



## Keeping you informed

This issue of CN's Cheakamus Ecosystem Recovery Community Update provides current information on the ongoing fish population recovery work underway on the Cheakamus River.

Previous issues of this newsletter and further information on the recovery efforts can be found on the Cheakamus Ecosystem Restoration Technical Committee (CERTC) website at [www.certc.ca](http://www.certc.ca).

### COMMITTED TO THE RECOVERY

CN remains dedicated to the recovery of fish populations on the Cheakamus River and continues to work together with environmental consultants and experts on fish recovery and habitat enhancement on the river. CN Environment is a member of the Cheakamus Ecosystem Restoration Technical Committee (CERTC), which includes additional representation from District of Squamish, Fisheries and Oceans Canada, BC Ministry of Environment and Squamish Nation.

### CN'S CHEAKAMUS ECOSYSTEM RECOVERY FUND

To date, three projects have received funding through CN's *Cheakamus Ecosystem Recovery Fund*, which was introduced earlier this year. The funding initiative complements ongoing recovery efforts and encourages the construction of enhancement projects on the Cheakamus River by local residents and environmental stewardship groups. Projects funded to date include:

- Assessment of juvenile survival of hatchery-reared coho salmon during downstream migration and early ocean survival. \$50,000 Grant; Michael Melnychuk.
- Creel survey of the Squamish River watershed recreational fishery. \$36,650 Grant; Squamish River Watershed Society.
- Squamish River estuary training dyke culvert improvement project. \$59,550 Grant; Squamish River Watershed Society.

More information on the CN's *Cheakamus Ecosystem Recovery Fund*, including funding and eligibility criteria and the application form, can be found online at [www.certc.ca](http://www.certc.ca).



### FISH MONITORING PROGRAMS

Several programs are in place to monitor fish populations in the Cheakamus River as part of the ongoing recovery efforts. Techniques include tagging, use of rotary screw traps, electrofishing, snorkel surveys, as well as general assessments of migration patterns and hatchery benefits. Monitoring programs allow CN and the CERTC to evaluate the success of recovery efforts and, if necessary, adapt recovery strategies to target species of high priority. Some examples of CN recovery monitoring programs completed or currently underway include:

- Acoustic tracking of hatchery steelhead smolts;
- Adult char radio telemetry and snorkel enumeration;
- Benthic invertebrate recovery monitoring program;
- Chinook coded wire tagging;
- Non anadromous reach fish abundance monitoring;
- Off channel habitat mark re-capture program;
- Resident fish abundance monitoring program;
- Steelhead smolt release strategy.

CN and CERTC also assess information from other programs underway in the Cheakamus River to monitor juvenile and adult fish abundance such as the juvenile salmon outmigration program and steelhead enumeration and snorkel survey. More information on all these monitoring programs is available at [www.certc.ca](http://www.certc.ca).

### PRESENTATION TO CHEAKAMUS ECOSYSTEM RESTORATION STEERING COMMITTEE

On July 20, 2007 a presentation was made by the Cheakamus Ecosystem Restoration Technical Committee (CERTC) to the Cheakamus Ecosystem Restoration Steering Committee to provide an update on recovery monitoring programs as well as recovery targets and status. The presentation, entitled "Cheakamus River Recovery Overview of Recovery Strategies, Monitoring Programs and Other Activities" can be found online at [www.certc.ca](http://www.certc.ca).

### CERTC OPEN HOUSE

CERTC will hold a public information session on Thursday, October 25, 2007 to share information and provide project updates on the recovery of the Cheakamus River. The event will take place at the Totem Hall (102 Baker Road, Squamish) between 4:30 and 8:30 p.m. A formal presentation on the recovery effort will begin at 6:45 p.m. and be followed by a question and answer session.

## STATUS OF FISH CULTURE

Numerous fish culture programs have been implemented since 2005 on the Cheakamus River as part of the chinook, pink, coho and steelhead recovery efforts. These fish culture programs include upgrades to both the Tenderfoot and Fraser Valley Hatchery facilities and will include the eventual release of 3 million fish. The CN-funded programs are being implemented in co-operation with Fisheries and Oceans Canada and the BC Ministry of Environment.

### Status of the 2007 Cheakamus Fish Culture Programs:

SPECIES	GOAL	STATUS
Chinook	2005/06 – no egg target 2006/07 – 100,000 eggs 2007/08 – 100,000 eggs	2005/06 – 7,378 fry released 2006/07 – 106,513 fry released 2007/08 – currently underway
Pink	2005/06 – 500,000 eggs 2007/08 – 1,000,000 eggs 2009/10 – 1,000,000 eggs	2005/06 – 574,533 fry released 2007/08 – currently underway Hatchery infrastructure improvements in progress
Steelhead	2006/07 – 20,000 smolts 2007/08 – 20,000 smolts	2006/07 – 10,803 fry released (Tenderfoot Hatchery) – 10,679 fry released (Fraser Valley Trout Hatchery) 2007/08 – rearing ~ 18,000 fry
Coho	2007/08 – 80,000 eggs	2007/08 – gamete collection scheduled for fall

## RECOVERY PROGRAM UPDATES

### • Wilson Slough Reunion

The proposed design to install a culvert at the Wilson Slough is now complete and has recently received approval by the Squamish Estuary Review Committee. The project involves installing a culvert under the two roads and three railway tracks to connect Wilson Slough to the Squamish River estuary. The design focuses on flood control and protection of existing rearing habitat.

The project is being initiated to complement other initiatives currently underway as part of the Mamquam reunion project and is intended to control the flow of water and increase fish passage and usage of the estuarine rearing habitat. It targets juvenile fish that utilize the estuary for rearing.

### • Cheekye River Fish Passage Modification

Construction to begin the instream work necessary to complete the Cheekye River Fish Passage Modification is pending lower water flows in late 2007. CN began stabilizing abutments on the Cheekye Bridge this summer and will be removing the bridge's concrete apron under the supervision of an environmental consultant later this year. The removal of the concrete apron is intended to improve the passage of migrating steelhead to the spawning ground in Brohm Creek.

### • LWD Demonstration Project

Construction of 11 triangular wood structures was completed in August 2007 as part of the Large Woody Debris Demonstration Project in the Cheakamus mainstem near the North Vancouver Outdoor School. The structures will increase cover and complexity along the riverbank to provide increased fish habitat for steelhead, chinook, coho and char. The project is also expected to include a monitoring component to evaluate fish utilization of structures.

### • Km 8 Side Channel Rewatering

CN is working together with Fisheries and Oceans Canada to design a new water intake at the km 8

area to enhance and re-water the km 8 side channel. This will help to eliminate low water levels and the potential for fish stranding. Construction is scheduled for 2008.

### • Km 6.5 Side Channel

Based on a suggestion from a member of the Stakeholder Team, CN investigated an opportunity near the North Vancouver Outdoor School to excavate and re-water a relic side channel of the Cheakamus River. In August 2007, a 300 meter long channel was excavated and re-watered, and more than 30 woody debris structures and numerous boulder clusters were installed. The channel is intended to provide habitat for juvenile steelhead and chinook salmon although many other species are also expected to benefit from this new habitat.

### • Dave Marshall Salmon Reserve Habitat Enhancement Project

In 2006, CN initiated a series of projects in various restoration channels of the Dave Marshall Salmon Reserve to increase juvenile fish habitat. The project included excavation and habitat enhancement of the Mile 49 ground water channel, and installation of habitat structures in the Mykiss and Gorbusha channels of the Dave Marshall Salmon Reserve. A report summarizing activities for this project is available online at [www.certc.ca](http://www.certc.ca).

## CERP 2007

The 2006 Cheakamus Ecosystem Recovery Plan (CERP), which outlines CN's recovery strategies, monitoring programs and recovery targets for species affected by the spill, is currently being reviewed and revised as part of CN's adaptive management approach.

Yearly reviews of project goals, objectives and monitoring results are being conducted to identify if recovery strategies are effective and if targets are being achieved. The 2006 plan is available online at [www.certc.ca/recovery\\_plan.shtml](http://www.certc.ca/recovery_plan.shtml). The updated plan is currently being reviewed by CERTC, and will be posted online at [www.certc.ca](http://www.certc.ca) this fall.