Modernizing the Columbia River Treaty

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On behalf of the Columbia Basin Tribes Coalition

Cranbrook, British Columbia, Canada

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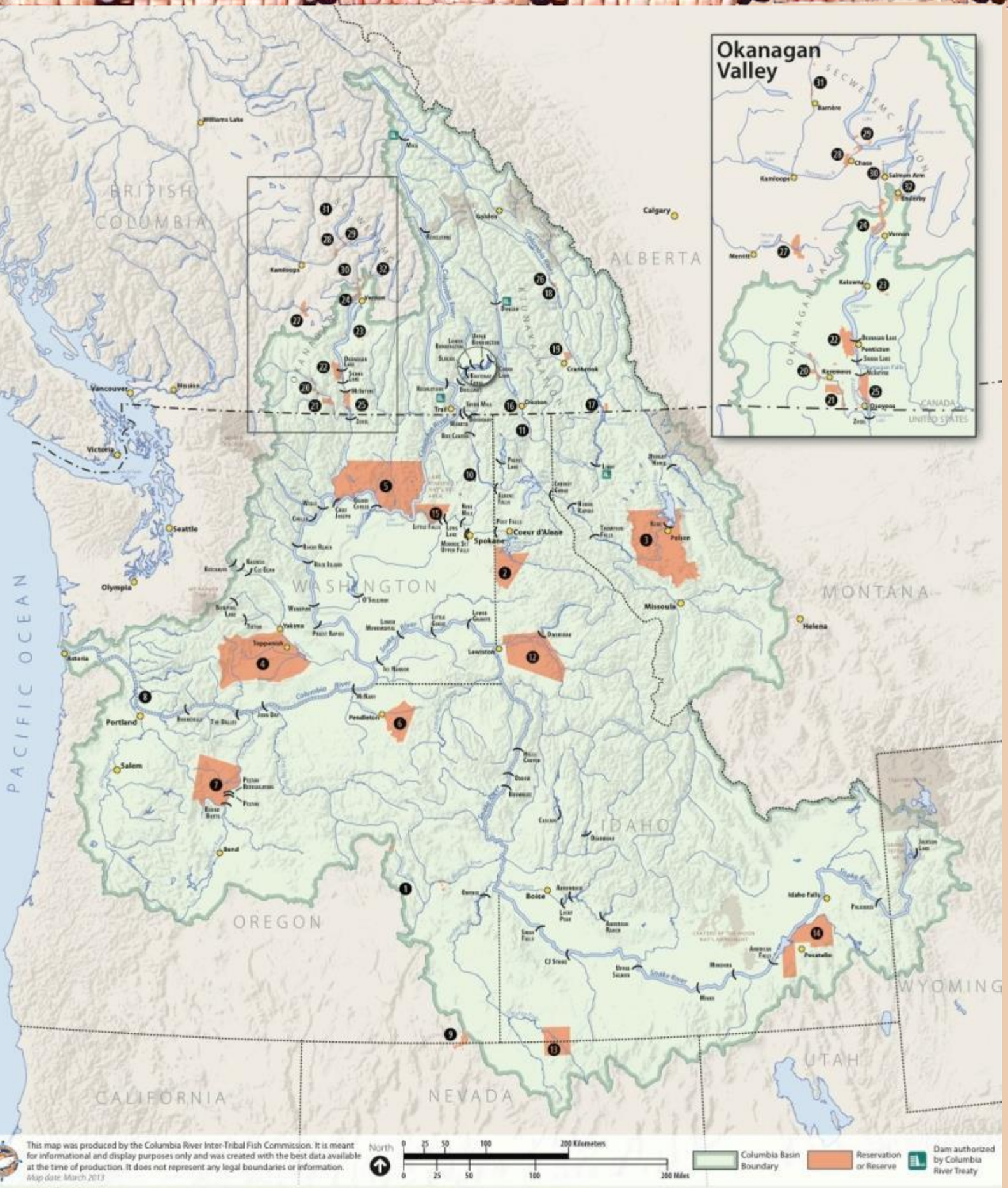


Columbia Basin Tribes Coalition

15 tribes with management authorities and responsibilities affected by the Columbia River Treaty

Tribal Coalition formed 2009
Common Views February 2010
First Nations Outreach 2011

Coalition Members

- Burns Paiute Tribe
- Coeur d'Alene Tribe
- Conf. Salish and Kootenai Tribes of the Flathead Nation
- Conf. Tribes and Bands of the Yakama Nation
- Conf. Tribes of the Colville Res.
- Conf. Tribes of the Umatilla Indian Res.
- Conf. Tribes of the Warm Springs Res. of Oregon
- Cowlitz Indian Tribe
- Ft. McDermitt Paiute Shoshone Tribes
- Kalispel Tribe of Indians
- Kootenai Tribe of Idaho
- Nez Perce Tribe
- Shoshone Paiute Tribe of the Duck Valley Indian Res.
- Shoshone-Bannock Tribes of the Ft. Hall Res.
- Spokane Tribe of Indians

Presentation Topic Areas

1. Columbia River Treaty and its effects on Columbia Basin tribes
2. Regional Recommendation – Modernize Treaty
    a. Integrate ecosystem-based function into a modernized Treaty
    b. Investigate and, if warranted, implement fish passage and reintroduction to Canadian spawning grounds
    c. Pursue coordinated approach to flood risk management
    d. Initiate a regional flood risk management review
3. Consultation and collaboration with Columbia basin tribes pursuant to Executive Order 13175

Columbia River Treaty and its effects on Columbia Basin tribes

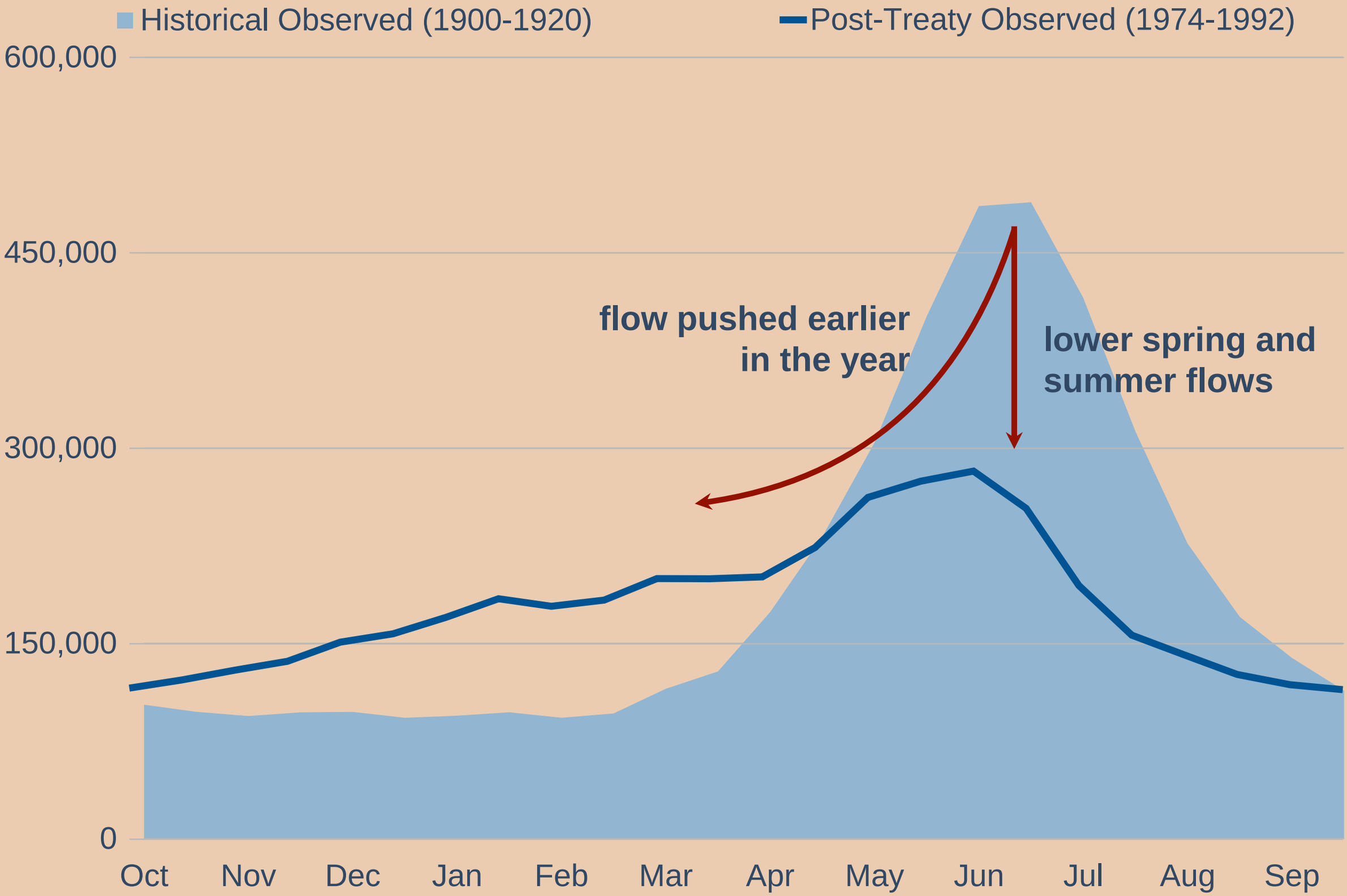
- Tribes were not consulted, they did not provide prior and informed consent on Treaty.
- Tribes were forced to make substantial sacrifices to cultural, health, social, religious and ecosystem resources for development and continued operation of the hydropower system.

Picture taken by William S. Russell for the Bureau of Reclamation in 1941 of the traditional chiefs of the Colville Indian Reservation at the Grand Coulee Dam construction site.

Columbia River Treaty

- Treaty came into force in 1964, no end date.
- No fish passage at dams.
- Twin goals:
  - optimize hydropower
  - coordinate flood control
- Treaty may be terminated with ten year notice
- Tribes not consulted, no fish & wildlife coordination

River Level at The Dalles Dam



Permanent Floods Created Upriver to Protect Portland from Flooding

Relocating a Church from Waldo
Now under Koocanusa Reservoir

Mica Dam built in 1973

Kinbasket Reservoir
Drawdown Effects

Vanport Flood, near Portland

Regional Recommendation Elements

- Maintain coordinated flood risk management and protect public safety and region's economy.

- Maintain coordinated hydropower operations and a reliable, economically sustainable hydropower system.

- Modernize the Treaty to further ensure a more comprehensive ecosystem-based function approach throughout the Columbia River Basin watershed.

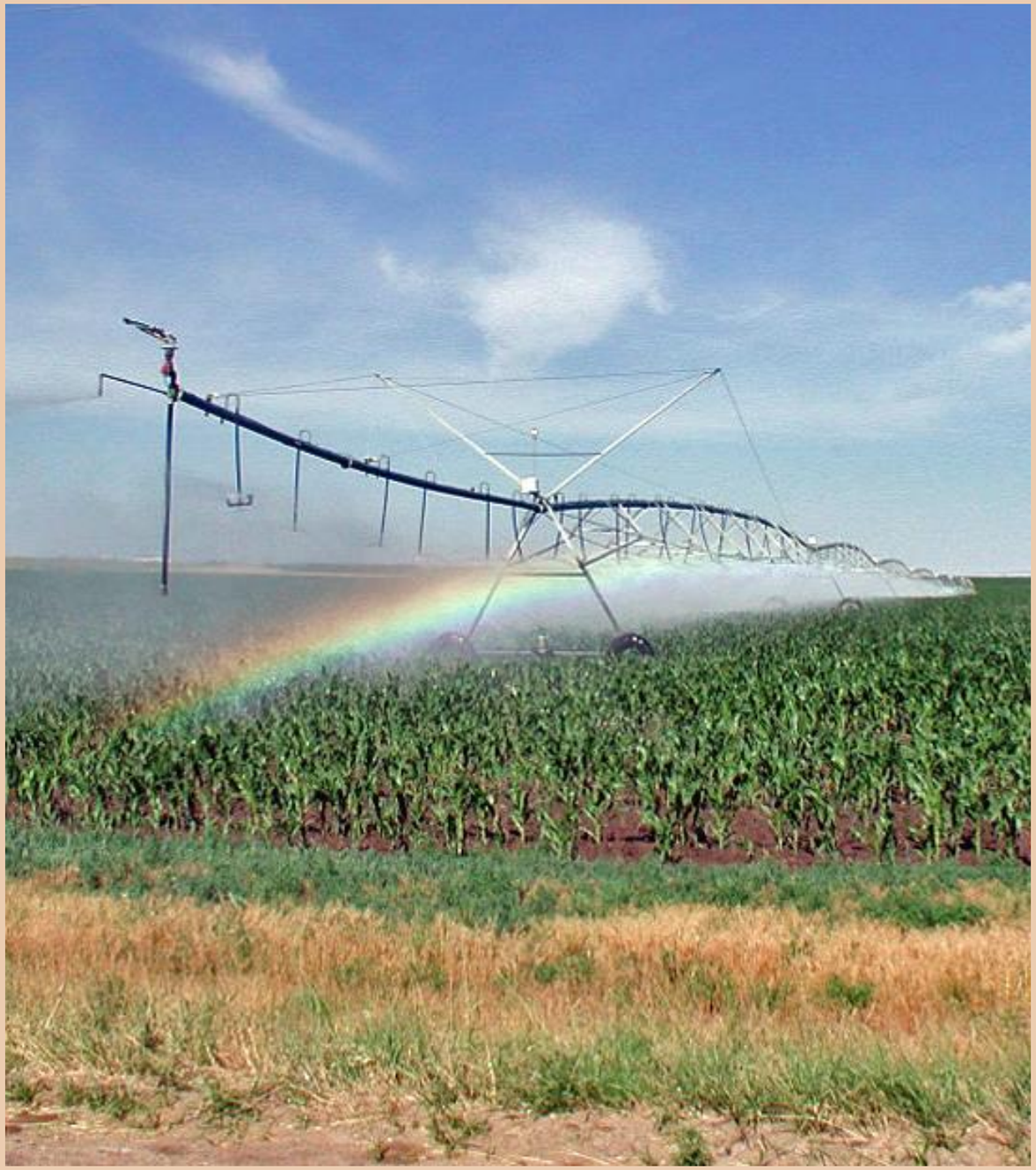
1948 Vanport flood

Regional Recommendation Elements

- Meet regional needs for irrigation, municipal and industrial use, in-stream flows, navigation and recreation.

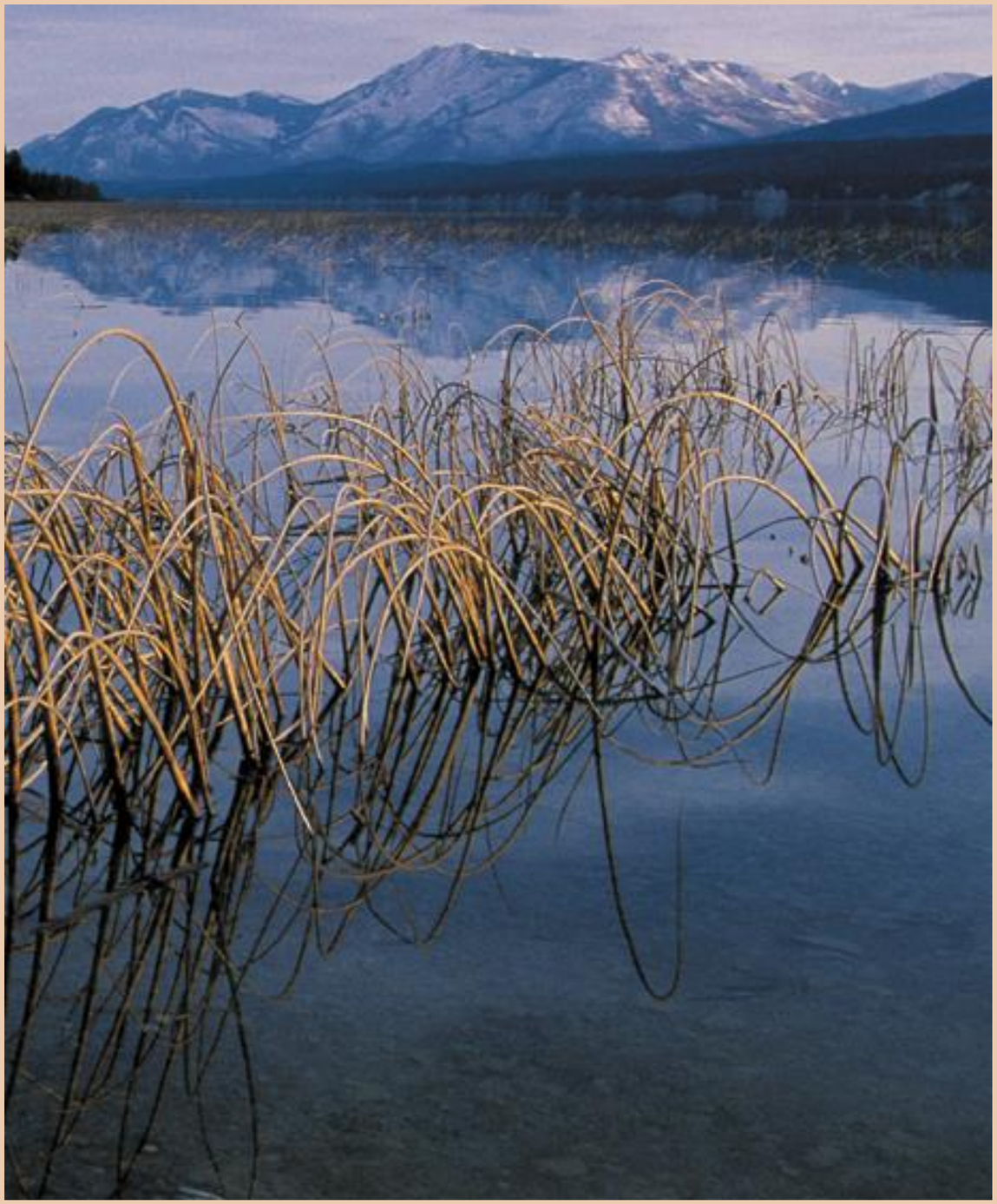
- Incorporate new or formalized mechanisms or provisions into Treaty that allow for adaptation and flexibility to address changes.

- Adapt the Treaty to future changes in climate should be resilient, adaptable, flexible and timely.



What is Ecosystem-based Function?

- Stabilize reservoir operations through new draft and refill rules.
- Spring freshet - enhance spring and summer flows.
- Reconnect and restore flood plains
- Restore fish passage to historical habitats.



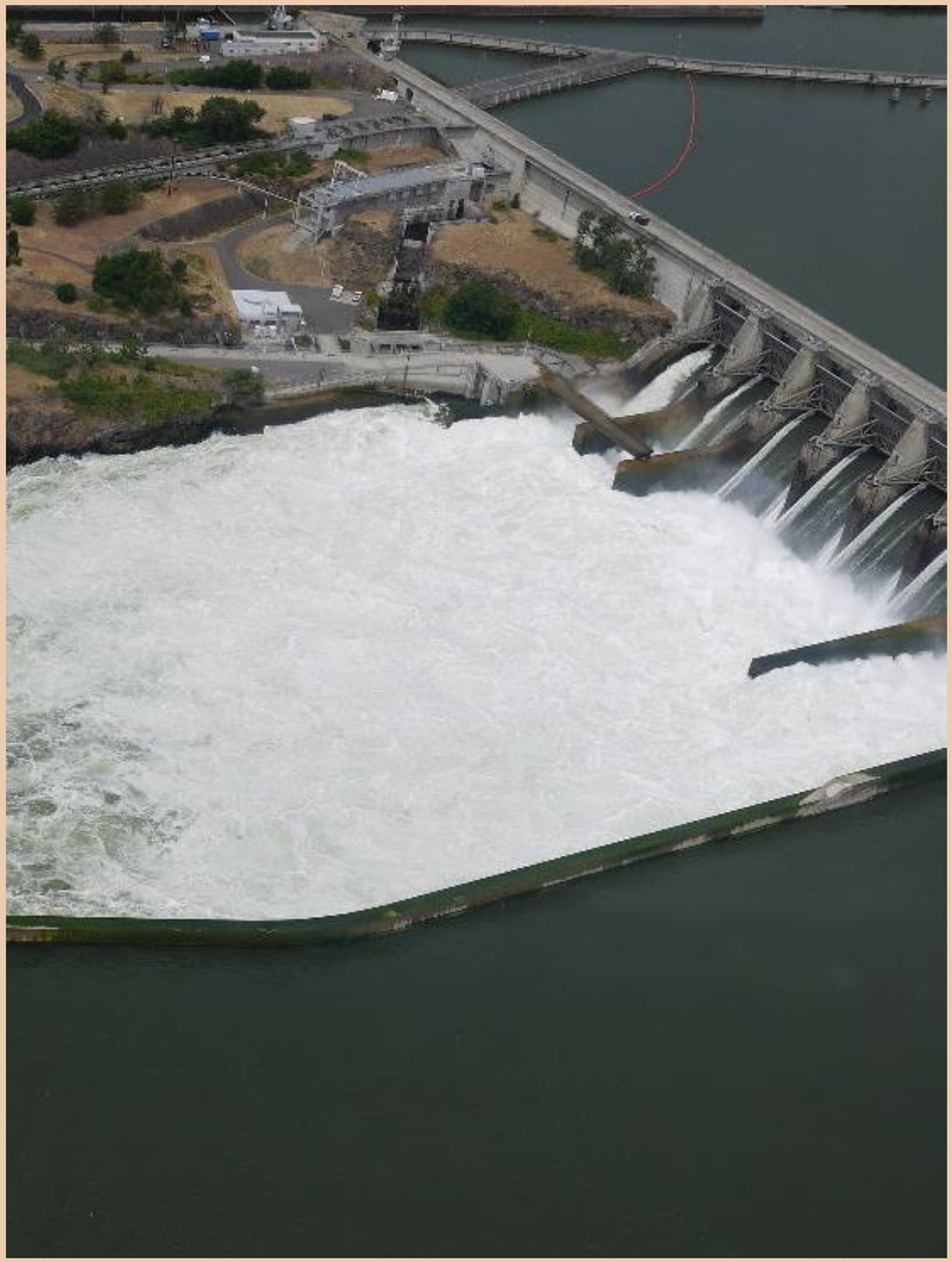
Implementing Ecosystem-based Function

Regional Recommendation integrates ecosystem-based function by:

- Building upon current operations,
- Incorporating existing Treaty flow augmentation,
- Accommodating modifications to flow augmentation,
- Incorporating dry year strategy, and
- Ensuring that modernized operations do not interfere with fish passage and reintroduction opportunities

Ecosystem-based Function

Operational Changes

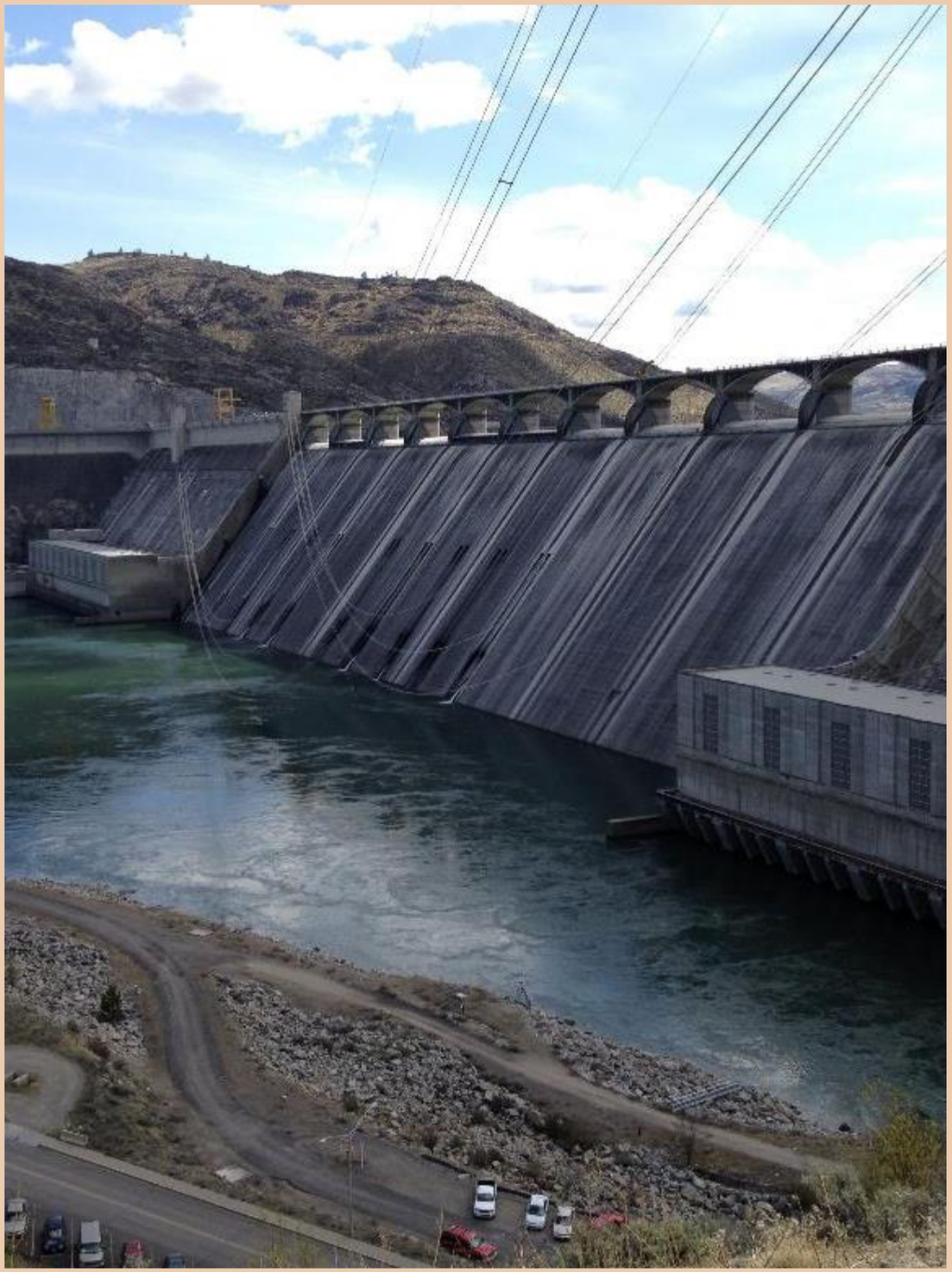


Spill at The Dalles Dam

- Keep reservoirs fuller and more stable with cooler waters, especially in drier water years.
- Restore spring and early summer freshet flows, particularly in drier water years.
- Increase springtime fish spills at run-of-river dams in the U.S.
- Reduce drafts in drier water years at Grand Coulee, Libby, Brownlee, and Dworshak dams in U.S. and at Mica and Keenleyside.
- Continue VarQ operations at Hungry Horse and Libby dams.
- Implement rule curves at system dams that integrate ecosystem-based function, hydropower and flood risk management for climate change adaptation.

Ecosystem-based Function

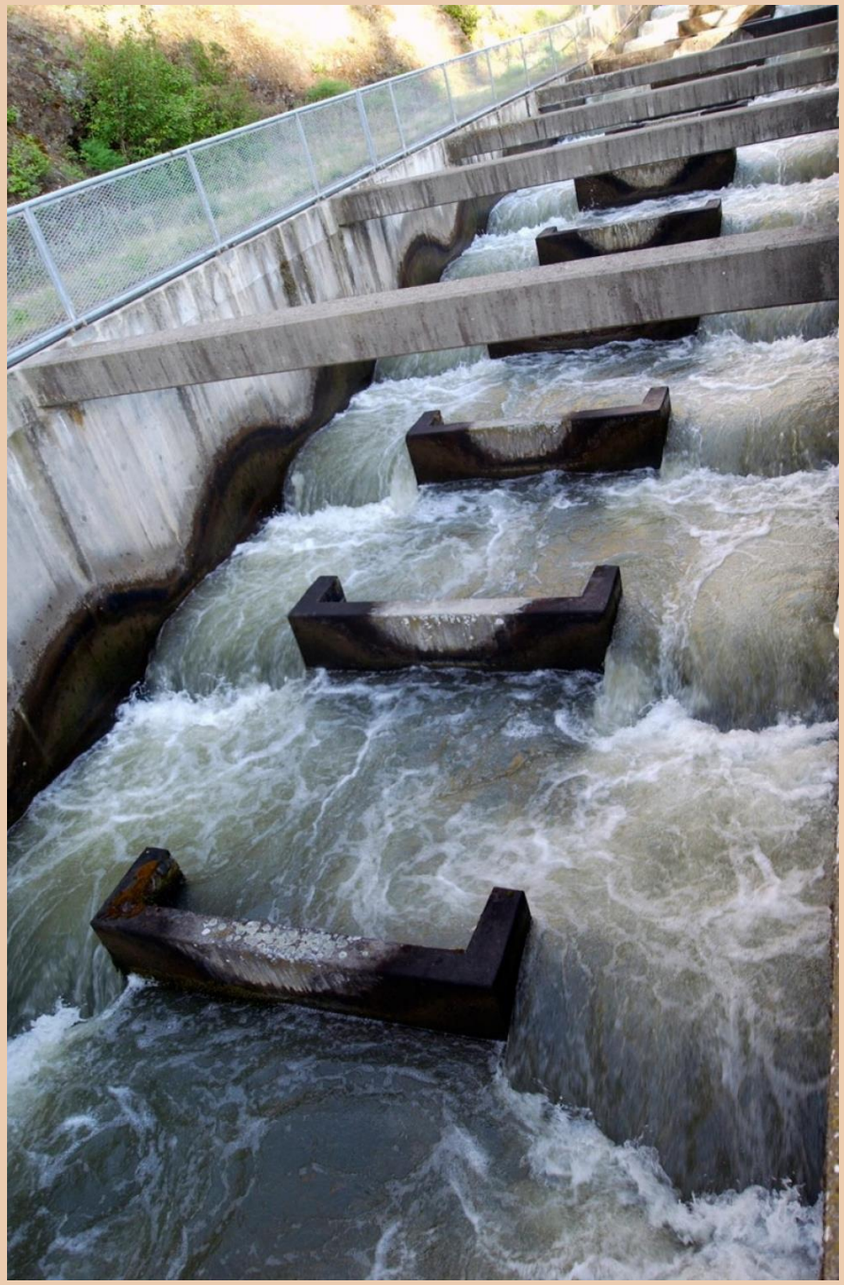
Structural Modifications



- Fix Grand Coulee spill gates to preserve storage, particularly in drier years.
- Investigate leaving cooler water for river flows, divert warmer waters for irrigation.
- Investigate potential for reducing generation of total dissolved gas at Grand Coulee Dam.

Ecosystem-based Function

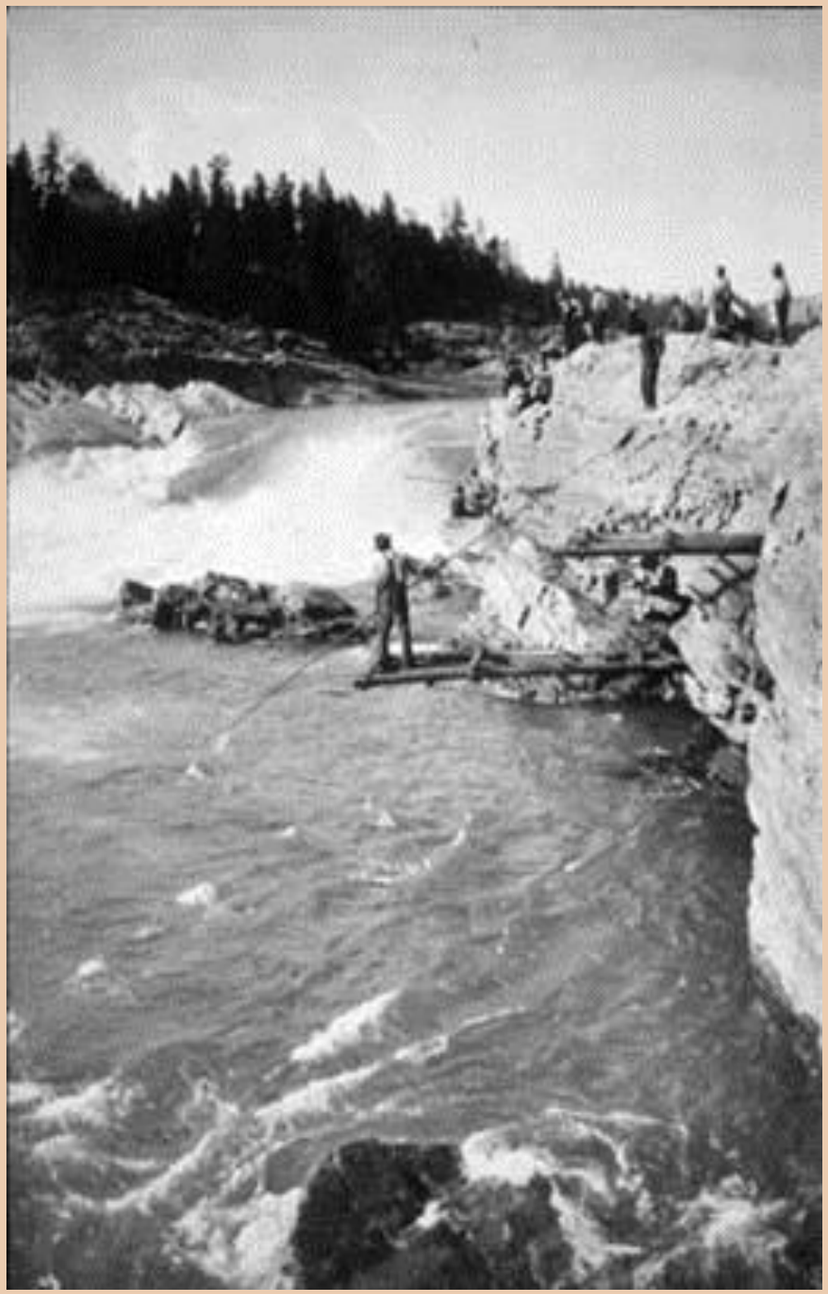
Structural Modifications



- Investigate and if feasible, implement selective temperature regulation from high head dams so long as this action will not increase reservoir water temperatures.
- Modify all fish ladders to avoid passage blockages caused by increasing warm river temperatures.

Fish Passage and Reintroduction

- Tribes proposed a comprehensive, 6 dam fish passage and reintroduction investigation.
- Assess ability to provide passage at:
  - Chief Joseph and Grand Coulee dams in U.S.
  - Hugh Keenleyside, Brilliant, Waneta, and Seven Mile dams in Canada



Colville Indians fishing at Kettle Falls, before 1940.
Courtesy UW Special Collections (Image No. L93-75.31)

Fish Passage and Reintroduction

Baker Lake Juvenile Fish Collector

- New fish passage technologies appear feasible for high head dams with little or no adverse effects on current project benefits (Floating juvenile surface collectors).
- Access to historical habitats throughout the upper Columbia River Basin is a critical response to anticipated climate change.

Flood Risk Management

- Canada agreed to build three reservoirs to store 15.5 million acre feet (maf).
- Canada built Mica larger than required, adding 5 maf of Non-Treaty Storage.
- U.S. paid Canada $64.4 million for coordinated flood risk management - 8.95 maf of storage use for ~50 years.

Mica Dam

Flood Risk Management

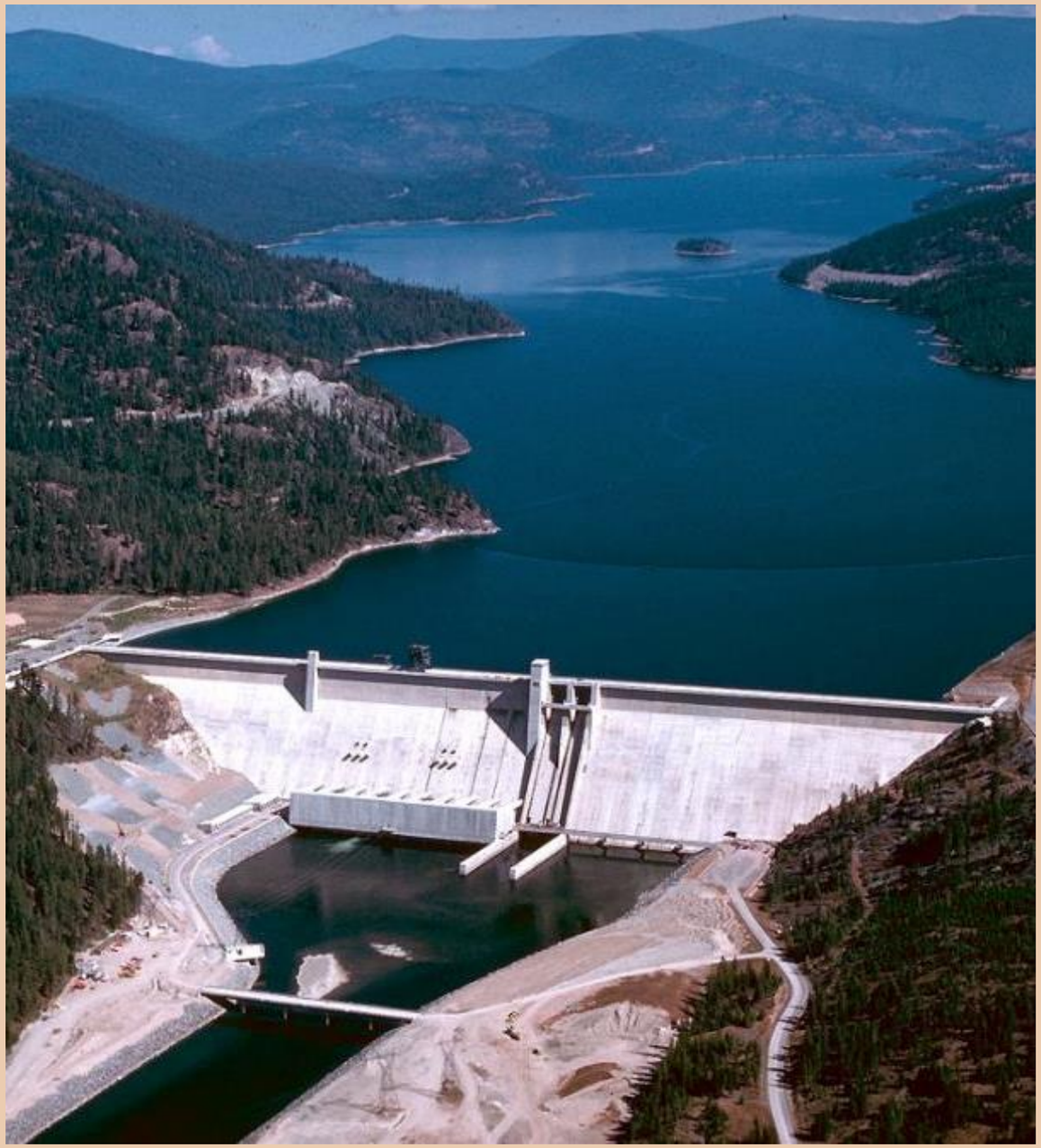
Potential Future, post-2024

Lake Koocanusa

- After 2024, flood risk management shifts from a coordinated plan to “Effective Use” and “Called Upon.”
- U.S. must make “Effective Use” of its 8 system storage reservoirs, which may mean deeper drafts of these reservoirs in some years.
- Once the U.S. makes “effective use” of its system storage, Canada is obligated to provide up to 8.95 maf of storage if “called upon” by the U.S.
- This approach creates a great deal of uncertainty for both countries.

Flood Risk Management

Ramifications of No Action on Treaty



Libby Dam

- Under “Effective Use,” eight U.S. reservoirs may draft significantly deeper and more frequently to offset loss of Canadian storage.
- “Effective Use” operations will harm resident and anadromous fish – resulting in low pools, more mortalities, less summer refill, lower spring and summer salmon flows.
- Canada is still obligated to provide up to 8.95 maf of storage if “called upon” by U.S.
- “Called upon” obligation will create uncertainty for Canadian operations.

Flood Risk Management

Regional Recommendation

- **Pursue post-2024 Treaty flood risk management through coordinated operations that provides for an acceptable level of flood risk, taking into account regional flood risk review.**

- **Pursue assessment of alternatives for post-2024 operations, including the possibility of using planned or assured storage.**

- **Evaluate flood storage alternatives to include incorporation of ecosystem-based function, such as dry year operating strategies.**

- **Ensure flexibility to adapt to climate change and changing flood risk management objectives in the United States and Canada.**

Flood Risk Management

Regional Flood Risk Management Review

- **Region-wide public process to assess potential changes to flood risk management protection to enhance spring and summer flows.**

- **Comprehensive approach, with public input, that addresses all opportunities to manage high flow events, including floodplain management, Columbia Basin reservoir operations, and strategic improvements to existing levees and the need for additional levees.**

- **Evaluate and address potential impacts to other river uses and infrastructure such as navigation, bridges and other transportation features, hydropower, irrigation, recreation, fish and wildlife, and cultural resources.**

- **Incorporate improvements and enhancements into post-2024 Treaty coordinated flood risk management approach.**

Future of Our Salmon 2016

A Vision of Restoration in the Columbia River Basin

Healthy Floodplains, Living Rivers

Focusing on the role floodplain management and restoration plays in salmon restoration efforts

Portland, October 18-20, 2016

- Role floods play in ecosystem health
- Impacts of flood control on the ecosystem
- Benefits of floodplain restoration
- Alternative flood control management to benefit fish
- Climate change impacts on floodplains
- Role of Traditional Ecological Knowledge in understanding and restoring floodplains

Flood Risk Management

U.S. Floodplain Reconnection

John Day River floodplain reconnection project

Sovereigns will work with the **NPCC's Fish and Wildlife Program and NOAA's Recovery Planning** process (particularly estuary actions) or any other identified process throughout the Basin to **advance selective flood plain reconnection** for the purpose of achieving additional benefits from a modernized Treaty.

Consultation and Collaboration

- Tribes are sovereign nations, they enjoy a unique legal and political relationship with the U.S.
- Tribes collaborated with regional sovereigns to produce Regional Recommendation.
- Columbia River Treaty impacts tribal policies and resources.
- Federal government has an obligation to consult and collaborate with tribes under treaties and other agreements.

Columbia Basin Tribes Coalition