THE MCLOUGHLIN RIVER CHUM ASSESSMENT PROJECT – NF-2012-I-21 YEAR TWO FINAL REPORT

PROJECT OBJECTIVE YEAR TWO: To finclip mark a minimum of 150k McLoughlin Creek 2012 brood juvenile chum salmon from enhanced production at McLoughlin Creek CEDP Hatchery.

RESULTS

The objective was achieved. During the period April 22 through May 8, 2013 a total of 150,815 2012 brood juvenile chum from the McLoughlin Creek Hatchery were marked by finclip removal of the adipose fin. Live inventory of marked chum transferred to the netpens for final rearing in McLoughlin Bay was 146,657 and these healthy smolts were released on the 14 of May 2013. Survival from marking to release was 97%. Adult returns from the 2012 brood would be expected between 2015 (age 3) and 2017 (age 5) with most returning at age 4 in 2016.

In 2014 (next year), the first marked returns of age three fish from the 2011 brood will be expected.

METHODOLOGY

Finclip marking is done by removal of the adipose fin using microsurgical iris scissors. Fry are processed through a marking table specially designed and outfitted for this purpose. Small net loads of unmarked fry are anesthetized and then placed in net “baskets”. The docile fry are then picked up, and with the aid of a magnifying light the scissor blades are placed in line with the back of the fish snug up against the adipose fin and closed. Marked fry are placed in a short term recovery net by the marker and moved to larger recovery bucket as this net fills. A hand tally counter is set up by each basket so crew can record each fish that is clipped. Marked fish are checked for clip quality on a regular basis and mortalities at the table or in the rearing trough are recorded. DFO Community Advisor, S. MacLaurin was on-site April 21to set-up the table and work with crew to refresh skills.

Marking table and crew for 2012 BY McLoughlin Chum

ADDITIONAL BACKGROUND

The marked chum were part of a 1,853,941 total release of the 2012 brood. Culture of this brood started with eggtakes in McLoughlin Creek in between September 15th and 26th, 2012. Primary incubation (to eyed stage) was done in Atkins bulk incubators and secondary incubation occurred in Kitoi style bulk incubators (these installed with PSC northern funds in 2008 NF-2008-E-4) and Keeper Box style incubators. At the swim-up stage fry were ponded to Capilano rearing troughs at the hatchery and held for a few days to initiate feed. Once feeding began, all but ~200,000 fry were transferred to salt water netpens for final rearing. The fry kept at the hatchery were used to accomplish the marking project and were then transferred to the netpens for final rearing. Rearing in the netpens continued for all fry until a 1.0 gram average weight was attained.

During broodstock collection and carcass deadpitch of the 2012 brood, 100 scale samples were collected and processed to generate a profile of age class composition. The scale sampling program will continue through the length of the project with costs being absorbed by the CEDP contract and DFO. Age composition in adult returns is needed to allow for determining contribution by brood year when the same mark is used each year. A summary of the results for 2012 is not yet available.

RECOMMENDATIONS

The recommendations from last year to set aside fry from a mix of ponding dates and insure troughs were divided so large groups of fry were not starved pre and post marking were implemented and resulted in a more uniform and larger size smolt at release. Experience from the 2012 program would indicate that it would be beneficial to start marking earlier (more in line with the 2011 brood) so there is more flexibility of release timing. The labour pool is somewhat limited in Bella Bella and this affected daily production – lengthening the program. As well, there was some mortality during marking due to fry being left in the anesthetic bath too long. This was due to different people being placed at the anesthetic station and it is recognized that more training and consistency of personnel is needed for this station.

A final recommendation relates to number of fish to mark from the 2013 brood – a communication error resulted in 150k being marked instead of 160k for the 2012 brood. The target of 160k will achieved for the 2013 brood.

PROJECT COSTS

The total cost of the project was $7,660.5 which was within $90.50 of the $7,570.00 allowed in the contract. A majority of the expenditure for the project was for labour at $7,566.5. Supplies accounted for the remainder of the expenditures at $94.00. The travel for the DFO technical lead was covered by DFO, freeing up funds for additional labour and supplies that were needed. It is understood that the additional $90.50 will have to be covered by the hatchery.

Category	Expenditure	Budget	Difference
Labour	$7,566.50	$6,720	+$846.50
Site Costs	$ 94.00	$ 850	-$756.00
TOTAL	$7,660.50	$7,570	-$ 90.50

ACKNOWLEDGEMENT
The McLoughlin Creek Hatchery and DFO project team would like to thank the PSC northern fund for support of this project. There is great interest in updating rates for survival and contribution to fisheries from this community project where much of the benefits are felt locally and where the PSC has funded upgrades to increase chum production.
Increased production from McLoughlin Hatchery has contributed to significant commercial fisheries in the past several years with over 100,000 chum being caught in McLoughlin Bay this fall.