar that would

indicate loss of a spaghetti tag. Commercial fishers cooperated with DFO samplers to collect sockeye heads from processed catch and provided them weekly for otolith extraction (non-matched). The otoliths were excised and stored in numbered otolith sample trays. Otoliths were bathed in a 5% chlorine solution for 5 minutes before being rinsed with a de-chlorination solution, containing 0.7% sodium thiosulfate. A final rinse with water was completed before thoroughly draining and drying the stored otoliths. Two trays (192 otolith pairs) were delivered to the ADF&G camp downstream at Canyon Island each week for transport to the ADF&G lab in Juneau, Alaska for analysis. Otoliths were analyzed in-season to provide weekly stock identification information.

Coho Salmon Sampling

Coho salmon commercial harvest was sampled for biological data as per weekly targets (Table 1). Biological sampling included measurement of cleithral arch to fork length (CAF) to the nearest 5 millimeters, and collection of five scales for aging and genetic archiving. Commercial fishers are required to land coho salmon missing their adipose fin with head on for CWT sampling. These heads were recovered, tagged and frozen for later coded wire tag removal and analysis. A defined proportion of the total harvest was inspected for presence/absence of an adipose fin (denoting presence of a CWT) to determine fishers compliance with reporting requirements (Table 1). Harvest was also inspected for any spaghetti tags not returned by fishers, or the presence of a tag scar that would indicate loss of a spaghetti tag.

Table 1. Taku River Commercial fishery sample targets for 2020.

Species	Fishery	Target*					No.	Stat.
		CWT	Sec. Marks	Otoliths	Age	Sex–Length	Weeks	Weeks
Sockeye	Comm.	-	200	192	200	200	9	26-33
Coho	Comm.	Submissions + >40% of catch	>40% of catch	-	375	375	3	34-36
* Targets are weekly except for coho which are season totals.								

Scales samples were sent to DFO’s Sclerochronology Laboratory at the Pacific Biological Station in Nanaimo, B.C. for analysis. Results are stored in internal DFO databases. Otolith samples were delivered to ADF&G weekly inseason and analysed at the Mark Recovery Laboratory in Juneau, Alaska. Data are stored in an online database (mtalab.adfg.alaska.gov).

CWT heads recovered from adipose clipped marked fish were sent to DFO’s contracted lab (J.O. Thomas and Associates) for CWT extraction. Tag recovery data will be stored in DFO databases, once this data set is verified, it will be forwarded to and inputted into the Regional Mark Processing Centre website (www.rmpc.org).

To estimate the abundance of coho salmon smolt emigrating from Taku River upstream of Canyon Island in 2019 (Figure 1), emigrating smolts were injected with CWT and marked with adipose fin clips in the spring of 2019. Returning adult coho salmon were inspected for marks in inriver fisheries in 2020. The marked fraction (number of fish missing adipose fins / total inspected) of coho salmon captured in the commercial fishery will contribute to the estimation of the number of smolts that emigrated from the Taku River in 2019. This project is reported by ADF&G.

To estimate abundance of adult salmon, spaghetti tags are applied to returning adults (Event I) at an ADF&G fishwheel and gillnet project downstream of the Canadian commercial fishery at Canyon Island in the U.S.. The recovery of spaghetti tags in the commercial fishery is “Event II” of the mark-recapture study.

4.0 Results

There was no assessment fishery or directed commercial fishery for Chinook salmon, and the release of all Chinook salmon bycatch was mandatory in 2020, as Chinook salmon runs were very poor. As a result, usual Chinook salmon sampling and inspection procedures were not conducted (Table 2). Chinook salmon caught as bycatch during the directed sockeye and coho fisheries were recorded by fishers for count and size estimation only, with large Chinook defined as mid-eye to fork length (MEF) > 659 mm. Any spaghetti tags observed were recovered by fishermen and submitted to DFO. The commercial fishery targeted sockeye from 30 June to 13 August, and coho from 16 August to 22 September.

4.1 Chinook Salmon

A total of 413 Chinook salmon were caught as bycatch and released in the directed sockeye fishery; 259 large, 154 non-large and 1 of unknown size. Chinook salmon bycatch were not sampled for age and length, or inspected for adipose clips, therefore no CWT heads were collected. Fifteen Chinook salmon spaghetti tags were observed and recovered by fishers.

Commercial sampling targets for Chinook salmon were not achieved in 2020 due to the absence of a directed Chinook salmon fishery.

Table 2. Total samples for Chinook salmon in 2020 by statistical week.

Statistical Week	Week Ending	Released Commercial Bycatch			Spaghetti Tags Observed
		Large	Non-Large	Unknown	
27	4-Jul	82	37	0	5
28	11-Jul	87	53	0	7
29	18-Jul	27	43	0	1
30	25-Jul	34	17	0	0
31	1-Aug	23	3	1	2
32	8-Aug	5	0	0	0
33	15-Aug	1	0	0	0
34	22-Aug	0	0	0	0
35	29-Aug	0	0	0	0
36	5-Sep	0	1	0	0
37	12-Sep	0	0	0	0
38	19-Sep	0	0	0	0
39	26-Sep	0	0	0	0
Total		259	154	1	15

4.2 Sockeye Salmon

A total of 11,556 sockeye salmon were caught; 1,965 (17%) were inspected for secondary marks and sampled for age and length (Table 3). A total of 226 spaghetti tags were recovered and 1,772 otolith samples were collected.

Table 3. Total samples for sockeye salmon in 2020 by statistical week.

Statistical Week	Week Ending	Commercial Catch	Inspected	Age Collected	Lengths Collected (CAF)	Otoliths Collected	Spaghetti Tags Recovered
27	4-Jul	569	200	200	200	192	10
28	11-Jul	1487	200	200	200	192	15
29	18-Jul	1705	200	200	200	192	30
30	25-Jul	1208	200	200	200	192	21
31	1-Aug	1986	200	200	200	192	42
32	8-Aug	2524	200	200	200	192	44
33	15-Aug	1130	200	200	200	192	37
34	22-Aug	549	200	200	200	192	15
35	29-Aug	233	200	200	200	137	6
36	5-Sep	104	103	103	103	59	5
37	12-Sep	46	46	46	46	40	0
38	19-Sep	14	15	15	15	0	1
39	26-Sep	1	1	1	1	0	0
Total		11,556	1,965	1,965	1,965	1,772	226

4.3 Coho Salmon

A total of 6,970 coho salmon were caught; 5,528 (79%) were inspected for adipose clips (Table 4). Sixty five adipose clips were observed and 62 CWT heads were collected, and 1,343 fish were sampled for age and length. Sex was determined for 60 CWT marked coho salmon. A total of 100 spaghetti tags were recovered.

Table 4. Total samples for coho salmon in 2020 by statistical week.

Statistical Week	Week Ending	Commercial Catch	Inspected	Age Collected	Sex Collected	Lengths Collected (CAF)	Adipose Clips Observed	CWT Recovered	Spaghetti Tags Recovered
27	4-Jul	0	0	0	0	0	0	0	0
28	11-Jul	4	4	4	0	4	0	0	0
29	18-Jul	37	38	38	0	38	0	0	0
30	25-Jul	105	94	94	0	94	0	0	1
31	1-Aug	352	312	139	1	139	1	1	9
32	8-Aug	689	452	130	1	130	2	1	15
33	15-Aug	640	480	131	0	131	1	0	19
34	22-Aug	641	483	126	1	126	3	3	9
35	29-Aug	713	626	129	6	129	6	6	9
36	5-Sep	848	708	130	4	130	5	4	9
37	12-Sep	957	836	136	11	136	11	11	14
38	19-Sep	1008	787	141	16	141	16	16	8
39	26-Sep	976	708	145	20	145	20	20	7
Total		6,970	5,528	1,343	60	1,343	65	62	100

5.0 Discussion

Data gathered through this project are integral to several joint Canada/U.S. fishery management and stock assessment programs that inform PST obligations. Data are shared between Parties and reported in a variety of fora and reports, the primary report being the Transboundary Technical Committees “Preliminary Estimates of Transboundary River Salmon Production, Harvest and Escapement and a Review of Joint Enhancement Activities in 2020”.

Scheduling and operations for the 2020 project were not exactly as planned due to the Covid-19 pandemic. DFO approved the occurrence of this project in support of “essential” commercial fisheries, but scheduling and operations were much different than typical. In spite of the challenges, all project objectives were met with the exception that in response to a poor return Ppriority of conservation for Chinook salmon resulted in Chinook salmon sampling objectives not being fully met in 2020. Objectives for sockeye and coho salmon were fully met.

1. Recover CWTs from Chinook and coho salmon.

Chinook salmon were not inspected for adipose clips and no CWTs were recovered. There were 5,528 coho salmon inspected for adipose clips, 65 adipose clips observed and 62 coho salmon heads recovered.

2. Recover spaghetti tags from Chinook, sockeye and coho salmon.

Fifteen spaghetti tags were recovered from 413 live released Chinook salmon bycatch. A total of 226 and 221 spaghetti tags were collected from sockeye and coho salmon, respectively.

3. Collect stock identification samples from sockeye salmon, specifically otoliths.

A total of 1,772 otoliths were collected, delivered and analysed inseason.

4. Collect age, sex and length samples from Chinook, sockeye and coho salmon.

Age and sex samples were not taken for Chinook salmon, but bycatch was estimated for length. There were 1,965 sockeye salmon and 1,343 coho salmon age and lengths collected. Sex was determined for 60 coho salmon.

The activities supported by this project will contribute to sustainable fishery management and the assessment of current productivity, abundance, and exploitation of Taku River salmon.

6.0 Budget Summary

The total budget approved to DFO for this project by the Northern Endowment Fund was \$58,184. Project expenditures amounted to \$58,166 which is just slightly below (\$18) the full budget amount. DFO has received 90% of the approved budget in a previous advance by the PSC (\$52,366, thank you), and DFO will anticipate receipt of nearly all of the 10% holdback \$5,800 upon review and acceptance of this final project report. A budget summary of expenditures can be referenced in Appendix 4.

7.0 Acknowledgements

Sean Stark managed logistics and coordinated the project. Teresa Bachynski, Philippe Beaulieu, Danielle Hosick, Ross Wilcox, Melanie Collette, Tyler Sims and Sean Stark sampled the commercial fishery, organized and managed samples, collated and organized data, and reported results as required. Individuals fishing commercially and/or for Taku Wild captured salmon and recovered tags. Julie Bednarski, Jeff Williams, and Stephan Warta of ADF&G were integral in coordinating sample and data exchanges and ensuring otolith samples made it to the lab in Juneau, Alaska each week. Colleen Claggett and Business Management staff assisted with the financial administration and accounting for this project.

8.0 Literature Cited

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- PSC (Pacific Salmon Commission). 2020. Salmon Management and Enhancement Plans for the Stikine, Taku and Alsek Rivers, 2020 Transboundary Technical Committee Report. TCTR(20)-01.

9.0 Appendices

Appendix 1. Chinook salmon daily commercial catches and samples, 2020.

Statistical Week	Date	Released Commercial Bycatch			Spaghetti Tags Observed
		Large	Non-Large	Unknown	
27	30-Jun	48	16	0	2
27	1-Jul	34	21	0	3
27	2-Jul				
27	3-Jul				
27	4-Jul				
28	5-Jul	15	7	0	0
28	6-Jul	30	23	0	2
28	7-Jul	27	12	0	3
28	8-Jul	15	11	0	2
28	9-Jul				
28	10-Jul				
28	11-Jul				
29	12-Jul	15	11	0	0
29	13-Jul	4	10	0	0
29	14-Jul	5	8	0	0
29	15-Jul	2	11	0	0
29	16-Jul	1	3	0	1
29	17-Jul				
29	18-Jul				
30	19-Jul	8	3	0	0
30	20-Jul	4	3	0	0
30	21-Jul	5	1	0	0
30	22-Jul	11	4	0	0
30	23-Jul	6	6	0	0
30	24-Jul				
30	25-Jul				
31	26-Jul	1	1	0	0
31	27-Jul	2	1	0	0
31	28-Jul	5	0	1	0
31	29-Jul	10	1	0	1
31	30-Jul	5	0	0	0
31	31-Jul				
31	1-Aug				
32	2-Aug	0	0	0	0
32	3-Aug	1	0	0	0
32	4-Aug	2	0	0	0
32	5-Aug	1	0	0	0
32	6-Aug	1	0	0	0
32	7-Aug				
32	8-Aug				
33	9-Aug	0	0	0	0
33	10-Aug	0	0	0	0
33	11-Aug	0	0	0	0
33	12-Aug	0	0	0	0
33	13-Aug	1	0	0	0
33	14-Aug				
33	15-Aug				

Statistical Week	Date	Released Commercial Bycatch			Spaghetti Tags Observed
		Large	Non-Large	Unknown	
34	16-Aug	0	0	0	0
34	17-Aug	0	0	0	0
34	18-Aug	0	0	0	0
34	19-Aug				
34	20-Aug				
34	21-Aug				
34	22-Aug				
35	23-Aug	0	0	0	0
35	24-Aug	0	0	0	0
35	25-Aug	0	0	0	0
35	26-Aug	0	0	0	0
35	27-Aug				
35	28-Aug				
35	29-Aug				
36	30-Aug	0	0	0	0
36	31-Aug	0	1	0	0
36	1-Sep	0	0	0	0
36	2-Sep				
36	3-Sep				
36	4-Sep				
36	5-Sep				
37	6-Sep	0	0	0	0
37	7-Sep	0	0	0	0
37	8-Sep	0	0	0	0
37	9-Sep				
37	10-Sep				
37	11-Sep				
37	12-Sep				
38	13-Sep	0	0	0	0
38	14-Sep	0	0	0	0
38	15-Sep	0	0	0	0
38	16-Sep				
38	17-Sep				
38	18-Sep				
38	19-Sep				
39	20-Sep	0	0	0	0
39	21-Sep	0	0	0	0
39	22-Sep	0	0	0	0
39	23-Sep				
39	24-Sep				
39	25-Sep				
39	26-Sep				
Total		259	154	1	14

Appendix 2. Sockeye salmon daily commercial catches and samples, 2020.

Date	Commercial Catch	Inspected	Ages Collected	Lengths Collected (CAF)	Otoliths Collected	Spaghetti Tags Recovered
30-Jun	293	100	100	100	192	4
1-Jul	276	100	100	100	0	6
2-Jul						
3-Jul						
4-Jul						
5-Jul	164	70	70	70	121	2
6-Jul	417	70	70	70	71	2
7-Jul	609	30	30	30	0	6
8-Jul	297	30	30	30	0	5
9-Jul						
10-Jul						
11-Jul						
12-Jul	475	70	70	70	192	6
13-Jul	555	70	70	70	0	10
14-Jul	392	20	20	20	0	8
15-Jul	198	20	20	20	0	6
16-Jul	85	20	20	20	0	0
17-Jul						
18-Jul						
19-Jul	301	70	70	70	192	3
20-Jul	214	70	70	70	0	3
21-Jul	45	20	20	20	0	0
22-Jul	220	20	20	20	0	5
23-Jul	428	20	20	20	0	10
24-Jul						
25-Jul						
26-Jul	169	70	70	70	60	4
27-Jul	73	46	46	46	76	1
28-Jul	275	0	0	0	56	7
29-Jul	654	84	84	84	0	13
30-Jul	815	0	0	0	0	17
31-Jul						
1-Aug						
2-Aug	535	25	25	25	186	9
3-Aug	384	95	95	95	6	1
4-Aug	779	80	80	80	0	9
5-Aug	454	0	0	0	0	8
6-Aug	372	0	0	0	0	17
7-Aug						
8-Aug						
9-Aug	278	100	100	100	175	11
10-Aug	27	23	23	23	0	2
11-Aug	55	37	37	37	17	0
12-Aug	379	40	40	40	0	12
13-Aug	391	0	0	0	0	12
14-Aug						
15-Aug						

34	16-Aug	214	100	100	100	152	5
34	17-Aug	144	50	50	50	40	5
34	18-Aug	191	50	50	50	0	5
34	19-Aug						
34	20-Aug						
34	21-Aug						
34	22-Aug						
35	23-Aug	10	10	10	10	8	1
35	24-Aug	62	62	62	62	43	1
35	25-Aug	72	64	64	64	50	3
35	26-Aug	89	64	64	64	36	1
35	27-Aug						
35	28-Aug						
35	29-Aug						
36	30-Aug	62	62	62	62	40	4
36	31-Aug	34	34	34	34	13	0
36	1-Sep	8	7	7	7	6	1
36	2-Sep						
36	3-Sep						
36	4-Sep						
36	5-Sep						
37	6-Sep	22	22	22	22	19	0
37	7-Sep	12	12	12	12	9	0
37	8-Sep	12	12	12	12	12	0
37	9-Sep						
37	10-Sep						
37	11-Sep						
37	12-Sep						
38	13-Sep	8	8	8	8	0	1
38	14-Sep	2	3	3	3	0	0
38	15-Sep	4	4	4	4	0	0
38	16-Sep						
38	17-Sep						
38	18-Sep						
38	19-Sep						
39	20-Sep	0	0	0	0	0	0
39	21-Sep	1	1	1	1	0	0
39	22-Sep	0	0	0	0	0	0
39	23-Sep						
39	24-Sep						
39	25-Sep						
39	26-Sep						
Total		11,556	1,965	1,965	1,965	1,772	226

Appendix 3. Coho salmon daily commercial catches and samples, 2020.

Statistical Week	Date	Commercial Catch	Inspected	Ages Collected	Sex Collected	Lengths Collected (CAF)	Adipose Clips Observed	CWT Recovered	Spaghetti Tags Recovered
27	30-Jun	0	0	0	0	0	0	0	0
27	1-Jul	0	0	0	0	0	0	0	0
27	2-Jul								
27	3-Jul								
27	4-Jul								
28	5-Jul	0	0	0	0	0	0	0	0
28	6-Jul	1	1	1	0	1	0	0	0
28	7-Jul	1	1	1	0	1	0	0	0
28	8-Jul	2	2	2	0	2	0	0	0
28	9-Jul								
28	10-Jul								
28	11-Jul								
29	12-Jul	5	6	6	0	6	0	0	0
29	13-Jul	10	10	10	0	10	0	0	0
29	14-Jul	6	6	6	0	6	0	0	0
29	15-Jul	12	12	12	0	12	0	0	0
29	16-Jul	4	4	4	0	4	0	0	0
29	17-Jul								
29	18-Jul								
30	19-Jul	16	16	16	0	16	0	0	0
30	20-Jul	15	13	13	0	13	0	0	0
30	21-Jul	7	7	7	0	7	0	0	0
30	22-Jul	15	15	15	0	15	0	0	0
30	23-Jul	52	43	43	0	43	0	0	1
30	24-Jul								
30	25-Jul								
31	26-Jul	13	13	13	0	13	0	0	2
31	27-Jul	10	10	9	0	9	0	0	0
31	28-Jul	27	27	27	0	27	0	0	0
31	29-Jul	125	94	90	1	90	1	1	1
31	30-Jul	177	168	0	0	0	0	0	6
31	31-Jul								
31	1-Aug								
32	2-Aug	78	55	45	0	45	0	0	1
32	3-Aug	69	56	35	0	35	0	0	3
32	4-Aug	166	62	35	0	35	0	0	4
32	5-Aug	159	114	15	0	15	0	0	4
32	6-Aug	217	165	0	1	0	2	1	3
32	7-Aug								
32	8-Aug								
33	9-Aug	87	87	51	0	51	0	0	2
33	10-Aug	11	9	9	0	9	0	0	0
33	11-Aug	23	9	6	0	6	1	0	1
33	12-Aug	226	178	65	0	65	0	0	8
33	13-Aug	293	197	0	0	0	0	0	8
33	14-Aug								
33	15-Aug								

Statistical Week	Date	Commercial Catch	Inspected	Ages Collected	Sex Collected	Lengths Collected (CAF)	Adipose Clips Observed	CWT Recovered	Spaghetti Tags Recovered
34	16-Aug	230	161	60	1	60	2	2	3
34	17-Aug	165	143	50	0	50	0	0	3
34	18-Aug	246	179	16	0	16	1	1	3
34	19-Aug								
34	20-Aug								
34	21-Aug								
34	22-Aug								
35	23-Aug	95	94	80	2	80	2	2	2
35	24-Aug	70	67	30	0	30	0	0	0
35	25-Aug	228	218	16	1	16	1	1	3
35	26-Aug	320	247	3	3	3	3	3	4
35	27-Aug								
35	28-Aug								
35	29-Aug								
36	30-Aug	483	408	64	4	64	4	4	5
36	31-Aug	280	223	41	0	41	1	0	2
36	1-Sep	85	77	25	0	25	0	0	2
36	2-Sep								
36	3-Sep								
36	4-Sep								
36	5-Sep								
37	6-Sep	474	425	66	6	66	6	6	10
37	7-Sep	227	227	42	2	42	2	2	3
37	8-Sep	256	184	28	3	28	3	3	1
37	9-Sep								
37	10-Sep								
37	11-Sep								
37	12-Sep								
38	13-Sep	438	438	68	8	68	8	8	3
38	14-Sep	345	188	46	6	46	6	6	3
38	15-Sep	225	161	27	2	27	2	2	2
38	16-Sep				0				
38	17-Sep								
38	18-Sep								
38	19-Sep								
39	20-Sep	381	364	57	7	57	7	7	4
39	21-Sep	324	292	57	7	57	7	7	1
39	22-Sep	271	52	31	6	31	6	6	2
39	23-Sep								
39	24-Sep								
39	25-Sep								
39	26-Sep								
Total		6,970	5,528	1,343	60	1,343	65	62	100

Appendix 4. Expenditures

Taku River - Canadian Fishery Sampling and Stock Assessment 2020 (PSC NF-2020-I-25)							
EXPENDITURES							
Labour							
DFO Employee Salaries and Benefits							
Position		Expenditures (DFO Inkind + PSC)	DFO-Inkind	PSC funding (expenses)	Approved Budget (PSC Funding)	Total PSC Funded Expenditure	Variance
Biologist	Salary	\$ 4,050.00	\$ 4,050.00				
	Benefits	\$ 1,093.50	\$ 1,093.50		\$ -		
Technician	Salary	\$ 6,150.00	\$ 6,150.00				
	Benefits	\$ 1,660.50	\$ 1,660.50		\$ -		
Technicians	Salary	\$ 72,000.00	\$ 72,000.00				
	Benefits	\$ 19,440.00	\$ 19,440.00		\$ -		
	Total Expended	\$ 104,394.00	\$ 104,394.00	\$ -	\$ -	\$ -	\$ -
Subcontractors & Consultants							
Contract		Contract Amount Expended	Inkind	PSC funding (expenses)	Approved Budget	Total PSC Funded Expenditure	Variance
Air Charter - personnel		\$ 18,183.48		\$ 18,183.48	17,640		
Air Charter - Fuel		\$ 11,352.96		\$ 11,352.96	14,000		
Contract C		\$ -					
		\$ -					
	Total Expended	\$ 29,536.44	\$ -	\$ 29,536.44	\$ 31,640.00	\$ 29,536.44	\$ 2,103.56
			\$ 104,394.00		Total \$ 31,640.00	\$ 29,536.44	\$ 2,103.56
Site / Project Costs							
Item		Amount Expended	Inkind	PSC funding (expenses)	Approved Budget	Total PSC Funded Expenditure	Variance
Travel		\$ 7,831.83		\$ 7,831.83	\$ 5,164.00		
Small Tools & Equipment		\$ 1,293.62		\$ 1,293.62	\$ 1,200.00		
Site Supplies & Materials		\$ 9,367.98		\$ 9,367.98	\$ 6,500.00		
Equipment Rental		\$ -					
Work & Safety Gear		\$ 1,500.87		\$ 1,500.87	\$ 900.00		
Repairs & Maintenance		\$ 4,824.93		\$ 4,824.93	\$ 4,000.00		
Permits		\$ -					
Other costs - fuel		\$ 1,829.18		\$ 1,829.18	\$ 6,945.00		
	Total Expended	\$ 26,648.41	\$ -	\$ 26,648.41	\$ 24,709.00		
			\$ -		\$ 24,709.00	\$ 26,648.41	\$ (1,939.41)
Training Costs							
Item		Amount Expended	Inkind	PSC funding (expenses)	Approved Budget	Total PSC Funded Expenditure	Variance
Safety Training		\$ 1,800.00	\$ 1,800.00				
		\$ -					
	Total Expended	\$ 1,800.00	\$ 1,800.00	\$ -	\$ -	\$ -	\$ -
			\$ 1,800.00		\$ -	\$ -	\$ -
Overhead / Indirect Costs							
Item		Amount Expended	Inkind	PSC funding (expenses)	Approved Budget	Total PSC Funded Expenditure	Variance
Office space; including utilities, etc.		\$ -					
Insurance		\$ -					
Office supplies		\$ 1,183.95		1183.95	300		
Telephone & long Distance		\$ -			735		
Photocopies & printing		\$ -					
Indirect/overhead costs - Field worker safety		\$ 797.20		797.2	800		
Administration and financial management		\$ -					
	Total Expended	\$ 1,981.15	\$ -	\$ 1,981.15	\$ 1,835.00		
			\$ -		\$ 1,835.00	\$ 1,981.15	\$ (146.15)

Capital Costs / Assets (Value > \$250.00)							
Item	Amount Expended		PSC funding (expenses)	Approved Budget	Total PSC Funded Expenditure	Variance	
	\$ -						
	\$ -						
	\$ -						
	\$ -						
Total Expended	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -		\$ -	\$ -	\$ -	\$ -

Financial Report

Categories	DFO InKind	Approved Budget (PSC Grant)	Project Expenditures (PSC\$)	Variance
Labour	\$ 104,394.00	\$ 31,640.00	\$ 29,536.44	\$ 2,103.56
Site / Project Costs	\$ -	\$ 24,709.00	\$ 26,648.41	\$ (1,939.41)
Training	\$ 1,800.00	\$ -	\$ -	\$ -
Overhead / Indirect Costs	\$ -	\$ 1,835.00	\$ 1,981.15	\$ (146.15)
Capital Costs / Assets	\$ -	\$ -	\$ -	\$ -
TOTAL		\$ 58,184.00	\$ 58,166.00	\$ 18.00

PSC Project Funding Grant Advance Amount Received	\$ (52,366.00)	(funds rec enter as negative)
PSC Project Funding Grant Amount Remaining to be Paid	\$ (5,800.00)	(positive refundable to PSC)
Difference Between Grant Amount and Project Expenditures	\$ -	

Justification if Variance

Expenditures were not precise within proposed categories this year due to Covid-19 related modifications to field programs, but were within the 10% margin of error for each category.

Project Manager Name	Aaron Foos
Project Manager Signature	
Date	
DFO Responsibility Center Manager Name	William Waugh
DFO Responsibility Center Manager Signature	
Date	