

Summary of E-mails to Cheakamus Ecosystem Restoration Technical Committee Website (February 3, 2006 to April 10, 2006)

Input

Twenty-nine e-mails were received via comments@CERTC.ca between February 3 and April 10, 2006.

A majority of e-mails and attachments contained comments and questions regarding the *Draft Steelhead Trout Fish Culture Recovery Option*, which was made available at the February 8, 2006 Cheakamus Ecosystem Restoration open house in Squamish.

Some e-mails provided comments and questions regarding other Cheakamus ecosystem restoration activities.

Issues Raised

Comments and questions received regarding the *Draft Steelhead Trout Fish Culture Recovery Option*.

- argued that DNA remains unaffected following fish culture programs
- commented that list of adult Chinooks must also be produced
- concern that Broodstock collection period (2-3 years) is too short
- concern that references are not provided for the cited literature
- concern with potential for alteration of genetic integrity
- concern with statement that “escapement in 2006 and 2007 must exceed habitat seeding requirements of 200 adults, prior to wild Broodstock spawning”
- debate over number of Smolts to be released (some want more than 33,000, some want less)
- desire for a study of ocean survival
- desire for further evaluation of risk assessment and cost/benefit analysis
- desire for habitat compensation measures to be outlined
- desire for the creation of a Steelhead research centre on the Cheakamus River
- desire for the Technical Committee to avoid politically expedient quick fixes
- interest in a public forum to discuss this document
- interest in how matings will be performed (single pair or pooled crosses)
- interested in the possibility of the development of a stock recruitment curve
- need identified for an aggressive Smolt program with extensive habitat creation and nutrient augmentation
- noted that “residualism’ is a serious concern –Smolt residualism rates should be monitored

- noted that brood stock should not be collected in a mixed-stock source situation
- noted that genetic change, temporal changes in runs and changes in egg sizes can all be managed
- noted that hatchery supplementation will increase the rate of recovery, though other emails noted the opposition to use of supplemental fish culture
- noted that if supplementation is to take place it must be viewed as highly experimental
- noted that release of hatchery Smolts must be staggered over time and under different river condition
- noted that the Cheakamus River should be capable of a natural recovery
- noted that the large uncertainty surrounding fish culture lies with the ability of supplementation to increase the abundance of wild returns in future generations
- noted that the level of compensation must adequately reflect the extent of the damage and the enormity of the task at hand
- noted that the spill presents an unusual opportunity to document fish population recovery
- noted that the supplementation monitoring program must ensure that:
 1. genetic diversity of juveniles produced in the hatchery is maximized through DNA analysis of Broodstock
 2. hatchery releases represent a wide range of genetic types, which can be achieved through DNA sampling of releases or separate rearing of individual crosses (or some combination of the two)
 3. hatchery-origin fish that spawn in the wild produce viable progeny. This can be monitored by obtaining samples from a volunteer angling program for DNA analysis
 4. the number of hatchery-origin fish returning to the Cheakamus is more than would be produced from the Broodstock if it were allowed to spawn in the wild. This can be monitored with the existing escapement program supplemented with estimates of the hatchery/wild escapement ratio provided from a volunteer angling program
- noted that the tendency for compensatory increases in natural survival at low population densities should be considered
- noted that use of the term “habitat improvement” is inappropriate – restoration and rehabilitation are more appropriate terms
- noted the report to be objective and thorough
- questioned feasibility of installation of LWD structures on the Cheakamus River given flood season
- rationale provided for support of a hatchery supplementation program to assist recovery
- request for decision not to proceed with fish culture to be immediately overturned
- support for 22 pairs of spawners being increased to 30; others feel the number is too high as proposed

- support for a conservation-based fish culture program as only a small part of a much larger, more comprehensive habitat recovery program for the Cheakamus River and its tributaries
- support for a Smolt release strategy to minimize predation, maximize release locations
- support for a temporary hatchery program on the Mamquam River to provide angling opportunity
- support for addition of nutrients from the Anadromous fish barrier downstream to the Bailey Bridge
- support for angling restrictions during the Steelhead seasons, 2009-2011
- support for brood capture to be minimized on Brohm Creek
- support for creation/use of a rearing channel at the Tenderfoot hatchery long enough to also support Chinook and Coho recovery
- support for fin clipping of all Broodstock and Smolts for DNA analysis and genetic monitoring
- support for gravel placing at the end of the road or off the railway bridge upstream from the Anadromous fish barrier
- support for habitat enhancement and restoration
- support for intensive monitoring of juvenile Steelhead abundance, growth, and for ongoing monitoring of downstream migrant juveniles and adult Steelheads
- support for longer Smolt release program (e.g. 6 – 21 years proposed)
- support for low-density channels and lake net pens as the best rearing environment for Smolts
- support for program implementation as soon as possible (i.e. the next spawning cycle)
- support for raising young Steelhead in a stream environment rather than entirely in a hatchery environment
- support for rejection of fry plants and for Smolt plants over fry plants
- support for release of 50,000 Smolts
- support for supplemental fish culture as the best chance for success
- support for the removal of the fish barrier at the rail bridge over the Cheekeye
- support for use of both Tenderfoot and Abbotsford hatcheries for fish culture activities; however, some support for use of only the Tenderfoot hatchery for fish culture activities with necessary infrastructure improvements paid for by CN.

Comments and questions received regarding other Cheakamus ecosystem restoration activities.

- desire to see the overall recovery plan with timelines
- noted that public consultation needs to be broadened to include angling NGOs
- noted that the format of the February 8, 2006 open house should have included a brief question and answer session
- concern with the extent of the public consultation process

- interest in why no Transportation Safety Board representative was at the open house to comment on actions to ensure CN rail safety
- interest in why no restocking is planned for this year
- support for long-term solutions
- support for the removal of obstacles that prohibit Anadromous species travel in low water conditions
- support for the use of existing spawning channels and rearing ponds to entice Coho and Steelhead juveniles
- support for the creation of a spawning channel dedicated to Chinooks
- support for the passage of Anadromous species that use Brohm Creek into the lake and upper creek
- request to determine present level of invertebrates in relation to capacity
- interest in whether in-stream fertilization is an option to speed recovery
- deadline of February 22, 2006 is too restrictive (this was also perceived as the deadline for comment on the draft Steelhead recovery option).
- need for CN to support, rather than criticize, impact assessment and restoration work carried out by MoE and DFO.