

Taku River Fishery Sampling & Stock Assessment 2017

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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 between 27 June and 13 September 2017.

A total of 334 Chinook were caught as bycatch during the directed sockeye fishery, 196 were sampled for age and length. All 196 (59%) were inspected for marks; six adipose clips were observed and three heads collected for coded wire tag (CWT) analysis, and 17 spaghetti tags were recovered to inform a concurrent mark-recapture run size estimation project.

A total of 30,209 sockeye were caught; 2,400 (8%) were inspected for tag loss, sampled for age and length with 2,304 otolith samples collected for stock composition analysis. A total of 1,255 spaghetti tags were recovered to inform a concurrent mark-recapture run size estimation project.

A total of 7,726 coho were caught; 2,984 (39%) were inspected for marks; five adipose clips were observed and three heads were collected for CWT analysis, and 183 spaghetti tags were recovered to inform a concurrent mark-recapture run size estimation project. A total of 1,085 (14%) were sampled for age and length.

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

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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.

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

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. These data are vital elements of the Taku River fishery management and stock assessment programs. CWT recovery is used in the estimation of 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 Tatsamenie Lake sockeye. Age, sex and lengths comprise baseline stock assessment data used for sock recruitment analyses and monitoring stock health.

Technicians also collected daily commercial fishery performance data to inform inseason 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, 2017 TCTR Report (17)-1*.

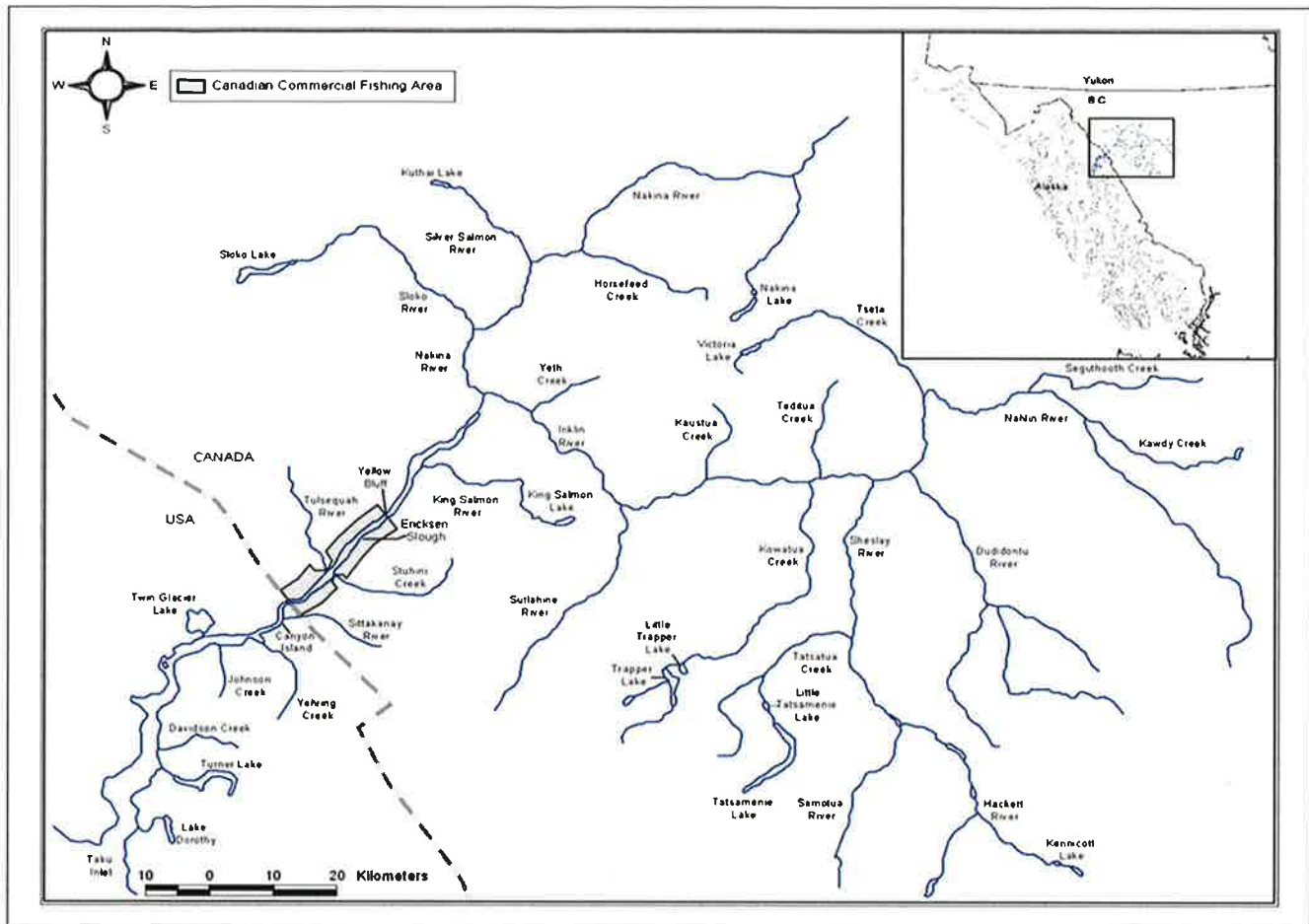


Figure 1 The Taku River watershed with the Canadian commercial fishing area highlighted in grey

2.0 Objectives

This project was for the collection of CWT, spaghetti tag, otolith, stock identification, age, sex, and length samples as applicable from each species of Chinook, sockeye and coho salmon in the lower Taku River commercial fisheries in 2017. These data are essential and shared among several other integral joint Canada/U.S. stock assessment projects that analyze and report respective results. More specifically, the objectives of this project were to:

- Recover CWTs from Chinook and coho salmon in order estimate the number of smolt that emigrated from the Taku River in prior years.
- To recover spaghetti tags in order to facilitate the estimation of the in-river abundance of Chinook, sockeye, and coho salmon postseason.
- To collect stock identification samples from sockeye salmon specifically otoliths in order to estimated contributions of enhanced Tatsamenie Lake salmon. This information is used for inseason management and postseason reconstruction.

- To collect age, sex and length samples from Chinook, sockeye and coho salmon in order to monitor stock health and maintain 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 27 June to 13 September 2017 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 inseason 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. 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.

Chinook Sampling

Chinook salmon commercial catches were 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 scales for aging. A defined proportion of the total catch was inspected for presence of an adipose clip (adipose fin removed) denoting presence of a CWT (Table 1). All adipose clips were noted, and when made possible by cooperation with commercial fishers, heads were recovered for later tag removal and analysis. Catch 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.

Sockeye Sampling

Sockeye salmon commercial catches were 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 scales for aging. Catch 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. The otoliths were excised, 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. Otoliths were analyzed in season for stock identification.

Coho Sampling

Coho salmon commercial catches were 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 scales for aging. A defined proportion of the total catch was inspected for presence of an adipose clip (adipose fin removed) denoting presence of a CWT (Table 1). All adipose clips were noted, and when made possible by cooperation with commercial fishers, heads were recovered for later tag removal and analysis. Catch 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 2017.

Species	Fishery	Target*					No. Weeks	Stat. Weeks
		CWT	Sec. Marks	Otoliths	Age	Sex--Length		
Chinook	Com.	40% of catch	200	-	150	150	3	26-28
Sockeye	Com.	-	200	192	200	200	9	26-33
Coho	Com.	20% of catch	20% of catch	-	520	520	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.

Otoliths 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 the ADF&G lab in Juneau, Alaska for CWT extraction. As with CWT release data, recovery data will be stored in the ADF&G coded wire tag website (mtalab.adfg.alaska.gov). Once this data set is verified, it will be forwarded to and inputted into the Regional Mark Processing Centre website (www.rmpec.org).

Marks are collected as part of several ongoing Taku River mark-recapture projects utilizing the commercial fishery for mark recovery. One is to determine coho smolt abundance using recovered CWT and the others are for inriver abundance estimates of Chinook, sockeye and coho using recovered spaghetti tags.

To estimate the abundance of coho salmon smolt emigrating from Taku River upstream of Canyon Island in 2016 (Figure 1), emigrating smolts were injected with CWT and marked with adipose fin clips in the spring of 2016. Returning adult coho salmon were inspected for marks in inriver fisheries in 2017. 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 2016. This project is reported elsewhere.

To estimate abundance of adult salmon, spaghetti tags are applied to returning adults 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 Chinook assessment fishery or directed commercial fisheries in 2017 as Chinook runs were very weak. Chinook salmon samples were gathered from bycatch during the directed sockeye and coho fishery openings. The commercial fishery targeted sockeye from 27 June to 15 August, and then coho from 20 August to 12 September.

4.1 Chinook Salmon

A total of 334 Chinook were caught as bycatch in the directed sockeye fishery; 196 (59%) were inspected for adipose clips (Table 2). Six marks were observed and three CWT heads were recovered. 196 fish were sampled for age and length. Sex was determined for the three CWT marked Chinook. A total of 17 spaghetti tags were recovered.

Commercial sampling targets for Chinook were not achieved in 2017 due to the absence of a directed Chinook fishery. Few Chinook were landed from the directed sockeye fishery.

Table 2. Total samples for Chinook salmon in 2017 by statistical week.

Statistical Week	Week Ending	Commercial Catch		Inspected Catch	Ages Collected	Sex Collected	Lengths Collected (CAF)	Adipose Clips Observed	CWT Recovered	Spaghetti Tags Recovered
		Large	Small							
26	01-Jul	68	27	69	69	1	69	1	1	3
27	08-Jul	54	21	44	44	1	44	2	1	9
28	15-Jul	52	16	41	41		41	1		1
29	22-Jul	39	10	21	21	1	21	1	1	2
30	29-Jul	17	8	12	12		12			1
31	05-Aug	10	4	4	4		4			1
32	12-Aug	3	2	2	2		2			
33	19-Aug	3	0	3	3		3	1		
34	26-Aug									
35	02-Sep									
36	09-Sep									
37	16-Sep									
Total		246	88	196	196	3	196	6	3	17

4.2 Sockeye Salmon

A total of 30,209 sockeye were caught; 2,400 (8%) were sampled for age and length (Table 3). A total of 1,255 spaghetti tags were recovered and 2,304 otolith samples were collected.

Table 3. Total samples for sockeye salmon in 2017 by statistical week.

Statistical Week	Week Ending	Commercial Catch	Inspected Catch	Ages Collected	Sex Collected	Lengths Collected (CAF)	Otoliths Collected	Spaghetti Tags Recovered
26	01-Jul	522	200	200	N/A	200	192	22
27	08-Jul	436	200	200		200	192	19
28	15-Jul	1,138	200	200		200	192	32
29	22-Jul	807	200	200		200	192	31
30	29-Jul	5,390	200	200		200	192	155
31	05-Aug	5,410	200	200		200	192	213
32	12-Aug	3,341	200	200		200	192	80
33	19-Aug	3,287	200	200		200	192	183
34	26-Aug	2,583	200	200		200	192	180
35	02-Sep	4,711	200	200		200	192	173
36	09-Sep	1,320	200	200		200	192	73
37	16-Sep	1,264	200	200		200	192	94
Total		30,209	2,400	2,400	0	2,400	2,304	1,255

4.3 Coho Salmon

A total of 7,726 coho were caught; 2,984 (39%) were inspected for adipose clips (Table 4). Five marks were observed and three CWT heads were collected. 1,085 fish were sampled for age and length. Sex was determined for two CWT marked coho. A total of 183 spaghetti tags were recovered.

Table 4. Total samples for coho salmon in 2017 by statistical week.

Statistical Week	Week Ending	Commercial Catch	Inspected Catch	Ages Collected	Sex Collected	Lengths Collected (CAF)	Adipose Clips Observed	CWT Recovered	Spaghetti Tags Recovered
26	01-Jul								
27	08-Jul	19	10	10		10			
28	15-Jul	39	10	10		10			
29	22-Jul	133	60	60		60			1
30	29-Jul	395	125	125		125			5
31	05-Aug	1,179	126	126	1	126	1	1	26
32	12-Aug	274	130	126		126	1		9
33	19-Aug	808	384	125		125			21
34	26-Aug	1,305	501	126	1	126	1	1	27
35	02-Sep	1,749	838	126		126	1		42
36	09-Sep	771	454	125		125			15
37	16-Sep	1,054	346	126		126	1	1	37
Total		7,726	2,984	1,085	2	1,085	5	3	183

5.0 Discussion

Data gathered through this project are integral to several joint Canada/U.S. fishery management and stock assessment programs that inform Pacific Salmon Treaty (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 2017*” (PSC 2018).

Scheduling and operations for the 2017 project went as planned, and the objectives of the project were fully met.

1. Recover CWTs from Chinook and coho salmon.

There were 334 Chinook examined, six adipose clips observed and three heads recovered. There were 7,726 coho, five adipose clips observed and three heads recovered.

2. To recover spaghetti tags from Chinook, sockeye and coho salmon.

A total of 17, 1,255 and 183 spaghetti tags were collected from Chinook, sockeye and coho, respectively.

3. To collect stock identification samples from sockeye salmon specifically otoliths.

A total of 2,304 otoliths were collected, delivered and analysed inseason.

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

There were 196 Chinook, 2,400 sockeye and 1,085 coho age and lengths collected. Sex was determined for three Chinook and two coho.

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 Northern Endowment Fund allocation of \$35,034 was fully expended. The acceptance of this report by the Pacific Salmon Commission is intended to allow the release of the 10% holdback of allocated funds (\$3,503). A budget summary of expenditures can be referenced in Appendix 4.

7.0 Acknowledgements

Kirstie Falkevitch, Tori Knutson, Adam Brennan and Shae Thomas of DFO sampled the commercial fishery. Individuals fishing commercially and/or for Taku Wild captured salmon and recovered tags. Colleen Claggett and Julie Bradford (DFO) assisted with the financial administration and accounting for this project.

8.0 Literature Cited

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- PSC (Pacific Salmon Commission). 2017. Salmon Management and Enhancement Plans for the Stikine, Taku and Alsek Rivers, 2017 Transboundary Technical Committee Report.

9.0 Appendices

Appendix 1 Chinook Data Daily catches and samples of Chinook salmon in 2017.

Statistical Week	Date	Commercial Catch		Inspected Catch	Ages Collected	Sex Collected	Lengths Collected (CAF)	Adipose Clips Observed	CWT Recovered	Spaghetti Tags Recovered
		large	small							
26	25-Jun									
26	26-Jun									
26	27-Jun	38	19							2
26	28-Jun	30	8	42	42	1	42	1	1	1
26	29-Jun			27	27					
26	30-Jun									
26	01-Jul									
27	02-Jul	38	11							8
27	03-Jul	16	10	37	37	1	37	2	1	1
27	04-Jul			7	7		7			
27	05-Jul									
27	06-Jul									
27	07-Jul									
27	08-Jul									
28	09-Jul	19	10							1
28	10-Jul	11	2	19	19		19	1		
28	11-Jul	0	0	10	10		10			
28	12-Jul	22	4	0	0		12			
28	13-Jul			12	12					
28	14-Jul									
28	15-Jul									
29	16-Jul	9	5							1
29	17-Jul	20	0	11	11	1	11	1	1	
29	18-Jul	10	5	10	10		10			1
29	19-Jul									
29	20-Jul									
29	21-Jul									
29	22-Jul									
30	23-Jul	6	3							1
30	24-Jul	3	3	8	8		8			
30	25-Jul	5	1	0	0					
30	26-Jul	3	1	4	4		4			
30	27-Jul			0	0					
30	28-Jul									
30	29-Jul									
31	30-Jul	3	1							1
31	31-Jul	3	2	0	0					
31	01-Aug	3	1	3	3		3			
31	02-Aug	1	0	1	1		1			
31	03-Aug			0	0					
31	04-Aug									
31	05-Aug									
32	06-Aug	2	0							
32	07-Aug	0	0	1	1		1			
32	08-Aug	1	2							
32	09-Aug			1	1		1			
32	10-Aug									
32	11-Aug									
32	12-Aug									
33	13-Aug	0	0							
33	14-Aug	0	0							
33	15-Aug	3	0							
33	16-Aug			3	3		3	1		
33	17-Aug									
33	18-Aug									
33	19-Aug									
Total		246	88	196	196	3	196	6	3	17

Appendix 2 Sockeye Data Daily catches and samples of sockeye salmon in 2017.

Statistical Week	Date	Commercial Catch	Inspected Catch	Ages Collected	Sex Collected	Lengths Collected (CAF)	Otoliths Collected	Spaghetti Tags Recovered
26	26-Jun							
26	27-Jun	278						13
26	28-Jun	244	100	100	N/A	100		9
26	29-Jun		100	100		100	192	
26	30-Jun							
26	01-Jul							
27	02-Jul	267						13
27	03-Jul	169	93	93		93		6
27	04-Jul		107	107		107	192	
27	05-Jul							
27	06-Jul							
27	07-Jul							
27	08-Jul							
28	09-Jul	551						10
28	10-Jul	188	100	100		100		8
28	11-Jul	7	82	82		82	192	
28	12-Jul	392	0	0		0		14
28	13-Jul		18	18		18		
28	14-Jul							
28	15-Jul							
29	16-Jul	186						13
29	17-Jul	294	90	90		90		9
29	18-Jul	327	83	83		83	192	9
29	19-Jul		27	27		27		
29	20-Jul							
29	21-Jul							
29	22-Jul							
30	23-Jul	1,193						21
30	24-Jul	1,424	100	100		100		37
30	25-Jul	1,141	66	66		66	192	33
30	26-Jul	1632	0	0		0		64
30	27-Jul		34	34		34		
30	28-Jul							
30	29-Jul							
31	30-Jul	1,011						42
31	31-Jul	1,657	100	100		100		60
31	01-Aug	1,642	75	75		75	192	55
31	02-Aug	1100	15	15		15		56
31	03-Aug		10	10		10		
31	04-Aug							
31	05-Aug							

32	06-Aug	984						18
32	07-Aug	836	86	86		86		18
32	08-Aug	1,521	64	64		64	192	44
32	09-Aug		50	50		50		
32	10-Aug							
32	11-Aug							
32	12-Aug							
33	13-Aug	1,215						74
33	14-Aug	827	100	100		100		42
33	15-Aug	1,245	50	50		50	192	67
33	16-Aug		50	50		50		
33	17-Aug							
33	18-Aug							
33	19-Aug							
34	20-Aug	1,116						72
34	21-Aug	847	100	100		100		63
34	22-Aug	620	50	50		50	192	36
34	23-Aug		50	50		50		9
34	24-Aug							
34	25-Aug							
34	26-Aug							
35	27-Aug	836						24
35	28-Aug	1,675	100	100		100		55
35	29-Aug	1,588	50	50		50	192	59
35	30-Aug	612	50	50		50		35
35	31-Aug							
35	01-Sep							
35	02-Sep							
36	03-Sep	832						43
36	04-Sep	488	100	100		100		30
36	05-Sep		100	100		100	192	
36	06-Sep							
36	07-Sep							
36	08-Sep							
36	09-Sep							
37	10-Sep	287						17
37	11-Sep	488	117	117		117		34
37	12-Sep	489	58	58		58	192	43
37	13-Sep	0	25	25		25		
37	14-Sep		0	0		0		
37	15-Sep							
37	16-Sep							
Total		30,209	2,400	2,400	0	2,400	2,304	1,255

Appendix 3 Coho Data Daily catches and samples of coho salmon in 2017.

Statistical Week	Date	Commercial Catch	Inspected Catch	Ages Collected	Sex Collected	Lengths Collected (CAF)	Adipose Clips Observed	CWT Recovered	Spaghetti Tags Recovered
26	28-Jun								
26	29-Jun								
26	30-Jun								
26	01-Jul								
27	02-Jul	10							
27	03-Jul	9	2	2		2			
27	04-Jul		8	8		8			
27	05-Jul								
27	06-Jul								
27	07-Jul								
27	08-Jul								
28	09-Jul	18							
28	14-Jul								
28	15-Jul								
29	16-Jul	36							1
29	17-Jul	48	27	27		27			
29	18-Jul	49	23	23		23			
29	19-Jul		10	10		10			
29	20-Jul								
29	21-Jul								
29	22-Jul								
30	23-Jul	108							
30	24-Jul	95	70	70		70			2
30	25-Jul	85	15	15		15			1
30	26-Jul	107	35	35		35			2
30	27-Jul		5	5		5			
30	28-Jul								
30	29-Jul								
31	30-Jul	307							
31	31-Jul	303	60	60		60			3
31	01-Aug	307	41	41	1	41	1	1	7
31	02-Aug	262	15	15		15			16
31	03-Aug		10	10		10			
31	04-Aug								
31	05-Aug								
32	06-Aug	82							3
32	07-Aug	59	58	58		58	1		2
32	08-Aug	133	27	23		23			4
32	09-Aug		45	45		45			
32	10-Aug								
32	11-Aug								
32	12-Aug								

33	13-Aug	321							9
33	14-Aug	129	121	60		60			3
33	15-Aug	358	143	65		65			9
33	16-Aug		120						
33	17-Aug								
33	18-Aug								
33	19-Aug								
34	20-Aug	610							12
34	21-Aug	428	221	61	1	61	1	1	9
34	22-Aug	267	63	30		30			6
34	23-Aug		101	35		35			
34	24-Aug		116						
34	25-Aug								
34	26-Aug								
35	27-Aug	339							9
35	28-Aug	557	181	60		60			14
35	29-Aug	550	391	30		30			14
35	30-Aug	303	116	35		35			5
35	31-Aug		150	1		1	1		
35	01-Sep								
35	02-Sep								
36	03-Sep	481							10
36	04-Sep	290	235	80		80			5
36	05-Sep		219	45		45			
36	06-Sep								
36	07-Sep								
36	08-Sep								
36	09-Sep								
37	10-Sep	109							3
37	11-Sep	383	128	81		81	1	1	14
37	12-Sep	562	98	30		30			20
37	13-Sep		120	15		15			
37	14-Sep								
37	15-Sep								
37	16-Sep								
Total		7,726	2,984	1,085	2	1,085	5	3	183

Appendix 4 Expenditures

Fisheries and Oceans Canada - PSC Project Budget Financial Report

Name of Project and PSC#:

Taku River Fishery Sampling & Stock Assessment, 2017 (NF-2017-VHPC-12)

EXPENDITURES

Labour					
DFO Employee Salaries and Benefits					
Position	Expenditures		Approved Budget	Total Expenditure	Variance
DFO Technician EG3					
			\$ -		
			\$ -		
Total Expended	\$ -	Total Budget	\$ -	\$ -	\$ -
Subcontractors & Consultants					
Contract	Contract Amount Expended		Approved Budget	Total Expenditure	Variance
Air Charter (~8 flights)	\$ 12,768.00		14,230		
Total Expended	\$ 12,768.00	Total Budget	\$ 14,230.00	\$ 12,768.00	\$ 1,462.00
Total Labour Summary			\$ 14,230.00	\$ 12,768.00	\$ 1,462.00
Site / Project Costs					
Item	Amount Expended		Approved Budget	Total Expenditure	Variance
Travel	\$ 4,492.22		3,833		
Small Tools & Equipment	\$ 361.73		840		
Site Supplies & Materials	\$ 5,668.46		5,066		
Equipment Rental			-		
Work & Safety Gear	\$ 662.75		525		
Repairs & Maintenance	\$ 3,058.33		2,940		
Permits					
Other costs	\$ 7,644.19		6,800		
Total Expended	\$ 21,887.68	Total Budget	20,004	\$ 21,887.68	\$ (1,883.68)
Total Site / Project Summary			\$ 20,004.00	\$ 21,887.68	-1883.68
Training Costs					
Item	Amount Expended		Approved Budget	Total Expenditure	Variance
Name of course					
Total Expended	\$ -	Total Budget	\$ -	\$ -	\$ -
Total Training Summary			\$ -	\$ -	\$ -

