

U.S. Entity Regional Recommendation
for the
Future of the Columbia River Treaty after 2024

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Introduction

The Pacific Northwest depends on a healthy Columbia River system to provide environmental sustainability, national energy independence, protection of public safety and infrastructure, and economic well-being. The Columbia River Treaty (Treaty) has provisions that should be improved to address this region's long-term ability to meet these objectives. Consequently, the region's sovereigns and stakeholders believe that modernization of the Treaty is in the best interest of the United States.

This recommendation identifies potential modifications to the Treaty post-2024. It begins by identifying regional goals for the future of the Treaty post-2024. It includes a set of general principles underlying this recommendation, followed by more specific recommendations related to a number of Treaty elements. Finally, in addition to this recommendation, we identify a number of matters related to possible post-2024 Treaty implementation for consideration by domestic interests.

The U.S. Entity developed the regional recommendation in collaboration and consultation with the region's sovereign states, federally recognized tribes, and a variety of stakeholders through an extensive, multi-year process known as the Columbia River Treaty Review.

Regional Goal for the Columbia River Treaty

The Pacific Northwest recognizes the value of the Columbia River Treaty in facilitating shared water resource management in the Basin to maximize benefits to both the United States and Canada. When the Treaty was originally drafted in the 1960s, it was designed to optimize hydropower production and coordinate flood risk management as its two primary benefits. In terms of those purposes, the Treaty has served the people of the region well. The assured streamflows under the Treaty support the region's hydropower system, which serves as a crucial backbone of the Pacific Northwest economy. The Treaty also has assisted in effectively managing flood risk to ensure public safety and facilitate regional development.

While the importance of the Basin's ecosystem has long been recognized and valued by those in the region, the Treaty does not identify ecosystem considerations. Significant efforts to address ecosystem concerns began in the 1980s through various avenues, and the region, principally through its electric utility ratepayers, has invested hundreds of millions of dollars annually to achieve ecosystem mitigation and improvements throughout the Basin over the intervening decades. In addition, the United States and Canadian entities in 1993 began using the flexibility in the Treaty to assist in meeting Endangered Species Act (ESA) requirements and to address ecosystem considerations on an annual basis through actions such as flow augmentation agreements. While it is recognized that significant ecological improvements are being implemented and realized in a number of critical areas and are anticipated to continue over time,¹

¹ There are a number of domestic actions that have contributed, and will contribute to ecological improvements in the Basin. These include the Federal Columbia River Power System Biological Opinion requirements under the Endangered Species Act, the Nez Perce Water Rights Agreements of 2004, actions under the Northwest Power and Conservation Council's Columbia River Basin Fish and Wildlife Program, actions under the Clean Water Act to improve water quality, and implementation of the Columbia Basin Fish Accords. In addition, there are numerous habitat and conservation programs and FERC license requirements associated with non-federal dams on the Columbia River.

there is an opportunity for inclusion of certain additional ecosystem operations to expand, enhance, and complement these existing ecosystem investments as part of the post-2024 Treaty.

There also is increasing awareness in the region that an imbalance has developed in the equitable sharing of the downstream power benefits resulting from the Treaty. When the Treaty was ratified, the United States and Canada structured Canada's share of these benefits as one-half of the downstream power benefits with the Canadian Treaty projects as compared to without those projects. An equitable sharing of these benefits should instead be based on the more realistic measure of the power value of coordinated operations as compared to non-coordinated operations. Based on the present formula developed in the 1960s, the estimated value of the Canadian share of the downstream benefits in 2024 is significantly greater than anticipated, and far exceeds the value of coordinated power operations under the Treaty.

Flood risk management continues to be a vitally important aspect of coordinated operations with Canada. Recent high water events in 1996/1997 in the Portland/Vancouver area and in the Kootenai River Basin in 2006 and 2012 are examples of the effectiveness of coordinated operations that reduced flood impacts to the communities in both Canada and the United States. After the first 60 years of assured flood risk management operations in Canadian reservoirs, the Treaty shifts to "Called Upon" procedures for post-2024 flood risk management operations. As the nation and region develop a better understanding of the potential implications of climate change, future flood risk management procedures need to be resilient to provide for public safety.

Other important elements of a modernized Treaty are current and future water supply to help meet regional needs for irrigation, municipal and industrial use, in-stream flows, navigation, and recreation. In addition, the Treaty should include both short- and long-term mechanisms that allow for adapting the Treaty to build in flexibility of operations as conditions change (e.g., climate change, ESA listings or de-listings, or as new information and technology become available).

Accordingly, the region's goal is for the United States and Canada to develop a modernized framework for the Treaty that ensures a more resilient and healthy ecosystem-based function throughout the Columbia River Basin while maintaining an acceptable level of flood risk² and assuring reliable and economic hydropower benefits. Therefore, it is important to achieve a modernized framework for the Treaty that balances power production, flood risk management, and ecosystem-based function as the primary purposes, while also recognizing and implementing all authorized purposes.³

It is essential to note in the reading of this recommendation that, while the inclusion of ecosystem-based function as a third primary purpose of this Treaty is being recommended, a very important balance of water management uses has been established in the Basin and its tributaries over the past 50 years. This recommendation respects the importance, complexity, and trade-offs of each of these many uses and the benefits that the region has strived to achieve.

In summary, this recommendation seeks to formalize, provide certainty, and build on the many ecosystem actions already undertaken through annual or seasonal mutual agreements between the countries, while also providing a net increase in U.S. power benefits based on the actual value of coordinated operations

² Throughout this document, "acceptable" flood risk is defined as "similar to the current level" of flood risk; however, the "acceptable" level of flood risk may change pending the outcome of a regional flood risk review process post-2013 as noted in item 1 listed in the *Domestic Matters to be Addressed Post-2013* section at the end of this document.

³ In this document, the "primary purposes" refers to the "benefits" to be achieved through the Treaty. Where noted, "authorized purposes" is used to connote those purposes that have been authorized in the Basin through the United States Congress.

with Canada, preserving an acceptable level of flood risk to the people of the Basin, and continuing to recognize and implement the other authorized purposes in the Basin.

In this document the term “modernization” of the Treaty refers to the construct of a post-2024 arrangement. This construct could include amendments or revisions to the existing Treaty, diplomatic notes or protocols, or other means resulting in a modernized Treaty.

General Principles

Nine key principles underlie this recommendation and a modern approach to the Columbia River Treaty. These General Principles are to be taken together with the intent that all of the interests addressed herein be improved.

1. Treaty provisions should enable the greatest possible shared benefits in the United States and Canada from the coordinated operation of Treaty reservoirs for ecosystem, hydropower, and flood risk management, as well as water supply, recreation, navigation, and other pertinent benefits and uses, as compared to no longer coordinating Treaty storage operations.
2. The health of the Columbia River ecosystem should be a shared benefit and cost of the United States and Canada.
3. The minimum duration of the Treaty post-2024 should be long enough to allow each country to rely on the Treaty’s planned operations and benefits for purposes of managing their long-range budgets, resource plans, and investments, but adaptable enough to allow responses to new information and changing conditions.
4. All operations of the Treaty should be based on the best available science, and, to the extent practicable, measurable outcomes.
5. U.S. federal reservoirs/projects will continue to meet authorized uses consistent with applicable legislation, Indian treaties and tribal rights, the U.S. Government’s trust responsibility to the tribes, and other U. S. laws such as the Clean Water Act and the Endangered Species Act. Non-federal U.S. projects will continue to meet their responsibilities pursuant to their Federal Energy Regulatory Commission licenses.
6. The United States and Canada should pursue a more coordinated use of Treaty and Canadian non-Treaty storage under the Treaty to increase the flexibility to, and benefits of, meeting ecosystem-based function, power, flood risk management, and other authorized water management purposes in both countries.
7. The region anticipates impacts from climate change to all of the elements described in this document. The strategy for adapting the Treaty to future changes in climate should be resilient, adaptable, flexible, and timely as conditions warrant.
8. It is recognized that modifications to the Treaty could result in new benefits and/or costs to both Canada and the United States. U.S. interests should ensure that costs associated with any Treaty operation are aligned with the appropriate party.
9. Implementation of ecosystem-based functions in the Treaty should be compatible with rebalancing the entitlement and reducing U.S. power costs.

Recommendation Details

Consistent with the intent of the general goals and principles, the following sections provide more specific recommendations for a modernized Treaty.

Hydropower

In order to maintain coordinated hydropower operations and a reliable, economically sustainable hydropower system in a modernized Treaty, the region recommends the following:

1. The United States should pursue rebalancing the power benefits between the two countries to reflect the actual value of coordinated operations. This rebalancing is necessary because the present Treaty power benefits are not equitably shared and Canada is deriving substantially greater value from coordinated power operations than the United States. Accordingly, for the Treaty to be sustainable after 2024, the United States should only provide benefits to Canada equivalent to one-half of the actual U.S. downstream capacity and energy benefits received from coordinated operations as compared to a non-coordinated operation.
2. The United States should renegotiate for the replacement of the present "Aspects of Delivery Agreement" to create the least-cost transmission strategy for both countries to return the Canadian Entitlement to Canada. This includes reconsidering the flexibility of the return.
3. A modernized Treaty should retain the ability for both the United States and Canada to maintain an economical and reliable power supply post-2024. This requires consideration of the implications of any reductions in generation capability for either country, including lost revenue, system reliability, substantial increases in loss-of-load probability, carbon emissions, renewable resource integration, energy efficiency and conservation, and shifts in streamflow quantity and timing due to climate change.
4. A modernized Treaty should avoid substantial changes in hydropower generation during peak load periods that result in lower system reliability or flexibility⁴.

Flood Risk Management

In order to maintain coordinated flood risk management, and to protect public safety and the region's economy, the region recommends the following:

1. The United States should pursue post-2024 Treaty flood risk management through a coordinated operation plan that provides for an acceptable level of flood risk. Unless modified based upon future review of flood risk management policy for the Columbia River, the level of risk will be similar to the level of risk existing prior to 2024 (see *Domestic Matters to be Addressed Post-2013* section).
2. The United States should pursue an assessment with Canada of potential alternatives for post-2024 operations to meet flood risk management objectives, including the possibility of using planned or assured Canadian Storage.
3. The United States and Canada should establish a common understanding of the methods and procedures for post-2024 Called Upon, which should reflect the following principles based on the

⁴ Flexibility in the hydropower system is the ability of hydropower generation to respond rapidly to changes in the balance between demand and system generation and is critical for integrating variable renewable power generation such as wind and solar.

U.S. Entity White Paper: *Columbia River Post-2024 Flood Risk Management Procedure*, September 2011:

- A. Called Upon should be considered only if coordinated Canadian power, flood control, and other operations do not provide sufficient storage in conjunction with the use of U.S. system flood storage or when needed during refill season to modify planned Canadian releases.
 - B. Draft U.S. projects according to their storage reservation diagrams (SRDs). Future flood risk management studies may evaluate alternative SRDs to include incorporation of ecosystem-based function such as dry year operating strategies.
 - C. Define “effective use” as applying to the eight U.S. reservoirs authorized for system flood control.
4. The United States and Canada should identify reasonable compensation to Canada for economic losses and operating costs associated with Called Upon. Any payments for Columbia River flood risk management should be consistent with the national flood risk funding policy of federal funding with applicable local beneficiaries sharing those costs as appropriate.
 5. A modernized Treaty should enable the necessary flexibility to adapt both to changing flood risk management objectives in the United States and Canada and climate change (such as the potential for more frequent and intense winter flood events) to avoid additional risks to authorized purposes.

Ecosystem-based Function

In order to achieve the goal of modernizing the Treaty to further ensure a more comprehensive ecosystem-based function approach throughout the Columbia River Basin watershed, the region recommends the following:

1. A modernized Treaty should provide streamflows from Canada with appropriate timing, quantity, and water quality to promote productive populations of anadromous and resident fish and provide reservoir conditions to promote productive populations of native fish and wildlife. While recognizing existing Treaty obligations, a modernized Treaty should: (a) incorporate existing Treaty flow augmentation operations and accommodate post-2024 modifications to flow augmentation; (b) incorporate a dry-year strategy; and (c) gain long-term assurance of ecosystem-based functions rather than negotiating for these functions on an annual basis.
2. A modernized Treaty should recognize and minimize adverse effects to tribal, First Nations, and other cultural resources in Canada and the United States. To the extent there are adverse effects to U.S. cultural resource interests, such changes should be addressed under the Federal Columbia River Power System (FCRPS) Cultural Resources Program. This Program has the ability to be amended and expanded as needed if there are effects on cultural resources resulting from changes due to future operations in a modernized Treaty.
3. A modernized Treaty should be designed to be adaptable to meeting ecosystem-based function requirements as new information becomes available or conditions change (e.g., climate change) based on the management priorities of both countries.
4. The United States should pursue a joint program with Canada, with shared costs, to investigate and, if warranted, implement restored fish passage and reintroduction of anadromous fish on the

main stem Columbia River to Canadian spawning grounds. This joint program would proceed on an incremental basis, beginning with a reconnaissance-level investigation, and continue with implementation actions. All such federal actions at the Chief Joseph and Grand Coulee projects are subject to congressional authorization and appropriation. Modernized Treaty operations should not interfere with other opportunities to restore fish passage and reintroduction of fish in other blocked areas of the Columbia River Basin.

5. The United States should continue to coordinate its operation of Libby Dam with Canada, with the goal of achieving mutually desirable ecosystem benefits on both sides of the border. VarQ at Libby and Hungry Horse dams, including any modifications to VarQ, balances the multiple uses of the dams and incorporates ecosystem-based function.

Water Supply

Treaty Review studies indicate the potential for a modernized Treaty to allow for additional storage of water in Canada during the fall and winter, and release in the spring and summer. The Treaty should allow the storage and release of water from Canada in the spring and summer for additional in-stream and out-of-stream uses, including irrigation and municipal/industrial uses.

Irrigation has a long and important history in the Columbia River Basin for crop production and other purposes. The need for irrigation will only increase as the region continues to grow and as food supply and security continue to grow in importance. Operations under a modernized Treaty should recognize irrigation as an important authorized purpose in the Basin.

Any future water supply allocation decisions associated with a modernized Treaty should be subject to the requirement that they not adversely affect the operation of upstream reservoirs such as VarQ, and be made through a future domestic process and be consistent with ecosystem-based function and water rights, including tribal reserved water rights (see *Domestic Matters to be Addressed Post-2013* section).

Navigation

Since the Treaty was ratified in 1964, the regional and national economic significance of Columbia River navigation has grown. Operations under a modernized Treaty should recognize navigation as an important authorized purpose in the Basin and provide river flows that do not undermine safe navigation, efficient cargo movement, or the ability of navigation infrastructure to be maintained. This will ensure the economic value of port and transportation facilities, including commercial import and export of agricultural, bulk and manufactured goods.

Recreation

The region recognizes and supports the recreational and cultural opportunities that are a significant outcome of the Columbia River watershed management processes. Operations under a modernized Treaty should strive toward the protection of these resources.

Climate Change

A modernized Treaty should consider impacts from climate change to all elements described above, and create new terms in the post-2024 Treaty to allow the adaptive management of coordinated Treaty operations to better mitigate any impacts associated with climate change. The United States and Canadian Entities' Hydro-meteorological Team should continue to collaborate and share the best available climate change data and information.

Recommendation Timeframe

The region recommends that the U.S. government make a decision by mid-2014 to proceed with a renegotiation of the Treaty with Canada in order to modernize the Treaty by incorporating the objectives in this regional recommendation. Further, the region recommends that the U.S. government seek to complete that effort no later than 2015. If the United States and Canada are unable to achieve agreement on key aspects of a modernized Treaty by 2015, other options to create a modernized post-2024 Treaty should be evaluated.

Domestic Matters to be Addressed Post-2013

In addition to the preceding recommendation to the U.S. Department of State, this section identifies domestic matters related to possible post-2024 modernized Treaty implementation for consideration by domestic interests. Some of these are appropriate for consideration once the United States Entity makes its recommendation to the U.S. Department of State in 2013 and others are more appropriate for consideration once the U.S. government has a better understanding of post-2024 circumstances.

1. **U.S. Columbia River Basin Flood Risk Policy Review:** Pacific Northwest states and tribes support the pursuit of Congressional authorization and appropriations for a region-wide public process to assess potential changes to the current level of flood risk protection in the Columbia River Basin to enhance spring and summer flows. Any such process should occur between 2014 and 2024. Post-2024 Treaty provisions, including Called Upon, will be designed to adapt to any such changes that may be authorized. If a process is initiated, it will be a comprehensive approach, subject to public input, that addresses all opportunities to manage high flow events, including floodplain management, Columbia River Basin reservoir operations, and strategic improvements to existing levees and the need for additional levees. 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 also will be evaluated and addressed.
2. **Water Supply Allocation:** Pacific Northwest states, tribes, and appropriate federal agencies will design and initiate a process to allocate and manage any additional spring or summer flows for in-stream, irrigation, and municipal/industrial purposes derived through post-2024 Treaty operations. All water rights interests should be represented in this process. The U.S. Entity will incorporate decisions from this process into their post-2024 Treaty planning and operations. It is recognized that the states have authority to allocate and manage water pursuant to state law and consistent with other applicable law.
3. **Assessment of Canadian Entitlement:** BPA will host a public process in which states, tribes, federal agencies, and stakeholders can participate. This process will take place between 2014 and 2024 to assess the expected potential changes to its annual revenue requirements and rates due to any redesign of the Treaty post-2024. BPA also will discuss with the region how to manage those costs and benefits consistent with BPA's statutory authorities.
4. **Plan for Post-2024 Treaty Implementation:** Following the conclusion of the United States and Canadian negotiations of the terms of the post-2024 Treaty, and subject to funding, the U.S. Entity will lead an effort in consultation with regional sovereigns and stakeholders to develop a plan identifying the steps necessary to implement the modern Treaty post-2024. This plan will define the appropriate work needed to incorporate and implement any new ecosystem-based function, flood risk management, hydropower, and any other expected new operational objectives under the Treaty.

5. **U.S. Flood Plain Reconnection:** Tribal, federal, and state sovereigns will work with the Northwest Power and Conservation Council’s Fish and Wildlife Program and the National Oceanic and Atmospheric Administration/National Marine Fisheries’ 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.
6. **U.S. domestic advisory mechanism:** The U.S. Department of State should establish and resource a structured domestic advisory mechanism to assist, inform, and advise the Department of State in the negotiations phase of this process. The Department of State should seek to involve a broad cross-section of regional parties in this mechanism. This mechanism may also be used to provide advice regarding additional work needed to address ecosystem-based function, hydropower, flood risk management, and other beneficial water uses.
7. **Composition of U.S. Entity:** At an appropriate time, membership of the U.S. Entity should be reviewed by the Administration, with consideration given to assuring a composition and membership that is best suited to effectively and efficiently implement the Treaty post-2024.