



“Valuing Nature’s Benefits within the Columbia River Basin”

An economic analysis to assist with the modernization of the Columbia River Treaty
Gregory Haller, Conservation Director

1948 Flood in Vanport, Oregon



Flooding at Vanport



1948 Bonners Ferry Flooding



1964 U.S.-Canada Columbia River Treaty

- Flooding in the U.S spurred Treaty negotiations
- Signed in 1961, implemented in 1964
- Resulted in three new dams in Canada and one in the United States
- Two purposes: coordinated flood risk management and hydropower generation
- Power sharing commitment (“Canadian Entitlement”)

1964 U.S.-Canada Columbia River Treaty

Columbia River Treaty

Ratified in 1964, the treaty led to the construction of three storage dams in Canada, and allowed the U.S. to build Libby Dam in Montana, with a reservoir backing up into Canada. The reservoirs doubled flood control capacity and amped up downstream electric production. The treaty has no expiration date, but both countries are exploring possible changes to negotiate.



Mica Dam
1973
7 million acre feet of storage

Duncan Dam
1967
1.4 million acre feet of storage

Hugh Keenleyside Dam
1968
7.1 million acre feet of storage

Libby Dam
1973
built in the U.S. as a result of the treaty, with reservoir backing up into Canada.
5.8 million acre feet of storage

326,000 gallons per acre foot

The Columbia River

- Runs 1,270 miles from its headwaters at Columbia Lake to the Pacific Ocean.
- Drains a watershed the size of France. Produces more kilowatts of electricity than any other U.S. river system.

Canada's part of the watershed

- About one-third of the water in the Columbia River originates in Canada. In drought years, that figure can jump to 50 percent.
- Glaciers and deep snow packs in Canada create the water-rich environment.

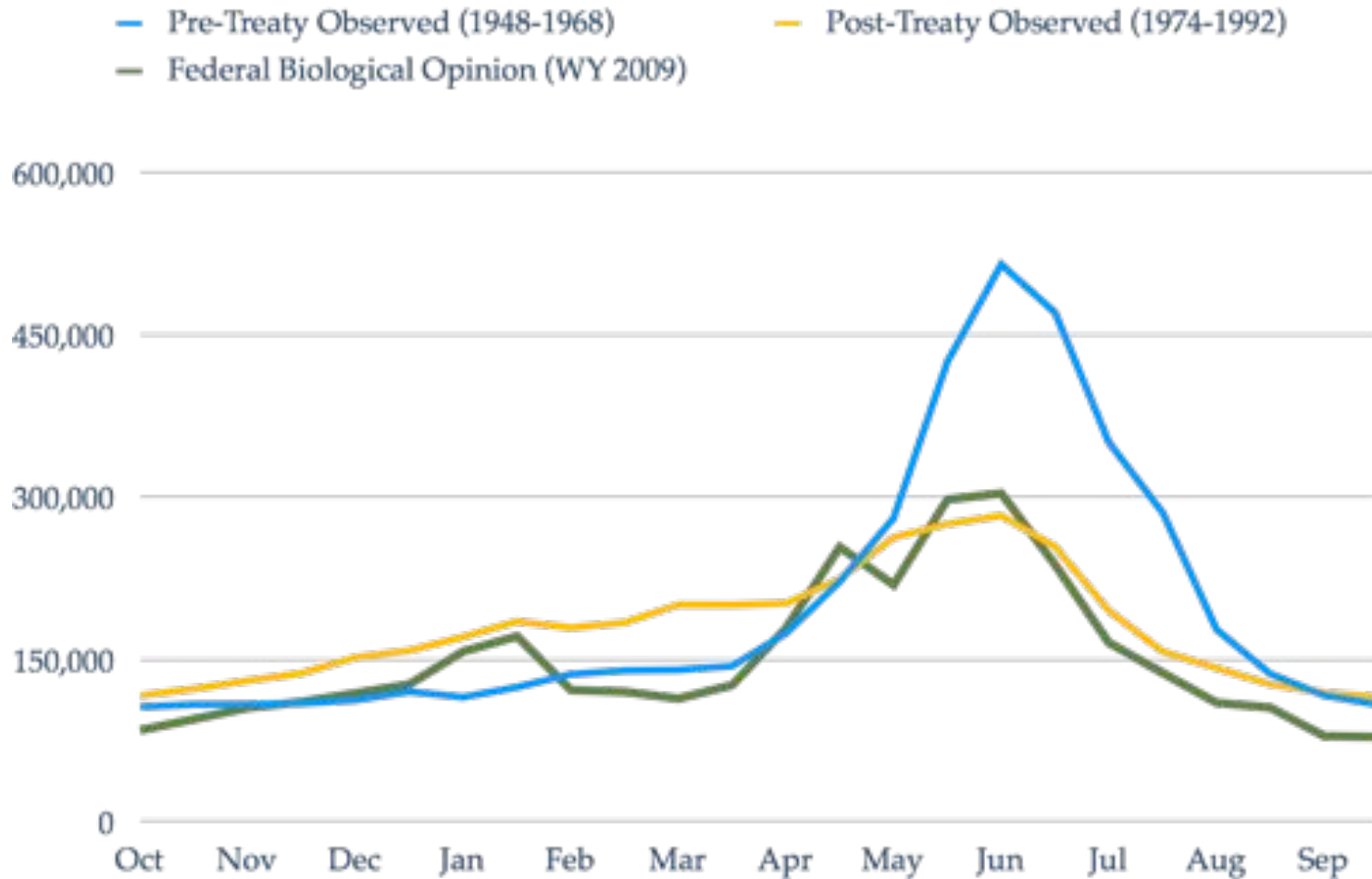
The Columbia Mountains

- Moist air from the Pacific Ocean collides with the Selkirk, Purcell, Monashee and Cariboo ranges in interior B.C., collectively known as the Columbia Mountains.
- With peaks over 11,000 feet, they accumulate snow even during warm winters, like the last one.

The Treaty Dams

- Duncan Dam, Hugh Keenleyside Dam and Mica Dam store a cumulative 15.5 million acre feet of water, which is nearly enough to fill Lake Coeur d'Alene seven times.
- About 2,300 Canadians were forced to relocate because of the treaty dams, and Libby Dam in Montana, which has a reservoir backing up into Canada.

Hydrograph at The Dalles



Columbia River Treaty

- No end date, but the Treaty can be terminated with ten years notice by either side.
- 2024 – Coordinated flood control ends, requiring the U.S. to use all effective storage space in U.S. reservoirs before it can call upon Canada to store water in the event of a flood.
 - Potential to disrupt ecosystem and other operations that benefit other water users/uses
- 2013 Regional Recommendation includes adding “ecosystem-based function” as a 3rd purpose of the Treaty
- U.S., Canada, Tribes and stakeholders gearing up for negotiations

Context and Need For Environmental Economic Analysis

- Support the inclusion of “ecosystem-based function” as a third purpose of the Treaty
- Counter the arguments made by utilities and others that say:
 - “The region can’t afford to do more for salmon”
 - We’ve spent \$12 billion salmon recovery since 1992
 - “Salmon runs are doing just fine”
 - “Primary Objective of Treaty negotiations should be to rebalance the Canadian Entitlement”
 - \$250 million power to the Canada every year

Study Purpose

Define the economic, ecological, cultural and social benefits that the ecosystems of the Columbia River Basin provide, and the impact of investments in the conservation of these natural assets, including fisheries, water quality, flood risk reduction and electrical power, will have on the region's economic and social well-being.

Study Sponsors

- Upper Columbia United Tribes
- Columbia River Intertribal Fish Commission
- Pacific Rivers
- WaterWatch of Oregon
- Save Our Wild Salmon

Scope of Study

- Columbia River Basin (U.S. and Canadian portions)
- Will compare continued development trends vs. a natural resource alternative scenario, that will consider investments and changes to hydropower operations, the restoration of floodplains and other habitats that generate ecological and economic dividends.

What will the Study assess?

Recreational Fishing



Resident fisheries



Tribal & Non-Indian Commercial Fisheries



Lamprey



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Irrigation



Navigation



Renewable Energy Development



Thank you!

