

Nechako Fisheries Conservation Program
Annual Report

Executive Summary of Activities in 2018-2019 and Proposed Work
Program for 2019-2020

March 31, 2019

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Administration

Technical Committee Operations

The Technical Committee undertook minimal activities in Year 31 of the NFCP and communicated via email and conference calls. During the year, the Technical Committee undertook the projects approved for the 2018/2019 fiscal year.

2018/2019 Program Summary

In the 2018/2019 operating period 3 of 3 planned projects were conducted by the Nechako Fisheries Conservation Program. Planned projects included:

	Person-Days	Person-Day Costs	Disbursements	Total Expenses
3 Remedial Measures Projects	141	\$70,500	\$29,320	\$99,820

The total program budget for the 2018/2019 program year was \$99,820.

During 2018-2019, in addition to core programs, the NFCP finalized a joint report prepared with the Upper Fraser Fisheries Conservation Alliance (UFFCA) on salmon conservation in the Nechako River watershed¹. This project flowed from a discussion about First Nations engagement at the NFCP SC/TC meeting on Feb. 21, 2017. The NFCP/UFFCA report culminated an 18 month collaboration with the UFFCA and was formally presented at a quarterly UFFCA meeting in December, 2018 and was well-received. Press coverage of the report included the Prince George Citizen and CBC Daybreak North.

Proposed 2019/2020 Program

The proposed 2019/2020 (Year 32) Nechako Fisheries Conservation Program includes:

	Person-Days	Person-Day Costs	Disbursements	Total Expenses
3 Remedial Measures Projects	141	\$70,500	\$29,320	\$99,820

¹ [Chinook and Sockeye Salmon Conservation in the Netja Koh \(Nechako\) River in Northern BC](#)

Remedial measures projects are the same as those conducted previously since the start of NFCP activities in 1988. Note that the costs for carrying out these projects are borne by RTA.

Follow-up to the recommendations in the NFCP/UFFCA will be led by the UFFCA and no further engagement with the UFFCA is anticipated at this time although UFFCA would be receptive to future collaboration with the NFCP.

A breakdown of person-days and disbursements for proposed 2019/2020 projects is shown in Table 1. Table 2 provides a comparison of the proposed Year 32 program budget with the approved budgets for the previous 2 years.

Table 1. NFCP: Proposed 2019/2020 Program.

REMEDIAL MEASURES	DAYS	DISBURSEMENTS*	RESPONSIBLE
Summer Temp Management	\$54,750	\$15,910	RTA
Flow Control	\$11,250	\$3,410	RTA
Flow Discrepancy Project	\$4,500	\$10,000	RTA
TOTAL	\$70,500	\$29,320	\$99,820
COMMITTEE OPERATIONS**	***	\$50,000	

*Includes contracts

**Includes Independent Member, Annual Meeting and Report, Technical Report Production, and Committee Meetings

***As required by each party. In recent years there have been no committee expenses

Table 2. Nechako Fisheries Conservation Program Previous Years' Budgets and Proposed Budget for Year 31 (2019/2020).

	2017/2018		2018/2019		2019/2020	
	DAYS	EXPENSES	DAYS	EXPENSES	DAYS	EXPENSES
REMEDIAL MEASURES						
Summer Temperature Management	\$54,750	\$15,910	\$54,750	\$15,910	\$54,750	\$15,910
Flow Control	\$11,250	\$3,410	\$11,250	\$3,410	\$11,250	\$3,410
Flow Discrepancy Project	\$4,500	\$10,000	\$4,500	\$10,000	\$4,500	\$10,000
Sub-Total Remedial Measures	\$70,500	\$29,320	\$70,500	\$29,320	\$70,500	\$29,320
MONITORING						
Enumeration						
Carcass Recovery						
Sub-Total Monitoring	\$0	\$0	\$0	\$0	\$0	\$0
GRAND TOTAL	\$70,500	\$29,320	\$70,500	\$29,320	\$70,500	\$29,320

Comparison of Completed Year 31 and Proposed Year 32 Projects

Remedial Measures

Summer Temperature Management Program

Nechako River flows and water temperatures are managed using a computer-based program referenced in the Settlement Agreement. The program protocol uses a trend analysis developed from five-day meteorological forecasts to schedule releases from Skins Lake Spillway to maintain mean daily water temperatures at, or below, 20.0°C in the Nechako River upstream of the Stuart River (Finmoore).

YEAR 31

2018/2019

The Summer Temperature Management Program (STMP) was operated in the summer of 2018 as in prior years in order to prevent mean daily water temperatures in the Nechako River above the Stuart River confluence (at Finmoore) from exceeding 20.0°C between July 20 and August 20. Water temperatures were managed by regulating Skins Lake Spillway releases to control flows in the Nechako River below Cheslatta Falls and at Vanderhoof.

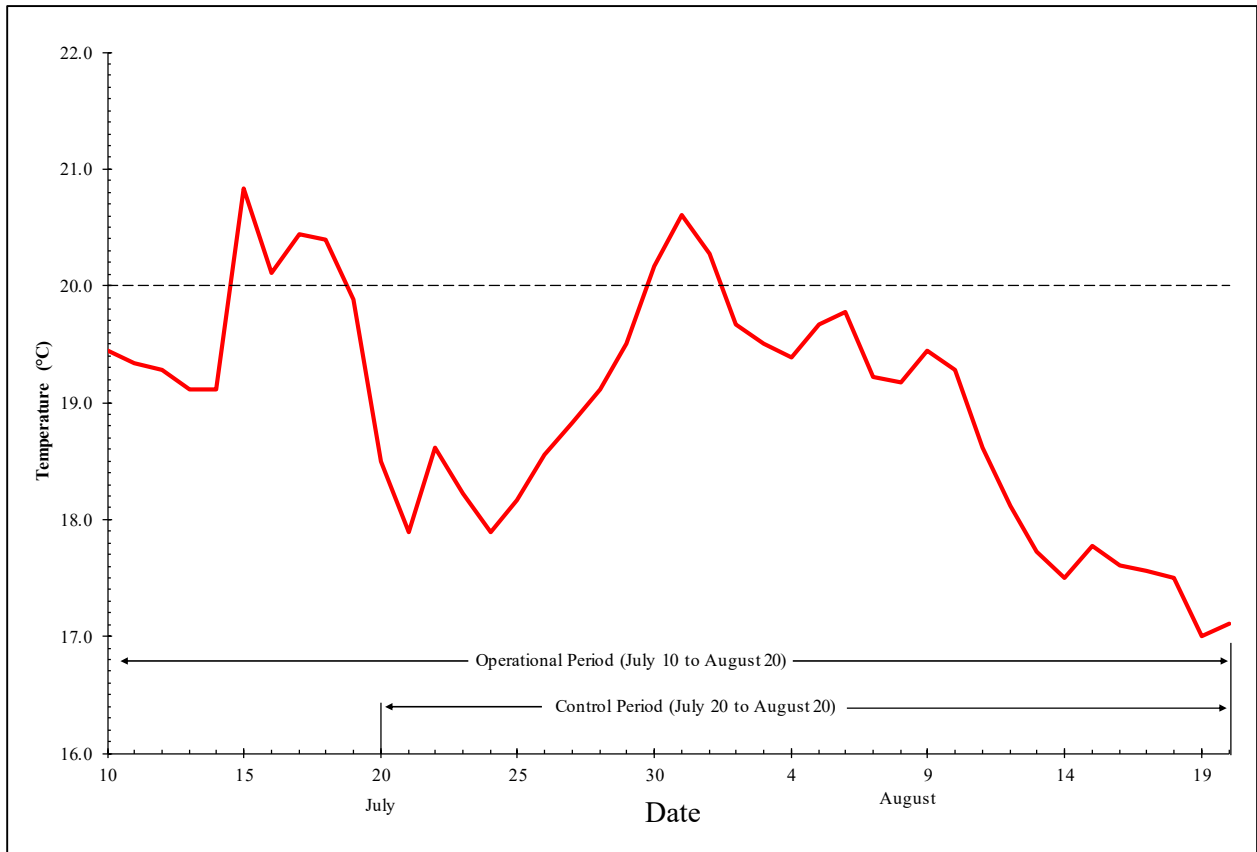
Recorded mean daily water temperatures in the Nechako River upstream of the Nechako-Stuart River confluence (at Finmore) are shown in Figure 1. Over the duration of the 2018 Summer Water Temperature and Flow Management Project (July 10 to August 20), there were seven temperature exceedances (four occurred outside of the control period of July 20 to August 20). The total volume of water released during the STMP was 8,854 m³/s-d, and the average release was 211 m³/s.

YEAR 32

2019/2020

The 2019/2020 Summer Water Temperature Management Project will follow the same protocol and will be conducted in a manner consistent with previous project years.

Figure 1. Recorded Mean Daily Temperatures in the Nechako River above the Stuart River Confluence: July 10 to August 20, 2018.



Flow Control

The NFCP Technical Committee is responsible for the management of the annual water allocation from Nechako Reservoir to best benefit fish in the Nechako River.

YEAR 31

2018/2019

In 2018/2019, the release of the Annual Water Allocation was initiated in April at a higher rate than in prior years (64.3 m³/s - Figure 2)) and remained high throughout April. The release was lowered to normal levels (49.3 m³/s) at the start of May and was increased again in mid-May as a result of a greater than normal reservoir level and the estimated high snow pack. As noted in Figure 2, releases from the reservoir remained high until a few days prior to the start of the STMP in July. Releases were set on August 14 to approximately 32 m³/s as a result of an evacuation order. Once the evacuation order was lifted in early September the release was set in order to control the discharge in the Nechako River below Cheslatta Falls to approximately 30.9 m³/s through the spawning period in September. It is anticipated the releases will average 30.9 m³/s or more for the remainder of the winter in order for the Annual Water Allocation to be fully utilized (36.8 m³/s). A summary of the daily discharges at Skins Lake is shown in Figures 2 - 5.

YEAR 32

2019/2020

In 2019/2020, flow allocation will again be managed by the NFCP to best utilize the annual water allocation.

Figure 2. Comparison between Settlement Agreement and Recorded Skins Lake Spillway Flow Release, April 2018 to March 2019.

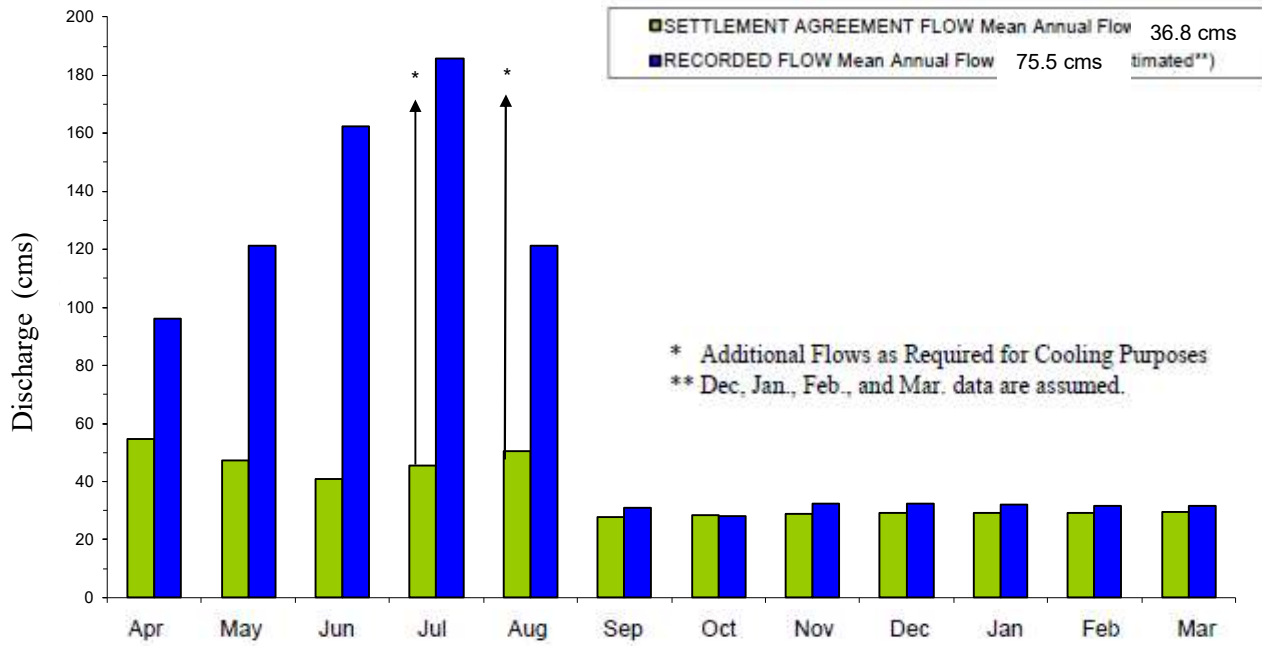


Figure 3. Comparison between Settlement Agreement and Recorded River Flow below Cheslatta Falls, April 2018 to March 2019.

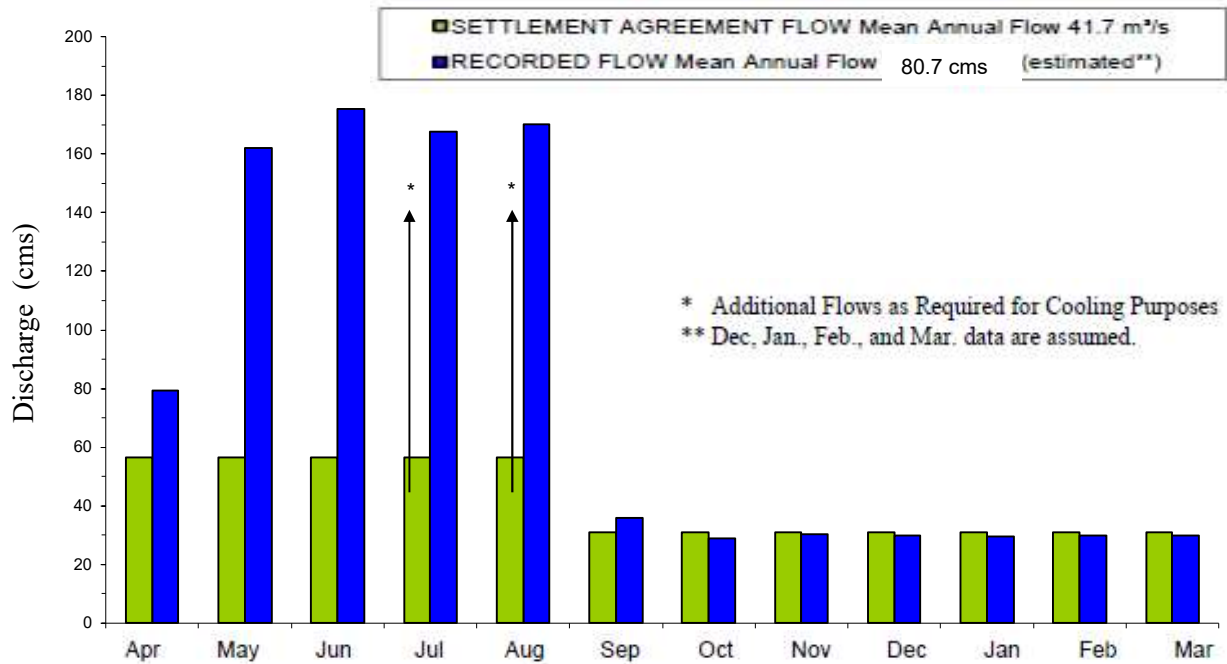


Figure 4. Comparison between Settlement Agreement and Recorded Flow in the Nechako River below Cheslatta Falls - without added Cooling Flows April 2018 to March 2019

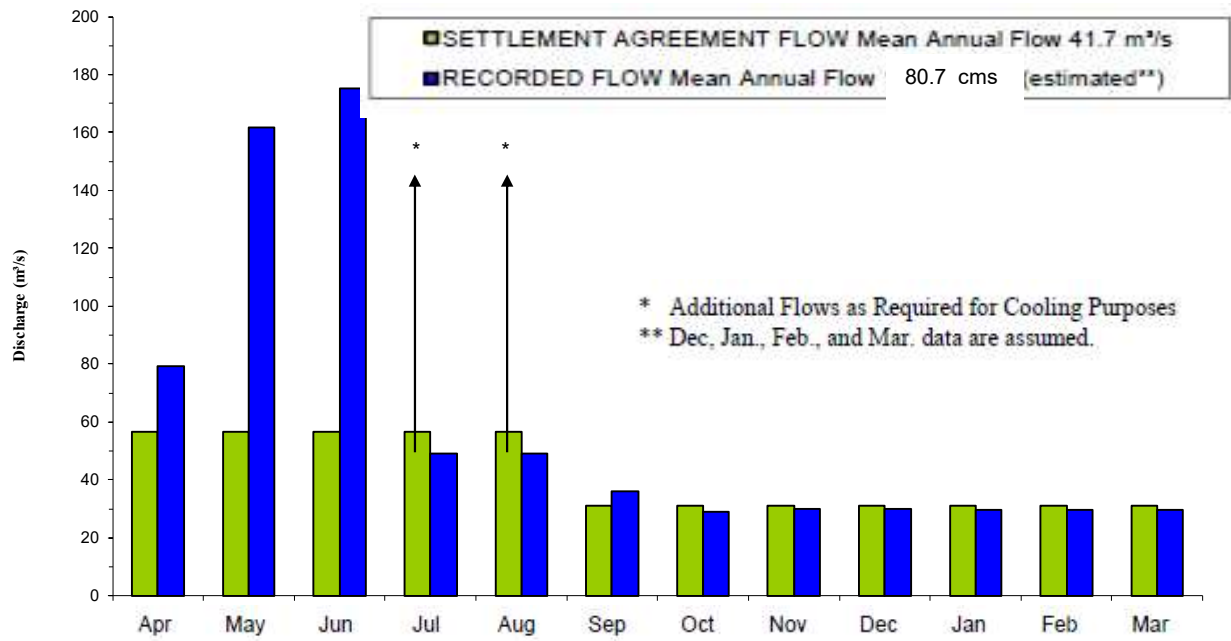
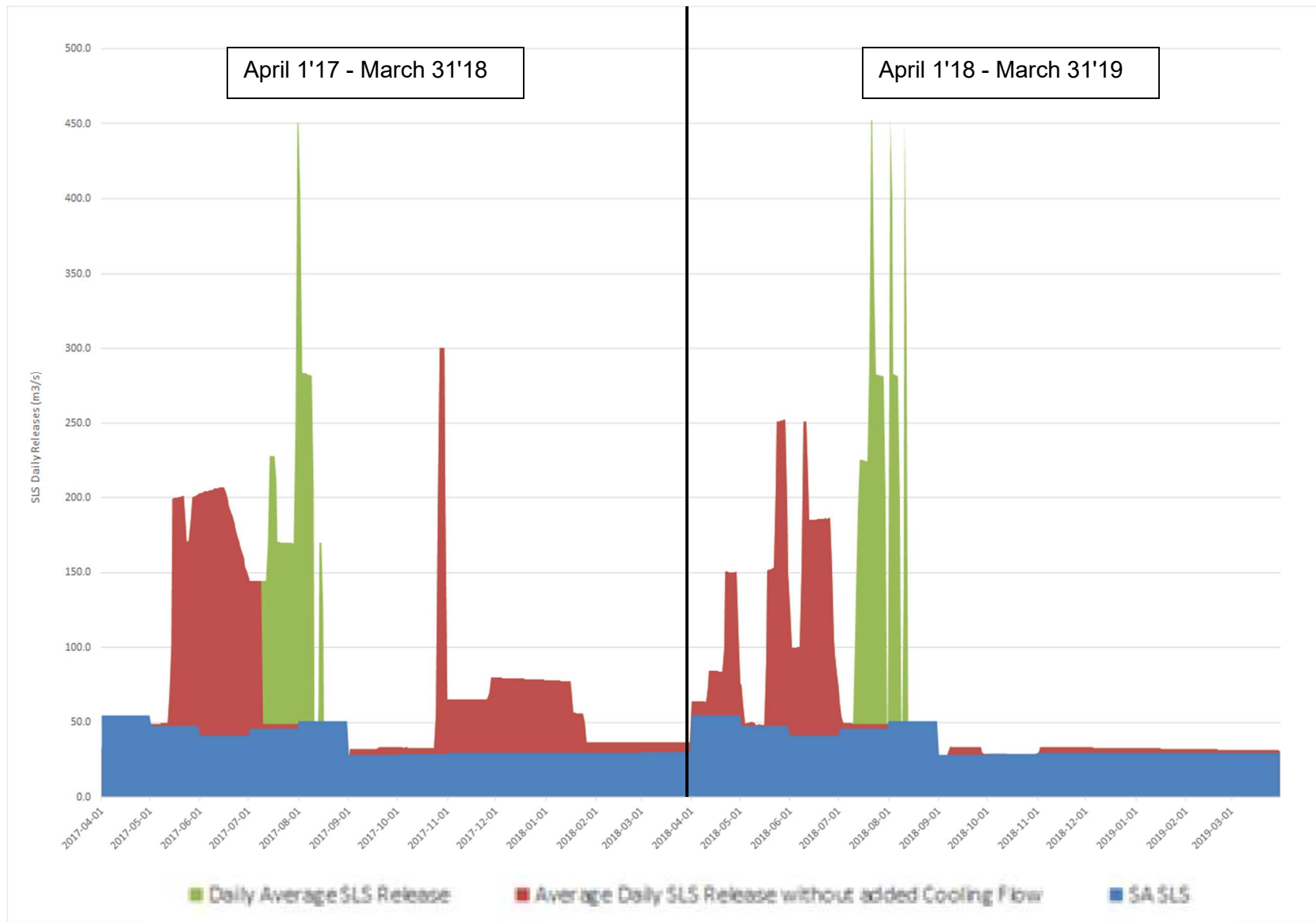


Figure 5. Daily average discharge from the Skins Lake Spillway between April 1, 2017 to March 31, 2019.



Flow Discrepancy

Periodically a discrepancy is apparent between the flow records for the Skins Lake Spillway and the Nechako River below Cheslatta Falls. An investigation into the potential reasons for these discrepancies was carried out in February 1999. The investigation indicated that the most likely cause was the use of preliminary data for the station below Cheslatta Falls in making the comparison. There is also the possibility of groundwater recharge occurring in the fall.

YEAR 31

2018/2019

The flow discrepancy project was not undertaken in 2018-19 as no flow anomaly was detected early in the year and discharges from the reservoir were much greater than the minimums required under the 1987 Settlement Agreement for the remainder of the year.

YEAR 32

2019/2020

During 2019 - 2020 a contingency budget will again be established to allow investigation of the source of any observed discrepancy between the Skins Lake Spillway and the WSC gauging station (#08JA017) in the Nechako River below Cheslatta Falls.

Additionally, the Water Survey of Canada will conduct spot checks of the flows at station 08JA4017 to allow a comparison of flows with spillway releases, should an anomaly in the relationships be detected.

Monitoring

Adult Spawner Enumeration

The number of adult chinook salmon returning to the Nechako River is the main performance indicator to evaluate achievement of the Conservation Goal.

YEAR 31

2018/2019

In 2018, Chinook were enumerated by DFO during 2 helicopter over-flights in September. Results have not yet been finalized by DFO, however field observations indicated a much improved escapement over the low observation of 588 spawners in 2017 (Figures 6 and 7). This graph will be updated following receipt of the DFO estimate.

YEAR 32

2019/2020

During 2019, Nechako Chinook spawner enumeration will be carried out by the Stock Assessment Division of DFO.

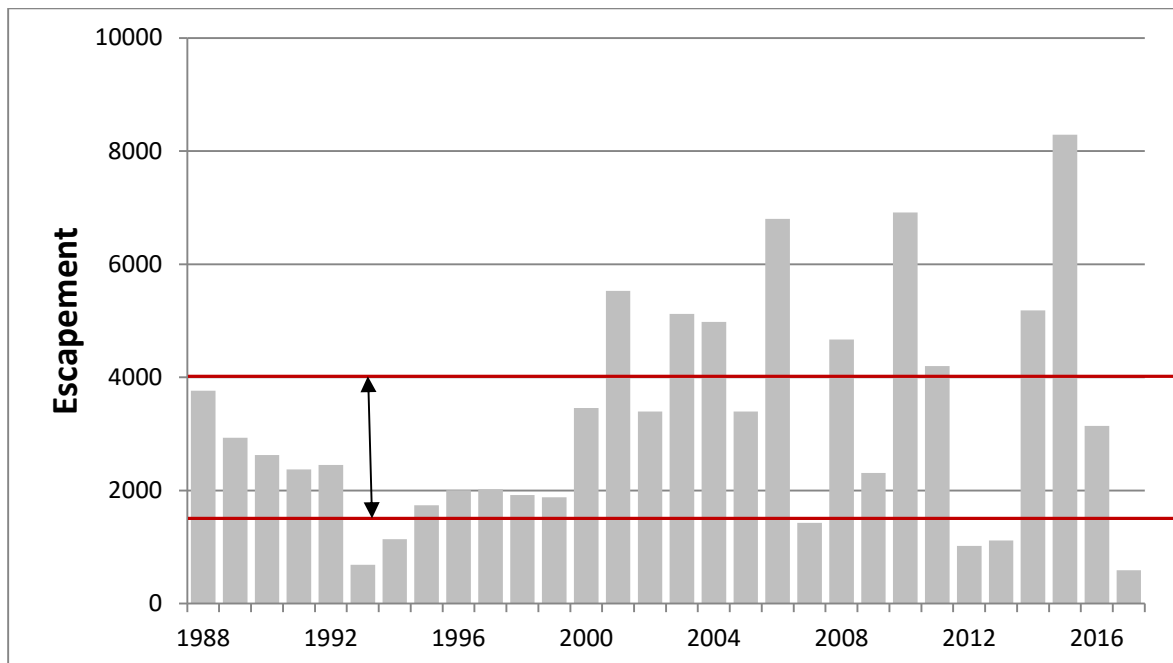


Figure 6. NFCP Chinook escapement estimates for the Nechako River. Red lines show the upper and lower target populations that define the Conservation Goal.

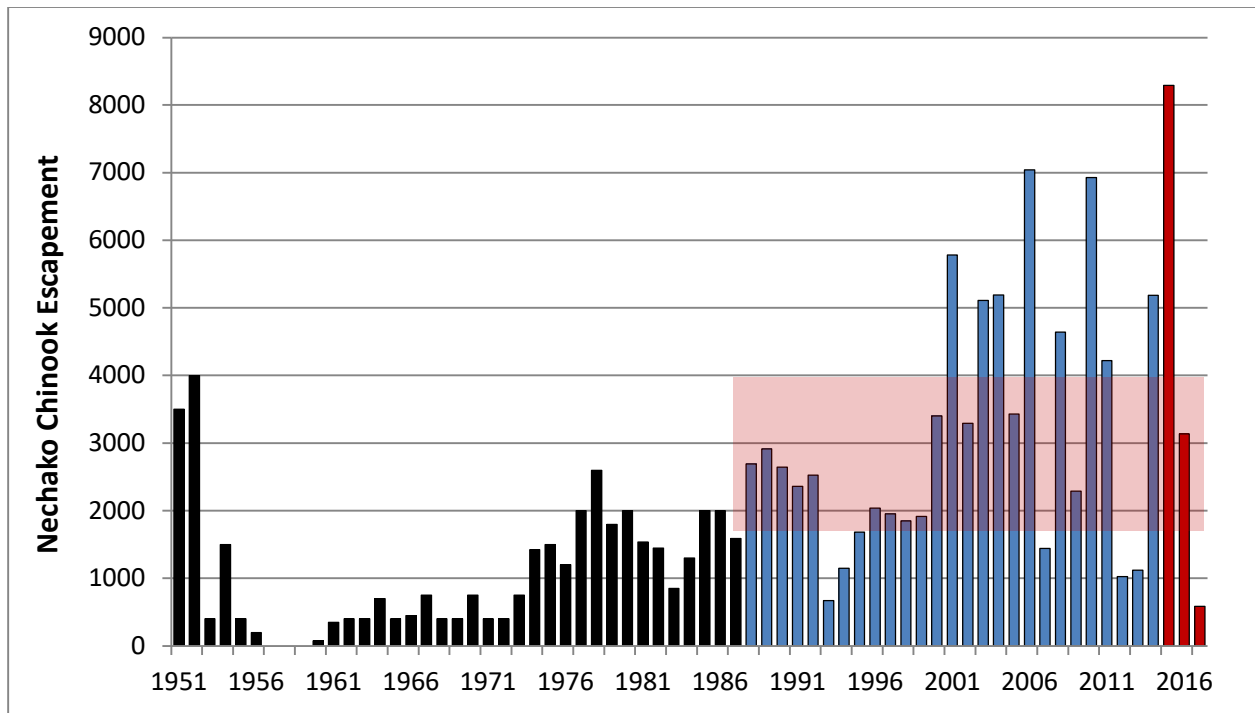


Figure 7. Nechako Chinook escapement time series between 1951 - 2017. Blue bars indicate NFCP monitoring and black bars show pre-NFCP monitoring by DFO. Red bars are estimates provided to NFCP by the Stock Assessment Division of DFO. The pink shaded area depicts the lower and upper target ranges of the Conservation Goal.