

# Impacts

## COLUMBIA RIVER TREATY



Kinbasket Lake Reservoir

### Historical impacts of constructing Columbia River Treaty dams

The Canadian Columbia River Basin has experienced, and continues to experience, the impacts of the Columbia River Treaty (CRT). When the treaty was negotiated in the early 1960s to manage flood control and enhance power generation in the region, residents of the Columbia River Basin and First Nations were not consulted. The treaty dams -

Duncan, Arrow, Mica and Libby - filled four reservoirs that caused flooding and the subsequent relocation of communities.

The scale of the impacts of the dams and the resulting reservoirs is, to this day, difficult for the most affected communities in the region to understand and accept. In the areas most directly affected, the “measurable” losses related to the flooding of the reservoirs include such things as the loss of land and wetland habitat that was important to sustain ecosystems and wildlife, as well as economic activities like forestry, tourism and agriculture. The emotional and psychological impacts associated with the displacement of households and communities can’t be quantified. These include losing personal and family history, memories and dreams; the economic value in farms, homes and gardens; and access to publicly owned wilderness. The personal, family and community impacts of these losses is immeasurable.



A church being relocated on the Arrow Reservoir

## Flooded valley bottoms

Approximately 650 km<sup>2</sup> (231 mi<sup>2</sup>) of valley land, and over 500 km<sup>2</sup> (193 mi<sup>2</sup>) of lakes, rivers, ponds, streams and related fish, wildlife, waterfowl, bird and other species habitat were flooded. Approximately 2,300 people were displaced and more than a dozen small communities were inundated. <sup>1</sup>

Economic activities and the potential related to forestry, agriculture, recreation, transportation and tourism were lost through the creation of the reservoirs. The drastic rise and fall of reservoir levels continues to affect economic and recreation interests.



Agricultural activity on the shores of the Columbia River

## First Nation cultural values

There are a number of First Nations traditional/cultural sites of significance that were inundated by the creation of the reservoirs in this region. There is concern for the maintenance of the cultural, aesthetic and ecological context of cultural resource areas and spiritual sites within areas affected by reservoir operations. Chinook and steelhead salmon used to migrate, spawn and spend the early part of their lives throughout the upper Columbia River system to the headwaters at Canal Flats, and in the Kootenay system up to Slocan Lake. Salmon are

a significant part of First Nations' way of life and culture. While it was the completion of Grand Coulee Dam in Washington State in 1941 that resulted in blocking anadromous salmon (i.e. salmon that spawn inland but live in the ocean) and other species from getting to the upper Columbia River, not the CRT dams, the loss of salmon in the upper Columbia remains a major impact. <sup>2</sup>



Kokanee salmon spawning in a Columbia River tributary

## Altered ecosystems as water levels fluctuate

The river, floodplain, wetland and upland ecosystems that existed before the development of treaty dams and reservoirs have been replaced by reservoir aquatic systems whose water levels fluctuate significantly over the course of a year. The ecological, economic and recreational value of those former systems is gone. In reservoirs with higher drawdowns, such as Kinbasket, Arrow Lakes and Kootenay, high winds create dust storms and cause erosion at low water levels, resulting in debris and limiting water access. The understanding of the ecological processes in these reservoirs is still evolving, and these ecosystems are changing, both naturally and as a result of continuing mitigation and enhancement efforts. <sup>3</sup>

<sup>1</sup> Penfold, G. (2012, December 5). *A Review of the Range of Impacts and Benefits of the Columbia River Treaty on Basin Communities, the Region and the Province*. Retrieved from: <https://engage.gov.bc.ca/app/uploads/sites/6/2012/07/A-Review-of-the-Range-of-Impacts-and-Benefits-of-the-Columbia-River-Treaty6.pdf>

<sup>2</sup> P Green, B. (n.d.). *Salmon in the Columbia Basin*.

<sup>3</sup> Penfold, G. (2012, December 5). *A Review of the Range of Impacts and Benefits of the Columbia River Treaty on Basin Communities, the Region and the Province*. Retrieved from: <https://engage.gov.bc.ca/app/uploads/sites/6/2012/07/A-Review-of-the-Range-of-Impacts-and-Benefits-of-the-Columbia-River-Treaty6.pdf>