Skeena Sockeye Test Fishery DNA (2017): Report to PSC. February 15, 2018

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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 2000-2017…continuation of this program through 2018 is scheduled.

Methods

Sockeye tissue samples (tissues on Whatman paper) were collected proportionate to abundance from fish captured at the Tyee Test Fishery in 2017 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 2017. Table 2 summarizes the weekly stock proportions for sockeye sampled at the Tyee test fishery in 2017, Table 3 shows the regional summary by week; ~500 samples, sub-sampled from the total collected in 2017, were run for analysis. An assessment of all the 2000-2017 Tyee test fishery data is now being made to determine annual variability in stock-specific run-timing and abundance patterns. A summary sheet showing 2000-2017 DNA results, applied to estimated abundance passing Tyee, is available upon request. All data and results from 2017 (and prior years) has been shared with Canada and U.S counterparts through the PSC NBTC process.

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 2017.

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	161-167	2017	gill	SkeenaTyee	June10-16	3	0
2	168-174	2017	gill	SkeenaTyee	Jun17-June2	3	0
3	175-181	2017	gill	SkeenaTyee	Jun24-June3	5	0
4	182-188	2017	gill	SkeenaTyee	July1-July7	20	0
5	189-195	2017	gill	SkeenaTyee	July8-July14	33	0
6	196-202	2017	gill	SkeenaTyee	July15-July2	70	0
7	203-209	2017	gill	SkeenaTyee	July22-July2	89	0
8	210-216	2017	gill	SkeenaTyee	July29-Augu	100	0
9	217-223	2017	gill	SkeenaTyee	August5-Aug	90	0
10	224-230	2017	gill	SkeenaTyee	August12-Au	15	0
11	231-237	2017	gill	SkeenaTyee	August19-Au	40	0
12	238-244	2017	gill	SkeenaTyee	August26-Se	16	0
13	245-251	2017	gill	SkeenaTyee	September2	9	0
14	252-258	2017	gill	SkeenaTyee	September9	9	0
15	163-253	2017	gill	SkeenaTyee	June12-Sept	502	0

Table 2. Weekly stock proportions for sockeye sampled at the Tyee test fishery in 2017.

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

		2017 161-167 gill SkeenaTyee StatWk62 June10-16 3(0)		2017 168-174 gill SkeenaTyee StatWk63 Jun17-June23 3(0)		2017 175-181 gill SkeenaTyee StatWk64 Jun24-June30 5(0)		2017 182-188 gill SkeenaTyee StatWk71 July1-July7 20(0)		2017 189-195 gill SkeenaTyee StatWk72 July8-July14 33(0)		2017 196-202 gill SkeenaTyee StatWk73 July15-July21 70(0)		2017 203-209 gill SkeenaTyee StatWk74 July22-July28 89(0)		2017 210-216 gill SkeenaTyee StatWk75 July29-August 100(0)		2017 217-223 gill SkeenaTyee StatWk81 ugust5-August 90(0)		2017 224-230 gill SkeenaTyee StatWk82 gust12-Augus 15(0)		2017 231-237 gill SkeenaTyee StatWk83 gust19-Augus 40(0)		2017 238-244 gill SkeenaTyee StatWk84 ust26-Septem 16(0)		2017 245-251 gill SkeenaTyee StatWk91 mber2-Septe 9(0)		2017 252-258 gill SkeenaTyee StatWk92 mber9-Septe 9(0)		2017 163-253 gill SkeenaTyee StatWkALL 12-Septemb 502(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	Estima	SD	Estima	SD
79	Alastair	0.0	(3.9)	66.7	(22.7)	20.0	(13.5)	20.0	(8.2)	0.0	(0.5)	2.9	(2.0)	2.4	(1.6)	1.5	(1.3)	0.8	(1.0)	0.0	(1.5)	0.0	(0.4)	0.0	(1.6)	0.0	(1.8)	0.0	(1.8)	2.8	(0.7)
82	Kalum	0.0	(4.3)	0.0	(4.9)	0.0	(4.0)	0.0	(0.8)	2.4	(3.1)	0.2	(0.8)	0.0	(0.3)	0.0	(0.2)	0.8	(1.5)	0.0	(1.1)	1.6	(2.4)	0.0	(0.9)	0.0	(2.5)	0.0	(2.1)	0.1	(0.3)
436	Kalum_lake	0.0	(4.1)	0.0	(4.0)	0.0	(3.4)	4.3	(4.4)	1.0	(2.4)	1.3	(1.5)	0.0	(0.2)	0.0	(0.2)	2.6	(2.2)	0.0	(0.9)	0.8	(1.9)	0.0	(1.1)	0.0	(1.7)	0.0	(1.9)	1.2	(0.6)
80	Kitwanga	0.0	(4.8)	0.0	(4.5)	0.0	(2.5)	0.0	(0.9)	0.0	(0.5)	0.0	(0.3)	0.0	(0.2)	0.0	(0.2)	0.0	(0.3)	0.0	(1.8)	0.0	(0.5)	0.0	(1.2)	0.0	(1.9)	0.0	(2.1)	0.0	(0.0)
65	McDonnell	0.0	(5.3)	0.0	(4.8)	0.0	(2.7)	5.0	(4.2)	3.0	(2.9)	0.0	(0.3)	1.1	(1.1)	0.0	(0.2)	0.0	(0.3)	0.0	(1.2)	0.0	(0.4)	0.0	(1.0)	0.0	(1.1)	0.0	(1.9)	0.6	(0.3)
76	Schulbuckhand	17.0	(24.1)	1.5	(7.3)	0.0	(3.3)	5.1	(9.2)	1.9	(2.6)	0.4	(1.4)	1.1	(1.5)	0.9	(1.6)	0.0	(0.2)	0.0	(1.0)	0.0	(0.4)	0.0	(1.0)	0.0	(1.8)	0.0	(1.8)	0.1	(0.3)
289	Stephens_Kispox	0.0	(5.0)	0.0	(4.9)	0.0	(2.9)	3.5	(4.4)	0.0	(0.6)	0.0	(0.3)	1.5	(2.0)	0.0	(0.2)	0.4	(0.7)	0.0	(1.5)	0.0	(0.5)	0.0	(0.8)	0.0	(2.4)	0.0	(1.7)	0.1	(0.3)
68	Swan_Kispox	0.0	(4.9)	0.0	(4.8)	0.0	(3.9)	1.5	(3.4)	0.0	(0.5)	0.0	(0.3)	1.3	(1.6)	0.0	(0.2)	0.8	(1.0)	0.0	(1.3)	2.5	(2.5)	0.0	(1.5)	0.0	(1.4)	0.0	(2.4)	0.9	(0.5)
75	Williams	49.6	(29.0)	31.9	(20.3)	20.0	(13.8)	19.9	(11.6)	1.1	(2.3)	4.0	(2.5)	1.1	(1.6)	2.1	(2.0)	0.0	(0.2)	0.0	(1.2)	0.0	(0.5)	0.0	(1.2)	0.0	(2.2)	0.0	(2.1)	3.5	(0.9)
465	Damshilqwit	0.0	(4.8)	0.0	(4.0)	0.0	(3.4)	0.0	(1.0)	0.0	(0.6)	2.4	(3.2)	0.1	(0.6)	0.1	(0.6)	0.4	(1.1)	0.0	(1.2)	2.2	(2.5)	0.0	(1.2)	0.0	(1.5)	0.0	(1.8)	0.1	(0.3)
66	Motase	0.0	(4.5)	0.0	(4.4)	0.0	(2.8)	0.0	(1.0)	0.0	(0.6)	0.0	(0.3)	1.4	(1.4)	0.2	(0.7)	0.0	(0.2)	0.0	(1.3)	0.0	(0.5)	0.0	(1.0)	0.0	(1.6)	0.0	(1.9)	0.3	(0.3)
78	SalixBear	0.0	(4.6)	0.0	(4.1)	0.0	(3.5)	0.0	(0.9)	0.0	(0.7)	1.8	(2.1)	0.0	(0.4)	0.0	(0.4)	8.3	(3.3)	0.0	(1.1)	0.0	(0.5)	0.0	(1.1)	0.0	(1.9)	0.0	(1.4)	1.2	(0.7)
470	Slamgeesh	0.0	(4.5)	0.0	(4.9)	0.0	(2.6)	0.0	(1.3)	0.0	(0.5)	1.8	(2.4)	2.3	(1.7)	2.2	(1.6)	1.3	(2.1)	0.0	(1.0)	0.3	(1.4)	0.0	(1.2)	0.0	(1.8)	0.0	(1.7)	2.4	(0.8)
173	Sustut	0.0	(4.6)	0.0	(3.9)	0.0	(3.0)	0.0	(1.0)	0.0	(0.5)	1.4	(1.4)	1.1	(1.1)	2.0	(1.4)	0.0	(0.2)	0.0	(1.4)	0.0	(0.4)	0.0	(1.0)	0.0	(1.9)	0.0	(2.2)	0.8	(0.4)
73	Nanika	0.0	(5.2)	0.0	(5.1)	40.0	(17.9)	5.0	(4.8)	9.1	(4.9)	0.0	(0.3)	1.1	(1.1)	2.1	(1.4)	0.0	(0.2)	0.0	(0.9)	0.0	(0.3)	0.0	(1.2)	11.1	(8.7)	0.0	(1.5)	2.0	(0.6)
123	Four_Mile	1.2	(6.7)	0.0	(6.1)	11.6	(14.0)	2.8	(6.6)	2.2	(5.2)	2.0	(3.5)	1.3	(4.1)	0.2	(0.7)	2.2	(4.0)	6.5	(12.7)	0.9	(3.0)	1.0	(4.2)	0.5	(3.3)	0.8	(4.8)	1.7	(2.1)
71	Fulton_L	1.6	(7.5)	0.0	(3.7)	0.5	(3.9)	0.8	(4.0)	0.2	(1.9)	1.3	(4.2)	22.8	(13.0)	46.3	(11.2)	22.4	(9.9)	37.4	(26.3)	4.2	(10.1)	21.8	(26.8)	1.5	(6.5)	76.7	(27.5)	16.6	(4.9)
72	L_Babine	0.0	(4.5)	0.0	(3.9)	0.5	(4.6)	0.9	(2.5)	0.2	(1.4)	0.5	(1.7)	0.5	(1.8)	0.7	(2.2)	0.7	(2.0)	0.6	(3.4)	7.2	(7.9)	2.2	(6.9)	19.2	(19.0)	2.7	(9.4)	0.7	(1.2)
74	Morrison	2.3	(7.9)	0.0	(4.7)	2.5	(8.4)	25.8	(13.4)	62.7	(13.6)	25.1	(10.3)	20.6	(13.7)	24.8	(10.4)	52.7	(10.2)	1.4	(5.9)	60.2	(20.9)	23.2	(26.9)	59.0	(22.9)	4.2	(11.4)	38.5	(5.3)
77	Pierre	1.9	(8.2)	0.0	(4.6)	3.0	(8.8)	1.3	(5.0)	0.3	(2.5)	1.6	(4.1)	21.7	(8.8)	13.6	(5.8)	0.5	(1.8)	30.5	(22.2)	7.5	(10.9)	4.4	(11.3)	0.4	(4.0)	4.3	(10.7)	10.2	(3.2)
70	Pinkut	0.6	(6.4)	0.0	(4.4)	1.0	(4.9)	1.6	(5.4)	0.7	(2.7)	30.8	(9.2)	8.8	(7.3)	1.7	(4.0)	5.1	(6.7)	1.9	(6.1)	2.1	(5.2)	1.5	(6.3)	1.9	(6.5)	0.1	(2.4)	7.2	(3.3)
67	Shass	15.2	(18.6)	0.0	(5.1)	0.0	(2.6)	1.5	(4.3)	8.2	(10.5)	0.2	(1.0)	0.1	(0.7)	0.2	(0.8)	0.2	(1.0)	3.3	(7.5)	0.0	(0.7)	0.5	(2.9)	0.2	(3.1)	1.6	(6.6)	0.1	(0.3)
125	Tahlo	0.0	(3.6)	0.0	(4.4)	0.1	(3.6)	0.3	(1.9)	6.2	(8.5)	17.7	(8.2)	6.2	(5.1)	1.1	(2.9)	0.3	(1.3)	18.2	(20.9)	6.8	(9.3)	2.8	(8.3)	5.2	(9.9)	5.9	(14.1)	8.3	(2.4)
118	Twain_Cr	5.0	(13.6)	0.0	(5.1)	0.4	(3.6)	0.6	(3.2)	0.3	(1.7)	0.6	(1.8)	3.4	(4.6)	0.1	(0.5)	0.3	(1.0)	0.1	(1.8)	0.2	(1.4)	2.5	(6.5)	0.7	(3.7)	0.2	(2.3)	0.3	(0.7)
69	U_Babine	5.5	(13.2)	0.0	(4.0)	0.4	(4.7)	0.1	(1.5)	0.5	(2.1)	4.1	(5.6)	0.1	(0.5)	0.1	(0.9)	0.4	(1.4)	0.1	(1.5)	3.4	(7.2)	40.1	(21.7)	0.2	(1.9)	3.5	(10.2)	0.3	(0.7)

Table 3. Regional weekly stock proportions for sockeye sampled at the Tyee test fishery in 2017.

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

		2017 161-167 gill SkeenaTyeeTI StatWk62 June10-16 3(0)		2017 168-174 gill SkeenaTyeeTI StatWk63 Jun17-June23 3(0)		2017 175-181 gill SkeenaTyeeTI StatWk64 Jun24-June30 5(0)		2017 182-188 gill SkeenaTyeeTI StatWk71 July1-July7 20(0)		2017 189-195 gill SkeenaTyeeTI StatWk72 July8-July14 33(0)		2017 196-202 gill SkeenaTyeeTI StatWk73 July15-July21 70(0)		2017 203-209 gill SkeenaTyeeTI StatWk74 July22-July28 89(0)		2017 210-216 gill SkeenaTyeeTI StatWk75 July29-August 100(0)		2017 217-223 gill SkeenaTyeeTI StatWk81 ugust5-August 90(0)		2017 224-230 gill SkeenaTyeeTI StatWk82 ugust12-Augus 15(0)		2017 231-237 gill SkeenaTyeeTI StatWk83 gust19-Augus 40(0)		2017 238-244 gill SkeenaTyeeTI StatWk84 ust26-Septem 16(0)		2017 245-251 gill SkeenaTyeeTI StatWk91 mber2-Septe 9(0)		2017 252-258 gill SkeenaTyeeTI StatWk92 mber9-Septe 9(0)		2017 163-253 gill SkeenaTyeeT StatWkALL ne12-Septemb 502(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	Estima	SD
10	Lower Skeena	66.7	(22.0)	100.0	(17.0)	40.0	(18.2)	59.3	(10.2)	9.4	(5.2)	8.7	(3.4)	8.5	(3.1)	4.5	(2.2)	5.3	(2.5)	0.0	(3.8)	4.9	(3.6)	0.0	(3.6)	0.0	(5.5)	0.0	(5.8)	9.3	(1.3)
11	Upper Skeena	0.0	(9.9)	0.0	(9.2)	0.0	(6.7)	0.1	(2.2)	0.0	(1.3)	7.4	(3.2)	4.9	(2.4)	4.5	(2.2)	9.9	(3.1)	0.0	(2.8)	2.6	(2.7)	0.0	(2.6)	0.0	(3.9)	0.0	(4.1)	4.9	(1.0)
12	Bulkley	0.0	(5.2)	0.0	(5.1)	40.0	(17.9)	5.0	(4.8)	9.1	(4.9)	0.0	(0.3)	1.1	(1.1)	2.1	(1.4)	0.0	(0.2)	0.0	(0.9)	0.0	(0.3)	0.0	(1.2)	11.1	(8.7)	0.0	(1.5)	2.0	(0.6)
13	Babine	33.3	(21.4)	0.0	(13.9)	20.0	(15.6)	35.7	(10.2)	81.4	(6.9)	83.9	(4.4)	85.4	(3.9)	88.8	(3.3)	84.7	(3.9)	100.0	(4.8)	92.5	(4.4)	100.0	(4.5)	88.9	(10.6)	100.0	(7.1)	83.8	(1.7)
Code	Region2																																		
1	Alastair Lake	0.0	(3.9)	66.7	(22.7)	20.0	(13.5)	20.0	(8.2)	0.0	(0.5)	2.9	(2.0)	2.4	(1.6)	1.5	(1.3)	0.8	(1.0)	0.0	(1.5)	0.0	(0.4)	0.0	(1.6)	0.0	(1.8)	0.0	(1.8)	2.8	(0.7)
2	Lakelse Lake	66.7	(22.4)	33.3	(20.0)	20.0	(14.2)	25.0	(9.0)	3.0	(2.9)	4.3	(2.4)	2.2	(1.6)	3.0	(1.7)	0.0	(0.3)	0.0	(1.5)	0.0	(0.6)	0.0	(1.6)	0.0	(2.8)	0.0	(2.8)	3.6	(0.8)
3	Zymoetz River	0.0	(5.3)	0.0	(4.8)	0.0	(2.7)	5.0	(4.2)	3.0	(2.9)	0.0	(0.3)	1.1	(1.1)	0.0	(0.2)	0.0	(0.3)	0.0	(1.2)	0.0	(0.4)	0.0	(1.0)	0.0	(1.1)	0.0	(1.9)	0.6	(0.3)
4	Kitwanga Lake	0.0	(4.8)	0.0	(4.5)	0.0	(2.5)	0.0	(0.9)	0.0	(0.5)	0.0	(0.3)	0.0	(0.2)	0.0	(0.2)	0.0	(0.3)	0.0	(1.8)	0.0	(0.5)	0.0	(1.2)	0.0	(1.9)	0.0	(2.1)	0.0	(0.0)
5	Kitsumkalum Lake	0.0	(5.9)	0.0	(6.3)	0.0	(5.2)	4.3	(4.4)	3.4	(3.3)	1.5	(1.5)	0.0	(0.4)	0.0	(0.3)	3.4	(2.0)	0.0	(1.4)	2.4	(2.5)	0.0	(1.4)	0.0	(3.0)	0.0	(2.8)	1.3	(0.5)
6	Kispiox River-lake	0.0	(6.9)	0.0	(6.8)	0.0	(4.8)	4.9	(4.6)	0.0	(0.8)	0.0	(0.4)	2.8	(1.8)	0.0	(0.2)	1.1	(1.1)	0.0	(1.9)	2.5	(2.6)	0.0	(1.7)	0.0	(2.7)	0.0	(2.9)	1.0	(0.5)
8	Motase Lake	0.0	(4.5)	0.0	(4.4)	0.0	(2.8)	0.0	(1.0)	0.0	(0.6)	0.0	(0.3)	1.4	(1.4)	0.2	(0.7)	0.0	(0.2)	0.0	(1.3)	0.0	(0.5)	0.0	(1.0)	0.0	(1.6)	0.0	(1.9)	0.3	(0.3)
9	Morice Lake	0.0	(5.2)	0.0	(5.1)	40.0	(17.9)	5.0	(4.8)	9.1	(4.9)	0.0	(0.3)	1.1	(1.1)	2.1	(1.4)	0.0	(0.2)	0.0	(0.9)	0.0	(0.3)	0.0	(1.2)	11.1	(8.7)	0.0	(1.5)	2.0	(0.6)
10	Bear Lake	0.0	(4.6)	0.0	(4.1)	0.0	(3.5)	0.0	(0.9)	0.0	(0.7)	1.8	(2.1)	0.0	(0.4)	0.0	(0.4)	8.3	(3.3)	0.0	(1.1)	0.0	(0.5)	0.0	(1.1)	0.0	(1.9)	0.0	(1.4)	1.2	(0.7)
11	Sustut Lake	0.0	(4.6)	0.0	(3.9)	0.0	(3.0)	0.0	(1.0)	0.0	(0.5)	1.4	(1.4)	1.1	(1.1)	2.0	(1.4)	0.0	(0.2)	0.0	(1.4)	0.0	(0.4)	0.0	(1.0)	0.0	(1.9)	0.0	(2.2)	0.8	(0.4)
12	Slamgeesh River	0.0	(6.4)	0.0	(6.3)	0.0	(4.3)	0.1	(1.6)	0.0	(0.8)	4.2	(2.9)	2.4	(1.7)	2.3	(1.6)	1.6	(2.2)	0.0	(1.6)	2.5	(2.5)	0.0	(1.8)	0.0	(2.3)	0.0	(2.6)	2.5	(0.8)
13	Babine Lake	33.3	(21.4)	0.0	(13.9)	20.0	(15.6)	35.7	(10.2)	81.4	(6.9)	83.9	(4.4)	85.4	(3.9)	88.8	(3.3)	84.7	(3.9)	100.0	(4.8)	92.5	(4.4)	100.0	(4.5)	88.9	(10.6)	100.0	(7.1)	83.8	(1.7)

Budgeting

Of the $21000 CDN assigned to this project, $10,000 CDN was spent on the analysis. The remaining budget surplus of will be returned to the fund (holdback funds retained by PSC). The underage spending in 2017 relates to the lower-than-anticipated run size for Skeena sockeye (again) which resulted in fewer samples being collected and analyzed. Budget request for future years have now been halved given Skeena run size returns the past few years.

The DFO allocator account information for this work, current to February 15, 2018, is:

5G500 810 750 57365 $10,000 (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, 2017 – March 31, 2018

Fiscal Year – 2016-2017	**PSC**	**DFO**	**Total**
Description	**Financial Contribution to DFO***	**Direct Share of Costs**	**Total**
Lab processing			
500 fish samples @	**10,000**		
$20.00/sample (CDN)			
Original projection	**($20000)**		
Was 1080 samples			
Grand Total	**10,000**	**0**	**10,000**