# Taku River Fishery Sampling & Stock Assessment 2017

Final Report
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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.*

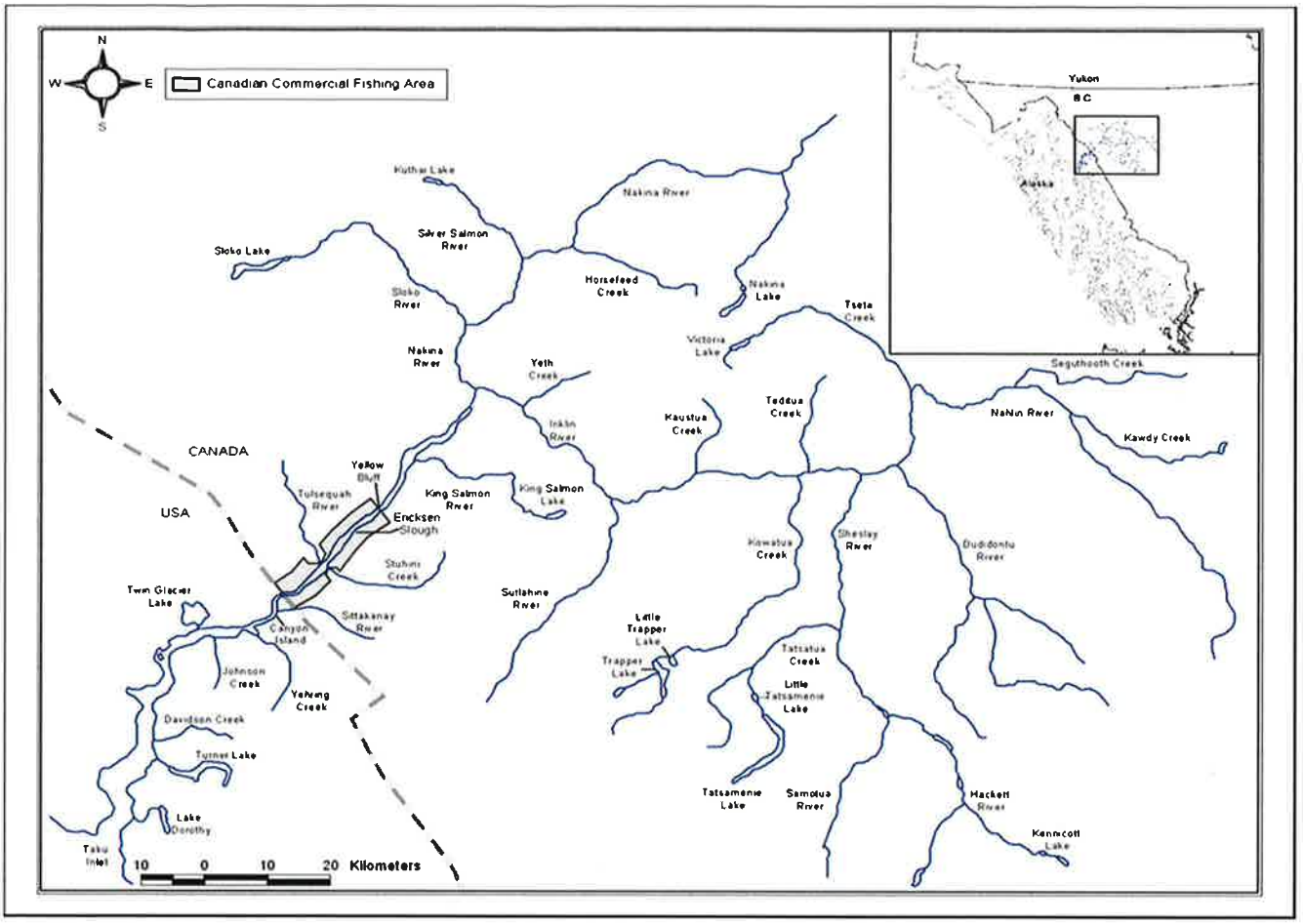


**Figure 1 The Taku River watershed with the Canadian commercial fishing area highlighted in grey**

# 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.**

| | | Target* | | | | | No. | Stat. |
|---|---|---|---|---|---|---|---|---|
| Species | Fishery | CWT | Sec. Marks | Otoliths | Age | Sex--Length | Weeks | Weeks |
| 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.rmpc.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 elsewhwere.

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

McPherson, S. A., D. R. Bernard, S. K. Kelley, P. A. Milligan, and P. Timpany. 1998a. Abundance of Chinook salmon in the Taku River in 1997. Alaska Department of Fish and Game, Division of Sport Fish, Fishery Data Series Report 98-41, Anchorage.

Yanusz, R. J., McPherson, S. A., and D. R. Bernard. 1999. Production of coho salmon from the Taku River, 1997-1998. Alaska Department of Fish and Game, Division of Sport Fish, Fishery Data Series Report 99-34, Anchorage.

PSC (Pacific Salmon Commission). 2018. Preliminary estimates of transboundary river salmon production, harvest, and escapement and a review of joint enhancement activities in 2017. Transboundary Technical Committee Report.

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 large | Commercial Catch small | Inspected Catch | Ages Collected | Sex Collected | Lengths Collected (CAF) | Adipose Clips Observed | CWT Recovered | Spaghetti Tags Recovered |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | 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 | 25-Jun | | | | | | | |
| 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** | **$ -** | **$ -** | **$ -** |

# Fisheries and Oceans Canada - PSC Project Budget Financial Report



**Overhead / Indirect Costs**

| Item | Amount Expended | | Approved Budget | Total Expenditure | Variance |
|---|---|---|---|---|---|
| Office space; including utilities, etc. | | | | | |
| Insurance | | | | | |
| Office supplies | | | 160 | | |
| Telephone & long Distance | | | 640 | | |
| Photocopies & printing | | | | | |
| Indirect/overhead costs | 378.32 | | | | |
| Administration and financial management | | | | | |
| (If the PSC contribution to Indirect costs exceeds 20% of the total PSC grant submission of back-up documentation justifying the expense is required). | | | | | |
| **Total Expended** | **$ 378.32** | **Total Budget** | **$ 800.00** | **$ 378.32** | **$ 421.68** |
| | | **Total Overhead / Indirect Summary** | **$ 800.00** | **$ 378.32** | **$ 421.68** |

**Capital Costs / Assets (Value > $250.00)**

| Item | Amount Expended | | Approved Budget | Total Expenditure | Variance |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| **Total Expended** | **$ -** | **Total Budget** | **$ -** | **$ -** | **$ -** |
| | | **Total Capital Cost / Asset Summary** | **$ -** | **$ -** | **$ -** |

## Financial Report

| Categories | Approved Budget (PSC Grant) | Project Expenditures | Variance |
|---|---|---|---|
| **Labour** | $ 14,230.00 | $ 12,768.00 | $ 1,462.00 |
| **Site / Project Costs** | $ 20,004.00 | $ 21,887.68 | $ (1,883.68) |
| **Training** | $ - | $ - | $ - |
| **Overhead / Indirect Costs** | $ 800.00 | $ 378.32 | $ 421.68 |
| **Capital Costs / Assets** | $ - | $ - | $ - |
| **TOTAL** | **$ 35,034.00** | **$ 35,034.00** | **$ (0.00)** |

| | |
|---|---|
| **PST Project Funding Grant Advance Amount Received** | **$ (31,530.60)** |
| **PST Project Funding Grant Amount Remaining to be Paid** | **$ (3,503.40)** |
| **Difference Between Grant Amount and Project Expenditures** | **$ -** |

**Project Manager Name** Aaron Foos

**Project Manager Signature**

**Date** 12 March 2018

**DFO Responsibility Center Manager Name** Bill Waugh

**DFO Responsibility Center Manager Signature**

**Date** Mar. 12/18