

# Canada-US Columbia River Treaty: A Review

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# OUTLINE

- ✓ The Treaty
- ✓ Columbia River Basin
- ✓ Drivers of the Treaty
- ✓ Key Treaty Provisions
- ✓ Future of the Treaty
- ✓ Remarks

# Canada-U.S. Columbia River Treaty

## The Columbia Treaty

*“Treaty between Canada and the United States of America relating to **Cooperative Development** of the Water Resources of The Columbia River Basin”*

# ... Canada-U.S. Columbia River Treaty

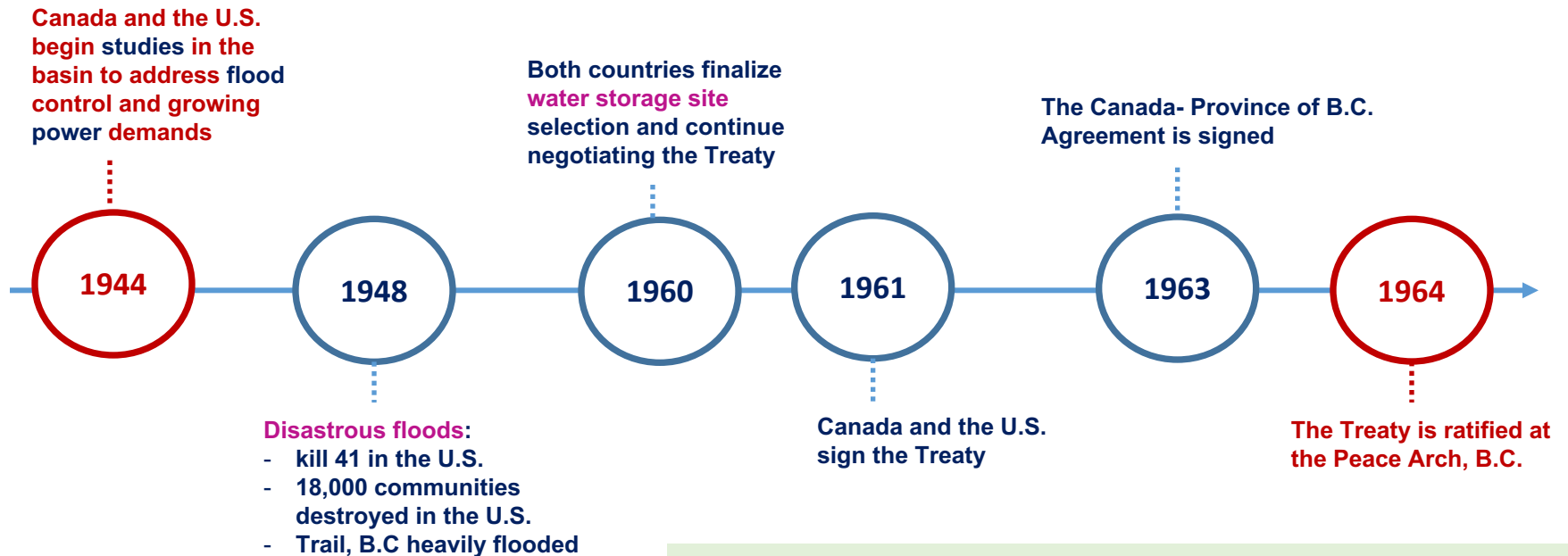
Cooperative development and operation of the river,  
primarily for

- ✓ flood control
- ✓ hydropower

## The Treaty

- ✓ “Very successful” in terms of meeting the primary Treaty objectives
- ✓ Considered a model of "co-operative development" on an international river system based on equitable sharing of d/s benefits

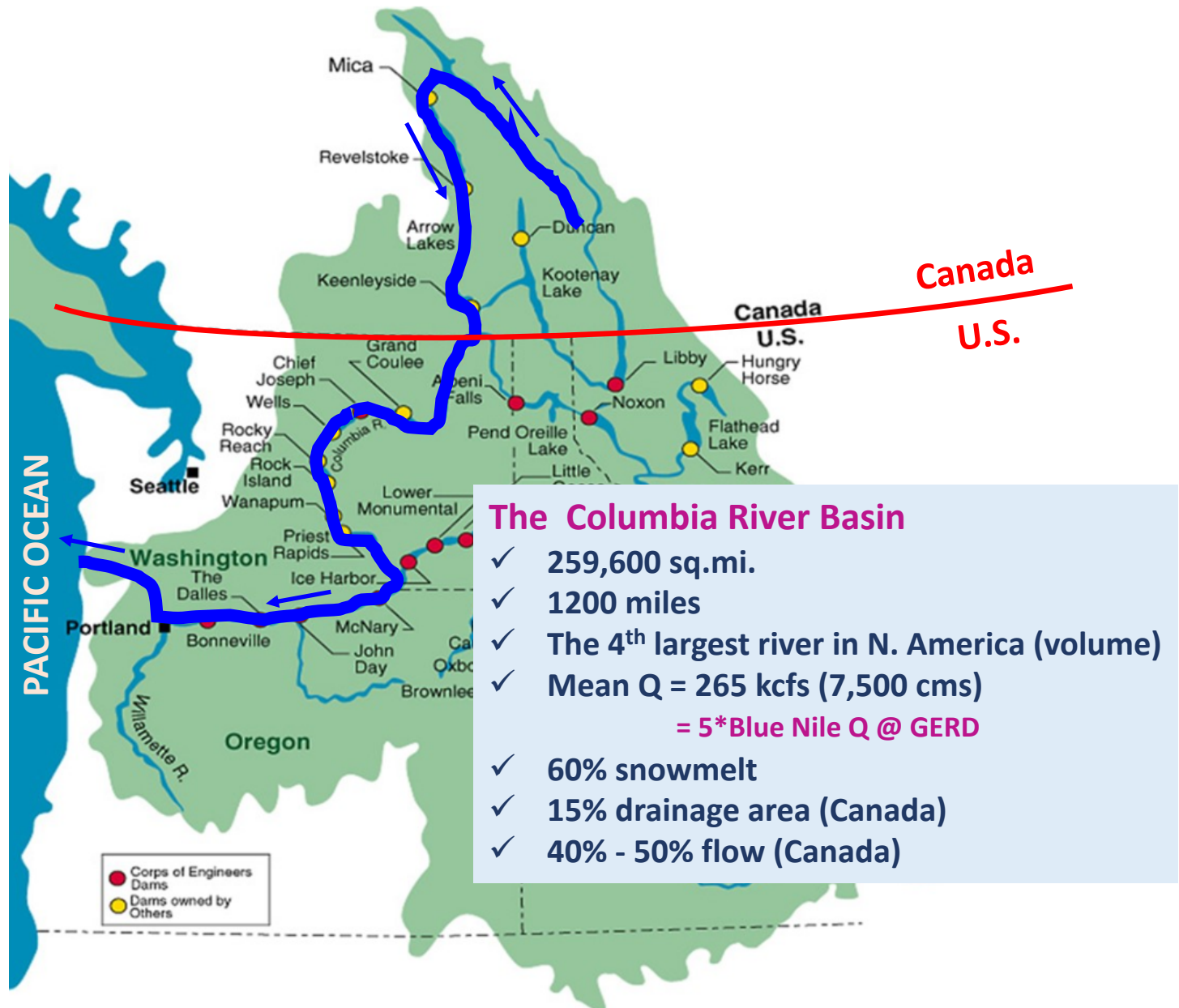
# Columbia River Treaty Timeline



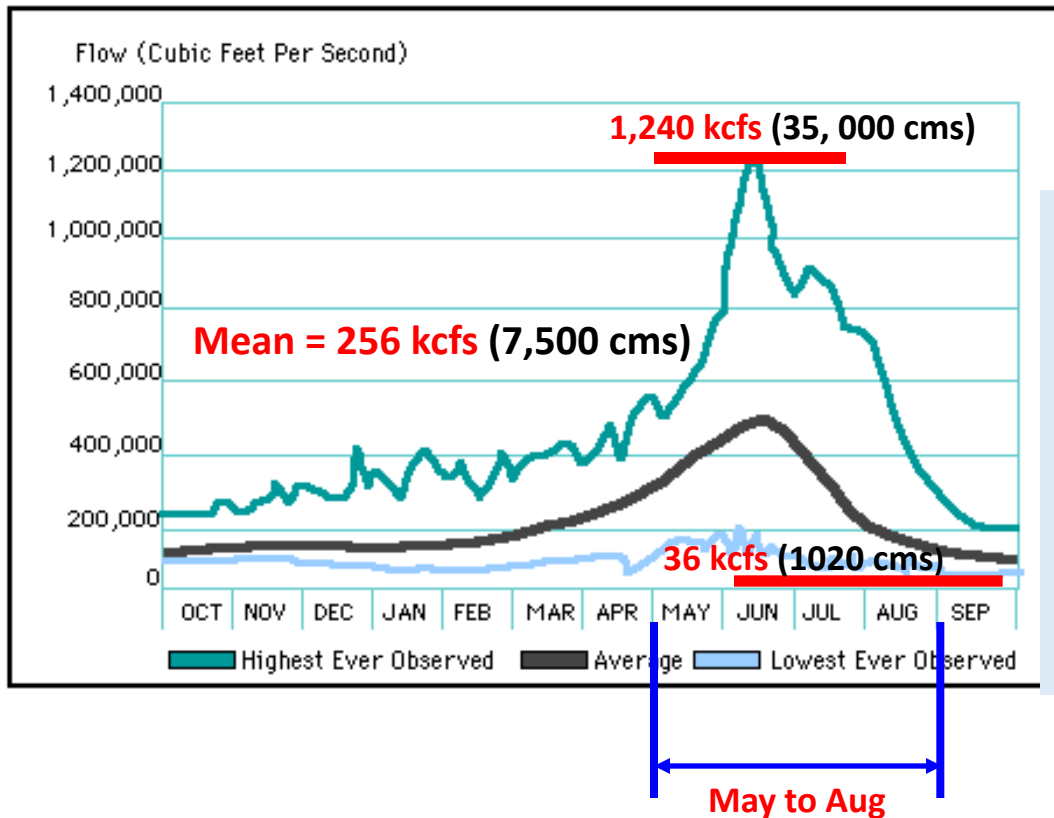
## The Treaty

- ✓ Negotiations took 20 years – 1944 to 1964
- ✓ Signed in 1961
- ✓ Ratified in 1964
- ✓ Minimum term - 60 years
  - ✓ Can be unilaterally terminated as early as 2024
- ✓ Currently being re-negotiated

# The Columbia River Basin



# The Columbia River



## The Columbia River Basin

- ✓ 60% snow melt
- ✓ Flood season: May to Aug
- ✓ Flow record @ The Dalles, OR
  - Min. Q = 36 kcfs (1020 cms)
  - Mean Q = 265 kcfs (7,500 cms)
  - Max Q = 1,240 kcfs (35,000 cms)
  - June 1894

# ... The Columbia River Basin



## Hydropower

- 150 hydroelectric projects
- 37,000 MW (installed)
- 50% of region's power supply
- Grand Coulee Dam (1933-1975)
  - 7,015 MW (5<sup>th</sup> in the world)



## Flood

- Vanport Flood
- May 30, 1948
- 50 people died
- \$102 million damage  
(~\$1.0 B in 2020)



## Irrigation

- 9.2 million acres (3.7 million hectare)
- Desert and dry parts of
  - Washington
  - Oregon
  - Idaho
- become bread basket for America



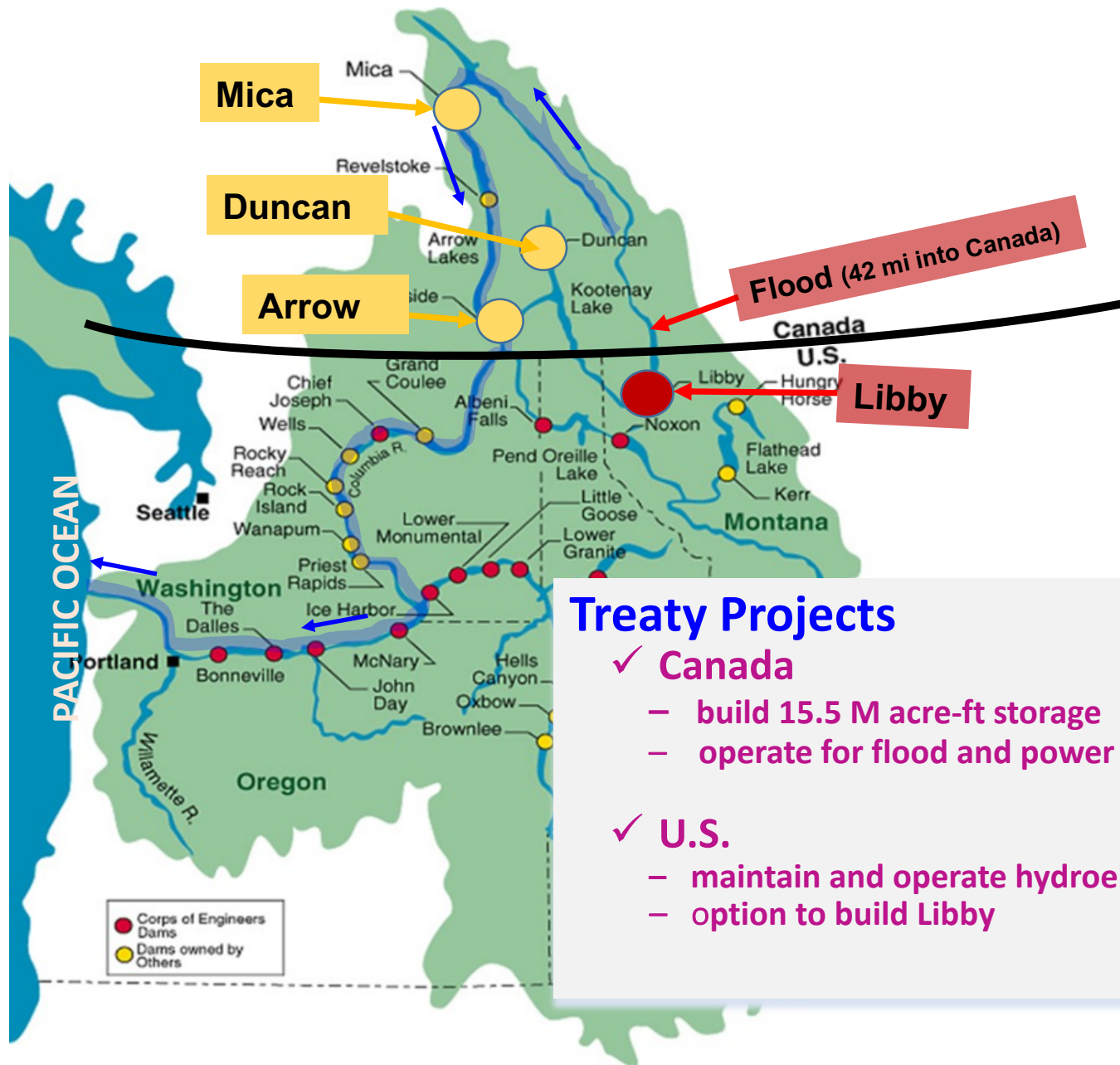
# Treaty Drivers

## Two major events

- ✓ devastating flooding – Vanport flood in 1948
- ✓ growing power demand – upswing in economy after WWII



# Key Treaty Provisions



## Treaty Projects

### ✓ Canada

- build 15.5 M acre-ft storage
- operate for flood and power

### ✓ U.S.

- maintain and operate hydroelectric plants
- option to build Libby

# Benefit Sharing

# Flood Control Benefits

## The U.S. pays Canada:

### 1. Assured Annual Flood Control

- ✓ up to 8.45 M acre-feet storage
- ✓ 50% of future calculated flood control benefits
  - \$64.4 M [ $\sim$  \$0.6 B in 2020] (a 60 year lump-sum pre-payment)

### 2. Called Upon Flood Control

- ✓ greater than 8.45 M acre-feet storage
- ✓ \$1.875 M for each of the first four requests
- ✓ lost power generation

### 3. After 2024 (60 years from ratification)

- ✓ Called Upon Flood
- ✓ Pay for operating costs and economic losses

# Power Benefits

## The U.S. pays Canada:

### Canadian Entitlement

#### ✓ downstream power benefits

- calculated additional power from the U.S. plants
- re-calculated annually five years in advance
- not adjusted for actual benefits realized

#### ✓ 50% of the downstream power benefits

- Annually averages – 473 MW of energy and  
– 1,304 MW capacity
- \$254 M [ $\sim$  \$2.5 B in 2020] – a pre-sale of the first 30 years entitlement  
– helped to build the three Treaty dams

# Treaty Governance

# Implementation

The Treaty is implemented by entities:

✓ **Canadian entity**

- B.C. Hydro

✓ **The U.S. entity**

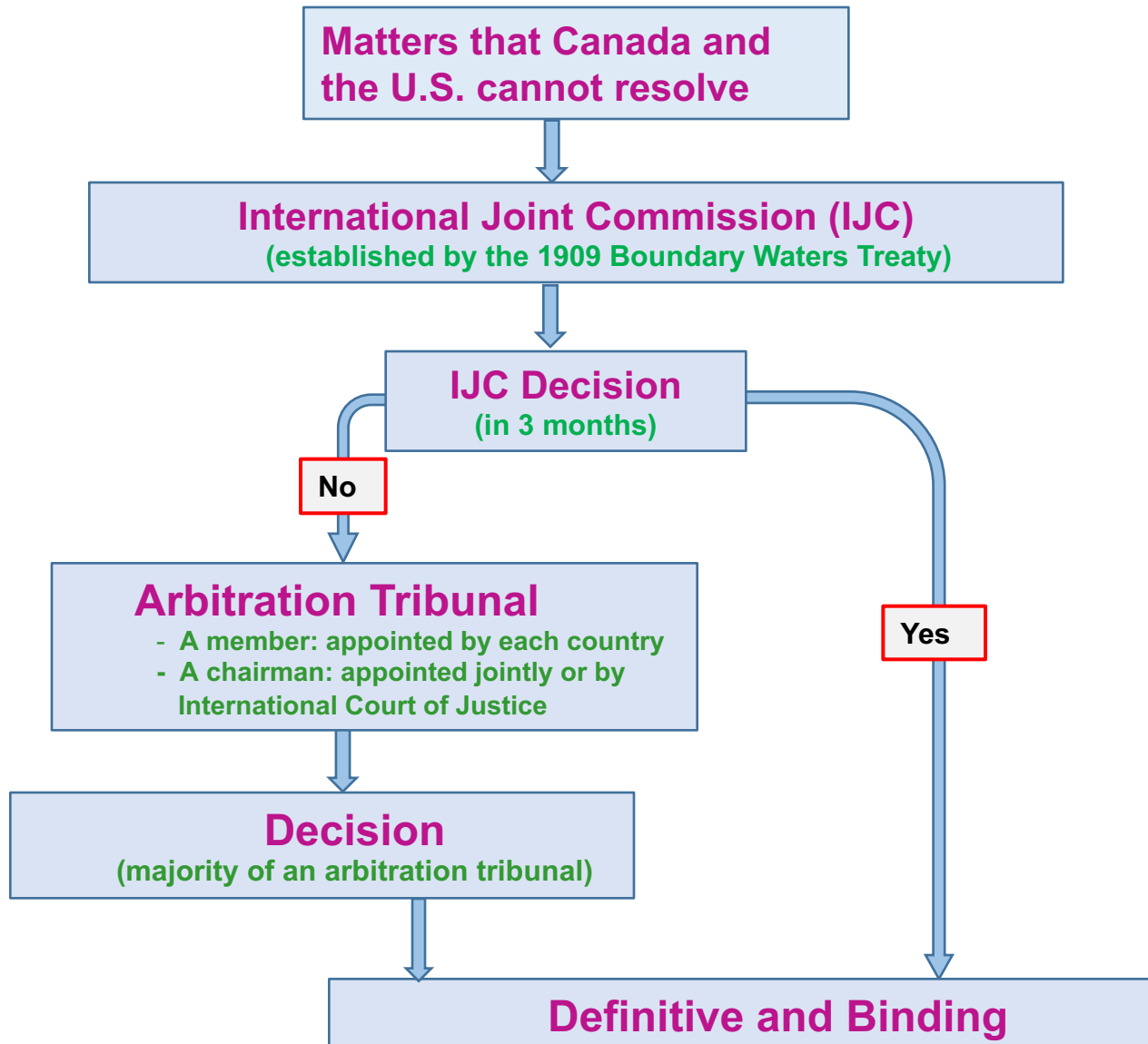
- US Army Corps of Engineers
- Bonneville Power Administration

# Permanent Engineering Board

- ✓ **Established by the Treaty**
- ✓ **Consists of four members**
  - Two from each country
- ✓ **Mandates**
  - Reviews entities actions for consistency with Treaty objectives
  - Assists in reconciling differences concerning technical and operational matters
  - Reports to Canada and the U.S. governments annually



# Settlement of Differences



# Period of Treaty

## ✓ Period

- a minimum of 60 years (at least 2024)

## ✓ Termination

- either country can unilaterally terminate
- requires 10 years written notice
  - Earliest termination date 2024 (notice required by 2014)

# What would happen if the Treaty is terminated?

## ✓ Treaty dams

- Operated for Canadian interests only

## ✓ Diversion

- Canada can divert water to other basins

## ✓ Canadian Entitlement

- ends

## ✓ Flood Control

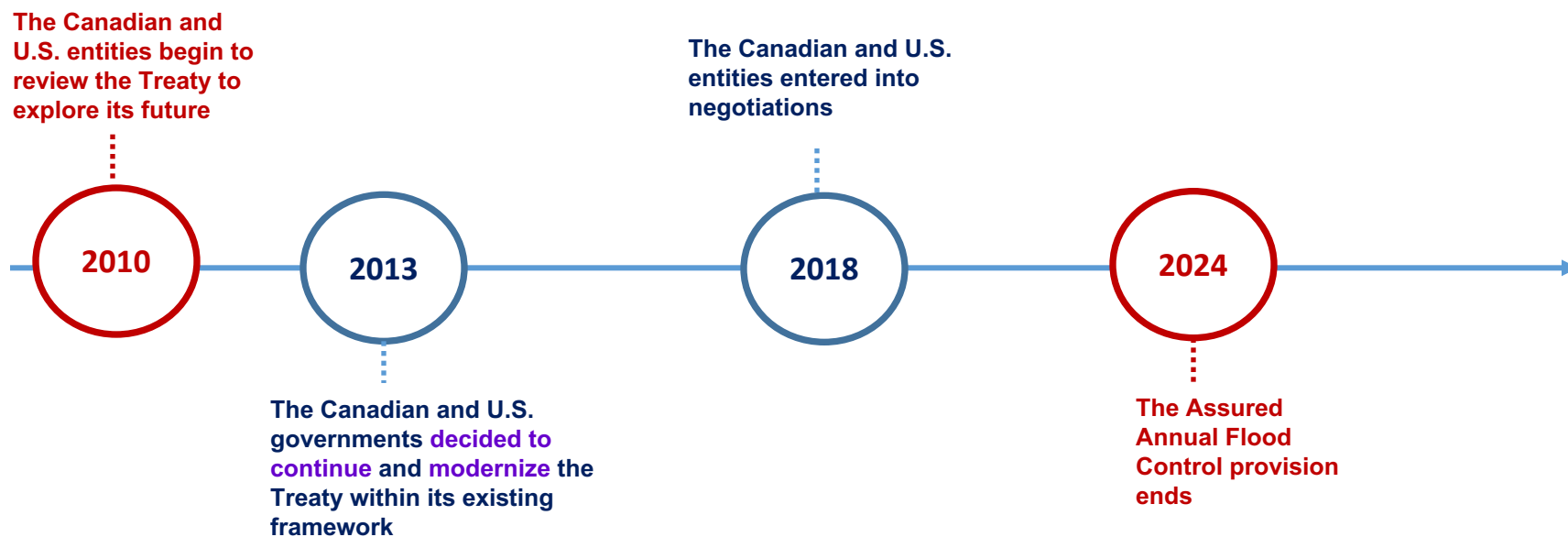
- Called Upon only

## ✓ Columbia River Basin governance

- the 1909 Boundary Waters Treaty applies (if not terminated by then)

# Treaty Future

# Treaty Review and Negotiation



# What Would A Modernized Treaty Look Like?

- ✓ The 1964 Treaty has only two primary objectives
  - flood control
  - power production

*Considered very successful - from the Treaty's original objectives*

- ✓ The Modernized Treaty
  - Ecological function - as one of the primary objective
  - Indigenous participation
  - Meaningful public participation

# Guiding Principles for Future Negotiations?

## ✓ The U.S.

- **Nine (9) general principles**
  - Maximize benefits on both sides
  - Ecosystem-based function - as one of the key objectives
  - Canadian Entitlement
    - Rebalance the power benefits to reflect the actual value of coordinated operation

## ✓ Canada

- **Fourteen (14) principles**
  - Maximize benefits on both sides
  - Ecosystem-based function - as one of the key objectives
  - Period of Treaty
    - Fixed for a sufficient duration to allow planning and operational flexibility
  - Canadian Entitlement
    - Should consider all d/s U.S. benefits, including flood, power, ecosystems, water supply, irrigation, navigation and any relevant benefits

***Canada states that without Canadian Entitlement (or with alterations that would decrease its share of these revenues), it sees no reason for the Treaty to continue.***

# Closing Remarks and Treaty Takeaways

- ✓ **Cooperative development and benefit sharing framework**
  - practical, an effective mechanism to govern international rivers
- ✓ **Integrated basin-wide development and management (beyond an international borders)**
  - helps to realize the full river basin potential
  - facilitates regional integration, peace, security and sustainable development
- ✓ **Coordinated operations of u/s and d/s water management facilities**
  - provide greater benefits than unilateral approach – hydropower, flood control, ecosystem, navigation, irrigation
- ✓ **Benefit sharing**
  - key to the success of a Treaty or an agreement
- ✓ **A Treaty or an agreement should**
  - be based on a win-win situation
  - be fixed for a sufficient duration - to provide planning and operational flexibility
  - have an option to unilaterally terminate it



Thank you!