



CHEAKAMUS ECOSYSTEM RECOVERY

MAKING RECOVERY A REALITY

Welcome

Welcome to the third Cheakamus Ecosystem Recovery public information session.

Please take the time to review the information material presented this evening and speak to the technical staff here to answer your questions regarding recovery programs and activities.

A technical presentation will be followed by a question-and-answer session.

The approximate schedule of events is:

4:30 – 6:30 pm	Open House
6:30 – 7:30 pm	Technical Presentation / Q-and-A Session
7:30 – 8:30 pm	Open House

Please also provide your comments on the form provided regarding the information presented this evening.

Thank you for your participation.

Next Steps

Cheakamus Ecosystem Recovery is ongoing.

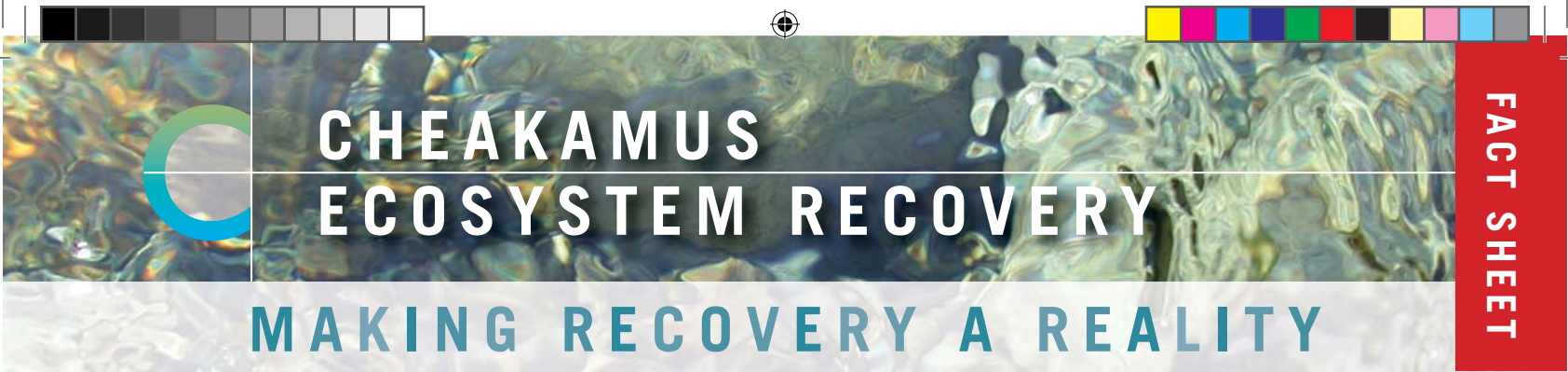
The Cheakamus Ecosystem Recovery Plan (CERP), endorsed by the Cheakamus Ecosystem Restoration Technical Committee (CERTC), is an adaptive management plan designed to remain active until 2016, with annual reviews and more thorough reviews every three years to update the plan, as required.

CN and CERTC are committed to communicating the efforts made to assist Cheakamus Ecosystem Recovery.

To keep up-to-date on recovery programs and activities, including the summaries of CERTC and Stakeholder Team meetings, please check out www.certc.ca.

Thank you again for your participation this evening.





Stakeholder Team

The Cheakamus Ecosystem Restoration Stakeholder Team is a public advisory group comprised of representatives from interested organizations and individuals with local knowledge of, and experience with, the Cheakamus River.

They provide input into the development and implementation of monitoring and recovery programs for the Cheakamus ecosystem.

The Team also helps coordinate and communicate comments and recommendations from interested parties to the Cheakamus Ecosystem Restoration Technical Committee (CERTC), and receives updates on CERTC activities.

The Stakeholder Team has met four times since March, developing and adopting terms of reference, reviewing CERTC activities and providing recovery project suggestions.

The Team is comprised of seven individual community members and representatives of the following organizations:

- **Angling Guides**
- **BC Federation of Drift Fishers**
- **BC Federation of Fly Fishers**
- **BC Wildlife Federation**
- **North Vancouver Outdoor School** (School District #44)
- **Pacific Salmon Foundation**
- **Seymour Salmonid Society**
- **South Coast Steelhead Coalition** (Squamish Chapter)
- **Squamish Anglers Association**
- **Squamish Downtown Neighbourhood Association**
- **Squamish Environmental Conservation Society**
- **Squamish River Watershed Society**
- **Steelhead Society of BC**
- **Squamish Streamkeepers**
- **Whistler Angling Club**





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FACT SHEET

Cheakamus Ecosystem Restoration Steering Committee (CERSC)

FUNCTION:

The Steering Committee reviews and approves programs recommended by the Technical Committee.

MEMBERS:

The Steering Committee includes representatives from: CN, District of Squamish, Fisheries and Oceans Canada, BC Ministry of Environment, and Squamish Nation.



Cheakamus Ecosystem Restoration Technical Committee (CERTC)

FUNCTION:

The Technical Committee recommends programs for implementation based on input from experienced professionals, external specialists, interested parties and the public.

MANDATE:

“To understand the ecosystem level impacts and develop restoration and monitoring strategies for species affected to accelerate the return of the Cheakamus ecosystem to a pre-spill state as fast as reasonably possible.”

(CERTC Terms of Reference 2006)

MEMBERS:

The Technical Committee includes representatives from: CN, District of Squamish, Fisheries and Oceans Canada, BC Ministry of Environment, and Squamish Nation.

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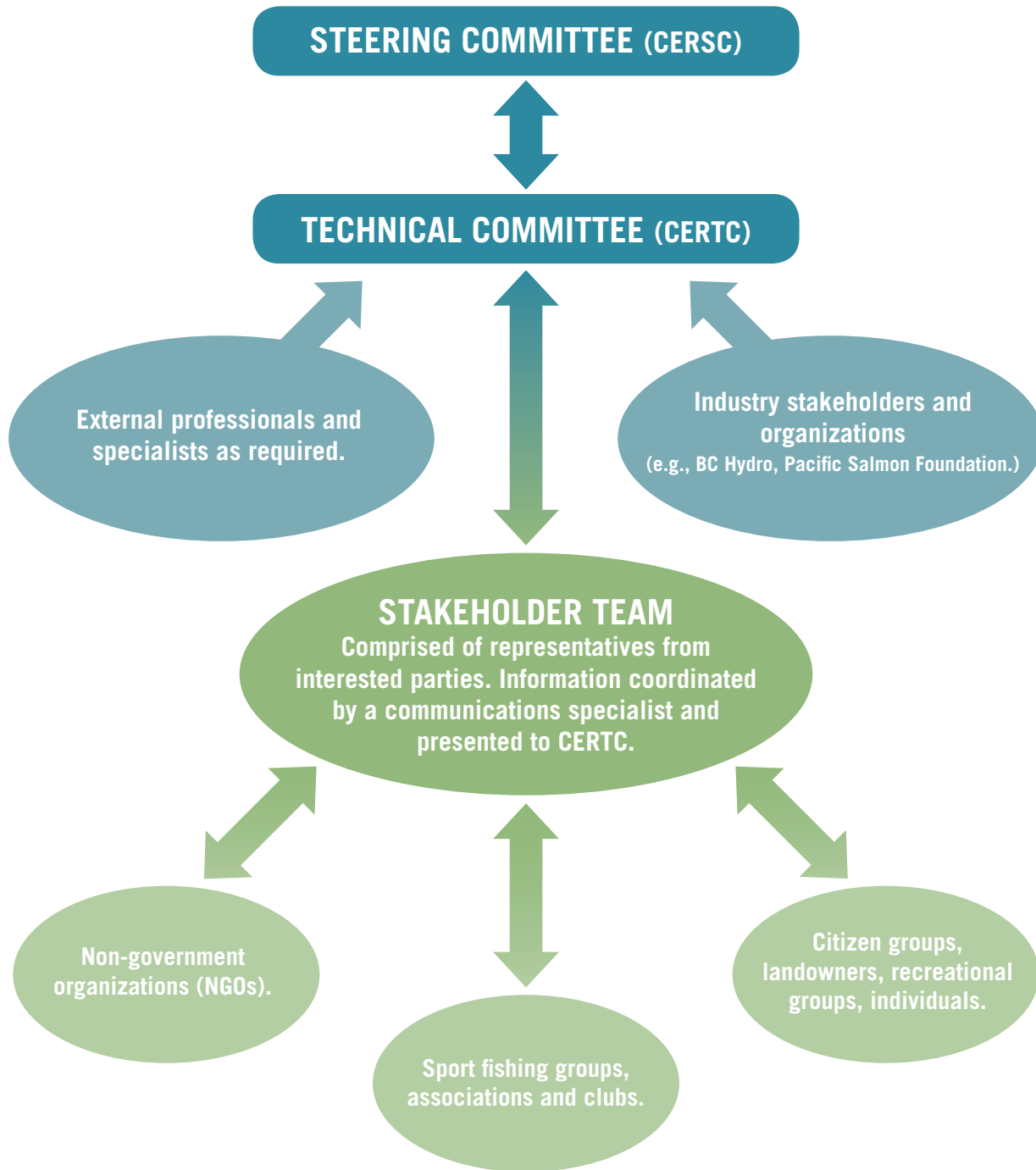




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Communication Structure





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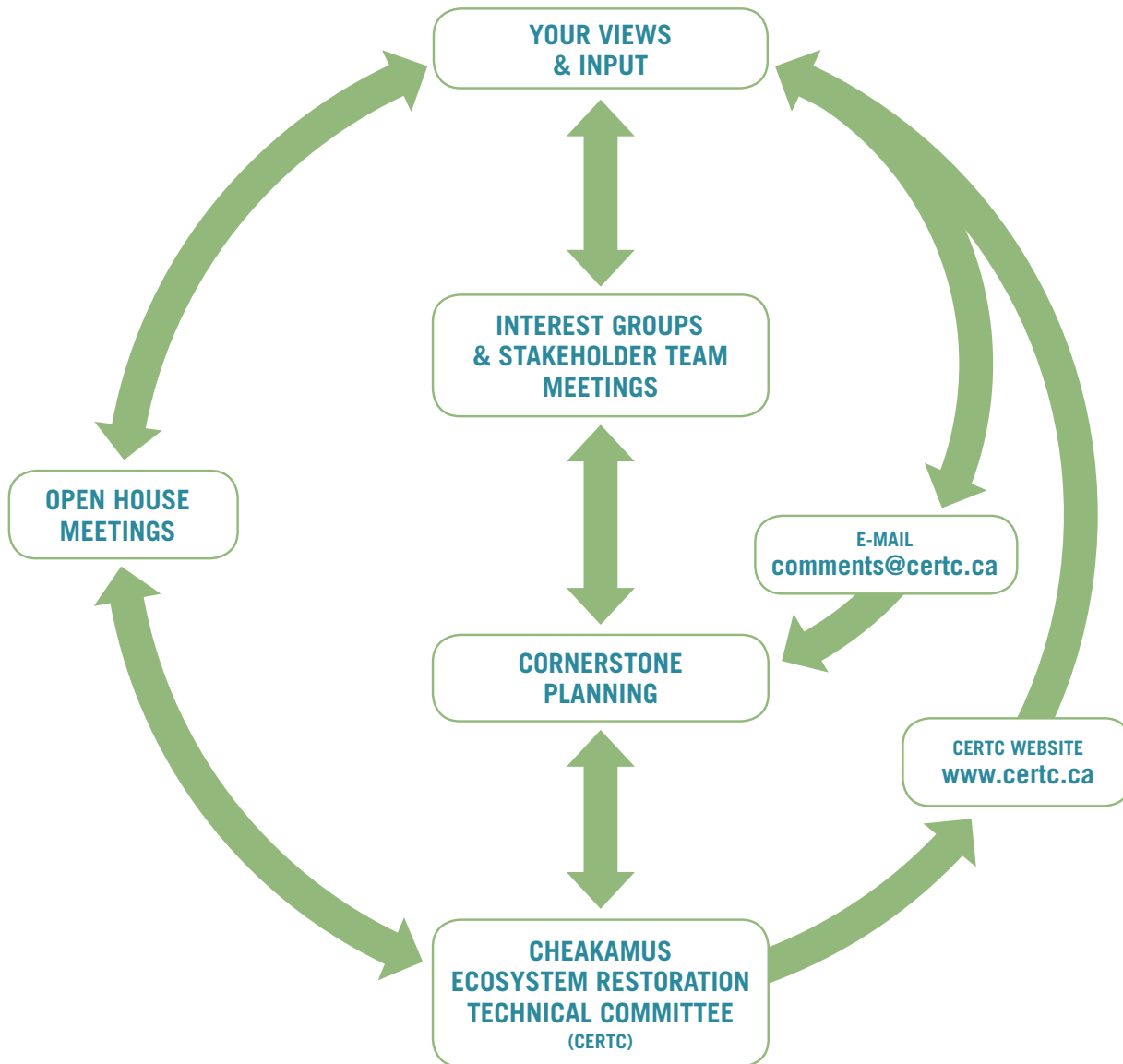
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FACT SHEET

Communications

CHEAKAMUS ECOSYSTEM RESTORATION & YOUR INPUT

INFORMATION PRESENTATION, FEEDBACK & PROGRAM REFINEMENT



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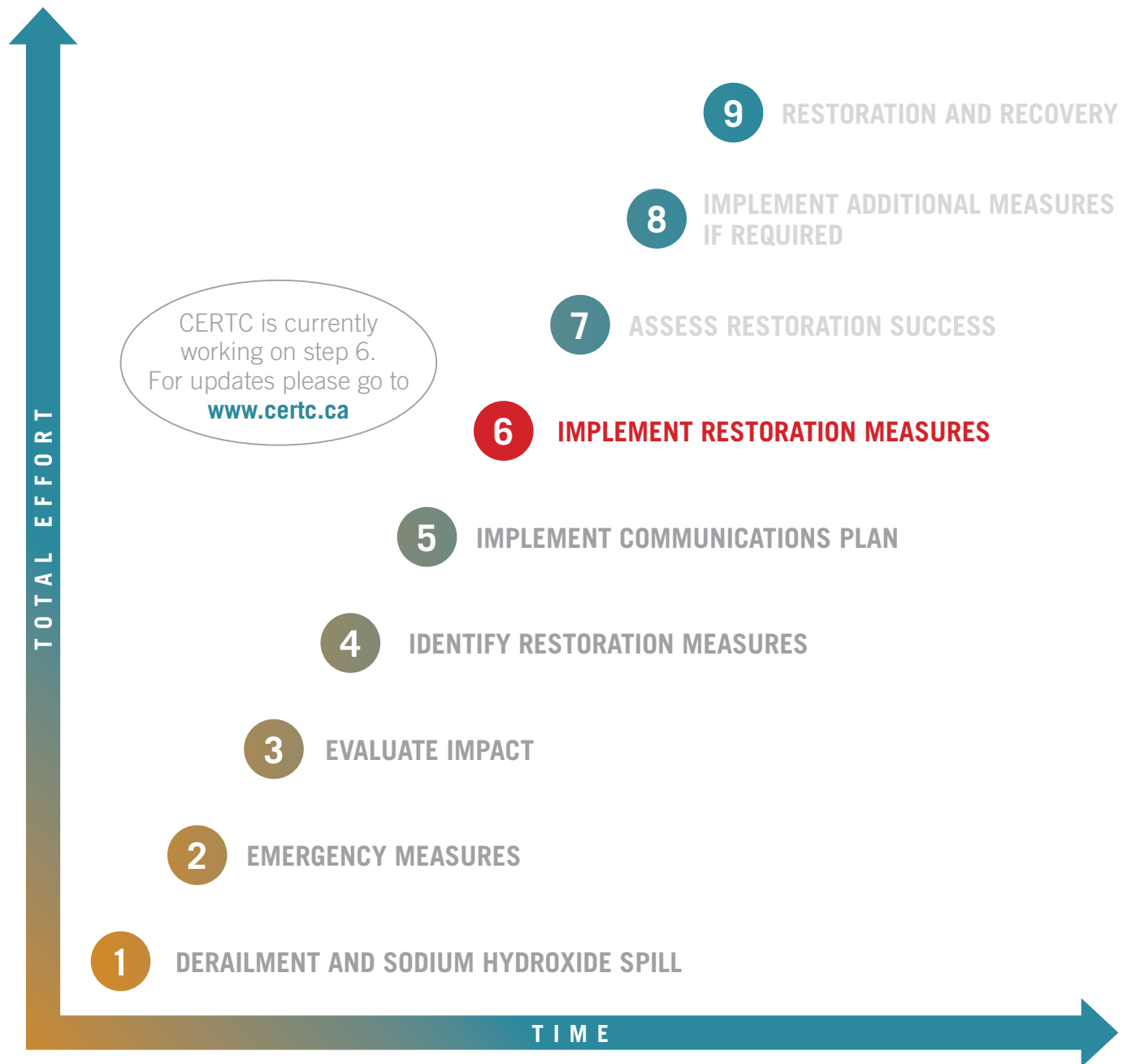


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FACT SHEET

Steps to Ecosystem Restoration



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Monitoring Programs

MEASURING RECOVERY

Chinook, Coho and Pink Salmon

Abundance of juvenile outmigrants compared to historical population estimates from BC Hydro's Rotary Screw Trap Program.

Steelhead Trout

Abundance of returning adults compared to historical estimates of abundance using weekly snorkel surveys.

Other Species

Evaluating abundance levels through in-river sampling and calculation of densities from electrofishing, minnow trapping and/or seining.



BC Hydro's Rotary Screw Traps



Fish sampling by electrofishing

Species	Measure of Recovery	Recovery Target
Chinook Salmon	Estimated number of fry (0+) outmigrants at Rotary Screw Traps	160,000 (range: 120,000 to 220,000)
Coho Salmon	Estimated number of smolt (1+) outmigrants at Rotary Screw Traps	97,000 (range: 65,000 to 128,000)
Pink Salmon	Estimated number of fry (0+) outmigrants at Rotary Screw Traps	Ten percent increase over estimated 2006 outmigrant population
Cutthroat Trout	Relative abundance/density during instream surveys	Stabilized abundance or densities comparable to historical information
Rainbow / Steelhead Trout	Adult steelhead abundance estimated from replicate snorkel surveys	400 (range: 290 to 500)
Char (Dolly Varden / Bull trout)	Relative abundance/density during instream surveys	Stabilized abundance or densities comparable to historical information
Threespine Stickleback	Relative abundance/density during instream surveys	Stabilized abundance or densities comparable to historical information
Sculpin	Relative abundance/density during instream surveys	Stabilized abundance or densities comparable to historical information
Lamprey	Relative abundance/density during instream surveys	Stabilized abundance or densities comparable to historical information



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Recovery Projects 2006

CHEAKAMUS RIVER FISH HABITAT STRUCTURES

OBJECTIVE:

Installation of fish habitat structures to provide refuge areas for rearing juveniles, and increase productive capacity.

ACTIVITIES:

Hydrological and engineering assessment to identify suitable areas for placement of structures in the Cheakamus River.

Identification of structural design(s) that will be effective for target species and resilient to hydraulic forces.

STATUS:

Draft Risk Analysis report under review. Design and instream implementation planned for 2007.



Large woody debris used for fish habitat structures



Cheakamus mainstem considered for fish habitat structures



Squamish Slough



Wilson Slough

WILSON SLOUGH RECONNECTION

OBJECTIVE:

Improve access and water quality for enhancing productive capacity of the Squamish River estuary.

ACTIVITIES:

Culvert installation beneath CN right of way and two existing access roads to connect Wilson Slough and Squamish Slough to improve local water quality.

STATUS:

Preliminary design underway, expecting to provide design drawings for agency approval and installation in 2006/2007.



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Recovery Projects 2006

CHEEKYE RIVER BRIDGE

OBJECTIVE:

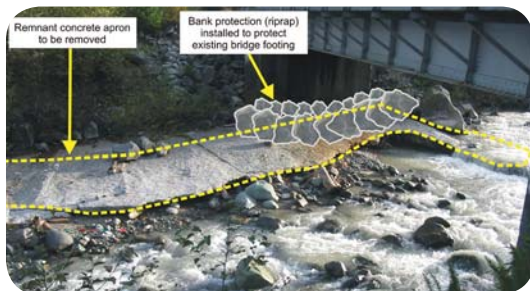
Modify existing concrete apron to address fish passage concerns for species accessing the Cheekye River and Brohm Creek.

ACTIVITIES:

The remnant apron will be removed and bank protection (riprap) will be installed to prevent undermining of the existing bridge footing.

STATUS:

Awaiting agency approvals, scheduled for completion, September 2006.



Concrete apron segments for removal and location of proposed armouring

FISH CULTURE

OBJECTIVE:

Supplement future returns of affected brood years through increased hatchery propagation of juveniles from Cheakamus River adults.

ACTIVITIES:

Chinook Salmon

Spring 2006 - Released 7,378 fed fry to the Cheakamus River.

Fall 2006 - Collection of 100,000 chinook eggs for fish culture program.

Pink Salmon

Spring 2006 - Released 334,693 unfed fry in Cheakamus River and 225,799 fed fry in Squamish River estuary.

Infrastructure improvements at Tenderfoot hatchery to install chillers for egg incubation.

Steelhead Trout

Spring 2006 - Collected 20 adults and currently rearing juveniles for release as smolts in spring 2007.

Spring 2007 - Collection of 20 adult steelhead for fish culture program.



Adult Chinook in holding for 2006 hatchery program



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Recovery Projects 2006

MILE 49 CHANNEL

OBJECTIVE:

Rehabilitate channel damaged in 2003 flood to improve productive capacity for salmon.

ACTIVITIES:

Reconstruct protective berm around channel. Excavate rearing pools and install habitat features (large woody debris (LWD), and boulders). Re-establish access to spawning areas for chum and pink salmon.

STATUS:

Project completed in August 2006.



Mile 49 Channel - placement of LWD in an isolated portion



Mile 49 Channel - Completed LWD installation at the upstream pond

Paradise Valley restoration channels
Re-position LWD displaced during 2003 flood



Planned addition and reposition of LWD



Installed LWD at Paradise Valley Channels

PARADISE VALLEY RESTORATION CHANNELS

OBJECTIVE:

Supplement existing funding initiatives to expand proposed 2006 Paradise Valley restoration projects.

ACTIVITIES:

Installation of LWD structures in "Mykiss channel". Installation of LWD structures in other restoration channels. Rehabilitation of restoration channels and ponds damaged in 2003 flood. Construction of new groundwater channel and LWD installation.

STATUS:

Projects currently underway in cooperation with Bridge Coastal Restoration Program (BCRP) partners including DFO, NVOS, SRWS, and Squamish Nation.