Implementation of Water Allocation Provisions in the Columbia River Treaty (Canada – USA)

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Presentation Outline

1. Background
2. Treaty Implementation
3. Challenges
4. Successes
5. Future Treaty Planning

The Columbia River System

- Fourth largest river in North America
- Originates in Canada, Canada has 15% of the basin area, 30% of average annual flow is from Canada, 50% of worst Columbia flood flows (1894) came from Canada.
- Flows 1,200 miles through 4 U.S. States, drainage area of 259,000 square miles
- Over 60 large dams and reservoirs owned and operated by many different entities

WATER ALLOCATED FOR MULTIPLE USES

- **FLOOD RISK MANAGEMENT**
- **HYDROPOWER**
- **FISH AND WILDLIFE**
- **NAVIGATION**
- **WATER QUALITY**
- **WATER SUPPLY**
- **RECREATION**

Columbia River Treaty Overview

- Treaty signed in 1964 and required Canada to construct and operate three large dams (Mica, Arrow, and Duncan) with 15.5 million acre-feet (Maf) of storage in the upper Columbia River basin in Canada for optimum power generation and flood risk management downstream in Canada and the U.S.
- The Treaty allowed the U.S. to construct and operate Libby dam with 5 Maf of storage on the Kootenai River in Montana for flood risk management and other purposes. Libby creates power and flood risk management benefits downstream in Canada and the U.S., and these benefits have no payment requirements.
- U.S. and Canada are to share equally the downstream power benefits (DSB's) produced in the U.S from the operation of Canadian Treaty storage, current worth to U.S. estimated at $250-$350 million/year.
- Extensive transboundary planning and coordination processes implemented through multi-level governance structure

Treaty Implementation

- **Treaty involves extensive reservoir operating agreements, shared datasets and models, and multi-level international collaboration, examples include:**
  - **Long-term reservoir planning and operations:**
    - **Assured Operating Plan (AOP) prepared 6 years in advance**
  - **Short-term reservoir planning and operations:**
    - **Detailed Operating Plan (DOP) and related plans prepared 1 year in advance**
  - **Real-time reservoir planning and operations:**
    - **Treaty Storage Regulation (TSR) coordinated on weekly basis**
  - **Regular multi-level international communication and collaboration**
  - **Collaborative annual reports prepared to document results of Treaty implementation**

Water Allocation Challenges

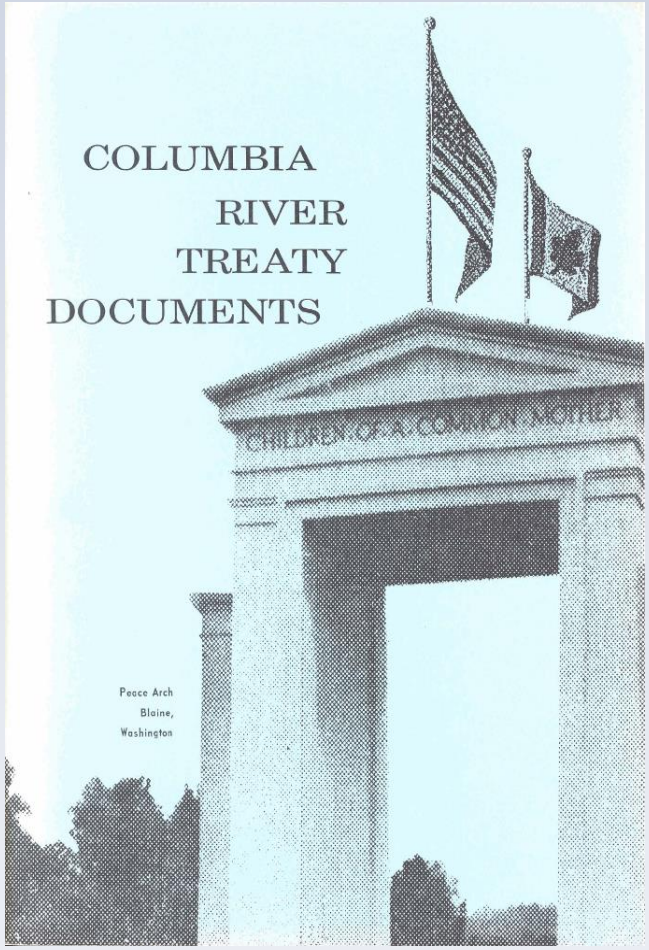
- Treaty with Canada focused on water allocation for optimal hydropower generation and flood risk management
- U.S. and Canada have increasing demands for limited water resources, particularly for non-power water requirements for environmental and other purposes
- Many transboundary challenges have involved integrating non-power requirements with Treaty requirements for optimal hydropower generation and flood risk management
- Highly variable streamflow (~14,000 cfs to 550,000 cfs at border), and limited reservoir storage (storage capacity ~30% of annual runoff)

Water Allocation Successes

- Both countries have demonstrated flexibility to successfully adapt to changing and unforeseen conditions such as floods, droughts, and other contingencies
- Supplemental operating agreements and changes in reservoir operating rules have been developed between Canada and U.S. to meet new water allocation objectives
- Agreements must be mutually beneficial to both countries
- Strong international working relationships, effective planning processes and governance structures have been critical to the success
- Use of shared datasets and computer models improve planning and management

Future Treaty Planning

- The Treaty has no specified end date; however, it does have a provision allowing either nation to terminate most of the provisions of the Treaty in or after 2024, with a minimum 10 years' written advance notice
- Current flood risk management procedures will end in 2024, independent of Treaty decision
- Understanding and effectively integrating the needs of all water users into a sustainable plan for the future is a key to success
- Hence a "Treaty 2014/2024 Review" has been completed



Questions?

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