



A Chinook Indicator Stock for the Upper Fraser

The only Intensive Chinook indicator stock in the upper Fraser has been provided in the past through the combination of the Dome Creek fence operation and the hatchery at Penny. Brood were collected at the Dome Creek fence in August and their offspring were raised at the Penny Hatchery before being marked (adipose clipped) and tagged (coded wire tag) and released back to Dome Creek the following spring. The fence provided a means of counting adults and monitoring the return of tagged fish. Having a group of marked/tagged Chinook originating from the upper Fraser provides essential opportunities to monitor where these fish are captured in the ocean and the Fraser River, and at what rates they're being harvested, as well as providing an estimate of survival from release to return as adult.

These facilities have been funded in the past through two separate DFO programs and annual donations from Canfor.

Due to a number of factors, including infrastructure issues, an altered DFO program focus, and the inability to increase the hatchery's production to better suit stock assessment needs, the Penny Hatchery ceased operations in the summer of 2006. The Dome Creek fence will likely continue to operate as marked adults will continue to return for several years.

Lheidli T'enneh, DFO and other interested parties in the upper Fraser, including Canfor, the Penny Enhancement Society, the Province, the UFFCA and possibly UNBC

and others will be looking at suitable options to replace the Penny-Dome combination. The primary intent at present is to identify a facility/location that can satisfy the criteria of the two DFO program's that potentially have the ability to fund the operation, as well as maintain the support of existing industrial partners such as Canfor, and hopefully, attract others.

Lheidli fisheries staff will be participating in the process

Upper Fraser Run Summary; 2006 Cont'd

2006). Chinook spawners in the bulk of the larger spawning streams are counted by helicopter overview flights. This includes streams such as the Bowron, Willow, Salmon, Goat, Torpy, Herrick, Morkill and Holmes rivers. The results of this seasons flights are not yet available but will be reported in the next newsletter.



A technician observes hydroacoustic data (left) generated by the system's sound wave producing transducer (right) mounted in the Fraser River near Woodpecker Rapids. 2006 was the second year that Lheidli completed a Treaty Related Measure project to assess the use of this technology for estimating the number sockeye and Chinook migrating through the area.



Season Summary; 2006

As anticipated, the fisheries program had a very busy field season in 2006. The management of Lheidli's food, social and ceremonial (FSC) fishery progressed smoothly with only minor issues arising in relation to fishing infractions and internal matters. Fishing for sockeye was slower than usual, which we now know was the result of very few fish returning to the Stellako and Late Stuart spawning areas this year. Run-timing for Fraser sockeye was also considerably later than normal (see story inside titled Upper Fraser Run Summary). The reported sockeye catch within Lheidli's area was approximately 5500 sockeye and 310 Chinook. Twenty six (26) individuals reported catch. The sockeye fishery began late (early August) due to the closure to protect the Early Stuart sockeye run and catches were poor until mid/late-August due to the later than normal run-timing. Crews deployed a large-mesh gillnet in the Fraser above the Nechako confluence during the month of July and the earliest

portions of August. The intent was to capture and sample Chinook bound for the upper Fraser. Each fish captured was measured and sampled for scales, tissue (DNA) and other structures. This information will provide information about the timing and characteristics of the 30+ Chinook stocks that migrate into the upper Fraser. Bone structures were collected to allow for an eventual study of the life history of

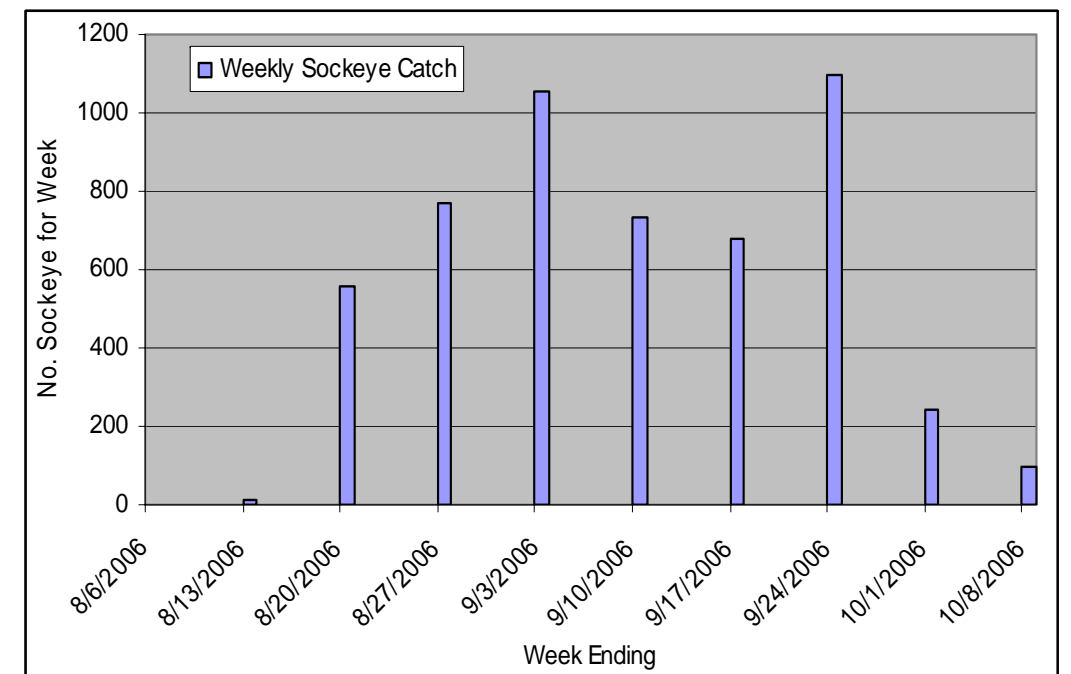
these fish during their first year of life. As a part of this Chinook life history study crews also collected juvenile Chinook from a number of locations through the upper Fraser. Water samples will also be collected from a number of streams this fall in support of this work. A Lheidli crew counted spawning Chinook in 8 streams in the Robson Valley. Counts were conducted on foot and com-

Inside this issue:

Summary of 2006 Field Activities

Upper Fraser Run Summary

Copies of this document are available from the Lheidli T'enneh Band Office; Contact Carl Frederick; 565-1667 or cfrederick@lheidli.ca



Weekly reported sockeye catch in Lheidli's fishing area indicates the slow start to the fishery due to the closure to protect Early Stuart sockeye and the later than normal Stellako and Late Stuart sockeye run-timing.



Total numbers of Chinook observed by the Lheidli enumeration crew during the 3 counts completed on each of 8 streams in the Robson Valley.

Stream	Total Live	Total Dead
Swift	1024	13
Small	85	0
Horsey	205	0
Holiday	83	1
Nevin	210	1
McKale	18	0
East Twin	26	1
West Twin	79	0



Season Summary; 2006 Cont'd

pleted 3 times for 3 consecutive weeks. Numbers of spawning adults were improved over what was seen in 2005, but appeared to be less than returns from their brood (2001) year. The numbers of Chinook observed in each stream survey are provided to the left. Lheidli's Treaty Table was funded to conduct the second year of a project assessing the feasibility and utility of an upper river in-season run-size assessment site for migrating sockeye and chinook. Hydroacoustic equipment was deployed and standardized gillnetting was completed in order to estimate the number of fish migrating through the Woodpecker area. Lheidli crews conducted the standardized gillnetting and assisted with project setup. Their participation was cost shared between the Treaty Related Measure (TRM) funding received to conduct the project and Lheidli's Community Fisheries Agreement with Canada. Data is being processed and a report summarizing the project will be available in the spring of 2007. DFO provided anglers with a sport-kill fishery for sockeye in the lowest 2km of the Nechako River for 2 weeks in September. This was the second year the pilot fishery has been opened. Lheidli was provided with funding to monitor the fishery in 2005 and 2006.

Catch was very low (<10 sockeye), as was angler participation, due to the low numbers of sockeye returning and the low water conditions. No Lheidli commercial fishery for sockeye was attempted due to the low numbers of fish returning to the area. Carl Frederick and Irvin (Chukar) Gagnon headed up the technical aspects of the program, with assistance from Rocky Quewezance, Bradley and Jason Frederick, John Bozoki, Merle Seymour and Sean Nome. Core program staff (Carl and Chuk) are participating in an environmental monitoring course until late November, and will spend the winter season on additional capacity building initiatives and attending the occasional meeting. Look for a Community Fisheries Committee meeting in late November or early December. Lheidli's fisheries program's primary funding source is Lheidli's Community Fisheries Agreement with Canada through DFO's Aboriginal Fisheries Strategy. Other sources of funding in 2006 included two direct contracts with DFO for various services and a funding agreement with the Upper Fraser Fisheries Conservation Alliance. The program's total budget for 2006 is approximately \$135,000.



An otolith (ear bone) is removed from a Chinook head (left) and a section of bone from the pectoral fin is also collected (right).



Upper Fraser Run Summary; 2006

As previously mentioned in this update, FSC fishing was generally poor in Lheidli's area in 2006. First Nations further up the Nechako also experienced substantial difficulty meeting their food-fish needs. While the returns of the various sockeye stocks that migrate through Lheidli's area (Bowron, 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 upper Fraser/Nechako to this date (Nov 1) are as follows:

- Early Stuart—35,555
- Bowron—1,624
- Nadina—8,655
- Late Stuart—20,000-30,000
- Stellako—150,000

This means that fewer than 250,000 sockeye swam through Lheidli's fishing area. 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. However, the number of Bowron sockeye escaping to spawning areas was very poor. Less than a

1/5th of 2002 escapement returned in 2006, and was well below the 20 year average for this cycle-year. While the Early Stuart, Bowron and Nadina stocks have not supported substantial harvest opportunities in the upper Fraser 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 upper Fraser and Nechako, will be the subject of much discussion over the following months. We will keep you informed on this subject. With respect to the Bowron sockeye's poor escapement, Lheidli will be submitting written correspondence to the Minister of Fisheries to request a formal description of the in-season management process in 2006, and how the Bowron sockeye appear to have been heavily exploited, despite DFO's own "harvest rule" that recommended minimal exploitation at the forecast run size. The response will be discussed in the next newsletter. Enumeration of the more than 30+ Chinook stocks that migrate through and spawn in Lheidli's area is accomplished with the assistance of Lheidli's fisheries personnel (see Season Summary;



Bradley Frederick collects a length measurement from a sockeye captured in Lheidli's fishing area. 100 sockeye per week are sampled in this manner during the fishing season to gather scales and DNA which allow for the determination of the run-timing of the various sockeye stocks that migrate through the area.