

CERTC RESPONSES TO:

Stakeholder Team Questions from 6 December 2006 Meeting

CERTC membership includes representatives from CN, DFO, District of Squamish, MoE and Squamish Nation. All questions and comments posed by the Stakeholder Team have been reviewed and discussed by CERTC and the following responses prepared. Those questions which relate solely to CN are highlighted as CN's responses.

1. CN should ensure that any impediments to the District of Squamish's participation at the Stakeholder Team meetings are removed.

CERTC Response: *There are no impediments to meeting attendance. Anyone, including the District of Squamish, is allowed to participate or attend the Stakeholder Team meeting as they wish, whether it be an interested individual, government body or interested industry.*

2. Permit collection should begin immediately to ensure the collection of broodstock in 2007 occurs within a more favourable window than in 2006.

CERTC Response: *CN has a partnership agreement with the Freshwater Fisheries Society of BC for the steelhead culture program. The program has been developed between MoE, InStream and the Freshwater Fisheries Society of BC. Available information (e.g. radio telemetry) has been analyzed to determine operational rules for the collection of steelhead broodstock in 2007. These protocols are intended to collect fish which are most representative of Cheakamus mainstem spawners (the progeny of which were impacted by the chemical spill), and minimize the capture of fish likely destined for spawning in Brohm Creek. Brood collection will begin in March, with target size and collection location recommendations. Full details will be provided by MoE in their next fish culture program update.*

CERTC Response: *CN and DFO have a partnership agreement with regards to the collection of gametes for hatchery propagation of chinook (2005, 2006, 2007, 2008), possibly coho (2007) and pink salmon (2007, possibly 2009). CN has provided the funding for fish culture and capital upgrades to the Tenderfoot hatchery, while DFO supervises and directs the collection, propagation and release of fry. Both CN and DFO recognize the need for timely collection of broodstock.*

3. Regarding the MoE November 2007 update on the steelhead culture program, the Stakeholder Team questions the calculations and assumptions underpinning the predicted hatchery adult returns of 110 – 5000+ fish.

CERTC Response: *The range provided in the example are straightforward calculations, made without assumptions, and intended to demonstrate the possible range of returns. Assumptions, best guesses, and the application of the best available science at*

this time can narrow the range, but uncertainty remains. These ranges contain numerous uncertainties, but do reflect the historical variation in ocean survival and were used by the Ministry in consultation with Dr. Marc Labelle to determine the smolt release target.

4. Representatives of CN, Ministry of Environment and Triton Environmental Consultants Ltd should be present at Stakeholder Team meetings (without their presence, Stakeholder Team members felt that their meetings are largely ineffectual).

CERTC Response: *When requested by the Stakeholder Team, members of the CERTC and other representatives can attend to discuss specific questions or reports.*

5. The next Stakeholder Team meeting is scheduled for January 25, 2006. The Stakeholder Team has also scheduled meetings on the third Thursday of the four subsequent months. The Stakeholder Team feels the five meetings offered by CN for 2007 to be inadequate and would like to meet monthly.

CERTC Response: *As accepted at the July Stakeholder Team meeting, the Terms of Reference states: The Stakeholder Team will hold a minimum of five meetings with additional meetings as required and determined by the facilitator in consultation with the Technical and Steering Committees". CERTC still maintains that facilitated Stakeholder Team meetings held every second month is adequate. If the Stakeholder Team requests further meetings, they can submit their request with justification to CERTC for consideration.*

CERTC has asked that the January 25 proposed Stakeholder Team meeting be rescheduled to February and every second month after that. A meeting date of Wednesday, 28 February 2007 was subsequently confirmed.

6. What is the status of the proposed application for recovery project funding?

CN Response: *Plans to organize this process through Pacific Salmon Foundation and other groups have been unsuccessful. CN elected to produce its own application form and the project selection process is being developed. A draft version of the funding application form is currently under review by CERTC members and is expected to be made available prior to the February ST meeting.*

7. Why has the removal of the concrete apron to the rail bridge spanning the Cheekye River not yet happened as committed to for 2006?

CN Response: *Site investigations into the removal of the apron indicated that the apron (which is functioning to a small extent to protect the bridge abutments) shouldn't be removed until the bridge abutments are further stabilized. CN's bridge engineers have added the Cheekye bridge to their projects for 2007 and once the bridge abutments are stabilized, the apron will be removed.*

8. Why was proposed side-channel re-watering project at KM11 abandoned?

CERTC Response: *CN proposed re-watering the km 11 side channel to create side channel habitat targeting steelhead juveniles. DFO has concerns about the hydraulics around the channel intake and the potential risks to fish stranding and equipment access. As a result, DFO decided not to support CN's proposal and would not provide the necessary permits. Limited options are available on the Cheakamus mainstem for side channels of sufficient size and gradient that would target steelhead. CN and the agencies continue to look for and evaluate other options with better access.*

9. What was done to protect the estuary when the CN spilled happened?

CERTC Response: *Based on the lack of mortalities in the estuary, the buffering capacity of salt water and the water quality monitoring (see response to question 11 below) it has been presumed the estuary was not affected.*

10. Can the gates in the training dike be closed? Will closing these gate be a priority in an emergency plan?

CERTC Response: *There are six culverts in the training dike and none of them have control gates that would allow them to be closed.*

11. What testing was done on the estuary to record levels of toxicity after the spill? What damage was done to the marsh and wildlife? What are the recovery chances?

CERTC Response: *Water samples were collected at several locations in the estuary after the 2005 spill. Samples were analyzed for pH, conductivity, total sodium, total organic carbon (TOC), dissolved organic carbon (DOC), total suspended solids (TSS) total dissolved solids (TDS). Results fell within the range of applicable recommended values for the protection of aquatic life and recreational activities. There were no observed mortalities of fish or wildlife in the estuary and the CERTC believes the estuary was not adversely affected by the 2005 spill.*

12. What funds have been made available by CN for environmental improvements on the estuary?

CERTC Response: *The Wilson Slough reconnection project is currently undergoing discussion with District of Squamish staff to finalize operational arrangements and ensure other concerns are addressed. This project is designed to improve water quality, and thereby increase rearing capacity in Wilson Slough. In addition, the CN Recovery Fund allows for applications to be submitted for work on the estuary.*

13. What funds have been made available by CN for the North Vancouver Outdoor School to compensate the school for losses due to the spill?

CN Response: *CN has previously advised local residents about the processes available to apply for compensation of socio economic impacts. Any compensation agreements are confidential between claimants and CN, and therefore we cannot comment on any application or agreements for compensation of losses.*

14. What funds have been made available by CN for the North Vancouver outdoor School to expand the hatchery to accommodate the increased need for hatchery activity to ensure the river fish stock numbers?

CERTC Response: *Fish culture activities targeted at species of interest for recovery are being undertaken at Tenderfoot Hatchery and Fraser Valley Trout Hatchery, which have the capacity and expertise to undertake all the fish culture activities proposed to date. However, funding applications for works leading to the recovery of the Cheakamus River can be submitted according to the terms and conditions of the CN Cheakamus Ecosystem Recovery Fund application form.*

Project Proposals

1. Re-watering of Lower Reach 8 (km 13)

Underneath the suspension bridge was suggested as a replacement to the abandoned re-watering project at km 11.

CERTC Response: *This site is located in the existing Cheakamus River channel and in this position has the highest risk for failure. The area already functions at highwater and would not be resilient to failure or physical change during highwater periods.*

2. Swift Creek re-watering

This creek goes dry every year from July through November and is a notorious fish killer, as there is a significant amount of coho fry rearing in this stream. These are offspring of the adult coho that spawn there every fall. A simple solution would be to dig low water refuge pits as well as constructing several spawning riffles in the lower areas of this creek. This would improve spawning, as well as provide summer low flow refuge.

CERTC Response: *The Cheakamus Ecosystem Recovery Plan identifies the highest priority species for recovery including steelhead, chinook, residents and to a lesser extent coho and pink salmon. Due to the number of projects completed in 2006 targeting coho (e.g. Mile 49 channel and the North Vancouver Outdoor School LWD placement), this site is not considered a high priority based on the targeted species. At this time, projects targeting other species are considered to be a higher priority.*

3. Tenderfoot Creek culvert replacement

The Tenderfoot Creek culvert under the CN Rail main line has been identified as a velocity barrier at various times each fall. This year, the velocity barrier occurred at the same time as the main chum migration into Tenderfoot Lake, preventing a significant amount of the chum from entering and spawning in the lake. A simple solution would be to replace the culvert with one of the following: a bridge (the best solution), a box culvert, or a twinning of the culvert.

CERTC Response: *This project suggestion has been added to the list for further investigation in 2007/2008.*

4. Off-channel habitat construction across from the North Vancouver Outdoor School Bighouse on river left

There is a river swale that works its way through the trees and is perfectly situated to be turned into a river-fed side channel. There is also a small pond on this river bench that could be expanded and complexed to include excellent fish usage.

CERTC Response: *As with the Swift Creek re-watering project (see response above) this project primarily targets coho which is not a target species for recovery projects at this time.*

5. Side Channel conversion ½ km upstream from the Bailey bridge on river left

This side channel could easily be turned into a fish habitat. This could also be incorporated into the Swift Creek restoration project.

CERTC Response: *This project suggestion has been added to the list for further investigation in 2007/2008.*

6. Remove of the CN bridge abutment in the Cheekye River

This was scheduled to be done in the fall of 2006 but has not happened to date. This project was identified quite a while ago to be very important for Cheakamus/Brohm steelhead and therefore needs to be completed with haste. It is a documented migration barrier for steelhead and thus, needs to be addressed.

CERTC Response: *This project is scheduled for completion in 2007 following bridge abutment stabilization measures by CN crews.*

7. Construct a river channel on the river left below the suspension bridge

This should be investigated for pink, coho, steelhead and chinook spawning and rearing.

CERTC Response: *CERTC believes this project suggestion is the same as the one provided in number 1. Therefore, the same comments apply: This site is located in the existing Cheakamus River channel and in this position has the highest risk for failure. The area already functions at highwater and would not be resilient to failure or physical change during highwater periods.*

8. Increase the quality of woody debris on the Cheakamus

There is a large amount of wood on the gravel bar on river right below the BC Hydro bridge. This wood should be cabled and anchored in place so it doesn't disappear in the event of an influx of a large amount of water. Hopefully, this area will return to fish habitat once water flows back into this area.

CERTC Response: *CN and MoE will be undertaking a large woody debris (LWD) demonstration pilot project in 2007 on the Cheakamus River. CN will also be examining opportunities for stabilization of large woody debris structures. Wood perched on gravel bars is generally not in appropriate locations for long term stability even if cabled in place.*

9. Re-watering Evans Creek

CERTC Response: *This location and potential project has been previously identified by the Squamish Nation and DFO and may become part of a larger project at some point. No planned work is proposed for this area in the near future.*

CERTC REQUEST: **All project suggestions in future must be submitted on the Project Suggestion Forms with details provided for consideration by the Committee. It should also be noted that the priority fish species for Cheakamus River recovery include in no particular order: chinook, steelhead, char, and sculpin.**

Other Discussions

1. Members felt that the August 17 Public Information Session was not promoted to the extent that it should have been. They also noted that it was a poor time of year to have a meeting.

CERTC Response: *The Public Open House was well promoted. It was promoted in an insert placed in the Squamish Chief on August 11, advertised for two weeks in the Squamish Chief (August 4 and August 11) and the Whistler Pique (August 3 and 10). The Stakeholder Team was advised in July of the August meeting date, time and location to pass along to their interest groups. The meeting advertisement was also posted on the CERTC website. In addition, the August Open House was held to coincide with the one year anniversary of the spill. The CERTC welcomes suggestions from the ST as to how to improve the promotion of future events.*

2. It was noted that the Recovery Plan lacks deadlines or specific dates for the recovery efforts in the Cheakamus River.

CERTC Response: *The Recovery Plan (CERP) is an adaptively managed program and will be reviewed and revised annually. Although the CERP does not focus on specific dates for recovery efforts it is based on timelines that will be used to implement some projects (e.g. Fish culture) and provide a defensible measure of recovery. The comments will be taken into consideration when revising the 2007 CERP.*

3. The Stakeholder Team felt that more than 20,000 of the 37,000 available steelhead smolts should be released into the Cheakamus River as a result of recent habitat enhancement on the side channels of the Cheakamus.

CERTC Response: *The MoE and their external reviewer of the steelhead culture program determined that around 20,000 steelhead smolts is an adequate target given the carrying capacity of the river and the need to protect the wild steelhead population. Recent habitat enhancements did not specifically target steelhead sufficiently enough to warrant an increase in the number of smolts planned for release.*

4. The Stakeholder Team felt that quarterly reports at a minimum on recovery projects and activities should be provided.

CERTC Response: *Plans, reports and monthly CERTC meeting summaries are updated regularly on the CERTC website (www.certc.ca). In addition, CERTC plans to provide at least two information bulletins per year.*

5. Questions were raised as to why the Transportation Safety Board has still not revealed to the public the cause of the CN derailment and subsequent spill in the Cheakamus River.

CN Response: *The Transportation Safety Board (TSB) will release their findings on their schedule and CN will be advised of the Board's findings at the same time as the public.*

6. The Stakeholder Team clearly related their frustration at the general lack of activity and progress regarding Cheakamus River recovery efforts.

CERTC Response: *An extensive amount of work and expense has been completed on the Cheakamus recovery efforts since 2005. Some of the items completed include:*

- *The Cheakamus Ecosystem Recovery Plan 2006 (CERP) – finalized*
- *Non-anadromous reach monitoring plan – developed and implemented in 2006*
- *Fish Abundance Monitoring Plan (FAMP) – monitoring of fish species utilizing the anadromous reaches was developed and implemented in 2006*
- *Char calibration study - developed and implementation started in late 2006.*
- *Benthos Impact and Recovery Assessment – CN has completed detailed benthos assessments currently before the CERTC as draft*
- *Ecosystem Effects Assessment – CN has completed an assessment of potential impacts to ecosystem components beyond fish. This report is currently before the CERTC as draft.*
- *LWD Risk Analysis – A risk assessment has been undertaken to look at the feasibility and risks to placing LWD in the Cheakamus mainstem*
- *Steelhead Coordinator – A coordinator has been retained by CN and MoE to develop the 2007 steelhead broodstock collection, 2006/2007 stock release and the steelhead culture monitoring program*
- *Fish Culture (DFO) – completed fish culture on chinook and pink salmon in 2005 and chinook in 2006. CN and DFO have developed an agreement to fund fish culture for chinook (2005, 2006, 2007, 2008), pink (2005 and 2007)*
- *Fraser Valley Hatchery Infrastructure – CN upgraded the Fraser Valley fish hatchery for steelhead culture*
- *Tenderfoot Hatchery Infrastructure - CN has provided funds to upgrade the hatchery chillers in 2007 for pink rearing.*
- *Fish Culture (MoE) – CN has funded the steelhead fish culture program in 2006 and will fund in 2007 through the Freshwater Fisheries Society of BC.*
- *Mile 49 Channel was excavated and enhanced in 2006*
- *North Vancouver Outdoor School channels and ponds were enhanced with the addition of large woody debris in 2006*
- *Wilson Slough (Mamquam reunion) – detailed design drawings and flood modeling for a new culvert has been completed and is scheduled for installation in 2007 pending maintenance agreements with DoS*
- *LWD Structures – CN is funding a demonstration project in conjunction with MoE and BCCF on the Cheakamus River in 2007.*