Skeena Sockeye Test Fishery DNA (2016): Report to PSC. March 13, 2017

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Introduction

The Tyee gill-net test fishery at the mouth of the Skeena River provides daily estimates of the number of sockeye entering (escaping) into the Skeena River each year from mid-June through August. The annual escapement is comprised of numerous sockeye sub-stocks each with its own entry timing (early, mid, late etc). A key component of Skeena sockeye management is estimating annual abundance and harvest/exploitation rates on sub-stocks so that fisheries can be managed with consideration for sub-stock structure rather than just simple aggregate-stock abundance. Currently, estimating catch and escapement for each stock is very difficult as visual escapement assessments are of variable quality and estimates of the catch by stock in various fisheries are not complete. An alternative strategy is to sample (proportionate to abundance) sockeye captured at the test fishing site and determine their stock of origin using microsatelite DNA stock identification techniques (Beacham et al, 2014). Given escapement counts of known accuracy for several Skeena tributary systems, and known proportions of these stocks in the escapement samples from Tyee, allows estimation of escapement to each specific sockeye stock within the Skeena River drainage. As well, stock composition estimates from the Tyee test fishery allow for stock-specific run-reconstruction back through mixed-stock marine fisheries in the Canada and S.S.E Alaskan PSC Northern Boundary Area approach waters. These analyses provide reconstructed run-timing distributions, catch estimates, and harvest rates by sub-stock which are vital to understanding migration routes, timing, and impacts by specific fisheries. To date, sockeye DNA analysis for the Tyee test fishery includes the years 2000-2016…continuation of this program through 2017 is scheduled.

Methods

Sockeye tissue samples (tissues on Whatman paper) were collected proportionate to abundance from fish captured at the Tyee Test Fishery in 2016 following previously established sampling protocols. The tissue samples were shipped to the PBS lab in Nanaimo for analysis (Terry Beacham/John Candy, DFO, Nanaimo). A complete overview of the analytical process followed for Tyee Test Fishery DNA analysis can in the attached references, with their citation lists summarizing relevant methodologies and processing logistics.

Results

Table1 shows the weekly numbers of sockeye samples run for genetic analysis for samples collected at Tyee in 2016. Table 2 summarizes the weekly stock proportions for sockeye sampled at the Tyee test fishery in 2016, Table 3 shows the regional summary by week; ~500 samples, sub-sampled from the total collected in 2016, were run for analysis. An assessment of all the 2000-2016 Tyee test fishery data is now being made to determine annual variability in stock-specific run-timing and abundance patterns.

References

Beacham, T. D., and C. E. Withler, and K. M. Miller. 2000. Application of microsatellite DNA variation to estimation of stock composition and escapement of Skeena River sockeye salmon (Oncorhynchus nerka). . North Pacific Anadromous Fish Commission Bulletin 2: 263-276.

Terry D. Beacham, Steven Cox-Rogers, Cathy MacConnachie, Brenda McIntosh & Colin G. Wallace (2014) Population Structure and Run Timing of Sockeye Salmon in the Skeena River, British Columbia, North American Journal of Fisheries Management, 34:2, 335-348

Table 1. Weekly selected samples for sockeye sampled at the Tyee test fishery in 2016.

Species = Sockeye Number of populations = 25 Baseline Description = All_Pacific_161014 Number of loci = 14 Max missing loci = 5
Number of chains = 10 Number of Reps = 20000 Reps Kept = 1000

Sample	Vial ID	Year	Gear	Area	Mix Date	N	Excluded
1	163	2016	gill	SkeenaTyee	Jun11	1	0
2	165-169	2016	gill	SkeenaTyee	Jun13-Jun17	2	0
3	171-176	2016	gill	SkeenaTyee	Jun19-Jun24	17	0
4	178-181	2016	gill	SkeenaTyee	Jun26-Jun29	26	0
5	186-191	2016	gill	SkeenaTyee	Jul04-Jul09	47	0
6	192-198	2016	gill	SkeenaTyee	Jul10-Jul16	40	0
7	199-205	2016	gill	SkeenaTyee	Jul17-Jul23	74	0
8	206-212	2016	gill	SkeenaTyee	Jul24-Jul30	81	0
9	213-219	2016	gill	SkeenaTyee	Jul31-Aug06	93	0
10	220-226	2016	gill	SkeenaTyee	Aug07-Aug1	60	0
11	227-233	2016	gill	SkeenaTyee	Aug14-Aug2	30	0
12	234-239	2016	gill	SkeenaTyee	Aug21-Aug2	16	0
13	241-247	2016	gill	SkeenaTyee	Aug28-Sep0	8	0
14	249-252	2016	gill	SkeenaTyee	Sep05-Sep0	3	0
15	255-257	2016	gill	SkeenaTyee	Sep11-Sep1	2	0
16	all combine	2016	gill	SkeenaTyee	2016	500	0

Table 2. Weekly stock proportions for sockeye sampled at the Tyee test fishery in 2016.

Species = Sockeye Number of populations = 25 Baseline Description = All_Pacific_161014 Number of loci = 14 Max missing loci = 5
Number of chains = 10 Number of Reps = 20000 Reps Kept = 1000

		2016		2016		2016		2016		2016		2016		2016		2016		2016		2016		2016		2016		2016		2016		2016	
		163		165-169		171-176		178-181		186-191		192-198		199-205		206-212		213-219		220-226		227-233		234-239		241-247		249-252		255-257		all combined	
		gill		gill		gill		gill		gill		gill		gill		gill		gill		gill		gill		gill		gill		gill		gill	
		SkeenaTyee	TI	SkeenaTyee	TI	SkeenaTyee	TI	SkeenaTyee	TI	SkeenaTyee	TI	SkeenaTyee	TI	SkeenaTyee	TI	SkeenaTyee	TI	SkeenaTyee	TI	SkeenaTyee	TI	SkeenaTyee	TI	SkeenaTyee	TI	SkeenaTyee	TI	SkeenaTyee	TI	SkeenaTyee	TI
		StatWk62		StatWk63		StatWk64		StatWk71		StatWk72		StatWk73		StatWk74		StatWk75		StatWk81		StatWk82		StatWk83		StatWk84		StatWk91		StatWk92		StatWk93		All StatWks	
		Jun11		Jun13-Jun17		Jun19-Jun24		Jun26-Jun29		Jul04-Jul09		Jul10-Jul16		Jul17-Jul23		Jul24-Jul30		Jul31-Aug06		Aug07-Aug13		Aug14-Aug20		Aug21-Aug26		Aug28-Sep03		Sep05-Sep08		Sep11-Sep13		2016	
		1(0)		2(0)		17(0)		26(0)		47(0)		40(0)		74(0)		81(0)		93(0)		60(0)		30(0)		16(0)		8(0)		3(0)		2(0)		500(0)	
Code	Stock	Estima	SD	Estima	SD	Estima	SD	Estima	SD	Estima	SD	Estima	SD	Estima	SD	Estima	SD	Estima	SD	Estima	SD	Estima	SD	Estima	SD	Estima	SD	Estima	SD	Estima	SD	Estima	SD
79	Alastair	100.0	(28.7)	50.0	(23.6)	29.4	(10.3)	32.0	(9.2)	23.4	(5.9)	5.0	(3.4)	1.6	(1.6)	3.7	(2.1)	1.1	(1.1)	5.0	(2.8)	0.0	(0.6)	0.0	(0.8)	0.0	(1.6)	33.3	(19.4)	0.0	(4.6)	7.5	(1.2)
82	Kalum	0.0	(6.6)	0.0	(7.2)	0.0	(1.3)	0.0	(0.7)	0.0	(0.3)	2.5	(3.3)	0.7	(1.2)	0.0	(0.2)	0.0	(0.2)	0.5	(1.2)	0.0	(0.7)	0.0	(1.0)	0.0	(2.5)	0.0	(4.5)	0.0	(4.6)	0.0	(0.1)
436	Kalum_lake	0.0	(6.9)	0.0	(6.9)	0.0	(0.9)	0.0	(0.6)	0.0	(0.4)	2.5	(3.4)	0.5	(1.1)	0.0	(0.2)	0.0	(0.2)	1.2	(1.6)	0.0	(0.7)	0.0	(1.1)	12.8	(10.2)	0.0	(5.9)	0.0	(6.3)	1.0	(0.5)
80	Kitwanga	0.0	(7.8)	0.0	(5.1)	0.0	(1.0)	0.0	(0.8)	0.0	(0.5)	0.0	(0.4)	0.0	(0.3)	0.0	(0.2)	0.0	(0.2)	0.0	(0.2)	0.0	(0.7)	0.0	(1.2)	0.0	(2.2)	0.0	(4.4)	0.0	(5.3)	0.0	(0.1)
65	McDonnell	0.0	(7.4)	0.0	(5.8)	11.8	(7.2)	7.7	(5.1)	2.1	(2.0)	2.5	(2.5)	2.7	(1.8)	0.0	(0.2)	0.0	(0.2)	0.0	(0.3)	0.0	(0.6)	0.0	(1.1)	0.0	(2.0)	0.0	(3.4)	0.0	(6.0)	1.6	(0.6)
76	Schulbuckhand	0.0	(7.2)	0.0	(6.8)	5.7	(7.4)	19.0	(7.8)	1.9	(2.7)	0.0	(0.4)	0.7	(1.2)	1.2	(1.2)	0.0	(0.2)	0.0	(0.3)	0.0	(0.6)	0.0	(0.9)	0.0	(2.6)	0.0	(3.4)	0.0	(6.1)	2.2	(0.7)
289	Stephens_Kispox	0.0	(8.0)	0.0	(6.0)	0.0	(1.7)	0.0	(0.5)	6.2	(3.5)	0.0	(0.4)	5.1	(2.8)	0.0	(0.3)	0.0	(0.2)	0.0	(0.4)	0.1	(0.8)	0.0	(1.2)	0.0	(2.3)	0.0	(4.8)	0.0	(5.7)	1.4	(0.6)
68	Swan_Kispox	0.0	(8.0)	0.0	(6.9)	0.0	(1.2)	0.0	(0.7)	0.2	(1.1)	0.0	(0.5)	0.3	(1.3)	0.0	(0.3)	0.0	(0.2)	0.0	(0.3)	0.1	(0.9)	0.0	(1.0)	0.0	(1.6)	0.0	(4.8)	0.0	(5.0)	0.0	(0.2)
75	Williams	0.0	(9.6)	0.0	(5.3)	6.1	(7.5)	0.2	(1.5)	2.4	(3.0)	0.0	(0.6)	0.6	(1.2)	0.0	(0.2)	0.0	(0.2)	0.0	(0.3)	0.0	(0.5)	0.0	(1.1)	0.0	(1.8)	0.0	(4.3)	0.0	(5.4)	0.0	(0.2)
465	Damshilqwit	0.0	(7.8)	0.0	(5.9)	0.1	(1.4)	0.0	(0.6)	0.0	(0.5)	0.0	(0.5)	0.1	(0.6)	0.4	(1.1)	1.3	(2.4)	7.3	(3.7)	8.0	(6.2)	0.0	(0.8)	0.0	(1.7)	0.0	(4.4)	0.0	(5.5)	1.1	(0.9)
66	Motase	0.0	(9.0)	0.0	(5.4)	0.0	(1.0)	0.0	(0.4)	0.0	(0.3)	0.0	(0.4)	0.0	(0.2)	0.8	(1.3)	1.8	(1.5)	0.0	(0.4)	0.0	(0.6)	0.0	(1.4)	0.0	(1.4)	0.0	(5.3)	0.0	(6.7)	0.3	(0.3)
78	SalixBear	0.0	(8.2)	0.0	(6.3)	0.4	(2.3)	0.0	(0.7)	2.2	(2.1)	0.1	(0.8)	1.2	(1.3)	2.0	(2.1)	3.6	(2.9)	0.9	(1.5)	0.1	(0.9)	0.0	(1.6)	0.0	(2.0)	0.0	(4.4)	0.0	(4.2)	2.9	(1.1)
470	Slamgeesh	0.0	(9.0)	0.0	(6.3)	0.0	(0.9)	0.0	(0.7)	0.0	(0.8)	0.0	(0.5)	0.1	(0.5)	0.6	(1.5)	0.9	(2.1)	0.2	(1.0)	2.2	(4.8)	0.0	(1.0)	0.0	(2.0)	0.0	(4.1)	0.0	(5.2)	0.0	(0.1)
173	Sustut	0.0	(8.0)	0.0	(5.3)	0.0	(0.9)	0.0	(0.6)	0.0	(0.5)	2.5	(2.5)	1.4	(1.3)	2.5	(1.7)	0.0	(0.2)	0.0	(0.3)	0.0	(0.7)	0.0	(0.9)	0.0	(2.1)	0.0	(3.7)	0.0	(5.2)	0.8	(0.4)
73	Nanika	0.0	(7.8)	0.0	(5.2)	0.0	(1.0)	0.0	(0.8)	6.4	(3.5)	5.0	(3.3)	2.7	(1.9)	1.2	(1.2)	1.1	(1.1)	0.2	(0.9)	0.0	(0.8)	0.0	(1.3)	0.0	(1.7)	0.0	(4.7)	0.0	(6.0)	2.0	(0.6)
123	Four_Mile	0.0	(8.6)	5.2	(14.3)	9.5	(15.1)	20.8	(15.8)	2.3	(5.4)	23.0	(15.0)	7.3	(6.2)	12.9	(6.1)	2.1	(3.7)	0.3	(1.6)	0.5	(2.4)	2.8	(8.3)	0.4	(3.8)	2.6	(11.2)	0.0	(4.5)	7.8	(2.6)
71	Fulton_L	0.0	(8.1)	1.6	(9.1)	1.0	(4.5)	0.4	(2.2)	1.7	(6.1)	0.6	(2.5)	55.0	(14.7)	32.4	(11.5)	22.7	(13.2)	37.0	(10.8)	20.8	(19.7)	66.2	(24.8)	2.7	(8.7)	26.9	(27.1)	0.3	(7.0)	24.8	(7.0)
72	L_Babine	0.0	(8.3)	5.0	(14.1)	8.8	(12.9)	0.1	(1.3)	0.3	(1.6)	2.9	(5.1)	0.4	(1.7)	0.2	(1.0)	2.0	(4.9)	7.1	(8.2)	4.4	(7.8)	0.8	(3.3)	0.7	(5.2)	21.8	(27.0)	0.0	(6.9)	4.6	(2.8)
74	Morrison	0.0	(8.5)	13.5	(20.2)	2.1	(4.9)	0.5	(3.0)	5.5	(9.4)	11.2	(13.8)	9.2	(14.0)	22.9	(13.3)	31.2	(11.5)	1.5	(5.2)	15.9	(18.6)	18.6	(20.6)	74.1	(20.6)	7.4	(17.6)	0.0	(5.7)	27.1	(7.0)
77	Pierre	0.0	(6.9)	19.7	(21.7)	19.7	(19.5)	17.6	(16.4)	4.7	(9.2)	20.0	(15.6)	1.4	(4.0)	0.2	(1.0)	7.0	(7.1)	0.3	(1.2)	1.7	(5.1)	0.4	(3.0)	1.5	(6.1)	1.7	(9.1)	0.1	(4.9)	1.7	(2.5)
70	Pinkut	0.0	(8.0)	0.0	(4.8)	1.2	(5.3)	0.2	(1.9)	22.2	(13.5)	0.6	(2.3)	0.7	(2.6)	0.2	(0.8)	1.2	(3.4)	0.2	(1.0)	7.0	(10.9)	0.6	(3.9)	0.8	(5.2)	1.5	(8.3)	0.0	(6.4)	0.3	(0.9)
67	Shass	0.0	(7.7)	3.3	(11.6)	3.5	(8.5)	0.0	(0.8)	0.0	(0.7)	0.3	(1.8)	0.3	(1.5)	0.1	(0.6)	0.2	(0.9)	0.4	(1.7)	5.1	(7.3)	1.5	(5.2)	0.3	(3.2)	0.4	(4.6)	41.9	(33.2)	0.1	(0.3)
125	Tahlo	0.0	(8.9)	0.1	(6.6)	0.1	(1.7)	0.6	(2.5)	17.8	(9.9)	18.8	(12.8)	1.8	(4.2)	0.4	(1.8)	0.1	(0.8)	10.3	(6.9)	5.2	(8.8)	0.7	(3.3)	3.1	(9.7)	2.5	(10.5)	2.6	(10.3)	1.0	(1.6)
118	Twain_Cr	0.0	(7.5)	0.0	(5.5)	0.3	(2.0)	0.7	(2.5)	0.3	(1.8)	0.5	(2.0)	0.1	(0.6)	0.1	(0.6)	0.1	(0.5)	0.1	(0.6)	0.3	(1.6)	0.2	(1.9)	3.1	(9.2)	0.2	(5.4)	39.2	(33.6)	0.1	(0.3)
69	U_Babine	0.0	(8.9)	1.7	(9.6)	0.3	(2.7)	0.0	(0.8)	0.2	(1.4)	1.9	(4.0)	6.2	(6.0)	18.3	(9.5)	23.5	(8.5)	27.6	(9.4)	28.7	(12.8)	8.1	(14.3)	0.6	(3.7)	1.6	(7.8)	16.0	(21.5)	11.8	(3.5)

Table 3. Regional weekly stock proportions for sockeye sampled at the Tyee test fishery in 2016.

Species = Sockeye Number of populations = 25 Baseline Description = All_Pacific_161014 Number of loci = 14 Max missing loci = 5
Number of chains = 10 Number of Reps = 20000 Reps Kept = 1000

		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
		163	165-169	171-176	178-181	186-191	192-198	199-205	206-212	213-219	220-226	227-233	234-239	241-247	249-252	255-257	all combined
		gill	gill	gill	gill	gill	gill	gill	gill	gill	gill	gill	gill	gill	gill	gill	gill
		SkeenaTyeeTI	SkeenaTyeeTI	SkeenaTyeeTI	SkeenaTyeeTI	SkeenaTyeeTI	SkeenaTyeeTI	SkeenaTyeeTI	SkeenaTyeeTI	SkeenaTyeeTI	SkeenaTyeeTI	SkeenaTyeeTI	SkeenaTyeeTI	SkeenaTyeeTI	SkeenaTyeeTI	SkeenaTyeeTI	SkeenaTyeeTI
		StatWk62	StatWk63	StatWk64	StatWk71	StatWk72	StatWk73	StatWk74	StatWk75	StatWk81	StatWk82	StatWk83	StatWk84	StatWk91	StatWk92	StatWk93	All StatWks
		Jun11	Jun13-Jun17	Jun19-Jun24	Jun26-Jun29	Jul04-Jul09	Jul10-Jul16	Jul17-Jul23	Jul24-Jul30	Jul31-Aug06	Aug07-Aug13	Aug14-Aug20	Aug21-Aug26	Aug28-Sep03	Sep05-Sep08	Sep11-Sep13	2016
		1(0)	2(0)	17(0)	26(0)	47(0)	40(0)	74(0)	81(0)	93(0)	60(0)	30(0)	16(0)	8(0)	3(0)	2(0)	500(0)
Code	Region1	Estima SD	Estima SD	Estima SD	Estima SD	Estima SD	Estima SD	Estima SD	Estima SD	Estima SD	Estima SD	Estima SD	Estima SD	Estima SD	Estima SD	Estima SD	Estima SD
10	Lower Skeena	100.0 (27.6)	50.0 (25.0)	52.9 (11.6)	58.9 (10.0)	36.1 (6.8)	12.5 (5.2)	12.3 (3.9)	5.0 (2.4)	1.1 (1.2)	6.7 (3.3)	0.1 (2.0)	0.0 (3.1)	12.9 (11.5)	33.3 (21.4)	0.0 (15.4)	13.7 (1.6)
11	Upper Skeena	0.0 (17.9)	0.0 (12.9)	0.4 (3.2)	0.0 (1.3)	2.2 (2.3)	2.6 (2.8)	2.7 (1.9)	6.3 (2.8)	7.6 (2.8)	8.4 (3.6)	10.3 (5.5)	0.0 (2.6)	0.0 (4.1)	0.0 (9.4)	0.0 (11.6)	5.1 (1.0)
12	Bulkley	0.0 (7.8)	0.0 (5.2)	0.0 (1.0)	0.0 (0.8)	6.4 (3.5)	5.0 (3.3)	2.7 (1.9)	1.2 (1.2)	1.1 (1.1)	0.2 (0.9)	0.0 (0.8)	0.0 (1.3)	0.0 (1.7)	0.0 (4.7)	0.0 (6.0)	2.0 (0.6)
13	Babine	0.0 (22.8)	50.0 (25.1)	46.6 (11.4)	41.1 (10.0)	55.3 (6.9)	79.9 (6.4)	82.3 (4.4)	87.6 (3.8)	90.2 (3.2)	84.7 (4.8)	89.5 (5.9)	100.0 (4.3)	87.2 (12.1)	66.7 (21.9)	100.0 (19.1)	79.2 (1.9)
Code	Region2																
1	Alastair Lake	100.0 (28.7)	50.0 (23.6)	29.4 (10.3)	32.0 (9.2)	23.4 (5.9)	5.0 (3.4)	1.6 (1.6)	3.7 (2.1)	1.1 (1.1)	5.0 (2.8)	0.0 (0.6)	0.0 (0.8)	0.0 (1.6)	33.3 (19.4)	0.0 (4.6)	7.5 (1.2)
2	Lakelse Lake	0.0 (11.7)	0.0 (8.6)	11.8 (7.5)	19.2 (7.9)	4.3 (2.9)	0.0 (0.7)	1.4 (1.4)	1.2 (1.2)	0.0 (0.3)	0.0 (0.4)	0.0 (0.8)	0.0 (1.4)	0.0 (3.2)	0.0 (5.5)	0.0 (8.0)	2.2 (0.7)
3	Zymoetz River	0.0 (7.4)	0.0 (5.8)	11.8 (7.2)	7.7 (5.1)	2.1 (2.0)	2.5 (2.5)	2.7 (1.8)	0.0 (0.2)	0.0 (0.2)	0.0 (0.3)	0.0 (0.6)	0.0 (1.1)	0.0 (2.0)	0.0 (3.4)	0.0 (6.0)	1.6 (0.6)
4	Kitwanga Lake	0.0 (7.8)	0.0 (5.1)	0.0 (1.0)	0.0 (0.8)	0.0 (0.5)	0.0 (0.4)	0.0 (0.3)	0.0 (0.2)	0.0 (0.2)	0.0 (0.2)	0.0 (0.7)	0.0 (1.2)	0.0 (2.2)	0.0 (4.4)	0.0 (5.3)	0.0 (0.1)
5	Kitsumkalum Lake	0.0 (9.3)	0.0 (9.8)	0.0 (1.6)	0.0 (0.9)	0.0 (0.5)	5.0 (3.3)	1.2 (1.4)	0.0 (0.3)	0.0 (0.3)	1.7 (1.7)	0.0 (1.0)	0.0 (1.5)	12.9 (10.4)	0.0 (7.2)	0.0 (7.9)	1.0 (0.5)
6	Kispiox River-lake	0.0 (11.1)	0.0 (9.3)	0.0 (2.1)	0.0 (0.9)	6.3 (3.5)	0.0 (0.6)	5.4 (2.6)	0.0 (0.4)	0.0 (0.3)	0.0 (0.5)	0.1 (1.2)	0.0 (1.6)	0.0 (2.8)	0.0 (6.6)	0.0 (7.4)	1.4 (0.5)
8	Motase Lake	0.0 (9.0)	0.0 (5.4)	0.0 (1.0)	0.0 (0.4)	0.0 (0.3)	0.0 (0.4)	0.0 (0.2)	0.8 (1.3)	1.8 (1.5)	0.0 (0.4)	0.0 (0.6)	0.0 (1.4)	0.0 (1.4)	0.0 (5.3)	0.0 (6.7)	0.3 (0.3)
9	Morice Lake	0.0 (7.8)	0.0 (5.2)	0.0 (1.0)	0.0 (0.8)	6.4 (3.5)	5.0 (3.3)	2.7 (1.9)	1.2 (1.2)	1.1 (1.1)	0.2 (0.9)	0.0 (0.8)	0.0 (1.3)	0.0 (1.7)	0.0 (4.7)	0.0 (6.0)	2.0 (0.6)
10	Bear Lake	0.0 (8.2)	0.0 (6.3)	0.4 (2.3)	0.0 (0.7)	2.2 (2.1)	0.1 (0.8)	1.2 (1.3)	2.0 (2.1)	3.6 (2.9)	0.9 (1.5)	0.1 (0.9)	0.0 (1.6)	0.0 (2.0)	0.0 (4.4)	0.0 (4.2)	2.9 (1.1)
11	Sustut Lake	0.0 (8.0)	0.0 (5.3)	0.0 (0.9)	0.0 (0.6)	0.0 (0.5)	2.5 (2.5)	1.4 (1.3)	2.5 (1.7)	0.0 (0.2)	0.0 (0.3)	0.0 (0.7)	0.0 (0.9)	0.0 (2.1)	0.0 (3.7)	0.0 (5.2)	0.8 (0.4)
12	Slamgeesh River	0.0 (11.9)	0.0 (8.6)	0.1 (1.7)	0.0 (0.9)	0.0 (0.9)	0.0 (0.8)	0.2 (0.7)	1.0 (1.8)	2.3 (2.8)	7.5 (3.6)	10.2 (5.5)	0.0 (1.3)	0.0 (2.6)	0.0 (5.9)	0.0 (7.5)	1.1 (0.9)
13	Babine Lake	0.0 (22.8)	50.0 (25.1)	46.6 (11.4)	41.1 (10.0)	55.3 (6.9)	79.9 (6.4)	82.3 (4.4)	87.6 (3.8)	90.2 (3.2)	84.7 (4.8)	89.5 (5.9)	100.0 (4.3)	87.2 (12.1)	66.7 (21.9)	100.0 (19.1)	79.2 (1.9)

Budgeting

Of the $21000 CDN assigned to this project, $10,345 CDN was spent on the analysis. The remaining budget surplus of $8554 will be returned to the fund (holdback funds retained by PSC). The underage spending in 2016 relates to the lower-than-anticipated run size for Skeena sockeye which resulted in fewer samples being collected and analyzed.

The DFO allocator account information for this work, current to March 13, 2017, is:

5G500 810 750 57365 $10,345 (Source. Cindy Leighton, DFO Admin, Prince Rupert)

Project Evaluation

DFO will complete an overall evaluation report at the end of the project and will consider such things as:

Project Evaluation

DFO will complete an overall evaluation report at the end of the project and will consider such things as: Answers: Yes to #1-5, No to #6

1. Did the intended activities take place within scope, within budget? Yes
2. Were the resources allocated in the most efficient and effective manner, or given the results would a different allocation have been more appropriate, and if so will be considered for any potential future projects as applicable? Yes
3. Were the milestones achieved? Yes
4. Were the deliverables of the project delivered? Yes
5. Did the collaboration achieve its purpose? Yes
6. Were there any difficulties encountered within the performance of the project and if so, how were they managed to achieve resolution? No

Budget Summary by Fiscal Year April 1, 2016 – March 31, 2017

Fiscal Year – 2016-2017	**PSC**	**DFO**	**Total**
Description	**Financial Contribution to DFO***	**Direct Share of Costs**	**Total**
Lab processing			
500 fish samples @	**10,345**		
$20.00/sample (CDN)			
Original projection	**($21000)**		
Was 1080 samples			
Grand Total	**10,345**	**0**	**10,345**