Nechako Fisheries Compensation Program

Annual Report

Executive Summary of Activities in 2017-2018 and Proposed Work Program for 2018-2019

March 31, 2018

Contents

Administration

Technical Committee Operations

The Technical Committee undertook minimal activities in Year 30 of the NFCP and communicated via email and conference calls. During the year, the Technical Committee undertook the projects approved for the 2017/2018 fiscal year.

2017/2018 Program Summary

As described in the Year 2015/2016 Program Summary, NFCP Chinook monitoring activities were transferred to DFO in 2015 and the 2017 Chinook estimate was provided by DFO as documented in Steering Committee Decision Record 2014-2015 #2.

In the 2017/2018 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 2017/2018 program year was $99,820.

Following a discussion about First Nations engagement at the NFCP SC/TC meeting on Feb. 21, 2017, the TC contacted the Upper Fraser Fisheries Conservation Alliance, a group of First Nations in the Upper Fraser working on salmon conservation and management in order to gauge their interest in collaborating on a joint project focussed on the conservation of Nechako Chinook. The proposal was presented to the UFFCA in Prince George on June 22, 2017 (powerpont attached) and the UFFCA Community Fisheries Representatives brought the proposal back to their communities. The Project is a work-in-progress with an expected completion date in 2018. COSEWIC recently completed an assessment on Fraser sockeye salmon and listed two of the populations which migrate through the Nechako, Early Stuart and Late Stuart, as endangered. The scope of the Project has been expanded to include an evaluation of sockeye salmon that utilize the Nechako River as a migratory corridor (report outline attached).

Proposed 2018/2019 Program

The proposed 2018/2019 (Year 31) Nechako Fisheries Conservation Program includes:

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

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.

Following completion of the NFCP/UFFCA salmon conservation project, the results will be formally presented to the UFFCA and a brief summary review, written in plain English, will be prepared and posted on the NFCP and UFFCA web-sites together with the complete Technical Report.

A breakdown of person-days and disbursements for proposed 2018/2019 projects is shown in Table 1. Table 2 provides a comparison of the proposed Year 31 program budget with the approved budgets for the previous 2 years.

Table 1. NFCP: Proposed 2018/2019 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 30 (2018/2019).

	2016/2017		2017/2018		2018/2019	
	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 30 and Proposed Year 31 Projects

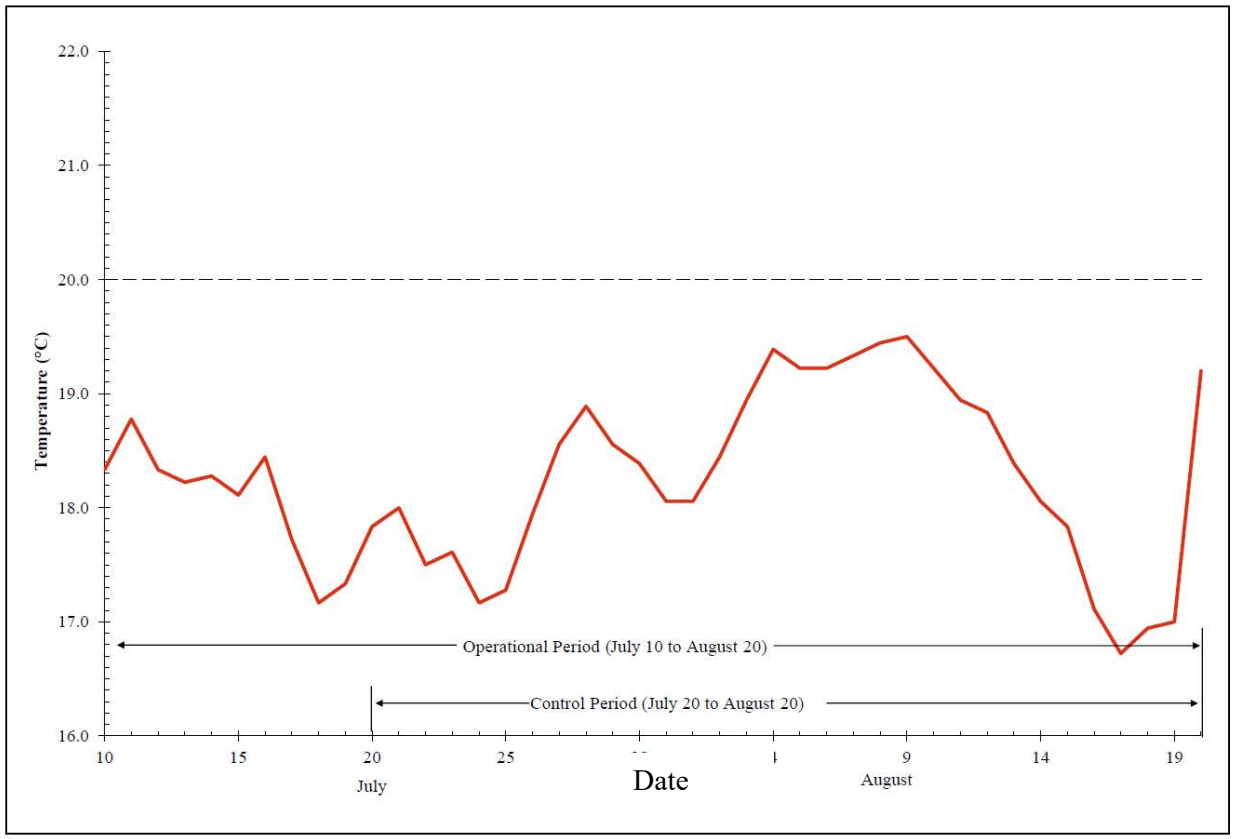
Remedial Measures

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 30	YEAR 31
2017/2018	**2018/2019**
The Summer Temperature Management Program (STMP) was operated in the summer of 2017 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 2017 Summer Water Temperature and Flow Management Project (July 10 to August 20), there were no temperature exceedences and the total average discharge over the STMP was 7,937.9 m^3/s-d, and 189 m^3/s, respectively.	The 2018/2019 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, 2017.



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 30	YEAR 31
2017/2018	**2018/2019**
In 2017/2018, the release of the Annual Water Allocation was initiated in April at slightly lower rate than in prior years (37.6 m^3/s (Figure 1)) In mid-May, the release was increased to 101.3 m^3/s (greater than normal) 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 the start of the STMP in July. Following the STMP, releases were decreased in late August to control the discharge in the Nechako River below Cheslatta Falls to approximately 32.06 m^3/s through the spawning period in September. Flows were increased in November to 65.5 m^3/s where they remained at that rate or higher until late January where they were decreased to 36.0 m^3/s. It is anticipated the releases will average 32.06 m^3/s or more for the remainder of the winter in order for the Annual Water Allocation to be fully utilized (36.8 m^3/s). A summary of the daily discharges at Skins Lake is shown in Figure 4.	In 2018/2019, flow allocation will again be managed by the NFCP to best utilize the annual water allocation.

Figure 2.Comparison between Settlement Agreement and Recorded Flow in the Nechako River below Cheslatta Falls, April 2017 to March 2018.

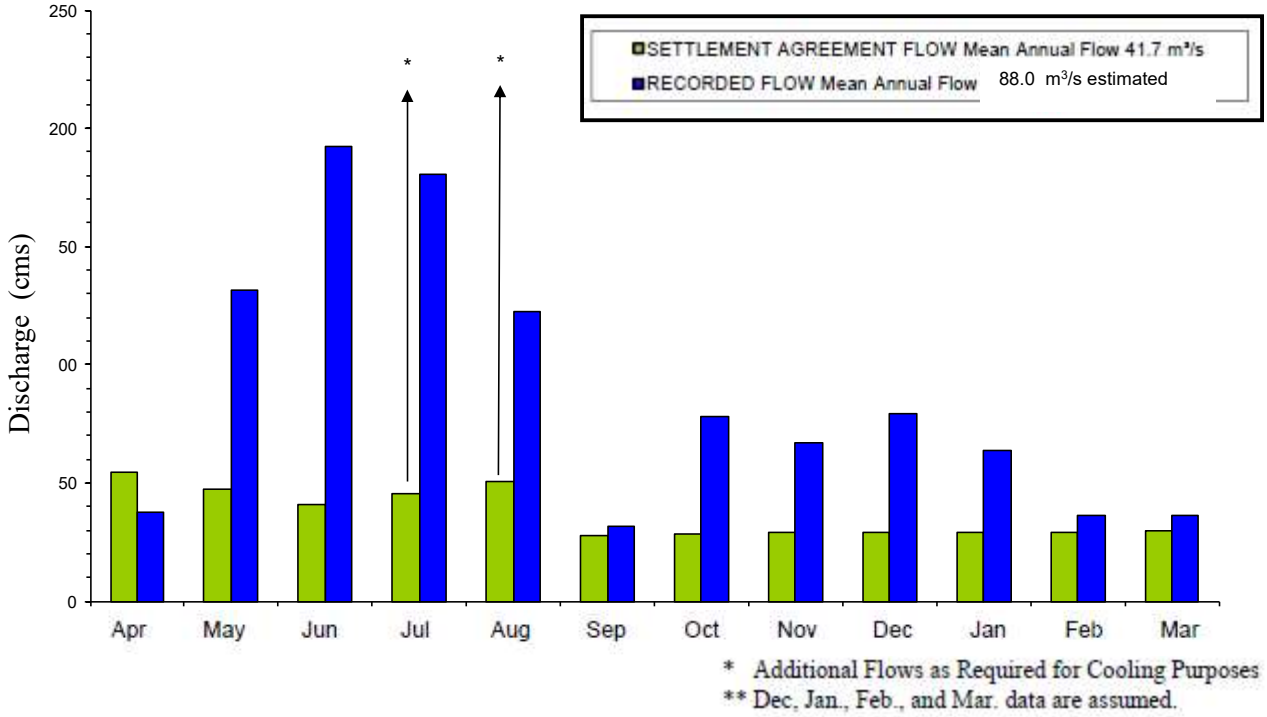


Figure 3. Comparison between Settlement Agreement and Recorded Flow in the Nechako River below Cheslatta Falls - without added Cooling Flows, April 2017 to March 2018.

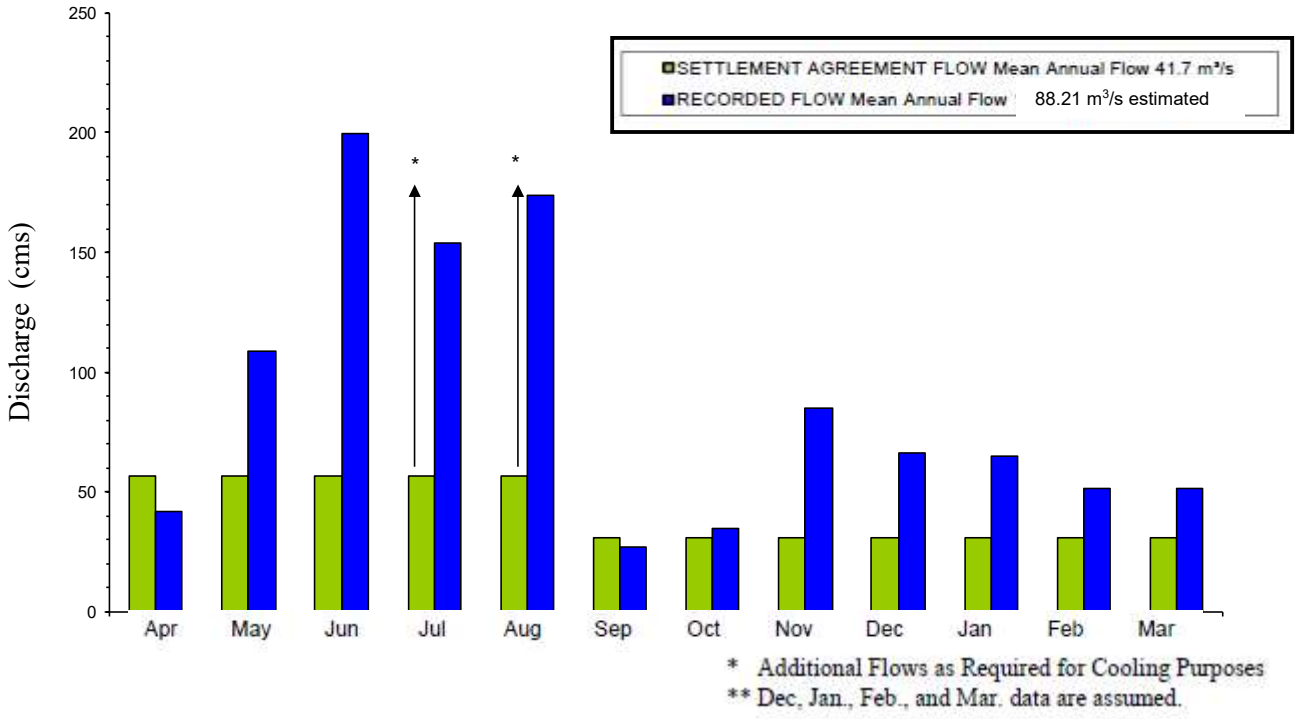
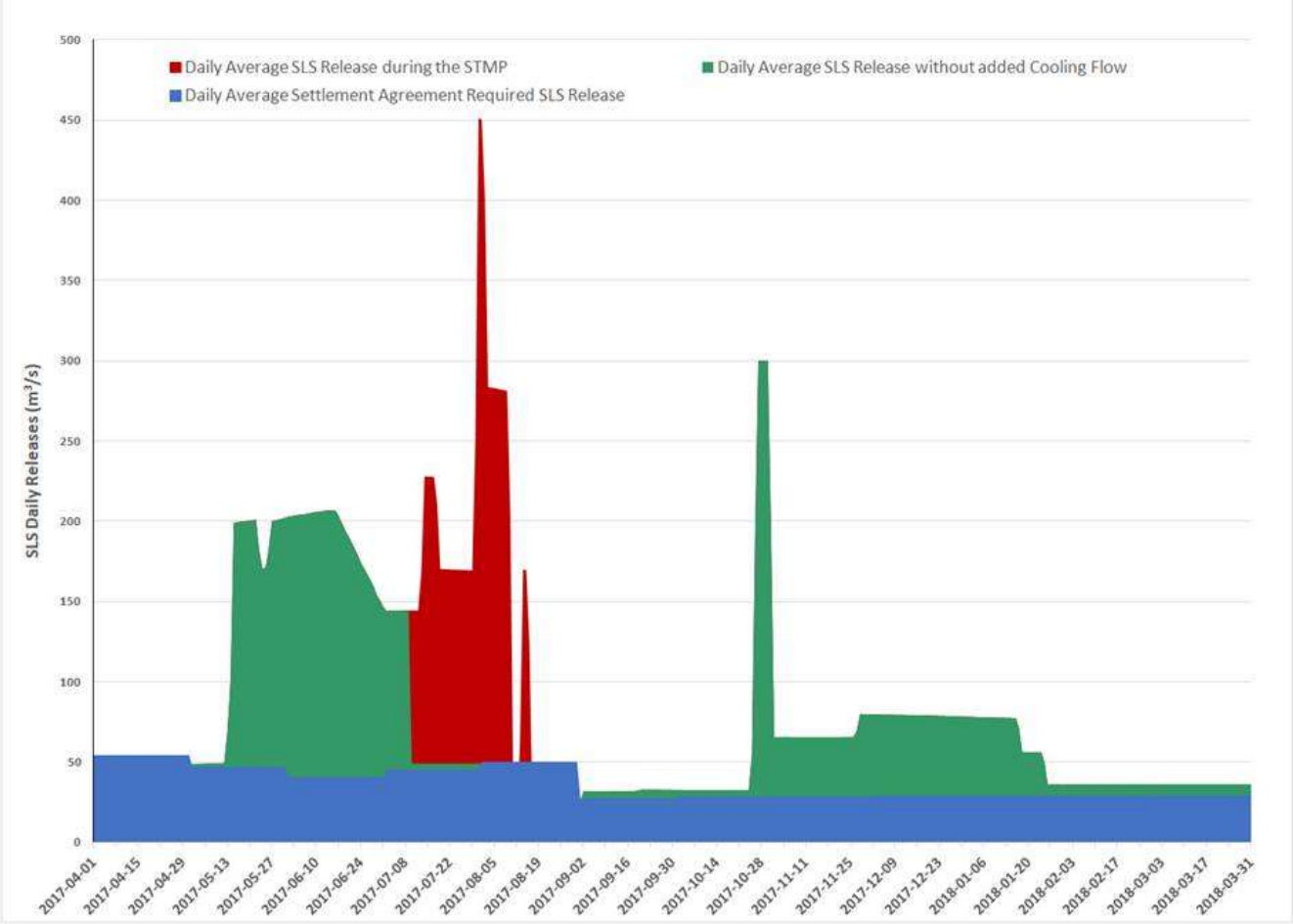


Figure 4. Daily average discharge from the Skins Lake Spillway between April 1, 2017 to March 31, 2018.



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 30	YEAR 31
2017/2018	**2018/2019**
The flow discrepancy project was not undertaken in 2017-18 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.	During 2018 - 2019 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 30

2017/2018

In 2017, Chinook were enumerated by DFO during 2 helicopter over-flights in September. Results indicated an escapement of 588 spawners (Figure 4) which is below the lower range of the Conservation Goal and the lowest escapement observed in the Nechako since the construction of the Kenney Dam (Figure 5).

YEAR 31

2018/2019

During 2018, Nechako Chinook spawner enumeration will be carried out by the Stock Assessment Division of DFO. The causes for the low 2017 escapement will be further examined jointly with DFO to rule out whether the observation is an artifact, whether it is unique to the Nechako or whether it is part of a regional trend.

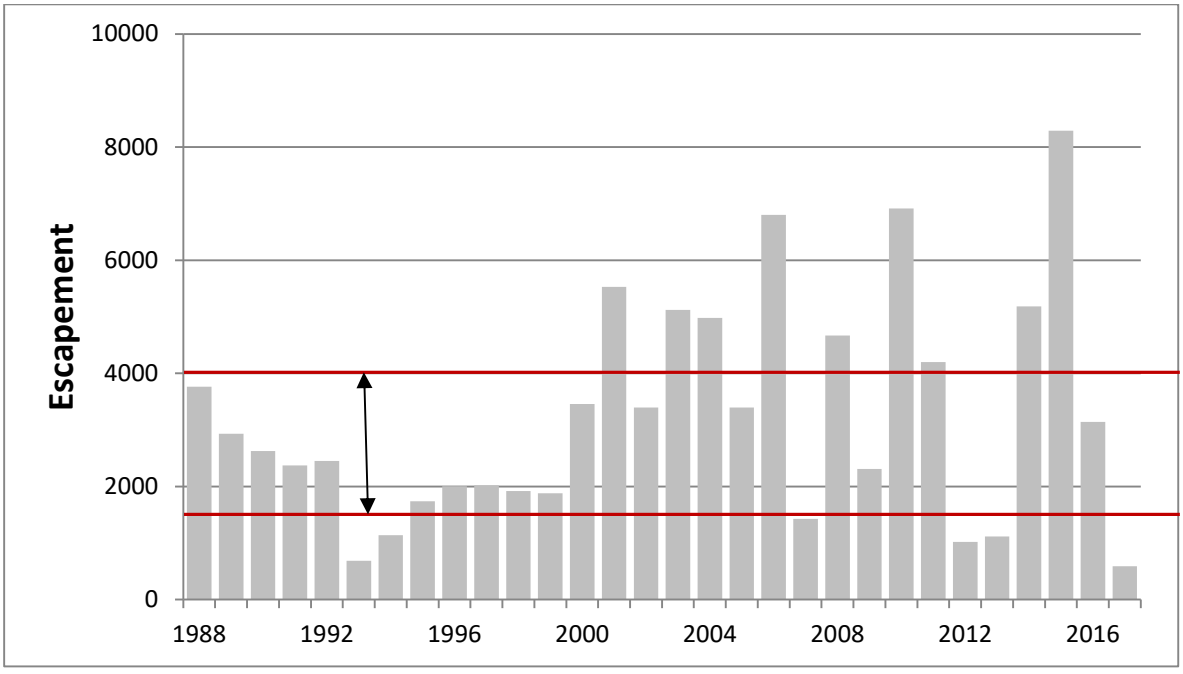


Figure 4. NFCP Chinook escapement estimates for the Nechako River. Red lines show the upper and lower target populations that define the Conservation Goal.

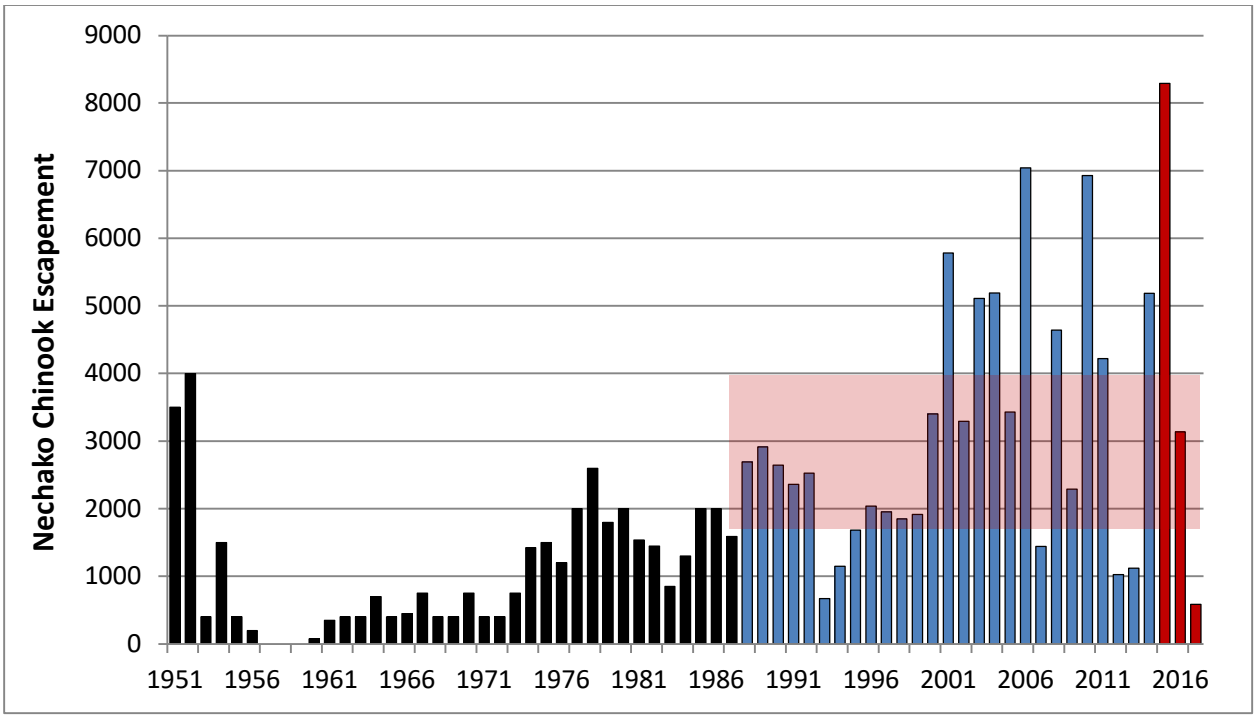


Figure 5. Nechako Chinook escapement time series between 1951 - 2017. Blue bars indicate NFCP monitoring and black bars show pre-NFCP monitoring by DFO. Red bars are estimates provided to NFCP by the Stock Assessment Division of DFO. The pink shaded area depicts the lower and upper target ranges of the Conservation Goal. The 2017 estimate is "preliminary".