

SKINS LAKE SPILLWAY

The Summer Temperature Management Program is designed to benefit sockeye salmon migrating through the Nechako River. The objective is to reduce the frequency of high water temperatures (>20°C) at Finmoore, located upstream of the confluence of the Nechako and Stuart Rivers. The Summer Temperature Management Program was not operated in the summer of 2011 as in prior years due to releases from the reservoir for flood control being higher than flows needed under normal STMP levels. The maximum water temperature measured at Finmoore was 16.6°C on August 5.



Skins Lake Spillway.

WHAT'S NEXT?

Planned projects for 2012 include:

- Annual Water Allocation (AWA).
- Summer Temperature Management Program (STMP).
- Adult Chinook salmon count between September and early October.
- Data on age distribution, sex ratio, size, fecundity, and egg retention of adult Chinook salmon in the Nechako River.
- Stream habitat structure inspections.

Reports for NFCP projects available at

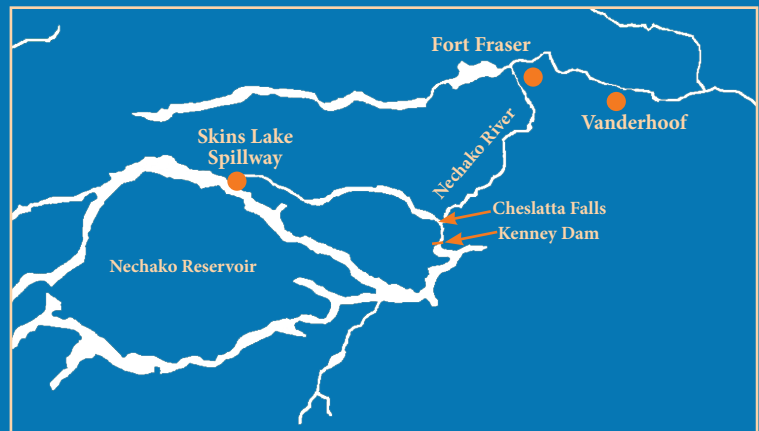
WWW.NFCP.ORG

NECHAKO FISHERIES CONSERVATION PROGRAM
PO BOX 2551, VANDERHOOF, BC, V0J 3A0

Nechako Fisheries Conservation Program

Biological Data Summary 2011

The Nechako Fisheries Conservation Program (NFCP) was formed to ensure the effective implementation of the 1987 *Settlement Agreement* between Rio Tinto Alcan, Fisheries and Oceans Canada and the BC Ministry of Environment. The objective of the NFCP is the conservation of salmon stocks in the Nechako River. To that end, since 1987, the NFCP has monitored Chinook salmon and their habitats and has also managed water discharges from the Nechako Reservoir at Skins Lake Spillway and water temperature in the Nechako River during sockeye salmon migration.



Nechako Reservoir and Nechako River.

NECHAKO FISHERIES CONSERVATION PROGRAM

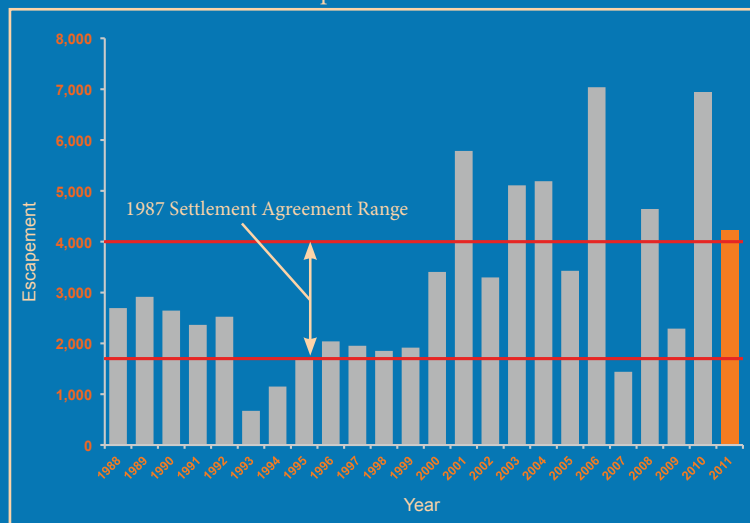
CHINOOK MONITORING

The NFCP monitors both adult and juvenile fish in the Nechako to ensure that habitat conditions remain favorable for Chinook production. Chinook spawn in the mainstem of the Nechako River between late August and early October. The eggs incubate in the river gravel until March of the following year. Young Chinook emerge as free-swimming fry from March to May and spend between two to twelve months rearing in the Nechako River before migrating downstream.

The Settlement Agreement sets out a Conservation Goal of a range of between 1,700 to 4,000 Chinook spawners in the Nechako River. Chinook are counted by means of helicopter surveys. Each survey begins at Cheslatta Falls and finishes at Vanderhoof.

NFCP monitoring since 1988 has shown that adult Chinook returns to the Nechako have generally fallen within the conservation target range. The Chinook count in 2011 was 4219 fish, slightly above the upper limit of the Conservation Goal range. Since 1988 the Nechako River Chinook escapement met the objectives of the Settlement Agreement in 21 of 24 years. The minimum escapement goal of 1700 fish was not reached three times and the upper limit of the escapement Conservation Goal range was exceeded seven times. It is the opinion of the NFCP that the current in-river conditions examined by the Technical Committee are sufficient to sustain a population of chinook salmon that fluctuates generally within the “target population” range identified by the Conservation Goal.

Nechako River Chinook Escapement 1988-2011



BIOLOGICAL SAMPLING

Sampling of Chinook carcasses has been conducted annually by NFCP to collect biological data on age, size, life history, sex and egg retention. Sampling of two hundred Chinook in 2011 indicated a sex ratio of 1:0.61 females:males, identical to the Nechako long-term average. Average length for females in the 2011 spawning population was 693 mm, slightly larger than the long-term average of 684 mm, while the average length for males was 743 mm, larger than the long-term average of 709 mm. NFCP also undertakes projects designed to evaluate in-stream habitat quality for eggs and juveniles. These projects are carried out every five to ten years.



Nechako River at Vanderhoof.

WATER MANAGEMENT

The NFCP provides direction to Rio Tinto Alcan to ensure effective implementation of the Annual Water Allocation (AWA) and Summer Temperature Management Program (STMP) in accordance with the Settlement Agreement. The AWA requires a release of 36.8 m³/s of water from Skins Lake Spillway (SLS) over the course of the year (April 1 to March 31 of following year).

As March 2011 passed, Rio Tinto Alcan informed the NFCP that the combination of the cool spring and continued accumulation of snow in the Nechako Watershed required a release of much greater than normal quantities of water from the reservoir. High inflow volume to the reservoir continued throughout the summer, reaching a peak in July and August. Skins Lake Spillway releases were lowered in late August to approximately 65 m³/s through the Chinook spawning period in September and were then increased in late September, after the peak of spawning, to ~400 m³/s for the month of October. Releases were then decreased to ~60 m³/s and will be held there for the remainder of the winter.

It is estimated that the mean annual discharge from the reservoir will be 161 m³/s, much greater than the required release of 36.8 m³/s.