

Improving Ecosystem Function in the Canadian (Upper) Columbia Basin

Upper Columbia Basin Environmental Collaborative (UCBEC)

Summary of Discussion Paper¹ – March 21, 2018

The purpose of this discussion paper summary is to present potential revised goals associated with dam operations to improve environmental values in Canada's Columbia Basin. The scope of the discussion paper includes reservoirs and reaches of the Columbia, Kootenay and Pend-d'Oreille Rivers affected by hydroelectric dams. The goals focus on improving terrestrial, wetland and aquatic ecosystems within Canadian reservoir footprints and improving large riverine habitats in and along the river reaches downstream of the impoundments. Previous studies have shown that construction of dams and flooding of numerous reservoirs has had major negative impacts on ecosystems in the region.

The focus is on *ecosystems and habitats*, rather than a single-species approach. The ecosystem restoration goals described are complementary to, and potentially prerequisites for, returning salmon to the Upper Columbia Basin. Whereas projected climates pose significant risks to the successful return of salmon, opportunities to achieve the ecosystem restoration goals identified here are not jeopardized by climate change. To the contrary, these measures would increase the resilience of aquatic, wetland, riparian and upland ecosystems to climate change, and therefore may strengthen separate efforts to return salmon to the Upper Columbia Basin.

Some of the suggested measures can be realized without modification of the Columbia River Treaty (CRT), while others may require modification of the Treaty itself, or at least side agreements between the two parties to the Treaty. The initiatives presented here can contribute to CRT negotiations (and Non-Treaty Storage Agreements), but they also provide potential input into routine reservoir operations planning carried out by BC Hydro, the US Army Corps of Engineers, Bonneville Power and other relevant dam managers. The goals and measures identified here have not been prioritized, however UCBEC intends to prioritize them following discussions with various levels of government, First Nations and other stakeholders.

Summary of Proposed Measures to Improve Ecosystem Function (EF)

- Add Ecosystem Function (EF) as a third and equal primary purpose of the CRT.
- Ensure equal and effective representation of EF objectives in all dam operations and related decision-making.
- Increase operational flexibility for all the dams in the upper Columbia and Kootenay systems to allow for experimentation under an “active adaptive management” program to explore changes that will restore and/or enhance terrestrial, wetland and stream ecosystems and habitats within reservoir footprints and river reaches downstream of dams (including peaking impacts). Experimental implementation of the Mid-Arrow third scenario² provides a starting point for such exploration.
- Explore greater coordination between the US and Canada regarding operations on the Kootenay River system, including the Libby Dam, with a focus on increasing EF throughout the system.
- Significantly increase secure long-term funding to the FWCP-CB and other ecosystem programs like the Creston Valley Wildlife Management Area to enhance and expand ecosystem restoration and environmental impact mitigation activities in the Upper Columbia Basin.

¹ A complete version of the discussion paper is available from UCBEC by emailing a request to: aqua@netidea.com

² https://engage.gov.bc.ca/app/uploads/sites/6/2017/07/Mid-Arrow-Scen3_draft_4-24-17.pdf