

Stikine River Watershed - Tahltan Lake

Adult Sockeye Enumeration, 2019

Final Report
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Executive Summary

In 2019, Fisheries & Oceans Canada received funding from the Northern Endowment Fund (NEF) under the Pacific Salmon Commission (PSC) to complete enumeration and sampling of Tahltan Lake sockeye salmon. All project objectives were fully met within the period of project operation.

Enumeration occurred from July 8 to September 9; it was estimated that 36,999 adults returned to Tahltan Lake in 2019. The Tahltan lake enhancement project removed 3,579 (Male: 1,792, Female: 1,787) sockeye for broodstock and the weir sampling for otolith analysis removed 212 male sockeye; spawning escapement was subsequently estimated at 33,208 (Male: 17,645, Female: 15,563) sockeye. Otolith samples taken from males sampled in proportion to the run (until August 17) showed that spawning sockeye were approximately 45% wild and 55% enhanced. As anticipated, 5 year old fish dominated the run, and sex ration was nearly 1:1. Daily water temperatures and levels were recorded. The lake was also sampled for chlorophyll, phosphorus, Secchi depth, zooplankton and a temperature profile.

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1.0 Introduction

Tahltan Lake is located in the Stikine River drainage in northwestern British Columbia (Figure 1). The Tahltan Lake sockeye salmon stock provides the largest contribution to the Stikine River sockeye population as well as to the Canadian commercial and First Nations food fisheries in the Stikine River drainage. Enumeration of adult sockeye salmon into Tahltan Lake began in 1959, and has occurred annually at the lake outlet into Johnny Tashoots Creek providing sockeye salmon escapement numbers into Tahltan Lake for 60 years. The project is based out of a permanently established Fisheries and Ocean Canada (DFO) camp located on site, and typically occurs through July and August. The current biological escapement goal for Tahltan Lake is 24,000 sockeye with a range of 18,000 - 30,000. This goal provides for 20,000 natural sockeye spawners and 4,000 sockeye for broodstock requirements for the Canada/ US enhancement program.

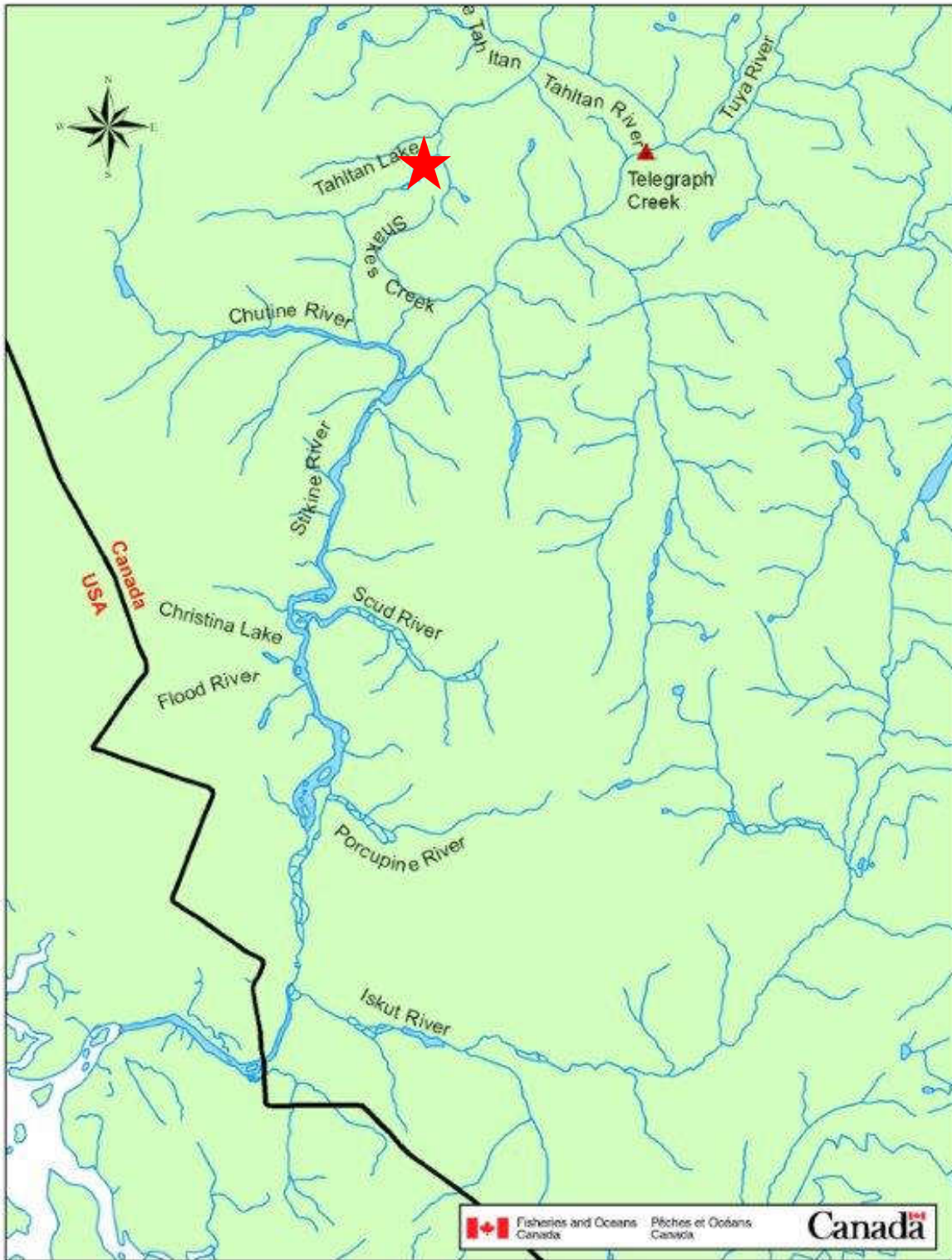


Figure 1 – Stikine River map, Tahltan Lake project location indicated by red star.

2.0 Objectives

The project objectives were:

- To enumerate all sockeye adult salmon while the fish are in transit through a weir located downstream from the outlet of Tahltan Lake from July to September;
- To collect age (scales), sex, and length information from 600 live adult sockeye salmon randomly selected each day in proportion to the annual run timing;
- To collect sex ratio information from up to 100 random sockeye per day (run size dependent);
- To lethally sample 400 male sockeye in proportion to the run for stock identification (enhanced vs. non enhanced) via otolith collection, length (fork length and post-orbital hypural length), and sex. (If these samples are unable to be collected from the weir (e.g., if run sizes are not adequate), stock ID samples will be gathered from fish captured for the egg take);
- To record Tahltan Lake water levels and temperatures throughout the sockeye adult salmon migration;
- To maintain a safe and healthy work environment

3.0 Methods

Sockeye salmon adults returning to Tahltan Lake were enumerated as they migrated through an existing water level control structure at the outlet of Tahltan Lake into Johnny Tashoots creek. Sockeye were contained as required on the upstream side of the water control structure within a counting pen to allow for easy capture and sampling. The counting pen (2.0 m x 3.0m) was constructed of vertical rebar spaced to allow the flow of water, but to retain sockeye salmon adults. A steel gate at the head of the counting pen could be opened incrementally to allow the passage of sockeye adults at a rate which allowed for an accurate visual count.

The water control structure was used to regulate the flow from Tahltan Lake into Johnny Tashoots Creek from 0800h to 2400h daily during the sockeye run. The water control structure restricted the flow of water from 0001h to 0759h. Adult sockeye salmon moved through the opened water control structure between 0800h and 2400h and were collected within the counting pen. Technicians conducted hourly counts of sockeye adults during this time by opening the counting

pen gate and enumerating passing fish using hand held tally counters as they vacated the pen. Hourly counts were recorded on field data sheets to determine total daily counts.

To conduct non-lethal biological sampling, adult sockeye were randomly collected daily from the counting chamber in proportion to the run with an annual target of 600 samples. Biological sampling included: measurements to the nearest 5 millimetres for fork length (FL) and post-orbital hypural length (POHL); collection of five scales per fish for ageing; and sex identification through observation of sexually dimorphic traits. An additional live sample of up to 100 adults daily were assessed for sex only to determine sex ratio of the run. All samples were live released into Tahltan Lake. Scale samples were analysed by DFO's Schlerochonology Lab at the Pacific Biological Station in Nanaimo, B.C.

The goal for lethal biological sampling was to sample 400 male sockeye salmon in proportion to the run. Although lethal sampling only occurs when run size is forecast to exceed the escapement goal, since 2018, lethal sampling has focussed on males only. The approach was intended to alleviate concerns with sampling females, and analyses suggested that a male-only strategy would not bias the stock composition estimates (wild and enhanced). Biological sampling included: measurements to the nearest 5 millimetres for fork length (FL) and post-orbital hypural length (POHL); collection of five scales per fish for ageing; sex identification; and collection of otoliths. Otolith analysis assessed hatchery thermal marks to determine brood year and occurred at the DFO Whitehorse Lab. Carcasses were frozen for transport out of Tahltan Lake and later distributed to Tahltan/ Iskut First Nation members.

Water temperature and water level were recorded daily every four hours at the top of the hour (0800h, 1200h, 1600h, 2000h, and 2400h). Temperature (°C) was taken with a hand held alcohol thermometer at the water control structure, and water level was recorded from a staff gauge (tenths of foot) permanently mounted to the water control structure.

Tahltan Lake was also sampled in May, July and August for chlorophyll, phosphorus, secchi depth, zooplankton and a temperature profile during the project. These samples were forwarded to DFO's Salmonid Enhancement Program and results will be presented elsewhere.

4.0 Results and Discussion

The counting pen was installed and fish tight on July 7 and was removed on September 10. The total estimated count of Tahltan Lake sockeye salmon was 36,999 fish (Appendix 3). Run timing appeared to be delayed by approximately 1 week when compared to the average (Figure 2). The egg take crew arrived on August 26 which was DFO's last day on the enumeration project. The egg-take crew continued counting sockeye through the weir until September 9. There was no indication at the time this report was prepared that natural sockeye migration was influenced by

either the 2014 Tahltan River rock debris (slide) or by Decheeka Falls. These two sites may be migration barriers at certain water levels. Detailed daily counts can be found in Appendix 3.

Run Timing:

The first sockeye salmon arrived at Tahltan Lake on July 13. Overall run timing of the 2019 migration was more variable and slightly later than average but came in line with the ten year average in late July. For example, in 2019 the early part of the run appeared to be approximately 5 days later than average, was characterized by a large pulse of fish entering the lake on July 27 (Figure 2), and was generally more condensed than average. Following this large immigration pulse, run timing (i.e., percentage of the run in the lake on any given day) was increasingly similar to the average and by the end of July was essentially the same as average.

For the purposes of this report, the ten year average in the context of Tahltan Lake sockeye counts refers to the period 2007 to 2017. Data from 2014 were excluded from derivation of the average as a result of the influence of the Tahltan River rock slide, and 2018 data were excluded as a result of the forest fire evaluation from Tahltan Lake during the program.

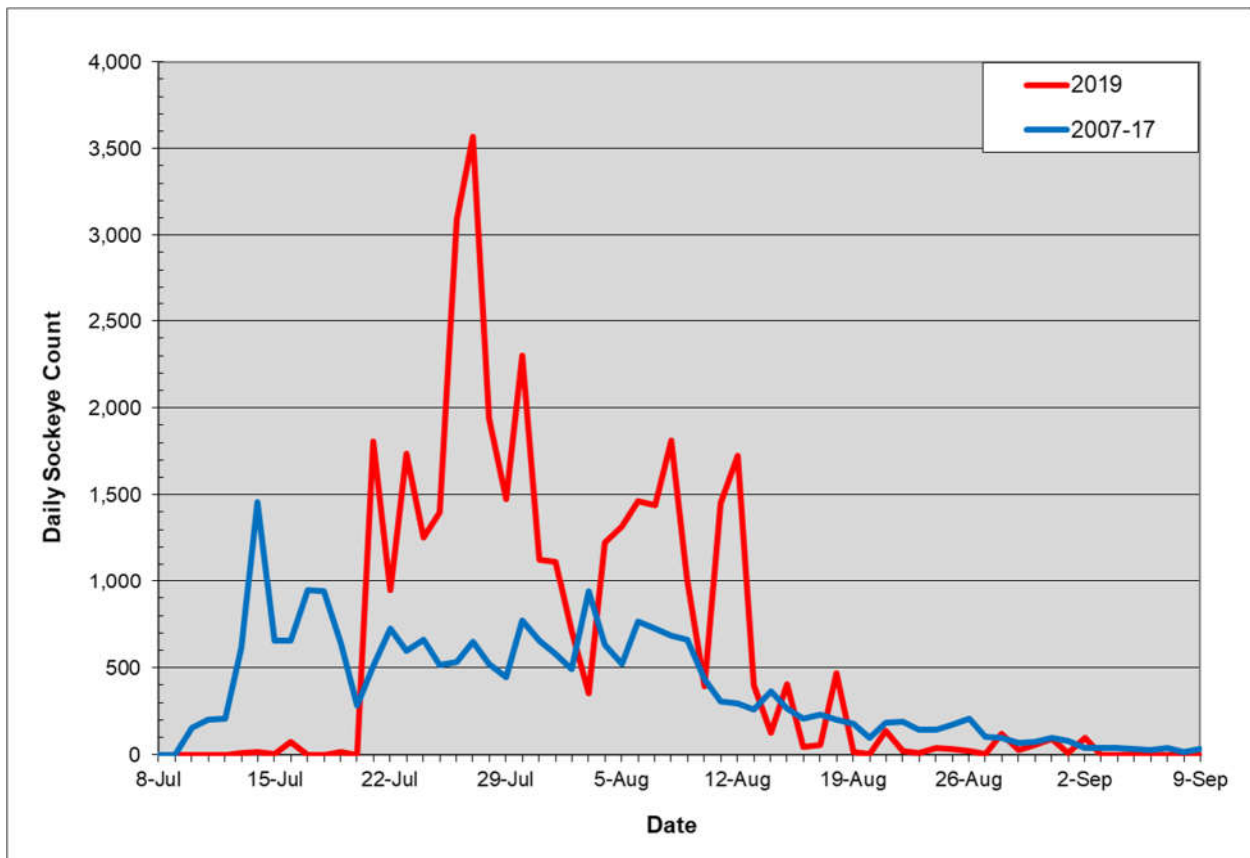


Figure 2. Daily adult sockeye counts at the Tahltan Lake weir in 2019 compared to the 10 year average (2007 to 2017).

Counts:

The total estimated weir count in 2019 was 36,999 sockeye. This was approximately 35% above the ten year average of 24,025. The enhancement project removed 3,579 sockeye for broodstock, and the weir sampling removed 212 male sockeye for stock identification. Overall, the natural spawning escapement was 33,208 sockeye.

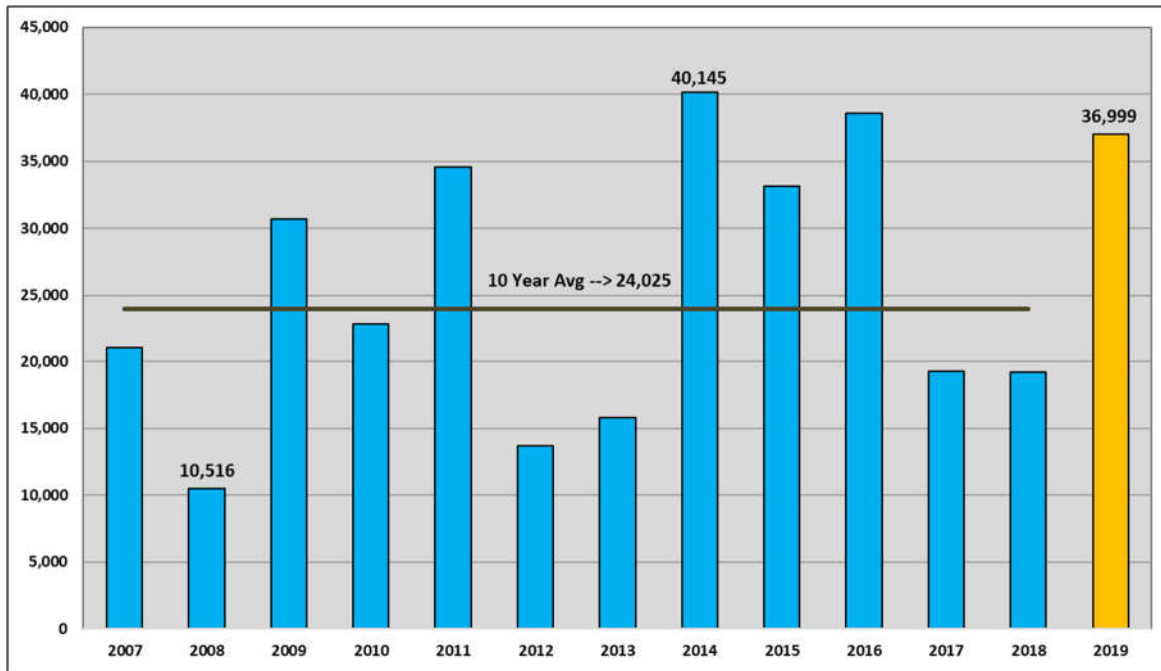


Figure 3. Tahltan Lake adult sockeye counts in 2019 compared to the 10 year average (2007 to 2017).

Sampling:

A total of 600 biological samples were collected from live fish in 2019. Scale ages were 28.5% four year olds, 70.9% five year olds, and 0.006% six year olds (Table 1). No other age classes were observed. This is typical, as five year olds usually dominate the return to Tahltan Lake. Sex determination (2,627 total random daily weir observations, 600 biological samples) yielded a sex ratio (excludes sacrifice sample that targeted males only) of 52% female and 48% male. Applying this sex ratio to the escapement (less broodstock and sacrifice samples) yields 17,113 females and 16,095 males. The broodstock collection project (reported elsewhere) captured 3,579 fish (1,792 males, 1,787 females). A summary of sample results can be found in Appendix 4.

The 2019 male only sacrifice (wild/ enhanced ratio) sampling occurred from July 29 to August 19. The sacrifice sampling was not carried out proportionally to the run as the early part of the run was not sampled. As fish were late arriving to the lake, there were concerns that the escapement goal would not be met. As a result, lethal sampling was not completed until it was more apparent that the escapement goal would be met. A total of 212 samples were collected, and 2 of these were unusable (n=210). The run was comprised of approximately 45% wild and approximately 55% enhanced sockeye. The broodstock sample collection (reported elsewhere) reported approximately 64% wild and approximately 36% enhanced.

Table 1 Age, length, and sex composition of sockeye enumerated at the Tahltan Lake weir, 2019.

		32		42		52		53		55		62		63		64		Combined *	
		F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Unweighted Proportion by age	N	0	0	49	89	194	143	3	2	0	1	1	1	1	0	0	0	325	275
	Proportion	0.000	0.000	0.101	0.184	0.401	0.295	0.006	0.004	0.000	0.002	0.002	0.002	0.002	0.000	0.000	0.000	0.542	0.458
		0.000		0.285		0.696		0.010		0.002		0.004		0.002		0.000			
Fork Length	N			49	89	194	143	3	2	1	1	1	1					325	275
	Average			559	528	610	643	573	570	530	605	665	610					596	599
	Std. Dev.			36.69	38.66	31.01	31.90	11.55	21.21									39.52	65.21
	Maximum			675	675	690	730	580	585	530	605	665	610					695	730
	Minimum			495	465	500	505	560	555	530	605	665	610					455	465
Mid-Eye Fork Length	N																		
	Average																		
	Std. Dev.																		
	Maximum Minimum																		
Post-Orbital Hypural Length	N			49	89	194	143	3	2	1	1	1	1					325	275
	Average			459	433	499	519	460	466	440	510	520	510					489	487
	Std. Dev.			31.14	30.95	26.07	26.23	13.23	15.78									32.74	49.54
	Maximum			551	555	570	575	470	477	440	510	520	510					570	575
	Minimum			395	375	410	415	445	455	440	510	520	510					378	375

Water Temperature:

Daily average water temperatures for Tahltan Lake throughout the 2019 project were slightly above the ten year average for most of the season with the exception of the last couple weeks of August which were slightly below average. The increase in water temperature was likely the result of many factors which include an extended period of warm weather during the months of July and August, lower overall water levels than average (see below), and an ice out date (May 7) that was 11 days earlier than average. Daily water temperatures can be found in Appendix 1. Ten-year averages in the context of water temperature refers to the period 2009 to 2018. Water temperatures have been recorded at Tahltan Lake since 1984.

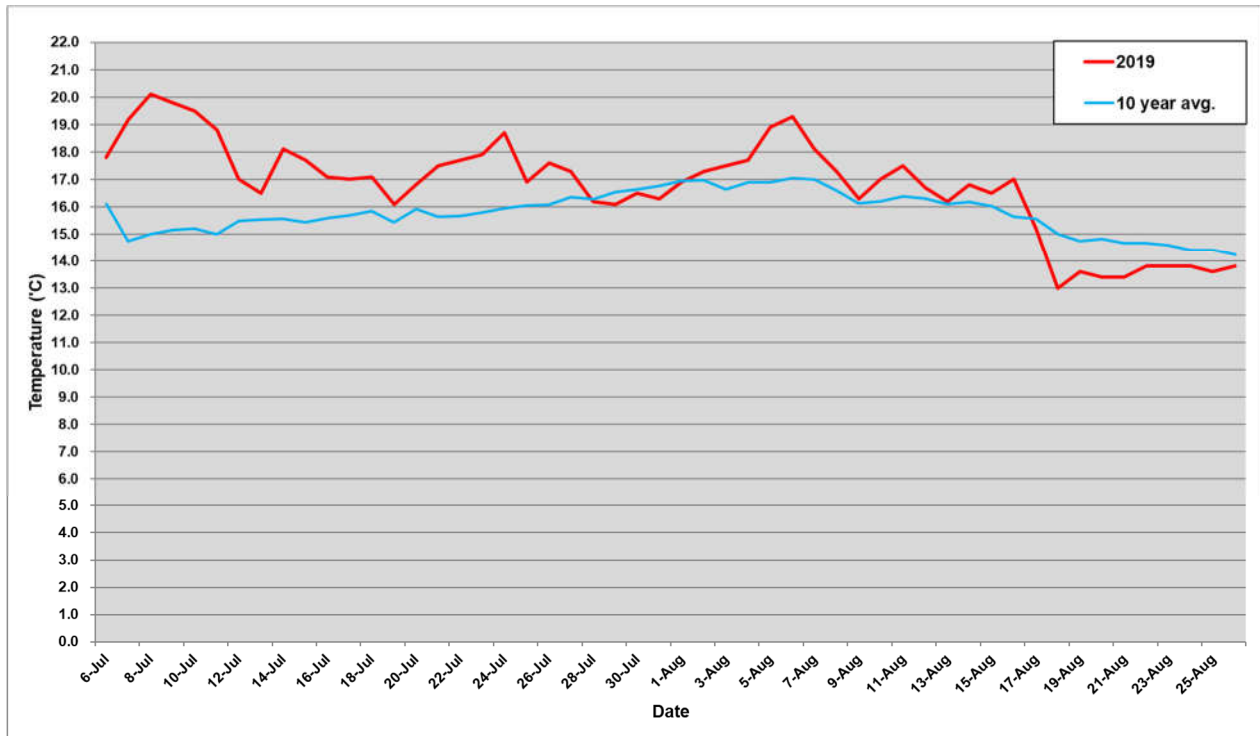


Figure 4. Tahltan Lake average daily water temperature (°C) in 2019 compared to the 10 year average (2009 to 2018).

Water Level:

Daily average water levels for Tahltan Lake throughout the 2019 project were extremely low for a second consecutive year. Over the monitored portion of the 2019 adult sockeye migration, water levels were on average 80-91% below the ten year average (Figure 5). The warm, dry summer combined with below average snowpack likely influenced Tahltan Lake water levels. For example, 2019 snowpack conditions were estimated at 61% of normal (<https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/river-forecast/2019.pdf>). Detailed daily water levels can be found in Appendix 2.

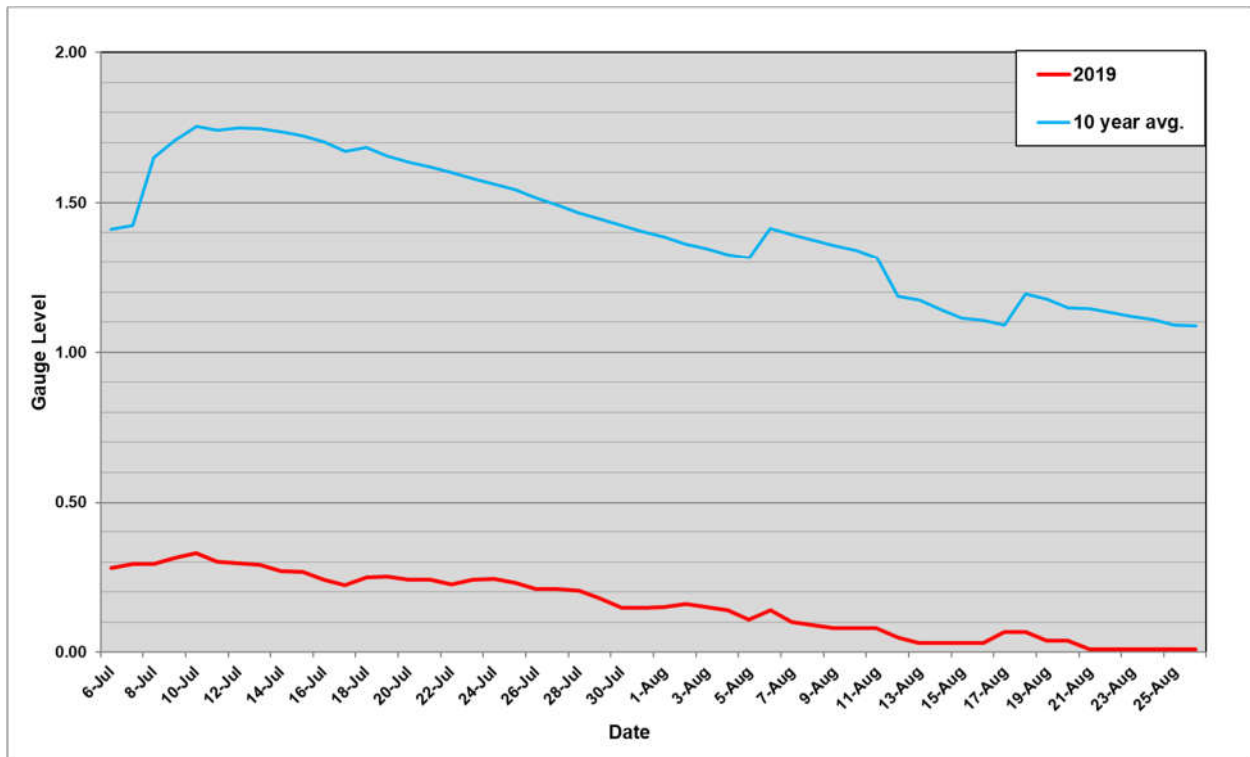


Figure 5. Tahltan Lake average daily water levels (Tenths of a foot) in 2019 compared to the 10 year average (2009 to 2018).

5.0 Conclusions

The project was completed within the timeframe of the proposal. All stated objectives were fully met within the period of project operation.

The total weir count was 36,999 sockeye which was 35% above the ten year average of 24,025 fish. The natural spawning escapement of 33,208 fish was estimated by subtracting the broodstock collection of 3,579 sockeye and the 212 weir samples from the estimated total weir count. Sockeye were approximately 5 days later than average in returning to Tahltan Lake and arrived in a large pulse; by the end of July run timing was on par with the average.

As anticipated, five year old fish (70.9%) dominated the run. The sex ratio, as determined from the 600 live sampled fish and the 2,627 visually-assessed fish was nearly 1:1 (52% females and 48% males).

Tahltan Lake water temperatures were above average in 2019, and water levels were extremely low for the second consecutive year, approximately 80-91% below average over the project.

The Tahltan Lake sockeye adult enumeration project provided critical data to fisheries managers to evaluate achievement of escapement goals, to validate the performance of the Stikine River Sockeye Management Model, and to assist in run forecasts. The estimated total count of spawning females will be used to forecast sockeye smolt production in 2021. The wild/enhanced ratios will be referenced to assess the performance of enhancement activities as well as to inform future enhancement planning.

6.0 Budget Summary

The Northern Endowment Fund awarded \$42,893.90 to DFO for completion of this project. The 90% advance of \$38,605 was fully expended (Appendix 5). DFO does not require the 10% holdback.

7.0 Acknowledgements

Michael Nole, Kyle Inkster, and Regan Asp participated in the project for the Tahltan Iskut First Nation under the direction of Cheri Frocklage, Tahltan Fisheries Coordinator. Shawn McFarland completed project activities for DFO under the direction of Johnny Sembsmoen and Jody Mackenzie-Grieve. Mark McFarland provided expediting support for DFO. Air support was provided by B.C. Yukon Air Service Ltd. and Tundra Helicopters Ltd.

8.0 Appendices

Appendix 1. Summary of Tahltan Lake average daily water temperatures (Celsius) – 2019 vs. 10 year average.

Date	2019	2009-2018 Avg.	(+/-)
6/Jul	17.8	16.1	1.7
7/Jul	19.2	14.7	4.5
8/Jul	20.1	15.0	5.1
9/Jul	19.8	15.2	4.6
10/Jul	19.5	15.2	4.3
11/Jul	18.8	15.0	3.8
12/Jul	17.0	15.5	1.5
13/Jul	16.5	15.5	1.0
14/Jul	18.1	15.6	2.5
15/Jul	17.7	15.4	2.3
16/Jul	17.1	15.6	1.5
17/Jul	17.0	15.7	1.3
18/Jul	17.1	15.9	1.2
19/Jul	16.1	15.4	0.7
20/Jul	16.8	15.9	0.9
21/Jul	17.5	15.6	1.9
22/Jul	17.7	15.7	2.0
23/Jul	17.9	15.8	2.1
24/Jul	18.7	16.0	2.7
25/Jul	16.9	16.0	0.9
26/Jul	17.6	16.1	1.5
27/Jul	17.3	16.4	0.9
28/Jul	16.2	16.3	-0.1
29/Jul	16.1	16.5	-0.4
30/Jul	16.5	16.6	-0.1
31/Jul	16.3	16.8	-0.5
1/Aug	16.9	16.9	0.0
2/Aug	17.3	17.0	0.3
3/Aug	17.5	16.6	0.9
4/Aug	17.7	16.9	0.8
5/Aug	18.9	16.9	2.0
6/Aug	19.3	17.0	2.3
7/Aug	18.1	17.0	1.1
8/Aug	17.3	16.6	0.7
9/Aug	16.3	16.1	0.2
10/Aug	17.0	16.2	0.8
11/Aug	17.5	16.4	1.1
12/Aug	16.7	16.3	0.4
13/Aug	16.2	16.1	0.1
14/Aug	16.8	16.2	0.6
15/Aug	16.5	16.0	0.5
16/Aug	17.0	15.6	1.4
17/Aug	15.2	15.6	-0.4
18/Aug	13.0	15.0	-2.0
19/Aug	13.6	14.7	-1.1
20/Aug	13.4	14.8	-1.4
21/Aug	13.4	14.7	-1.3
22/Aug	13.8	14.7	-0.9
23/Aug	13.8	14.6	-0.8
24/Aug	13.8	14.4	-0.6
25/Aug	13.6	14.4	-0.8
26/Aug	13.8	14.2	-0.4
		(+/-) Avg.	1.0

Appendix 2. Summary of Tahltan Lake average daily water levels (tenths of a foot) – 2019 vs. 10 year average.

Date	2019	2009-2018 Avg.	(+/-)
6/Jul	0.28	1.41	-1.13
7/Jul	0.29	1.43	-1.13
8/Jul	0.29	1.65	-1.36
9/Jul	0.31	1.71	-1.40
10/Jul	0.33	1.75	-1.42
11/Jul	0.30	1.74	-1.44
12/Jul	0.30	1.75	-1.45
13/Jul	0.29	1.75	-1.46
14/Jul	0.27	1.74	-1.47
15/Jul	0.27	1.72	-1.46
16/Jul	0.24	1.70	-1.46
17/Jul	0.22	1.67	-1.45
18/Jul	0.25	1.68	-1.44
19/Jul	0.25	1.66	-1.40
20/Jul	0.24	1.63	-1.39
21/Jul	0.24	1.62	-1.38
22/Jul	0.23	1.60	-1.37
23/Jul	0.24	1.58	-1.34
24/Jul	0.24	1.56	-1.32
25/Jul	0.23	1.54	-1.31
26/Jul	0.21	1.51	-1.30
27/Jul	0.21	1.49	-1.28
28/Jul	0.20	1.47	-1.26
29/Jul	0.18	1.45	-1.27
30/Jul	0.15	1.42	-1.28
31/Jul	0.15	1.40	-1.26
1/Aug	0.15	1.39	-1.24
2/Aug	0.16	1.36	-1.20
3/Aug	0.15	1.35	-1.20
4/Aug	0.14	1.33	-1.19
5/Aug	0.11	1.32	-1.21
6/Aug	0.14	1.41	-1.27
7/Aug	0.10	1.39	-1.29
8/Aug	0.09	1.38	-1.29
9/Aug	0.08	1.36	-1.28
10/Aug	0.08	1.34	-1.26
11/Aug	0.08	1.32	-1.24
12/Aug	0.05	1.19	-1.14
13/Aug	0.03	1.17	-1.14
14/Aug	0.03	1.14	-1.11
15/Aug	0.03	1.11	-1.08
16/Aug	0.03	1.11	-1.08
17/Aug	0.07	1.09	-1.02
18/Aug	0.07	1.19	-1.13
19/Aug	0.04	1.18	-1.14
20/Aug	0.04	1.15	-1.11
21/Aug	0.01	1.14	-1.13
22/Aug	0.01	1.13	-1.12
23/Aug	0.01	1.12	-1.11
24/Aug	0.01	1.11	-1.10
25/Aug	0.01	1.09	-1.08
26/Aug	0.01	1.09	-1.08
		(+/-) Avg.	-1.29

Appendix 3. Tahltan Lake sockeye adult daily counts, 2019.

Date	Stat. Week	Run Size			
		Daily		Cumulative	
		Count	Prop.	Count	Prop.
7-Jul	28	0	0.000	0	0.000
8-Jul	28	0	0.000	0	0.000
9-Jul	28	0	0.000	0	0.000
10-Jul	28	0	0.000	0	0.000
11-Jul	28	0	0.000	0	0.000
12-Jul	28	0	0.000	0	0.000
13-Jul	28	13	0.000	13	0.000
14-Jul	29	16	0.000	29	0.001
15-Jul	29	7	0.000	36	0.001
16-Jul	29	73	0.002	109	0.003
17-Jul	29	1	0.000	110	0.003
18-Jul	29	0	0.000	110	0.003
19-Jul	29	14	0.000	124	0.003
20-Jul	29	0	0.000	124	0.003
21-Jul	30	1,808	0.049	1,932	0.052
22-Jul	30	948	0.026	2,880	0.078
23-Jul	30	1,735	0.047	4,615	0.125
24-Jul	30	1,257	0.034	5,872	0.159
25-Jul	30	1,398	0.038	7,270	0.196
26-Jul	30	3,091	0.084	10,361	0.280
27-Jul	30	3,570	0.096	13,931	0.377
28-Jul	31	1,943	0.053	15,874	0.429
29-Jul	31	1,473	0.040	17,347	0.469
30-Jul	31	2,299	0.062	19,646	0.531
31-Jul	31	1,128	0.030	20,774	0.561
1-Aug	31	1,113	0.030	21,887	0.592
2-Aug	31	714	0.019	22,601	0.611
3-Aug	31	353	0.010	22,954	0.620
4-Aug	32	1,223	0.033	24,177	0.653
5-Aug	32	1,319	0.036	25,496	0.689
6-Aug	32	1,463	0.040	26,959	0.729
7-Aug	32	1,442	0.039	28,401	0.768
8-Aug	32	1,814	0.049	30,215	0.817
9-Aug	32	1,000	0.027	31,215	0.844
10-Aug	32	392	0.011	31,607	0.854
11-Aug	33	1,455	0.039	33,062	0.894
12-Aug	33	1,727	0.047	34,789	0.940
13-Aug	33	399	0.011	35,188	0.951
14-Aug	33	129	0.003	35,317	0.955
15-Aug	33	404	0.011	35,721	0.965
16-Aug	33	48	0.001	35,769	0.967
17-Aug	33	55	0.001	35,824	0.968
18-Aug	34	468	0.013	36,292	0.981
19-Aug	34	19	0.001	36,311	0.981
20-Aug	34	7	0.000	36,318	0.982
21-Aug	34	136	0.004	36,454	0.985
22-Aug	34	23	0.001	36,477	0.986
23-Aug	34	13	0.000	36,490	0.986
24-Aug	34	40	0.001	36,530	0.987
25-Aug	35	32	0.001	36,562	0.988
26-Aug	35	20	0.001	36,582	0.989
27-Aug	35	7	0.000	36,589	0.989
28-Aug	35	122	0.003	36,711	0.992
29-Aug	35	27	0.001	36,738	0.993
30-Aug	35	56	0.002	36,794	0.994
31-Aug	35	90	0.002	36,884	0.997
1-Sep	36	12	0.000	36,896	0.997
2-Sep	36	96	0.003	36,992	1.000
3-Sep	36	0	0.000	36,992	1.000
4-Sep	36	1	0.000	36,993	1.000
5-Sep	36	6	0.000	36,999	1.000
6-Sep	36	0	0.000	36,999	1.000
7-Sep	36	0	0.000	36,999	1.000
8-Sep	37	0	0.000	36,999	1.000
9-Sep	37	0	0.000	36,999	1.000
10-Sep	37	0	0.000	36,999	1.000
11-Sep	37	0	0.000	36,999	1.000
12-Sep	37	0	0.000	36,999	1.000
13-Sep	37	0	0.000	36,999	1.000
14-Sep	37	0	0.000	36,999	1.000
15-Sep	38	0	0.000	36,999	1.000
		36,999	1.000	36,999	

Appendix 4. Tahltan Lake sockeye adult sample data, 2019.

Fish #	Fishery Type	Date	Stat. Wk.	Sample Type	Bk. #	Sc. #	Age (GR)	Age (EU)	FL	MEF	POHL	Sex	Cond.	Oto. Box #	Oto. #	Marked Y/N	Origin	Brood Year	Comments
1	Tahltan Lake Weir	14-Jul	29	Live	10871	1	52	13	642		520	F	2						
2	Tahltan Lake Weir	14-Jul	29	Live	10871	2	52	13	662		556	F	2						
3	Tahltan Lake Weir	14-Jul	29	Live	10871	3	52	13	622		494	F	2						
4	Tahltan Lake Weir	14-Jul	29	Live	10871	4	52	13	604		485	F	2						
5	Tahltan Lake Weir	14-Jul	29	Live	10871	5	3M	M3	635		542	F	2						
6	Tahltan Lake Weir	14-Jul	29	Live	10871	6	3M	M3	631		511	M	2						
7	Tahltan Lake Weir	14-Jul	29	Live	10871	7	52	13	629		510	M	2						
8	Tahltan Lake Weir	14-Jul	29	Live	10871	8	52	13	633		518	F	2						
9	Tahltan Lake Weir	14-Jul	29	Live	10871	9	52	13	641		512	M	2						
10	Tahltan Lake Weir	14-Jul	29	Live	10871	10	52	13	653		534	M	2						
11	Tahltan Lake Weir	16-Jul	29	Live	10872	1	52	13	625		512	F	2						
12	Tahltan Lake Weir	16-Jul	29	Live	10872	2	52	13	630		505	F	2						
13	Tahltan Lake Weir	16-Jul	29	Live	10872	3	52	13	675		550	F	2						
14	Tahltan Lake Weir	16-Jul	29	Live	10872	4	52	13	645		510	F	2						
15	Tahltan Lake Weir	16-Jul	29	Live	10872	5	52	13	585		460	F	2						
16	Tahltan Lake Weir	16-Jul	29	Live	10872	6	52	13	620		505	F	2						
17	Tahltan Lake Weir	16-Jul	29	Live	10872	7	52	13	620		500	F	2						
18	Tahltan Lake Weir	16-Jul	29	Live	10872	8	52	13	640		530	F	2						
19	Tahltan Lake Weir	16-Jul	29	Live	10872	9	52	13	615		510	F	2						
20	Tahltan Lake Weir	16-Jul	29	Live	10872	10	52	13	595		485	M	2						
21	Tahltan Lake Weir	16-Jul	29	Live	10873	1	52	13	610		495	F	2						
22	Tahltan Lake Weir	16-Jul	29	Live	10873	2	55	40	530		440	M	2						
23	Tahltan Lake Weir	16-Jul	29	Live	10873	3	62	14	665		520	M	2						
24	Tahltan Lake Weir	16-Jul	29	Live	10873	4	52	13	630		515	F	2						
25	Tahltan Lake Weir	16-Jul	29	Live	10873	5	52	13	640		510	F	2						
26	Tahltan Lake Weir	16-Jul	29	Live	10873	6	52	13	615		505	F	2						
27	Tahltan Lake Weir	16-Jul	29	Live	10873	7	52	13	625		505	M	2						
28	Tahltan Lake Weir	16-Jul	29	Live	10873	8	52	13	670		550	M	2						
29	Tahltan Lake Weir	16-Jul	29	Live	10873	9	UD	UD	490		395	F	2						
30	Tahltan Lake Weir	16-Jul	29	Live	10873	10	52	13	666		540	F	2						
31	Tahltan Lake Weir	19-Jul	29	Live	10874	1	52	13	690		560	F	2						
32	Tahltan Lake Weir	19-Jul	29	Live	10874	2	52	13	625		505	M	2						
33	Tahltan Lake Weir	19-Jul	29	Live	10874	3	52	13	610		500	F	2						
34	Tahltan Lake Weir	19-Jul	29	Live	10874	4	42	12	520		430	M	2						
35	Tahltan Lake Weir	19-Jul	29	Live	10874	5	52	13	630		530	F	2						
36	Tahltan Lake Weir	19-Jul	29	Live	10874	6	52	13	600		505	F	2						
37	Tahltan Lake Weir	19-Jul	29	Live	10874	7	42	12	525		435	M	2						
38	Tahltan Lake Weir	19-Jul	29	Live	10874	8	52	13	630		525	F	2						
39	Tahltan Lake Weir	19-Jul	29	Live	10874	9	52	13	630		530	F	2						
40	Tahltan Lake Weir	19-Jul	29	Live	10874	10	52	13	630		530	F	2						
41	Tahltan Lake Weir	21-Jul	30	Live	10875	1	52	13	650		540	M	2						
42	Tahltan Lake Weir	21-Jul	30	Live	10875	2	52	13	680		548	M	2						
43	Tahltan Lake Weir	21-Jul	30	Live	10875	3	52	13	605		490	F	2						
44	Tahltan Lake Weir	21-Jul	30	Live	10875	4	52	13	680		555	M	2						
45	Tahltan Lake Weir	21-Jul	30	Live	10875	5	42	12	510		435	M	2						
46	Tahltan Lake Weir	21-Jul	30	Live	10875	6	52	13	650		530	F	2						
47	Tahltan Lake Weir	21-Jul	30	Live	10875	7	52	13	670		560	M	2						
48	Tahltan Lake Weir	21-Jul	30	Live	10875	8	42	12	510		435	M	2						
49	Tahltan Lake Weir	21-Jul	30	Live	10875	9	52	13	650		540	M	2						
50	Tahltan Lake Weir	21-Jul	30	Live	10875	10	52	13	635		535	F	2						
51	Tahltan Lake Weir	21-Jul	30	Live	10876	1	52	13	675		560	M	2						
52	Tahltan Lake Weir	21-Jul	30	Live	10876	2	42	12	510		420	M	2						
53	Tahltan Lake Weir	21-Jul	30	Live	10876	3	52	13	680		550	M	2						
54	Tahltan Lake Weir	21-Jul	30	Live	10876	4	52	13	600		510	F	2						
55	Tahltan Lake Weir	21-Jul	30	Live	10876	5	42	12	530		440	M	2						
56	Tahltan Lake Weir	21-Jul	30	Live	10876	6	52	13	675		540	M	2						
57	Tahltan Lake Weir	21-Jul	30	Live	10876	7	42	12	590		485	M	2						
58	Tahltan Lake Weir	21-Jul	30	Live	10876	8	52	13	640		525	M	2						
59	Tahltan Lake Weir	21-Jul	30	Live	10876	9	52	13	660		545	F	2						
60	Tahltan Lake Weir	21-Jul	30	Live	10876	10	42	12	500		410	M	2						
61	Tahltan Lake Weir	21-Jul	30	Live	10877	1	42	12	540		440	M	2						
62	Tahltan Lake Weir	21-Jul	30	Live	10877	2	52	13	660		545	M	2						
63	Tahltan Lake Weir	21-Jul	30	Live	10877	3	52	13	630		535	F	2						
64	Tahltan Lake Weir	21-Jul	30	Live	10877	4	52	13	610		510	F	2						
65	Tahltan Lake Weir	21-Jul	30	Live	10877	5	52	13	680		570	F	2						
66	Tahltan Lake Weir	21-Jul	30	Live	10877	6	52	13	654		534	F	2						
67	Tahltan Lake Weir	21-Jul	30	Live	10877	7	52	13	650		550	F	2						
68	Tahltan Lake Weir	21-Jul	30	Live	10877	8	52	13	675		544	M	2						
69	Tahltan Lake Weir	21-Jul	30	Live	10877	9	UD	UD	605		496	F	2						
70	Tahltan Lake Weir	21-Jul	30	Live	10877	10	42	12	470		390	M	2						
71	Tahltan Lake Weir	22-Jul	30	Live	10878	1	42	12	520		425	M	2						
72	Tahltan Lake Weir	22-Jul	30	Live	10878	2	42	12	535		440	M	2						
73	Tahltan Lake Weir	22-Jul	30	Live	10878	3	42	12	525		430	M	2						
74	Tahltan Lake Weir	22-Jul	30	Live	10878	4	42	12	525		435	M	2						
75	Tahltan Lake Weir	22-Jul	30	Live	10878	5	52	13	620		495	F	2						
76	Tahltan Lake Weir	22-Jul	30	Live	10878	6	52	13	620		490	M	2						
77	Tahltan Lake Weir	22-Jul	30	Live	10878	7	52	13	590		475	M	2						
78	Tahltan Lake Weir	22-Jul	30	Live	10878	8	42	12	510		420	M	2						
79	Tahltan Lake Weir	22-Jul	30	Live	10878	9	52	13	645		525	M	2						
80	Tahltan Lake Weir	22-Jul	30	Live	10878	10	52	13	590		480	F	2						

401	Tahitan Lake Weir	6-Aug	32	Live	10911	1	UD	UD	620		520	F	2						
402	Tahitan Lake Weir	6-Aug	32	Live	10911	2	UD	UD	625		520	F	2						
403	Tahitan Lake Weir	6-Aug	32	Live	10911	3	UD	UD	675		545	M	2						
404	Tahitan Lake Weir	6-Aug	32	Live	10911	4	52	13	595		490	M	2						
405	Tahitan Lake Weir	6-Aug	32	Live	10911	5	42	12	522		440	M	2						
406	Tahitan Lake Weir	6-Aug	32	Live	10911	6	UD	UD	515		440	F	2						
407	Tahitan Lake Weir	6-Aug	32	Live	10911	7	52	13	615		510	M	2						
408	Tahitan Lake Weir	6-Aug	32	Live	10911	8	UD	UD	550		453	F	2						
409	Tahitan Lake Weir	6-Aug	32	Live	10911	9	UD	UD	510		440	M	2						
410	Tahitan Lake Weir	6-Aug	32	Live	10911	10	UD	UD	630		530	F	2						
411	Tahitan Lake Weir	6-Aug	32	Live	10912	1	42	12	570		466	M	2						
412	Tahitan Lake Weir	6-Aug	32	Live	10912	2	42	12	500		405	M	2						
413	Tahitan Lake Weir	6-Aug	32	Live	10912	3	UD	UD	635		520	M	2						
414	Tahitan Lake Weir	6-Aug	32	Live	10912	4	3M	M3	575		480	F	2						
415	Tahitan Lake Weir	6-Aug	32	Live	10912	5	UD	UD	635		530	M	2						
416	Tahitan Lake Weir	7-Aug	32	Live	10912	6	42	12	535		430	F	2						
417	Tahitan Lake Weir	7-Aug	32	Live	10912	7	MF	MF	660		533	M	2						
418	Tahitan Lake Weir	7-Aug	32	Live	10912	8	52	13	625		510	F	2						
419	Tahitan Lake Weir	7-Aug	32	Live	10912	9	52	13	650		531	F	2						
420	Tahitan Lake Weir	7-Aug	32	Live	10912	10	52	13	635		520	F	2						
421	Tahitan Lake Weir	7-Aug	32	Live	10913	1	42	12	540		445	F	2						
422	Tahitan Lake Weir	7-Aug	32	Live	10913	2	52	13	580		476	F	2						
423	Tahitan Lake Weir	7-Aug	32	Live	10913	3	52	13	645		522	M	2						
424	Tahitan Lake Weir	7-Aug	32	Live	10913	4	42	12	555		457	F	2						
425	Tahitan Lake Weir	7-Aug	32	Live	10913	5	42	12	565		455	F	2						
426	Tahitan Lake Weir	7-Aug	32	Live	10913	6	MF	MF	650		531	F	2						
427	Tahitan Lake Weir	7-Aug	32	Live	10913	7	42	12	580		475	F	2						
428	Tahitan Lake Weir	7-Aug	32	Live	10913	8	52	13	590		495	F	2						
429	Tahitan Lake Weir	7-Aug	32	Live	10913	9	52	13	620		495	F	2						
430	Tahitan Lake Weir	7-Aug	32	Live	10913	10	42	12	560		445	M	2						
431	Tahitan Lake Weir	8-Aug	32	Live	10914	1	52	13	605		500	M	2						
432	Tahitan Lake Weir	8-Aug	32	Live	10914	2	UD	UD	655		535	F	2						
433	Tahitan Lake Weir	8-Aug	32	Live	10914	3	UD	UD	635		520	F	2						
434	Tahitan Lake Weir	8-Aug	32	Live	10914	4	UD	UD	655		529	M	2						
435	Tahitan Lake Weir	8-Aug	32	Live	10914	5	UD	UD	645		527	F	2						
436	Tahitan Lake Weir	8-Aug	32	Live	10914	6	UD	UD	585		496	F	2						
437	Tahitan Lake Weir	8-Aug	32	Live	10914	7	52	13	620		508	F	2						
438	Tahitan Lake Weir	8-Aug	32	Live	10914	8	UD	UD	625		512	F	2						
439	Tahitan Lake Weir	8-Aug	32	Live	10914	9	UD	UD	640		518	M	2						
440	Tahitan Lake Weir	8-Aug	32	Live	10914	10	42	12	610		510	F	2						
441	Tahitan Lake Weir	8-Aug	32	Live	10915	1	52	13	655		529	M	2						
442	Tahitan Lake Weir	8-Aug	32	Live	10915	2	42	12	555		470	F	2						
443	Tahitan Lake Weir	8-Aug	32	Live	10915	3	UD	UD	645		535	M	2						
444	Tahitan Lake Weir	8-Aug	32	Live	10915	4	UD	UD	655		540	M	2						
445	Tahitan Lake Weir	8-Aug	32	Live	10915	5	UD	UD	625		520	F	2						
446	Tahitan Lake Weir	9-Aug	32	Live	10915	6	52	13	620		485	M	2						
447	Tahitan Lake Weir	9-Aug	32	Live	10915	7	52	13	570		455	F	2						
448	Tahitan Lake Weir	9-Aug	32	Live	10915	8	52	13	650		520	F	2						
449	Tahitan Lake Weir	9-Aug	32	Live	10915	9	52	13	625		490	M	2						
450	Tahitan Lake Weir	9-Aug	32	Live	10915	10	52	13	610		500	M	2						
451	Tahitan Lake Weir	9-Aug	32	Live	10916	1	52	13	625		495	M	2						
452	Tahitan Lake Weir	9-Aug	32	Live	10916	2	52	13	605		490	M	2						
453	Tahitan Lake Weir	9-Aug	32	Live	10916	3	52	13	615		485	M	2						
454	Tahitan Lake Weir	9-Aug	32	Live	10916	4	52	13	615		500	F	2						
455	Tahitan Lake Weir	9-Aug	32	Live	10916	5	42	12	580		460	F	2						
456	Tahitan Lake Weir	9-Aug	32	Live	10916	6	52	13	635		500	M	2						
457	Tahitan Lake Weir	9-Aug	32	Live	10916	7	53	22	580		465	F	2						
458	Tahitan Lake Weir	9-Aug	32	Live	10916	8	52	13	615		495	F	2						
459	Tahitan Lake Weir	9-Aug	32	Live	10916	9	52	13	635		510	F	2						
460	Tahitan Lake Weir	9-Aug	32	Live	10916	10	52	13	645		515	F	2						
461	Tahitan Lake Weir	10-Aug	32	Live	10917	1	UD	UD	620		490	F	2						
462	Tahitan Lake Weir	10-Aug	32	Live	10917	2	UD	UD	570		475	F	2						
463	Tahitan Lake Weir	10-Aug	32	Live	10917	3	UD	UD	605		490	F	2						
464	Tahitan Lake Weir	10-Aug	32	Live	10917	4	52	13	625		512	F	2						
465	Tahitan Lake Weir	10-Aug	32	Live	10917	5	UD	UD	600		495	F	2						
466	Tahitan Lake Weir	10-Aug	32	Live	10917	6	UD	UD	625		525	M	2						
467	Tahitan Lake Weir	10-Aug	32	Live	10917	7	UD	UD	590		495	F	2						
468	Tahitan Lake Weir	10-Aug	32	Live	10917	8	UD	UD	600		488	M	2						
469	Tahitan Lake Weir	10-Aug	32	Live	10917	9	UD	UD	615		510	F	2						
470	Tahitan Lake Weir	10-Aug	32	Live	10917	10	52	13	585		475	F	2						
471	Tahitan Lake Weir	11-Aug	33	Live	10918	1	52	13	645		520	F	2						
472	Tahitan Lake Weir	11-Aug	33	Live	10918	2	52	13	665		535	M	2						
473	Tahitan Lake Weir	11-Aug	33	Live	10918	3	52	13	620		515	F	2						
474	Tahitan Lake Weir	11-Aug	33	Live	10918	4	52	13	615		485	F	2						
475	Tahitan Lake Weir	11-Aug	33	Live	10918	5	52	13	585		490	F	2						
476	Tahitan Lake Weir	11-Aug	33	Live	10918	6	52	13	665		535	M	2						
477	Tahitan Lake Weir	11-Aug	33	Live	10918	7	52	13	525		430	F	2						
478	Tahitan Lake Weir	11-Aug	33	Live	10918	8	52	13	625		500	M	2						
479	Tahitan Lake Weir	11-Aug	33	Live	10918	9	2M	M2	535		435	F	2						
480	Tahitan Lake Weir	11-Aug	33	Live	10918	10	52	13	623		500	M	2						

641	41	Tahitan Lake Weir	31-Jul	31	Sacrifice				513	425	M	2	1	41	Y	Tahitan Lake	2015	
642	42	Tahitan Lake Weir	31-Jul	31	Sacrifice				472	396	M	2	1	42	N			
643	43	Tahitan Lake Weir	31-Jul	31	Sacrifice				550	460	M	2	1	43	Y	Tahitan Lake	2015	
644	44	Tahitan Lake Weir	31-Jul	31	Sacrifice				497	424	M	2	1	44	N			
645	45	Tahitan Lake Weir	31-Jul	31	Sacrifice				493	413	M	2	1	45	Y	Tahitan Lake	2015	
646	46	Tahitan Lake Weir	31-Jul	31	Sacrifice				630	514	M	2	1	46	Y	Tahitan Lake	2014	
647	47	Tahitan Lake Weir	31-Jul	31	Sacrifice				630	530	M	2	1	47	N			
648	48	Tahitan Lake Weir	31-Jul	31	Sacrifice				644	521	M	2	1	48	N			
649	49	Tahitan Lake Weir	31-Jul	31	Sacrifice				511	433	M	2	1	49	N			
650	50	Tahitan Lake Weir	31-Jul	31	Sacrifice				541	451	M	2	1	50	N			
651	51	Tahitan Lake Weir	31-Jul	31	Sacrifice				660	533	M	2	1	51	N			
652	52	Tahitan Lake Weir	31-Jul	31	Sacrifice				530	430	M	2	1	52	Y	Tahitan Lake	2015	
653	53	Tahitan Lake Weir	31-Jul	31	Sacrifice				589	487	M	2	1	53	Y	Tahitan Lake	2014	
654	54	Tahitan Lake Weir	31-Jul	31	Sacrifice				624	506	M	2	1	54	Y	Tahitan Lake	2014	
655	55	Tahitan Lake Weir	31-Jul	31	Sacrifice				650	525	M	2	1	55	N			
656	56	Tahitan Lake Weir	31-Jul	31	Sacrifice				670	547	F	2	1	56	Y	Tahitan Lake	2014	
657	57	Tahitan Lake Weir	31-Jul	31	Sacrifice				490	412	M	2	1	57	N			
658	58	Tahitan Lake Weir	31-Jul	31	Sacrifice				624	506	M	2	1	58	N			
659	59	Tahitan Lake Weir	31-Jul	31	Sacrifice				487	414	M	2	1	59	N			
660	60	Tahitan Lake Weir	31-Jul	31	Sacrifice				540	450	M	2	1	60	N			
661	61	Tahitan Lake Weir	1-Aug	31	Sacrifice				540	425	M	2	1	61	Y	Tahitan Lake	2015	
662	62	Tahitan Lake Weir	1-Aug	31	Sacrifice				515	425	M	2	1	62	Y	Tahitan Lake	2015	
663	63	Tahitan Lake Weir	1-Aug	31	Sacrifice				485	390	M	2	1	63	Y	Tahitan Lake	2015	
664	64	Tahitan Lake Weir	1-Aug	31	Sacrifice				630	500	M	2	1	64	Y	Tahitan Lake	2015	
665	65	Tahitan Lake Weir	1-Aug	31	Sacrifice				635	514	M	2	1	65	N			
666	66	Tahitan Lake Weir	1-Aug	31	Sacrifice				635	514	M	2	1	66	Y	Tahitan Lake	2014	
667	67	Tahitan Lake Weir	1-Aug	31	Sacrifice				656	520	M	2	1	67	Y	Tahitan Lake	2014	
668	68	Tahitan Lake Weir	1-Aug	31	Sacrifice				530	420	M	2	1	68	N			
669	69	Tahitan Lake Weir	1-Aug	31	Sacrifice				525	432	M	2	1	69	Y	Tahitan Lake	2015	
670	70	Tahitan Lake Weir	1-Aug	31	Sacrifice				675	544	M	2	1	70	Y	Tahitan Lake	2014	
671	71	Tahitan Lake Weir	1-Aug	31	Sacrifice				665	520	M	2	1	71	Destroyed			
672	72	Tahitan Lake Weir	1-Aug	31	Sacrifice				610	496	M	2	1	72	Y	Tahitan Lake	2014	
673	73	Tahitan Lake Weir	1-Aug	31	Sacrifice				485	403	M	2	1	73	Y	Tahitan Lake	2015	
674	74	Tahitan Lake Weir	1-Aug	31	Sacrifice				660	530	M	2	1	74	Y	Tahitan Lake	2014	
675	75	Tahitan Lake Weir	1-Aug	31	Sacrifice				695	559	M	2	1	75	N			
676	76	Tahitan Lake Weir	1-Aug	31	Sacrifice				630	500	M	2	1	76	Y	Tahitan Lake	2015	
677	77	Tahitan Lake Weir	1-Aug	31	Sacrifice				625	490	M	2	1	77	Y	Tahitan Lake	2014	
678	78	Tahitan Lake Weir	1-Aug	31	Sacrifice				620	503	M	2	1	78	Y	Tahitan Lake	2014	
679	79	Tahitan Lake Weir	1-Aug	31	Sacrifice				675	544	M	2	1	79	Y	Tahitan Lake	2014	
680	80	Tahitan Lake Weir	1-Aug	31	Sacrifice				650	510	M	2	1	80	Y	Tahitan Lake	2014	
681	81	Tahitan Lake Weir	2-Aug	31	Sacrifice				560	478	M	2	2	1	Y	Tahitan Lake	2015	
682	82	Tahitan Lake Weir	2-Aug	31	Sacrifice				504	427	M	2	2	2	N			
683	83	Tahitan Lake Weir	2-Aug	31	Sacrifice				585	477	M	2	2	3	N			
684	84	Tahitan Lake Weir	2-Aug	31	Sacrifice				585	495	M	2	2	4	N			
685	85	Tahitan Lake Weir	2-Aug	31	Sacrifice				539	450	M	2	2	5	Y	Tahitan Lake	2015	
686	86	Tahitan Lake Weir	2-Aug	31	Sacrifice				655	540	M	2	2	6	N			
687	87	Tahitan Lake Weir	2-Aug	31	Sacrifice				532	450	M	2	2	7	Y	Tahitan Lake	2015	
688	88	Tahitan Lake Weir	2-Aug	31	Sacrifice				524	443	M	2	2	8	Y	Tahitan Lake	2015	
689	89	Tahitan Lake Weir	2-Aug	31	Sacrifice				573	468	M	2	2	9	N			
690	90	Tahitan Lake Weir	2-Aug	31	Sacrifice				510	434	M	2	2	10	N			
691	91	Tahitan Lake Weir	3-Aug	31	Sacrifice				660	545	M	2	2	11	Y	Tahitan Lake	2014	
692	92	Tahitan Lake Weir	3-Aug	31	Sacrifice				525	420	M	2	2	12	Y	Tahitan Lake	2015	
693	93	Tahitan Lake Weir	3-Aug	31	Sacrifice				495	390	M	2	2	13	N			
694	94	Tahitan Lake Weir	3-Aug	31	Sacrifice				695	555	M	2	2	14	N			
695	95	Tahitan Lake Weir	3-Aug	31	Sacrifice				535	430	M	2	2	15	Y	Tahitan Lake	2015	
696	96	Tahitan Lake Weir	3-Aug	31	Sacrifice				520	425	M	2	2	16	Y	Tahitan Lake	2015	
697	97	Tahitan Lake Weir	3-Aug	31	Sacrifice				634	515	M	2	2	17	N			
698	98	Tahitan Lake Weir	3-Aug	31	Sacrifice				675	555	M	2	2	18	N			
699	99	Tahitan Lake Weir	3-Aug	31	Sacrifice				666	525	M	2	2	19	N			
700	100	Tahitan Lake Weir	3-Aug	31	Sacrifice				675	540	M	2	2	20	N			
701	101	Tahitan Lake Weir	4-Aug	32	Sacrifice				485	415	M	2	2	21	N			
702	102	Tahitan Lake Weir	4-Aug	32	Sacrifice				526	452	M	2	2	22	N			
703	103	Tahitan Lake Weir	4-Aug	32	Sacrifice				489	407	M	2	2	23	N			
704	104	Tahitan Lake Weir	4-Aug	32	Sacrifice				527	443	M	2	2	24	Y	Tahitan Lake	2015	
705	105	Tahitan Lake Weir	4-Aug	32	Sacrifice				631	511	M	2	2	25	Y	Tahitan Lake	2014	
706	106	Tahitan Lake Weir	4-Aug	32	Sacrifice				646	531	M	2	2	26	Y	Tahitan Lake	2014	
707	107	Tahitan Lake Weir	4-Aug	32	Sacrifice				683	550	M	2	2	27	Y	Tahitan Lake	2014	
708	108	Tahitan Lake Weir	4-Aug	32	Sacrifice				660	533	M	2	2	28	N			
709	109	Tahitan Lake Weir	5-Aug	32	Sacrifice				632	495	M	2	2	29	Y	Tahitan Lake	2014	
710	110	Tahitan Lake Weir	5-Aug	32	Sacrifice				645	522	M	2	2	30	Y	Tahitan Lake	2014	
711	111	Tahitan Lake Weir	5-Aug	32	Sacrifice				660	525	M	2	2	31	Y	Tahitan Lake	2014	
712	112	Tahitan Lake Weir	5-Aug	32	Sacrifice				650	525	M	2	2	32	Y	Tahitan Lake	2014	
713	113	Tahitan Lake Weir	5-Aug	32	Sacrifice				657	530	M	2	2	33	Y	Tahitan Lake	2014	
714	114	Tahitan Lake Weir	5-Aug	32	Sacrifice				685	551	M	2	2	34	N			
715	115	Tahitan Lake Weir	5-Aug	32	Sacrifice				646	522	M	2	2	35	Y	Tahitan Lake	2014	
716	116	Tahitan Lake Weir	6-Aug	32	Sacrifice				638	534	M	2	2	36	Y	Tahitan Lake	2014	
717	117	Tahitan Lake Weir	6-Aug	32	Sacrifice				507	423	M	2	2	37	Y	Tahitan Lake	2015	
718	118	Tahitan Lake Weir	6-Aug	32	Sacrifice				500	410	M	2	2	38	N			
719	119	Tahitan Lake Weir	6-Aug	32	Sacrifice				543	454	M	2	2	39	Y	Tahitan Lake	2015	
720	120	Tahitan Lake Weir	6-Aug	32	Sacrifice				646	522	M	2	2	40	N			

721	121	Tahitan Lake Weir	6-Aug	32	Sacrifice					503		422	M	2	2	41	Y	Tahitan Lake	2015	
722	122	Tahitan Lake Weir	6-Aug	32	Sacrifice					598		487	M	2	2	42	N			
723	123	Tahitan Lake Weir	7-Aug	32	Sacrifice					615		499	M	2	2	43	Y	Tahitan Lake	2014	
724	124	Tahitan Lake Weir	7-Aug	32	Sacrifice					524		432	M	2	2	44	Y	Tahitan Lake	2015	
725	125	Tahitan Lake Weir	7-Aug	32	Sacrifice					565		462	M	2	2	45	N			
726	126	Tahitan Lake Weir	7-Aug	32	Sacrifice					626		507	M	2	2	46	N			
727	127	Tahitan Lake Weir	7-Aug	32	Sacrifice					588		485	M	2	2	47	N			
728	128	Tahitan Lake Weir	7-Aug	32	Sacrifice					695		545	M	2	2	48	N			
729	129	Tahitan Lake Weir	7-Aug	32	Sacrifice					678		546	M	2	2	49	Y	Tahitan Lake	2014	
730	130	Tahitan Lake Weir	8-Aug	32	Sacrifice					678		565	M	2	2	50	N			
731	131	Tahitan Lake Weir	8-Aug	32	Sacrifice					654		526	M	2	2	51	Y	Tahitan Lake	2014	
732	132	Tahitan Lake Weir	8-Aug	32	Sacrifice					573		476	M	2	2	52	N			
733	133	Tahitan Lake Weir	8-Aug	32	Sacrifice					632		512	M	2	2	53	N			
734	134	Tahitan Lake Weir	8-Aug	32	Sacrifice					647		540	M	2	2	54	N			
735	135	Tahitan Lake Weir	8-Aug	32	Sacrifice					667		558	M	2	2	55	N			
736	136	Tahitan Lake Weir	8-Aug	32	Sacrifice					623		505	M	2	2	56	N			
737	137	Tahitan Lake Weir	9-Aug	32	Sacrifice					623		498	M	2	2	57	Y	Tahitan Lake	2014	
738	138	Tahitan Lake Weir	9-Aug	32	Sacrifice					684		551	M	2	2	58	Y	Tahitan Lake	2014	
739	139	Tahitan Lake Weir	9-Aug	32	Sacrifice					678		546	M	2	2	59	Y	Tahitan Lake	2014	
740	140	Tahitan Lake Weir	9-Aug	32	Sacrifice					667		525	M	2	2	60	N			
741	141	Tahitan Lake Weir	9-Aug	32	Sacrifice					627		505	M	2	2	61	Y	Tahitan Lake	2014	
742	142	Tahitan Lake Weir	9-Aug	32	Sacrifice					508		425	M	2	2	62	N			
743	143	Tahitan Lake Weir	9-Aug	32	Sacrifice					675		537	M	2	2	63	N			
744	144	Tahitan Lake Weir	10-Aug	32	Sacrifice					650		540	M	2	2	64	N			
745	145	Tahitan Lake Weir	10-Aug	32	Sacrifice					677		560	M	2	2	65	N			
746	146	Tahitan Lake Weir	10-Aug	32	Sacrifice					640		536	M	2	2	66	N			
747	147	Tahitan Lake Weir	10-Aug	32	Sacrifice					544		446	M	2	2	67	N			
748	148	Tahitan Lake Weir	10-Aug	32	Sacrifice					638		535	M	2	2	68	Y	Tahitan Lake	2014	
749	149	Tahitan Lake Weir	10-Aug	32	Sacrifice					644		533	M	2	2	69	Y	Tahitan Lake	2014	
750	150	Tahitan Lake Weir	10-Aug	32	Sacrifice					638		534	M	2	2	70	Y	Tahitan Lake	2014	
751	151	Tahitan Lake Weir	11-Aug	33	Sacrifice					622		495	M	2	2	71	N			
752	152	Tahitan Lake Weir	11-Aug	33	Sacrifice					634		500	M	2	2	72	Y	Tahitan Lake	2014	
753	153	Tahitan Lake Weir	11-Aug	33	Sacrifice					643		505	M	2	2	73	Y	Tahitan Lake	2014	
754	154	Tahitan Lake Weir	11-Aug	33	Sacrifice					513		423	M	2	2	74	Y	Tahitan Lake	2015	
755	155	Tahitan Lake Weir	11-Aug	33	Sacrifice					675		534	M	2	2	75	N			
756	156	Tahitan Lake Weir	11-Aug	33	Sacrifice					679		547	M	2	2	76	Y	Tahitan Lake	2014	
757	157	Tahitan Lake Weir	11-Aug	33	Sacrifice					500		405	M	2	2	77	Y	Tahitan Lake	2015	
758	158	Tahitan Lake Weir	11-Aug	33	Sacrifice					614		485	M	2	2	78	Y	Tahitan Lake	2014	
759	159	Tahitan Lake Weir	12-Aug	33	Sacrifice					644		521	M	2	2	79	Y	Tahitan Lake	2014	
760	160	Tahitan Lake Weir	12-Aug	33	Sacrifice					562		465	M	2	2	80	Y	Tahitan Lake	2015	
761	161	Tahitan Lake Weir	12-Aug	33	Sacrifice					521		430	M	2	3	1	Y	Tahitan Lake	2015	
762	162	Tahitan Lake Weir	12-Aug	33	Sacrifice					610		496	M	2	3	2	Y	Tahitan Lake	2015	
763	163	Tahitan Lake Weir	12-Aug	33	Sacrifice					643		520	M	2	3	3	N			
764	164	Tahitan Lake Weir	12-Aug	33	Sacrifice					654		547	M	2	3	4	N			
765	165	Tahitan Lake Weir	12-Aug	33	Sacrifice					683		570	M	2	3	5	Y	Tahitan Lake	2014	
766	166	Tahitan Lake Weir	13-Aug	33	Sacrifice					664		535	M	2	3	6	N			
767	167	Tahitan Lake Weir	13-Aug	33	Sacrifice					655		525	M	2	3	7	Y	Tahitan Lake	2014	
768	168	Tahitan Lake Weir	13-Aug	33	Sacrifice					624		500	M	2	3	8	N			
769	169	Tahitan Lake Weir	13-Aug	33	Sacrifice					686		552	M	2	3	9	N			
770	170	Tahitan Lake Weir	13-Aug	33	Sacrifice					665		525	M	2	3	10	Y	Tahitan Lake	2014	
771	171	Tahitan Lake Weir	13-Aug	33	Sacrifice					668		520	M	2	3	11	N			
772	172	Tahitan Lake Weir	13-Aug	33	Sacrifice					635		500	M	2	3	12	Y	Tahitan Lake	2014	
773	173	Tahitan Lake Weir	14-Aug	33	Sacrifice					641		519	M	2	3	13	Y	Tahitan Lake	2014	
774	174	Tahitan Lake Weir	14-Aug	33	Sacrifice					678		546	M	2	3	14	Y	Tahitan Lake	2014	
775	175	Tahitan Lake Weir	14-Aug	33	Sacrifice					502		415	M	2	3	15	Y	Tahitan Lake	2015	
776	176	Tahitan Lake Weir	14-Aug	33	Sacrifice					619		502	M	2	3	16	N			
777	177	Tahitan Lake Weir	14-Aug	33	Sacrifice					532		437	M	2	3	17	N			
778	178	Tahitan Lake Weir	14-Aug	33	Sacrifice					630		510	M	2	3	18	Y	Tahitan Lake	2015	
779	179	Tahitan Lake Weir	14-Aug	33	Sacrifice					521		429	M	2	3	19	Y	Tahitan Lake	2014	
780	180	Tahitan Lake Weir	15-Aug	33	Sacrifice					560		455	M	2	3	20	N			
781	181	Tahitan Lake Weir	15-Aug	33	Sacrifice					615		483	M	2	3	21	Y	Tahitan Lake	2014	
782	182	Tahitan Lake Weir	15-Aug	33	Sacrifice					648		523	M	2	3	22	N			
783	183	Tahitan Lake Weir	15-Aug	33	Sacrifice					544		444	M	2	3	23	N			
784	184	Tahitan Lake Weir	15-Aug	33	Sacrifice					495		390	M	2	3	24	Y	Tahitan Lake	2015	
785	185	Tahitan Lake Weir	15-Aug	33	Sacrifice					514		410	M	2	3	25	Y	Tahitan Lake	2015	
786	186	Tahitan Lake Weir	15-Aug	33	Sacrifice					500		395	M	2	3	26	Y	Tahitan Lake	2015	
787	187	Tahitan Lake Weir	16-Aug	33	Sacrifice					631		511	M	2	3	27	N			
788	188	Tahitan Lake Weir	16-Aug	33	Sacrifice					638		516	M	2	3	28	N			
789	189	Tahitan Lake Weir	16-Aug	33	Sacrifice					601		489	M	2	3	29	Y	Tahitan Lake	2014	
790	190	Tahitan Lake Weir	16-Aug	33	Sacrifice					504		417	M	2	3	30	Y	Tahitan Lake	2015	
791	191	Tahitan Lake Weir	16-Aug	33	Sacrifice					620		503	M	2	3	31	N			
792	192	Tahitan Lake Weir	17-Aug	33	Sacrifice					677		540	M	2	3	32	N			
793	193	Tahitan Lake Weir	17-Aug	33	Sacrifice					665		535	M	2	3	33	N			
794	194	Tahitan Lake Weir	17-Aug	33	Sacrifice					565		462	M	2	3	34	N			
795	195	Tahitan Lake Weir	17-Aug	33	Sacrifice					640		510	M	2	3	35	Y	Tahitan Lake	2014	
796	196	Tahitan Lake Weir	17-Aug	33	Sacrifice					650		520	M	2	3	36	N			
797	197	Tahitan Lake Weir	17-Aug	33	Sacrifice					490		406	M	2	3	37	Y	Tahitan Lake	2015	
798	198	Tahitan Lake Weir	17-Aug	33	Sacrifice					644		510	M	2	3	38	N			
799	199	Tahitan Lake Weir	17-Aug	33	Sacrifice					600		480	M	2	3	39	N			
800	200	Tahitan Lake Weir	17-Aug	33	Sacrifice					533		438	M	2	3	40	Y	Tahitan Lake	2015	
801	201	Tahitan Lake Weir	18-Aug	34	Sacrifice					451		377	M	2	3	41	Y	Tahitan Lake	2015	
802	202	Tahitan Lake Weir	18-Aug	34	Sacrifice					608		494	M	2	3	42	Y	Tahitan Lake	2014	
803	203	Tahitan Lake Weir	18-Aug	34	Sacrifice					613		498	M	2	3	43	N			
804	204	Tahitan Lake Weir	18-Aug	34	Sacrifice					490		406	M	2	3	44	Y	Tahitan Lake	2015	
805	205	Tahitan Lake Weir	18-Aug	34	Sacrifice					675		544	M	2	3	45	Y	Tahitan Lake	2014	
806	206	Tahitan Lake Weir	18-Aug	34	Sacrifice					475		395	M	2	3	46	Y	Tahitan Lake	2015	
807	207	Tahitan Lake Weir	18-Aug	34	Sacrifice					445		373	M	2	3	47	Y	Tahitan Lake	2015	
808	208	Tahitan Lake Weir	19-Aug	34	Sacrifice					587		470	M	2	3	48	N			
809	209	Tahitan Lake Weir	19-Aug	34	Sacrifice					610		490	M	2	3	49	Y	Tahitan Lake	2014	
810	210	Tahitan Lake Weir	19-Aug	34	Sacrifice					680		548	M	2	3	50	Y	Tahitan Lake	2014	
811	211	Tahitan Lake Weir	19-Aug	34	Sacrifice					635		515	M	2	3	51	N			
812	212	Tahitan Lake Weir	19-Aug	34	Sacrifice															

Appendix 5. Budget Summary

Fisheries and Oceans Canada - PSC Project Budget Financial Report

Name of Project and PSC#:

Tahltan Lake Sockeye Salmon Adult Enumeration (I-21)

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	
Manager	Salary \$ -						
	Benefits \$ -			\$ -			
Biologist	Salary \$ 3,240.00	3,240					
	Benefits \$ 874.80	\$ 874.80		\$ -			
Technicians (EG-3 & EG-4)	Salary \$ 16,410.00	\$ 16,410.00					
	Benefits \$ 4,430.70	\$ 4,430.70		\$ -			
Total Expended	\$ 24,955.50	\$ 24,955.50	\$ -	\$ -	\$ -	\$ -	
Subcontractors & Consultants							
Contract	Contract Amount Expended	Inkind	PSC funding (expenses)	Approved Budget	Total PSC Funded Expenditure	Variance	
Tahltan First Nations (TFN)	\$ 16,500.00		\$ 16,500	16,573			
Tahltan First Nations (TFN)	\$ 4,500.00		\$ 4,500	4,297			
Air charters	\$ 7,891.00		\$ 7,891	9,702			
	\$ -						
	\$ -						
Total Expended	\$ 28,891.00	\$ -	\$ 28,891.00	\$ 30,571.20	\$ 28,891.00	\$ 1,680.20	
		\$ 24,955.50	Total \$ 30,571.20		\$ 28,891.00	\$ 1,680.20	
Site / Project Costs							
Item	Amount Expended	Inkind	PSC funding (expenses)	Approved Budget	Total PSC Funded Expenditure	Variance	
Travel	\$ 1,707.00		\$ 1,707	\$ 4,523			
Small Tools & Equipment	\$ -						
Site Supplies & Materials	\$ 4,231.00		\$ 4,231	\$ 3,790			
Equipment Rental	\$ -						
Work & Safety Gear	\$ 1,330.00		\$ 1,330	\$ 945			
Repairs & Maintenance	\$ 653.00		\$ 653	\$ 1,575			
Permits	\$ -						
Other costs	\$ 1,338.00		\$ 1,338	\$ 700			
Total Expended	\$ 9,269.00	\$ -	\$ 9,269.00	\$ 11,622.70	\$ 9,269.00	\$ 2,263.70	
		\$ -	\$ 11,522.70		\$ 9,269.00	\$ 2,263.70	
Training Costs							
Item	Amount Expended	Inkind	PSC funding (expenses)	Approved Budget	Total PSC Funded Expenditure	Variance	
Firearms	\$ 900.00	\$ 900.00					
	\$ -						
Total Expended	\$ 900.00	\$ 900.00	\$ -	\$ -	\$ -	\$ -	
		\$ 900.00	\$ -		\$ -	\$ -	

Fisheries and Oceans Canada - PSC Project Budget Financial Report

Name of Project and PSC#:

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Tahltan Lake Sockeye Salmon Adult Enumeration (I-21)

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	\$ 250.00	250						
Telephone & long Distance	\$ 486.00		486	800				
Photocopies & printing	\$ -							
Indirect/overhead costs	\$ 400.00	400						
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	\$ 1,136.00	\$ 650.00	\$ 486.00	\$ 800.00			\$ 486.00	\$ 314.00
		\$ 650.00		\$ 800.00			\$ 486.00	\$ 314.00

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

Financial Report

Categories	DFO InKind	PSC funding (expenses)	Approved Budget (PSC Grant)	Project Expenditures (PSC\$)	Variance
Labour	\$ 24,955.50		\$ 30,571.20	\$ 28,891.00	\$ 1,680.20
Site / Project Costs	\$ -		\$ 11,522.70	\$ 9,259.00	\$ 2,263.70
Training	\$ 900.00		\$ -	\$ -	\$ -
Overhead / Indirect Costs	\$ 650.00		\$ 800.00	\$ 486.00	\$ 314.00
Capital Costs / Assets	\$ -		\$ -	\$ -	\$ -
TOTAL			\$ 42,893.90	\$ 38,636.00	\$ 4,257.90

PSC Project Funding Grant Advance Amount Received	\$ (38,605.00)	(funds rec enter as negative)
PSC Project Funding Grant Amount Remaining to be Paid		(positive refundable to PSC)
Difference Between Grant Amount and Project Expenditures	\$ (31.00)	

Fisheries and Oceans Canada - PSC Project Budget Financial Report

Name of Project and PSC#:

Page 3 of 3

Tahltan Lake Sockeye Salmon Adult Enumeration (I-21)

Justification if Variance

90% of approved budget paid to DFO; overspent by \$31

Project Manager Name

Jody Mackenzie-Grieve

Project Manager Signature

MackenzieGrieve, Jody
Digitally signed by MackenzieGrieve, Jody
Date: 2020.03.31 07:48:10 -0700

Date

31-Mar-20

DFO Responsibility Center Manager Name

Bill Waugh

DFO Responsibility Center Manager Signature

Waugh, William
Digitally signed by Waugh, William
Date: 2020.03.31 16:36:10 -0700

Date

31-Mar-20