



# Carrier Sekani Lho Dust'us

Carrier Sekani  
Tribal Council

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## Carrier Sekani Fisheries Program: Fish News

It was a busy field season for the CSTC's Fisheries Program. The Stellat'en First Nation withdrew from the CSTC's fisheries agreement last spring and has negotiated their own Community Fisheries Agreement with DFO. Despite what is now a smaller core budget, the CSTC accessed a number of other funding sources to address priority fisheries issues within the territories of member First Na-

tions and continue a level of service similar to past years. This update provides a summary of the activities that were completed by the program during the 2006 field season. This includes extensive involvement with sturgeon recovery activities, and sockeye, Chinook and coho enumeration projects. We also provide and discuss preliminary sockeye escapement figures for the Nechako stocks, an issue

well worth discussing at length. Included is a discussion of the very poor food-fish catches that were generally the norm for CSTC member First Nations in 2006. We also provide a summary of some of the activities that the program will be undertaking over the winter months, and preliminary plans for next year, the final year of the CSTC's current fisheries agreement with Canada.

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*The CSTC played a major role in the success of the first year of hatchery operations for the Nechako's Endangered white sturgeon population. A total of approximately 4200 marked and tagged juvenile white sturgeon were released back to the river in the fall of 2006. Hatchery releases are intended to be a temporary solution to the population's recruitment failure, and will provide valuable opportunities to investigate and reverse the population's precipitous trend towards extirpation.*



## Early Stuart Sockeye Enumeration Project; 2006



James Prince and Albert Raphael install the Dust Creek fence.

The CSTC works with both DFO and the Tl'azt'en Nation to count the number of early sockeye spawners that migrate to the Stuart system. The CSTC program is focused entirely within the Takla Lake region, while Tl'azt'en Nation is concerned with lower Takla, the Middle River and Trembleur Lakes region. The CSTC crews operated a counting fence on Dust Creek, the primary tributary to the Northwest Arm of Takla Lake. They also completed regular stream walks on

a number of tributaries to Takla Lake that normally provide spawning habitat for Early Stuarts. They also completed surveys of the Driftwood River system by boat. The preliminary escapement figures for the entire Early Stuart sockeye run in 2006 is 35,555 spawners. This escapement is considerably higher than the brood year (2002) escapement of ~25,000, and is above average for this cycle year (2002, 1998 etc.). While it is well below the escapement goal that was

set for the stock, it indicates that the stock is capable of rebuilding and is on a positive trend. The distribution of spawners between the spawning areas of the Trembleur and Takla systems continues to be variable. This year 33% of spawning occurred in the Driftwood River and upper portions of Takla Lake. The Dust Creek crew members were James (Jako) Prince, Nak'azdli, and Terry Furlong, Tl'azten. Driftwood crew members were, Albert Raphael, Saik'uz, Cora McIntosh, Saik'uz, Leonard Austin, Takla, Belinda Charlie, Takla Lake First Nation.

## Nadina Sockeye Enumeration Project; 2006

Nadina sockeye are enumerated via a combination of visual surveys, over flights, and fences. These are completed in collaboration with DFO. The three systems assessed are Glacier Creek, Nadina River, and the Nadina Spawning Channel. CSTC staff assisted DFO with the completion of enumeration flights and on the ground sampling and assessment of carcasses. In 2006, the CSTC funded one over-flight, and assisted DFO's field crew with sockeye carcass recovery and sampling. Total escapement to the spawning channel and Nadina River is estimated at 8655 spawners. This is four times the 2002 brood year escapement and above average for this cycle year for the last 5 generations.

The fish were in good condition and there was no evidence of higher than usual en route stress. Spawning success in 2006 was estimated at 99.6%, higher than long-term cycle average.

The CSTC personell that participated on the Nadina project in 2006 were Bill Shepert (Wetsuweten) and Albert Raphael (Saik'uz).

Nadina River and the Nadina sockeye spawning channel.





## Escapement Summary for 2006; The Nechako's Sockeye Resources

As previously mentioned in this update, FSC fishing was generally poor for Nechako First Nations. All reported substantial difficulty meeting their food-fish needs. While the returns of the various sockeye stocks that migrate through the Nechako (Nadina, Early and Late Stuart, and Stellako) were predicted to be low based on DFO's pre-season forecasts and plans, the numbers that ended up returning were generally below expectations, with some exceptions. The following numbers are all preliminary and subject to be adjusted, but the best estimates of 2006 sockeye spawner escapement in the Nechako to this date (Nov 1) are as follows:

- Early Stuart—35,555
- Nadina—8,655
- Late Stuart—20,000-30,000
- Stellako—150,000

This means that likely fewer than

250,000 sockeye entered the Nechako in 2006.

The good news is that Early Stuart escapement exceeded brood year escapement and was the largest escapement in four generations (16 years) for this cycle year. It suggests that the stock is capable of rebuilding given the cooperative efforts that have evolved to allow escapement to be maximized. Similarly, spawner escapement to the Nadina River and spawning channel also exceeded the 2002 brood year and was well above the 20 year average escapement for this cycle-year.

While the Early Stuart and Nadina stocks have not supported substantial harvest opportunities for Nechako First Nations for several years, the Stellako and Late Stuart stocks were expected to materialize in larger numbers and provide the bulk of the required FSC needs.

What appears to have happened is an overestimation of sockeye run-sizes in the marine areas as stocks were approaching the Fraser River. Commercial fisheries were implemented, based on these run size estimates, which later proved to be far too optimistic. Subsequently, sockeye stocks such as the Stellako and Late Stuart were heavily exploited before they even began to navigate through the FSC fisheries in the Fraser River.

What resulted was an unacceptable situation leading to many First Nation's food fisheries having an inadequate catch rate. The manner in which DFO's in-season management of fish and fisheries may have constrained FSC fishing rights, in particular for First Nations in the Nechako system, will be the subject of much discussion over the following months. We will keep you informed on this subject.



Top left; Dust Creek fence setup crew. Bottom left; home sweet home for the Dust Creek crew on the shore of Takla Lake. Right; floating the Driftwood River during the completion of a sockeye count.



## Stuart Sockeye; Stock Status Review Progress

As we've previously mentioned, DFO had indicated their intentions in 2005 to complete a thorough review of the status of both Early and Late Stuart sockeye stocks. A process that the CSTC has eagerly agreed to be a partner in. A review of this nature is a comprehensive summary of all available spawning escapement and catch (commercial, First Nations and sport) data dating back as far as possible. It also looks at available information relating to the freshwater components of the stocks' life histories, including egg-fry survival, lake productivity and smolt output and condition. Finally, it compares this information to other stocks over the same time periods.

The intent is to gain insight into what factors might be contributing to the poor returns of Early and Late Stuart sockeye, and de-

velop a plan to facilitate their recovery. As can be imagined, this is a large undertaking.

We're somewhat disappointed with the progress that has been made on this review to date. DFO continues to face budget issues while at the same time coping with the rollout of the Wild Salmon Policy, and the development of the Fraser Sockeye Spawning Escapement Initiative and the Stock Assessment Framework, among other things.

The result has been that DFO has not been able to dedicate sufficient internal resources to this review process, and our understanding is that little progress has been made.

One of the opportunities such a review provides is the ability to extract the necessary information to make a submission to the Committee on the Status of En-

dangered Wildlife in Canada (COSEWIC). An Endangered or Threatened "listing" of either or both of the Stuart stocks by this body may instill a greater priority within DFO to manage the Stuart sockeye stocks more conservatively. Such a listing prior to the review being complete is possible, and may also create a greater priority within DFO to get the review, and subsequent plan for recovery completed.

The CSTC has recently asked for the assistance of the UFFCA for the purposes of finding resources to either start the comprehensive review, and/or prepare a status summary on the status of the Stuart sockeye stocks for submission to COSEWIC. We will keep you posted on progress towards these ends.



*Spawning sockeye returning to interior rivers do more than lay the foundation for their next generation, their nutrient rich bodies support an entire ecosystem that has evolved to take advantage of this resource. Overall productivity is impacted when returns are low, impacting resident fish species as well as other animals.*





## Endako Chinook Enumeration Project; 2006

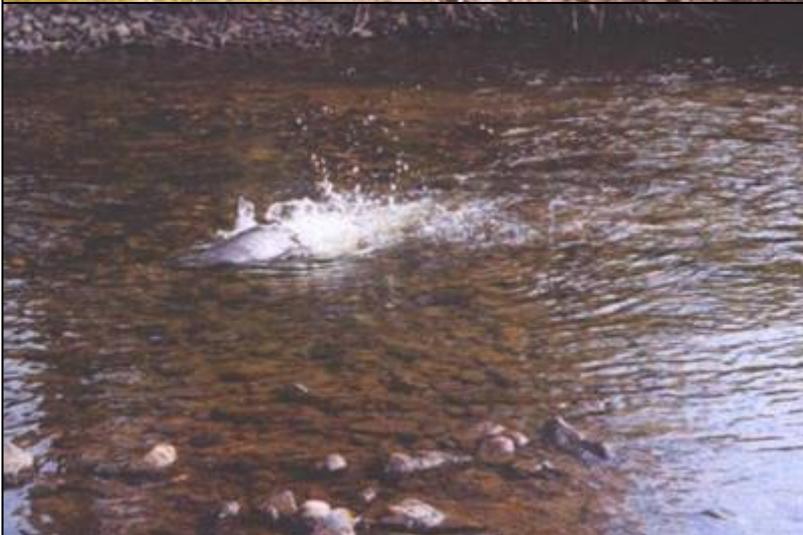
The Endako River's small chinook population is unique. The CSTC's enumeration program for this stock has been standardized for more than a decade, providing an accurate long-term dataset.

Portions of the Endako mainstem and Shovell Creek are surveyed from the ground and by boat. Post-spawn chinook carcasses are assessed for length, sex, spawning extent, age structures and DNA. The distribution of spawning activity, and daily water hydrology and temperature are also documented during this program. Habitat and flow conditions at Chinook redd sites have also been surveyed annually.

In 2006 survey activities were completed on the Endako system from August 26<sup>th</sup>—September 8<sup>th</sup>, which encompassed the period of peak spawning activity and its completion.

The total number of Chinook spawners was determined to be 185. This is the lowest escapement observed since the CSTC began enumerating the system in 1994.

Flow conditions were also at extreme lows, with portions of the river near the outlet of Burns Lake without any surface flow. If the low flow conditions that were experienced province-wide this year can be expected to become the norm, the Endako's Chinook stock and other fisheries resources will suffer. The CSTC had previously worked with the Burns Lake Band to assess the feasibility and design of an outlet flow control structure on Burns Lake to augment Endako flows during the summer. The CSTC work to bring this idea to the forefront once again.



*Upper Left; portions of the upper Endako River near the Burns Lake outlet were dewatered in September 2006. The kokanee population that out-migrates to this area to spawn could not gain access to normal spawning areas. Above; a pair of "red" spawning Chinook in the Endako River. Left; a "white" Chinook digs in the Endako River. The Endako's Chinook stock has both a red fleshed and white fleshed component, which each take on distinctive spawning colouration.*



## Nechako White Sturgeon; Pilot Hatchery Operations and Other Recovery Activities - an Expanding Role for the CSTC

The CSTC continues to play a proactive and important role in the efforts to recover the Nechako's Endangered white sturgeon population, which was added to Schedule 1 of the *Species at Risk Act* in August of this year. The CSTC's Biologist is a member of the Technical Working Group and the CSTC frequently contributes its program's technical expertise to projects associated with the initiative. In 2006 the CSTC conducted a number of projects related to the recovery initiative with funding assistance from Alcan Primary Metals-BC and PGNAETA, as well as capacity development funding through CSTC's AFS Agreement, and Environment Canada's Aboriginal Capacity Building; Species at Risk Program. These activities started in May with preparations for the pilot sturgeon hatchery in Vanderhoof and adult holding facilities in Prince George, including the setup of the facilities and the collection and spawning of brood stock. A total of 2 mature females and 3 mature males were successfully captured and spawned. CSTC personnel gathered a great deal of knowledge and experi-

ence in the hatchery operations, assisting with all aspects of fertilized egg incubation, and larval and juvenile rearing to release. A total of approximately 4200 marked and tagged juveniles were released back into the Nechako River in September and October. The Recovery Initiative held an extremely successful public event in Vanderhoof in September when nearly 1000 students released "their own" sturgeon. The first year of hatchery operations can only be considered a success, and great thanks are in order to James Prince, Cora McIntosh, and Albert Raphael from the CSTC, and Mike Keehn of the Freshwater Fisheries Society of BC. The CSTC also assisted with the monitoring of

naturally occurring white sturgeon spawning activity near Vanderhoof, deploying and monitoring egg collection devices, completing radio telemetry surveys and monitoring river conditions. CSTC crews also completed the third year of an assessment of juvenile white sturgeon in the Nechako, which is intended to lead to the development of an index of juvenile recruitment. The information obtained from the sturgeon captured provides valuable information about existing and past levels of recruitment. CSTC crews also completed sampling for adult sturgeon in Stuart and Trembleur lakes, and Fraser Lake. A total of 17 sturgeon were captured (12 from Stuart Lake, 1 from Trembleur Lake

and 4 from Fraser Lake). Information from these fish and this sampling program will assist with the task of refining the distribution of Nechako white sturgeon and their use of habitats other than the Nechako River mainstem. Reports relating to all sampling programs will be prepared this winter. CSTC personnel also assisted with research activities relating to habitat issues that may be contributing to the juvenile recruitment problem. This work involved observing larval behaviour in various substrate conditions. CSTC personnel gained considerable capacity related to sturgeon recovery activities in 2006, and will continue to contribute to this process in the future.



The Nechako white sturgeon pilot hatchery crew; Mike Keehn (Freshwater Fisheries Society of BC), Cora McIntosh and Albert Raphael (Saikuz) and James Prince (Nakazdli). Bill Shepert, CSTC Fisheries Program Manager, releases juvenile sturgeon back to the Nechako R.



## Nechako White Sturgeon Harm Reduction and the CSTC

As in 2004 and 2005, in 2006 the CSTC continued to promote mechanisms of white sturgeon harm reduction within CSTC member First Nation's food fisheries for sockeye. This included informing communities about the conservation concern regarding Nechako/Stuart sturgeon, promoting the release of sturgeon captured during sockeye net fisheries, and assessing the feasibility of selective fishing methods.

After several years of observation, it is apparent that a substantial number of sturgeon are inadvertently captured during sockeye net fisheries. Unfortunately, every sturgeon removed decreases the chance of population recovery. While First Nations are certainly not the cause of the crisis facing this sturgeon stock, Nechako sturgeon are now subjected to management

under the Federal *Species at Risk Act*, which carries with it possible constraints on First Nations fishing rights.

In order to continue assessing selective fishing options, a selective beach seine fishery was conducted in the Nautley River in the community of Nadleh. A total of 1,000 sockeye were harvested and distributed to the communities of Nadleh, Saikuz.

Many female sockeye were released during this fishery. It's clear that a selective fishery in this location is highly feasible, and pending suitable numbers of returning Stellako River sockeye, could meet much of the food-fish requirements

for surrounding First Nation communities.

The fishery in 2006 was held to a relatively modest level because of the relatively small return of Stellako sockeye, and lateness in getting the fishery initiated, therefore fish distribution to other communities was hampered also.

Thanks to Jeano Nooski, Serina Thomas, Bill Mcnamara, Kirk Noosk, Travis Ketlo for leading the fishery and fish distribution, and Chief Martin Louie for allowing the fishery to occur in Nadleh territory.

The Habitat Stewardship Program provided funding to support this project.



Top left; school children release juvenile sturgeon into the Nechako River at Vanderhoof. Left; the belly of a sturgeon is stitched-up after an assessment of maturity was completed. Right; gillnet are dipped from a seine net in the Nautley River during a selective fishery.





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- DFO (Al Charbonneau, Dennis Klassen, Byron Nutton)
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- Freshwater Fisheries Society of BC (Mike Keehn, Ray Billings)
- Habitat Stewardship Program (Lisa Wilson)
- SARA-Aboriginal Capacity Building Program (Louvi Nurse)
- PGNAETA (Keith Henry)
- BC MoE (Cory Williamson, Steve McAdam)
- Environmental Dynamics inc. (Jason Yarmish)
- Triton Environmental Ltd. (Rachel Manson and Ryan Liebe)

## Plans for winter 2006 and New Directions and Initiatives for 2007

The fisheries program will have a busy winter completing reporting related to many of this year's projects, writing proposals for funding for next year, and maintaining administrative requirements related to all agreements with sponsoring agencies. We will be attending numerous meetings and forums regarding CSTC member First Nations' aquatic interests. We hope to attend each CSTC community at least once this winter to discuss fisheries issues and strategies for next season.

We will also provide fisheries staff with as many off-season capacity development opportunities as possible.

Discussions with DFO regarding next year's AFS program will begin in March. As of now, some of the "newer" technical activities we are considering for next season include the following:

1. Sampling of out-migrant (smolts) sockeye juveniles

2. Coordinating a selective fishery for sockeye
3. Re-visiting flow augmentation on the Endako River system

These are some of the items we will be discussing when we visit the communities.

On a final note, we would like to welcome 2 Habitat Trainees to the CSTC office; Cody William (Williams Lake Indian Band) and Lisa Hardy (Lheidli T'enneh ancestry). These individuals are UFFCA staff working on a BC Capacity Initiative project. The CSTC has agreed to provide them with office space for the short-term.



Above; a temperature data logger is prepared for deployment. Below; conducting the selective fishery at Nadleh.

