**CRT Ecosystem Function Work-in-Progress FALL 2019**

**Feedback Questions**

*Please complete the survey online at* [*https://www.surveymonkey.com/r/7NKPPTV*](https://www.surveymonkey.com/r/7NKPPTV) *or fill this in and send to Columbiarivertreaty@gov.bc.ca or mail to: Box 2029, Revelstoke, BC V0E 2S0*

**1. Generally is this work-in-progress what you were hoping to see for ecosystems in the CRT?** (Circle one)

Yes/No

 **2. How would you describe the work in progress? (**Circle the phrase that best describes your view)

* Good for a work in progress
* Needs some revisions
* Needs major revisions
* Don’t know enough to comment

**Please explain why in a few points.**

**3. Has anything been missed? If yes, please describe what is missed.**

Yes/No

**4. General comments**

**5. Tell us a bit about yourself:**

Closest community (Circle one)

Castlegar

Cranbrook

Creston

Fauquier

Golden

Invermere

Jaffray

Meadow Creek

Nakusp

Nelson

Revelstoke

Valemount

Knowledge of local ecosystems (circle one) – Very high High Some Not much None

**6. (Optional) Please mark revisions on the draft goals and objectives in the attached pages.**

***Thank you for your feedback.***

**CRT Ecosystem Function Goals and Objectives DRAFT FALL 2019**

**General EF Goals**

* *Improved ecosystem function* to support Indigenous cultures (including responsibility, access and uses) and Basin resident values
* *Flexibility in reservoir operations* to facilitate active adaptive management
* Reservoir operations that *balance* achievement of the range of ecosystem function objectives

**Ecosystem Productivity**

***GOAL A.*** Increase primary, secondary, and tertiary floodplain, riparian, wetland, and upland (FRWU) ecosystem productivity.

*Objective:*

1. Manage reservoir hydroperiods to increase FRWU productivity*.*

***GOAL B.*** Improvephysical conditions in aquatic riverine and reservoir ecosystems to optimize food web production and transfer of nutrients between trophic levels*.*

*Objective:*

1. Improve physical conditions for lower trophic level productivity in reservoirs and river reaches.

**Floodplains, Riparian and Wetland Ecosystems**

***GOAL A.*** Increase thearea of functioning habitats for native speciesthat use floodplain, riparian and wetland ecosystems in the upper elevations of drawdown zones and affected river reaches of CRT reservoirs.

***Objectives:***

1. Manage reservoir hydroperiods and debris to increase the area of functioning native floodplain, riparian and wetland ecosystems.
2. Manage reservoir hydroperiods to maximize benefits for wildlife groups, especially species at risk that use seasonal habitat in drawdown zones and affected river reaches.
3. Minimize negative impacts, and maximize positive impacts of sediment transport, deposition and erosion on existing and new floodplain and riparian ecosystems.

 ***GOAL B.*** Increase wildlife habitat connectivityboth within the reservoir drawdown zones and from the drawdown zones and affected river reaches to adjacent upland habitats.

***Objective***

1. Increase the total area of connected vegetated habitat to meet species life requisites within reservoir drawdown zones, and from drawdown zones and affected river reaches to adjacent upland habitats.

**Reservoir and Riverine Ecosystems**

***GOAL A.*** Manage flows to achieve geo-fluvial processesthat mimic normative/pre-dam erosion rates and sediment transport rates as well as reduce loss of land and aquatic habitats.

***Objective:***

1. Reduce erosion from wave action, debris scouring, slumping and fluvial processes.

***GOAL B.***Increase and improve functional free-flowing riverine mainstem habitats including seasonal availability of critical species-specific, life history-dependent habitats, especially related to functional water flow regimes.

***Objectives***

1. Manage reservoir levels to maximize functional, free-flowing riverine mainstem and side channel habitats.
2. Minimize the difference from pre-dam flows in water flows downstream of CRT reservoirs that are critical to species needs.

 ***GOAL C.***Increase access to and connectivity between mainstem, reservoir, and tributary habitats.

***Objective***

1. Manage reservoir hydroperiods to increase access to tributary spawning areas by adult indigenous fish during key life history periods.

***GOAL D.***Improve water chemistryto support aquatic ecosystems.

***Objective***

1. Continue to reduce the frequency and duration of periods during which total dissolved gas levels downstream of dams exceed threshold levels.

 ***GOAL E.*** Maintain surface water temperaturesthat support native aquatic species.

 ***Objectives***

1. Manage water flows to maintain the match between surface water temperatures and the temperature tolerance and adaptations of aquatic species.

***GOAL F.*** Reduce current levels of fish mortalitydirectly due to hydro generation operations.

 ***Objective***

1. Continue to reduce stranding-related mortality by changing amplitude, seasonality, and rate of water fluctuations.

**Anadromous Species**

***GOAL A****.* Manage flows to maximize anadromous species survival and condition for Okanagan species and potential Upper Columbia donor stocks.

***Objectives:***

1. Maintain flows that enhance survival of returning adult salmon, including temperature requirements.

2. Maintain flows that enhance survival of out-migrating smolts.

3. Maintain flows that minimize redd scouring, dewatering and passage mortality.

***GOAL B.*** Increase the biodiversity, abundance, biomass, condition, and quality of the fishing experience of anadromous species throughout the existing range in the Okanagan River system.

***Objectives:***

1. Increase smolt survival in the Columbia River portion of outmigration route.

2. Increase Sockeye and Chinook salmon adult migration success.

3. Increase salmon abundance.

4. Maintain annual surplus harvestable fish abundance.

***GOAL C.*** Restore diverse, productive, harvestable populations of anadromous salmon throughout their pre-dam range in the Upper Columbia River in B.C.

***Objectives:*** *To be developed*