

Columbia River Treaty

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Summary

The Columbia River Treaty (CRT or Treaty) is an international agreement between the United States and Canada for the cooperative development and operation of the water resources of the Columbia River Basin to provide for flood control and electric power. The Treaty was the result of more than 20 years of negotiations between the two countries and was ratified in 1961. Implementation began in 1964.

The Treaty provided for the construction and operation of three dams in Canada and one dam in the United States whose reservoir extends into Canada. Together, these dams more than doubled the amount of reservoir storage available in the basin and provided significant flood protection benefits. In exchange for these benefits, the United States agreed to provide Canada with lump-sum cash payments and a portion of downstream hydropower benefits that are attributable to Canadian operations under the CRT, known as the *Canadian Entitlement*. Some have estimated the Canadian Entitlement to be worth as much as \$335 million annually.

The CRT has no specific end date. Currently, either the United States or Canada can terminate most provisions of the CRT with a minimum of 10 years' written notice. If the CRT is not terminated or modified, most of its provisions would continue indefinitely without actions by the United States or Canada. The only exception is the CRT's flood control provisions, which are scheduled to transition automatically to "called-upon" operations at that time, meaning the United States would request and compensate Canada for flood control operations as necessary.

To date, neither country has given notice of termination, but, following internal government Treaty reviews, both countries indicated interest in its modification. Perspectives on the CRT vary. Some believe the Treaty should include stronger provisions related to tribal resources and flows for fisheries that are not in the Treaty; others disagree and focus on the perceived need to adjust the Canadian Entitlement to reflect actual hydropower benefits. The U.S. Army Corps of Engineers (USACE) and the Bonneville Power Administration, in their joint role as the U.S. Entity overseeing the Treaty, undertook a review of the CRT from 2009 to 2013. Based on studies and stakeholder input, they provided a Regional Recommendation to the U.S. State Department in December 2013. They recommended continuing the Treaty with certain modifications, including rebalancing the CRT's hydropower provisions, further delineating called-upon flood control operations after 2024, and incorporating into the Treaty flows to benefit Columbia River fisheries. For its part, the Canadian Entity (the Province of British Columbia) released in March 2013 a recommendation to continue the CRT with modifications "within the Treaty framework." It disputed several assumptions in the U.S. Entity's review process.

Following a two-year federal interagency review of the U.S. Regional Recommendation, the U.S. State Department finalized its negotiating parameters and authorized talks with Canada in October 2016. Between 2018 and 2023, U.S. and Canadian negotiating teams held 18 rounds of negotiations. President Biden and Prime Minister Trudeau announced an agreement in principle on terms of modernization of the Treaty on July 11, 2024. Proposed Treaty amendments reportedly include a reduction of hydropower sent to Canada and terms for U.S. payments for Canadian flood control, among other things. On November 25, 2024, the State Department announced implementation of interim measures consistent with the proposed amendments.

Past Congresses have held oversight hearings and weighed in on CRT-related activities through their oversight roles. The 117th Congress enacted new authority for USACE to carry out post-2024 called-upon flood control operations, and the 118th Congress is considering funding for these activities. While the executive branch holds the power to renegotiate the Treaty, any changes to the CRT's text would require the Senate's advice and consent.

Contents

Introduction	1
History and Background.....	2
Columbia River Treaty Review	5
Technical Studies	6
Treaty Review Regional Recommendations	6
Perspectives on Columbia River Treaty Review	7
U.S. Entity and Stakeholders	7
Canadian Perspectives on CRT Review	10
Treaty Negotiations	11
2024 Treaty Agreement in Principle and Interim Measures.....	12
The Role of Congress in Treaty Review.....	14

Figures

Figure 1. Columbia River Basin and Dams.....	3
Figure 2. Columbia River Basin: Relative Storage of Dams.....	5

Tables

Table 1. Canadian Hydropower Entitlement in Modernized Columbia River Treaty	13
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Contacts

Author Information.....	16
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Introduction

The Columbia River Treaty (CRT, or Treaty), signed in 1961, is an international agreement between the United States and Canada for the cooperative development and operation of the water resources of the Columbia River Basin for the benefit of flood control and electric power.¹ Precipitated by several flooding events in the basin (including a major flood in the Northwest in 1948), the CRT was the result of more than 20 years of negotiations seeking a joint resolution to address flooding and plan for development of the basin's water resources. The Treaty provided for 15.5 million acre-feet (MAF) of additional water storage in Canada through the construction of four dams (three in Canada, one in the United States). This storage, along with agreed-upon operating plans, provides flood control, hydropower, and other downstream benefits. In exchange for these benefits, the United States agreed to provide Canada with lump-sum cash payments and a portion of hydropower benefits.

Implementation of the CRT began in 1964.² The Treaty has no specific end date. Currently, either the United States or Canada can terminate most provisions of the CRT with a minimum of 10 years' written notice. The U.S. Army Corps of Engineers (USACE) and the Bonneville Power Administration (BPA), in their designated joint role as the *U.S. Entity*, undertook a review of the Treaty beginning in 2011. Based on studies and additional stakeholder input, the U.S. Entity made its recommendation to the U.S. Department of State in December 2013. If the Treaty is not terminated or modified, most of its current provisions would continue indefinitely without action by the U.S. or Canadian Entities, with the notable exception of flood control operations. These operations were scheduled to end in 2024 and transition to "called-upon" operations at this time.³

Perspectives on the CRT and its review vary. Some believe that the Treaty should continue but be altered to include, for example, guarantees related to tribal resources and fisheries flows that were not included in the original Treaty. Others believe that the Canadian Entitlement should be reduced to more equitably share actual hydropower benefits, or be eliminated entirely. For its part, Canada has stated that without the Canadian Entitlement (or with alterations that would decrease its share of these revenues), it would see no reason for the Treaty to continue. The final Regional Recommendation to the State Department, coordinated by the U.S. Entity, was to continue the Treaty post-2024, but with modifications. The Canadian recommendation, finalized in March 2013, also favored continuing the Treaty, but with modifications "within the Treaty framework," some of which were considerably different than those recommended by the United States.

The executive branch, through the State Department, is responsible for negotiations related to the CRT. The Senate, through its constitutional role to provide advice and consent, is entrusted with the power to approve, by a two-thirds vote, treaties negotiated by the executive branch. Changes to the CRT may or may not trigger such a vote; in any case, the Senate may choose to review any changes to the CRT.⁴ In addition, both houses of Congress may enact authorizations and/or

¹ The Columbia River Treaty (CRT) is different, and was considered separately, from tribal fisheries treaty rights on the Columbia River.

² Implementation of the Treaty occurs through the U.S. Entity (BPA and the Northwestern Division of the U.S. Army Corps of Engineers [USACE], jointly, with the BPA Administrator as Chair and USACE as a member) and the Canadian Entity (the British Columbia Hydro and Power Authority, or BC Hydro).

³ This term is generally understood to mean that the United States would request and compensate Canada for flood control operations. See below section, "Columbia River Treaty Review," for more information.

⁴ See below section, "The Role of Congress in Treaty Review."

appropriations they deem necessary for federal agencies to implement Treaty responsibilities (e.g., guidance called-upon flood control operations).

This report provides an overview of the CRT. It includes background on the history of the basin and consideration of the Treaty, as well as a brief summary of studies and analyses of the Columbia River Treaty review process to date.

History and Background

The Columbia River is the predominant river in the Pacific Northwest and is one of the largest in the United States in terms of water volume flowing to the ocean. The Columbia River Basin receives water that drains from approximately 259,500 square miles in the region, including parts of British Columbia in Canada, and four U.S. states: Montana, Idaho, Oregon, and Washington. The basin is unique among large river basins in the United States because of its high annual runoff, limited amount of storage (in the U.S. portion of the basin), and extreme variation in flow levels. The basin has the second-largest runoff in the United States in terms of average flows (275,000 cubic feet per second). Approximately 60% of this runoff occurs in May, June, and July. While about 15% of the river basin's surface area is in Canada, the Canadian portion of the basin accounts for a considerably larger share of the basin's average annual runoff volume.⁵

The Columbia River is the largest hydropower-producing river system in the United States. Federal development of the river's hydropower capacity dates to 1932, when the federal government initiated construction of dams of the Columbia River and its tributaries. In total, 31 federal dams within the Columbia River Basin are owned and operated by USACE and the U.S. Bureau of Reclamation (part of the Department of the Interior). Additional dams are owned by nonfederal entities. The BPA, part of the Department of Energy, markets power from federal dams on the Columbia River and its tributaries (collectively known as the Federal Columbia River Power System, FCRPS). Other than the largest of these facilities, Grand Coulee (which has some storage capacity), most of these facilities on the main stem of the river in the United States have limited reservoir storage and are managed as "run of the river" for hydropower, flood control, and navigation.⁶ **Figure 1**, below, provides an overview of the basin, including dam ownership.

Figure 2 shows the relative storage capacity of these dams.

The basin is also important habitat for a number of fish species. Economically important species in the region include steelhead trout; chinook, coho, chum, and sockeye salmon; and other species. These fish are important to commercial and sport anglers as well as Native American tribes in the region. The basin also provides habitat for several threatened and endangered species listed under the Endangered Species Act (ESA, 16 U.S.C. §§1531-1543); requirements under this law are an important factor in the operation of the FCRPS.

Other major uses of the basin's waters include navigation, irrigation, recreation, and water supply. Four federal dams on the river's mainstem have navigation locks that allow for barge traffic to transport bulk commodities that are important to regional and national economies. Due to this infrastructure, the Columbia River is navigable up to 465 miles upstream from the Pacific Ocean. Six percent of the basin's water is diverted for irrigated agriculture, and is particularly important in eastern Washington, northeastern Oregon, and southern Idaho. Basin waters are also diverted for other water supply purposes, and the rivers and reservoirs of the basin are important for recreational users. All of these users have an interest in management of basin water supplies.

⁵ In most years, it is estimated that the Canadian part of the basin accounts for 38%-50% of the basin's runoff.

⁶ Notably, some headwaters projects have flood storage, including Libby, Hungry Horse, and Dworshak.

Figure 1. Columbia River Basin and Dams



Source: U.S. Army Corps of Engineers, *Columbia River Treaty 2014/2024 Review*, April 2013.

The negotiation and ratification of the CRT were precipitated by several events in the basin. Most notably, a major flood event in the Northwest in 1948, the Vanport flood, caused significant damage throughout the basin and served as the impetus for negotiations between the United States and Canada, including studies by the International Joint Commission (IJC).⁷ Initially, following the flood, the United States had proposed in 1951 to build Libby Dam in Montana (which would flood 42 miles into Canada). Canada was opposed to this solution, and as a response proposed to divert as much as 15.5 MAF from the Columbia River for its own purposes. Based on a number of technical studies, the IJC recommended a compromise, which included

⁷ The IJC was established by the Boundary Waters Treaty of 1909, which established principles and mechanisms to help resolve disputes concerning water quantity and quality along the U.S.-Canada boundary. The IJC is a joint international body. More information about the IJC is available <https://www.ijc.org/en/who/mission>.

development of upriver storage in Canada to help regulate flows on the Columbia River, including those for flood control and hydropower generation.

The CRT was signed in 1961 but was not fully ratified by both countries (and therefore did not go into effect) until 1964. Implementation of the Treaty occurs through the U.S. Entity and the Canadian Entity.⁸ The Treaty provided for the construction of 15.5 MAF of additional storage in Canada through the construction of three dams: Duncan (completed in 1968), Hugh Keenleyside, or Arrow (completed in 1969), and Mica (completed in 1973). Construction of Libby Dam in Montana, whose reservoir backs 42 miles into Canada, was completed in 1973. Together, the four dams more than doubled the amount of reservoir storage available in the basin before construction began, providing for significant new flood protection and power generation benefits (see **Figure 2**). The CRT also required that the United States and Canada prepare an “Assured Operating Plan” (to meet flood control and power objectives) for the operation of Canadian storage six years in advance of each operating year. Along with “Detailed Operating Plans,” which may also be developed to produce more advantageous results for both U.S. and Canadian operating entities, these plans govern project operations under the Treaty.⁹

Under the CRT, the United States gained operational benefits in the form of flexible storage and reliable operations in Canada that provide for flood control and hydropower generation. In exchange, Canada (through the Canadian Entity) receives lump-sum payments from the United States for flood control benefits through 2024, as well as a portion of annual hydropower benefits from the operation of Canadian Treaty storage. In exchange for the assured use of 8.45 MAF annually of Canadian storage, the United States paid \$64.4 million to Canada for flood control benefits as the three Canadian dams became operational. Under the CRT, Canada is also entitled to half of the estimated increase in downstream hydropower generated at U.S. dams.¹⁰ Canada initially sold this electricity (known as the *Canadian Entitlement*) to a consortium of U.S. utilities for \$254 million over a 30-year term (1973-2003).¹¹ Currently, the United States delivers the Canadian Entitlement directly to Canada through BPA’s Northern Intertie. The U.S. Entity has estimated the value of the Canadian Entitlement at a range of \$229 million to \$335 million annually, depending on a number of factors.¹²

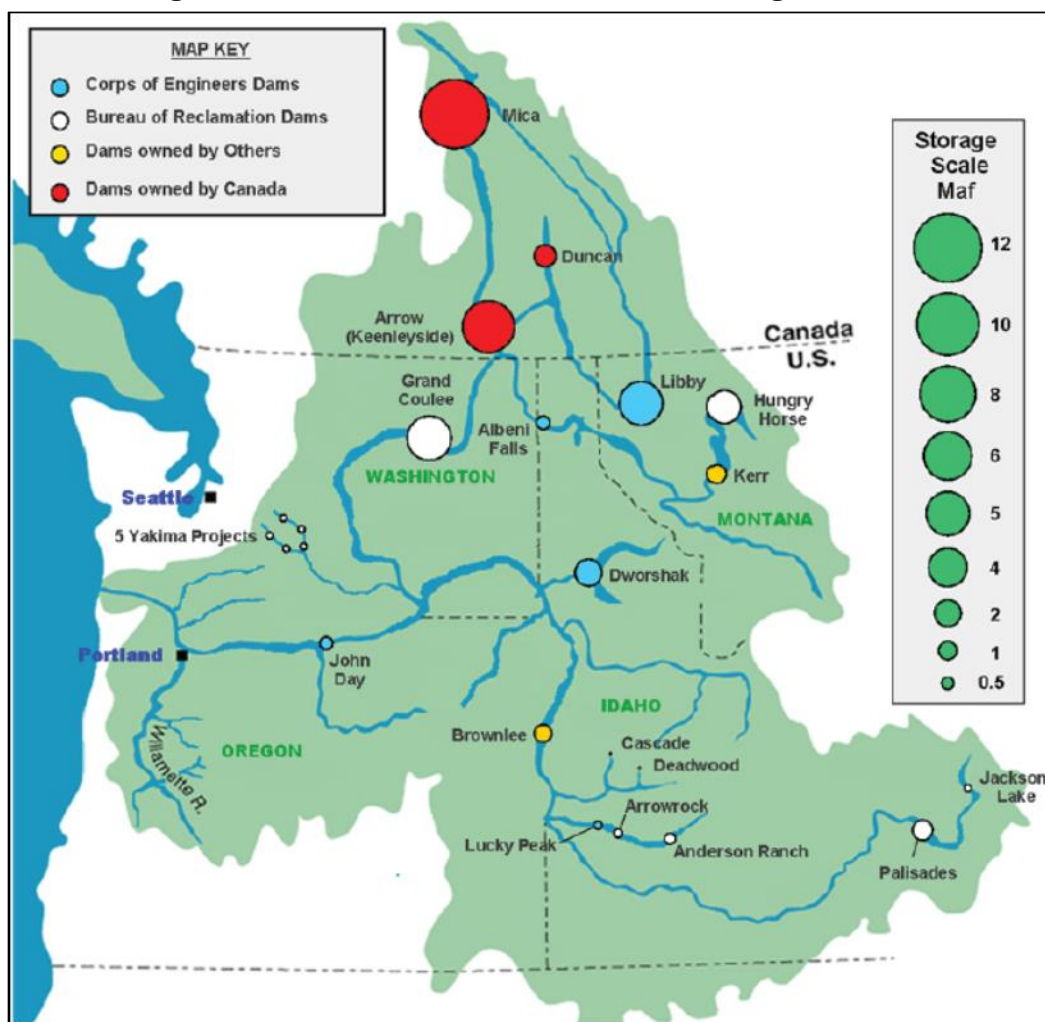
⁸ Executive Order 11177, “Providing for Certain Arrangements Under the Columbia River Treaty,” 29 C.F.R. §13097. September 16, 1964.

⁹ For example, since 1995, Detailed Operating Plans under Article XIV of the Treaty have provided extra flow storage of 1 million acre-feet per year for fisheries flows.

¹⁰ The amount of the Canadian Entitlement is based on a formula which calculates the theoretical value of additional generation from Canadian dams.

¹¹ Together with the flood control payments, these payments largely financed the construction of the Canadian facilities.

¹² U.S. Entity, “Columbia River Treaty 2014/2024 Review: Recent Study Results,” June 2012. Hereinafter “U.S. Entity, Recent Study Results.”

Figure 2. Columbia River Basin: Relative Storage of Dams

Source: U.S. Army Corps of Engineers, 2012.

Note: Maf = million acre-feet.

Several notable changes to Columbia River operations since ratification of the CRT factor into current negotiations. Most notably, declining populations of salmon and steelhead in the Columbia and Snake Rivers led to listings under the Endangered Species Act (ESA, 16 U.S.C. §§1531-1543) beginning in 1991. These listings have resulted in steps to improve salmon and steelhead habitat in the United States, including operational changes (e.g., augmented spring and summer flows) and mitigation actions (e.g., construction of fish passage facilities).¹³

Columbia River Treaty Review

The CRT has no specific end date, and most of its provisions—except those related to flood control operations—would continue indefinitely without action by the United States or Canada.

¹³ As noted above, limited operational changes on both sides of the border have occurred pursuant to supplemental agreements under the Treaty. For more information on ESA listings and related federal actions, see CRS Report R40169, *Endangered Species Act Litigation Regarding Columbia Basin Salmon and Steelhead*, available upon request.

Currently, either the United States or Canada can terminate most provisions of the CRT with a minimum of 10 years' written notice.

Assured annual flood control operations under the Treaty are scheduled to end in 2024, independent of a decision on Treaty termination. Flood control provided by the Canadian projects is expected to transition to called-upon operations at this time. Under called-upon operations, the United States would be allowed to request alterations to Canadian operations as necessary for flood control, and Canada would be responsible for making these changes. In exchange, the United States would pay for operating costs and economic losses in Canada due to the changed operation.¹⁴ USACE and the BPA, in their role as the U.S. Entity, undertook a review of the Treaty from 2009 to 2013 and delivered a final recommendation to the State Department in December 2013.

Technical Studies

As noted above, the U.S. Entity undertook a series of studies and reports to inform the parties who are reviewing the CRT (this process is also known as “Treaty review”).¹⁵ The U.S. Entity undertook its studies with significant input from a sovereign review team (SRT), a group of regional representatives with whom the U.S. Entity has worked to develop its recommendation on the future of the Treaty. In collaboration with the SRT, the U.S. Entity has also conducted stakeholder outreach so as to provide for additional input from other interests in developing a recommendation.

The U.S. Entity conducted its technical studies in three iterations. Iteration one focused on physical effects of system operations (i.e., effects on hydropower production, etc., not the effects on ecology), and modeled both current and future scenarios.¹⁶ Iterations two and three included additional analysis of various scenarios, such as modeling effects on fish and wildlife habitat and species.

Treaty Review Regional Recommendations

On June 27, 2013, the U.S. Entity shared an initial working draft of its recommendation with the State Department for comments. On September 20, 2013, the U.S. Entity released its Draft Regional Recommendation for additional review and comment through October 25, 2013. The U.S. Entity delivered the final Regional Recommendation to the State Department in December 13, 2013.¹⁷ The recommendation, which reflects U.S. Entity study results as well as stakeholder comments, is to modify the Treaty post-2024. The executive branch, through the State Department, is to make the final determination on those changes to the Treaty that are in the national interest and is to conduct any negotiations with Canada related to the future of the CRT.

In its Regional Recommendation, the U.S. Entity noted that the Treaty provides benefits to both countries, but recommended modernization so as to “[ensure] a more resilient and healthy ecosystem-based function throughout the Columbia River Basin while maintaining an acceptable level of flood risk and preserving reliable and economic hydropower benefits.”¹⁸ The

¹⁴ The Treaty does not describe the methodologies and procedures for how called-upon flood control would be implemented after 2024.

¹⁵ Separately, Canada has undertaken its own studies.

¹⁶ For a summary of these studies, see U.S. Entity, Recent Study Results.

¹⁷ U.S. Entity, “U.S. Entity Regional Recommendation for the Future of the Columbia River Treaty after 2023.” December 13, 2013. Hereinafter, “Regional Recommendation.”

¹⁸ Regional Recommendation, p. 2.

recommendation included nine “general principles” for future negotiations, as well as several specific recommendations related to alterations of the existing Treaty.¹⁹

Some of the notable recommendations for modifications to the Treaty by the U.S. Entity included providing stream flows to enhance certain fish populations. This could come through the expansion of agreements to further augment flows for spring and summer (with these flows coming from reduced fall and winter drafts—also known as *drawdowns*—in Canadian reservoirs) and development of a joint program for fish passage.²⁰ Other recommendations included minimizing adverse effects on tribal resources; incorporating a dry-year strategy; rebalancing the power benefits between the two countries;²¹ and implementing post-2024 CRT flood risk management, including effective use and called-upon flood storage, through a coordinated operation plan and definition of “reasonable compensation” for Canada.²² Finally, the recommendation also suggests that, following negotiations with Canada over the CRT, the Administration should review membership of the U.S. Entity.²³

Perspectives on Columbia River Treaty Review

Various perspectives on the CRT and the review process have been represented in studies, meetings, and other public forums conducted since Treaty review began. These perspectives informed the Regional Recommendation to the State Department.²⁴ However, the Regional Recommendation was not binding, and the executive branch, through the State Department, has the ultimate say on the U.S. position during negotiations.

Canadian perspectives provided on Treaty review were generally coordinated by the British Columbia (BC) provincial government, and BC announced its own recommendation on Treaty review on March 13, 2014.²⁵ BC recommends continuing the Treaty but seeking modifications within the existing framework. A summary of the perspectives of the U.S. Entity, selected U.S. stakeholders, and BC is provided below.

U.S. Entity and Stakeholders

Studies by the U.S. Entity generally concluded that although the CRT has been mutually beneficial to the United States and Canada, not all benefits have been shared equitably, and the Treaty should be “modernized.” Studies by the U.S. Entity concluded that under a scenario where the Treaty continues, both governments would continue to benefit from assured operating plans that provide for predictable power and flood control benefits, among other things. These same

¹⁹ For a full list of the general principles, see Regional Recommendation, p. 3. Detailed recommendations are available on p. 4 of the Regional Recommendation.

²⁰ The Regional Recommendation noted that these changes should not detract from existing Treaty obligations. See Regional Recommendation, p. 5.

²¹ The Regional Recommendation states that CRT power benefits are not equitably shared and that Canada is deriving substantially greater value from coordinated power operations than the United States. See Regional Recommendation, p. 4.

²² Under the original CRT, many of the specific details related to called-upon storage were not defined. See footnote 14.

²³ This could potentially include a third member of the U.S. Entity representing the “ecosystem function,” depending on the extent to which this change is incorporated in Treaty modification.

²⁴ The full list of comments is available at <https://bpacommments.test.bpa.gov/Category/CategoryDetails?CategoryId=207&csrt=3071210049645586284>.

²⁵ The Province of British Columbia’s Treaty review documents are consolidated at <https://engage.gov.bc.ca/columbiarivertreaty/treaty-review/>.

studies generally found that without the CRT, Canada would be able to operate its dams for its own benefit (except for called-upon flood storage, which would still be an obligation regardless of termination). This could make U.S. hydropower generation more difficult to control and predict, and could also result in species impacts if advantageous flows are not agreed upon ahead of time. Despite this unpredictability, the United States could gain some advantages from Treaty termination. Studies by the U.S. Entity have concluded that a relatively large financial benefit for the United States would likely result from terminating the Treaty—eliminating the Canadian Entitlement—while Canada would likely see reduced financial benefits from hydropower generation from the loss of the Canadian Entitlement.²⁶ However, rather than recommend termination, the U.S. Entity has recommended modification of the Treaty, including a “rebalanced” Canadian Entitlement and assurances for flows to improve ecosystems, among other things.

While most stakeholders acknowledged benefits of the CRT, several groups and individuals submitted comments criticizing the Regional Recommendation and/or its earlier drafts. Based on these comments, major areas of debate can generally be divided into three categories: (1) how to handle the Canadian Entitlement, (2) how (or whether) to incorporate flows to benefit fisheries into the current coequal Treaty goals of hydropower and flood control, and (3) specifics related to future called-upon flood management operations.

Status of the Canadian Entitlement

The status of the Canadian Entitlement to one-half of the hydropower contributed by its dam operations has been a matter of contention, especially among power interests. The final Regional Recommendation calls for “rebalancing” of the Canadian Entitlement, without specifics as to what extent it should be rebalanced. While power interests have generally stopped short of calling for termination of the CRT, they criticized the lack of specifics in earlier drafts of the recommendation, and emphasized their view that the single biggest shortcoming of the CRT is that hydropower benefits have not been shared equally.²⁷ In their public comments, many power interests noted that the Canadian Entitlement should be revised to provide a more equitable methodology for dividing hydropower generation benefits between the countries.²⁸ Some of these groups believe that because more than half of the actual generation under Treaty-related operations is being returned to British Columbia, the current Canadian Entitlement deprives U.S. power customers of low-cost power, effectively increasing electricity rates in the Northwest. Some suggest that the status of the Canadian Entitlement, rather than ecosystem flows (discussed below), should be the focus of Treaty modernization.²⁹

²⁶ Studies have estimated that the Canadian Entitlement is worth approximately \$229 million-\$335 million annually, and that net annual revenues for the United States would increase by about \$180 million to \$280 million, while Canadian revenues would decrease approximately \$220 million to \$320 million. See U.S. Entity, Recent Study Results, pp. 6-7.

²⁷ As stated previously, the Canadian Entitlement amount was a theoretical amount calculated when the CRT was originally negotiated, and did not take into account requirements to regulate and maintain fisheries in the United States that have subsequently been required and have resulted in a reduction in hydropower generation and revenues since Treaty ratification.

²⁸ See, for example, Tacoma Public Utilities, Public Comment for the Columbia River Treaty Review, August 16, 2013.

²⁹ See, for example, Public Power Council, Public Comment for the Columbia River Treaty Review, August 6, 2013.

Flows to Improve Ecosystems as a New Treaty Purpose

Perhaps the most controversial aspect of the Treaty review stems from the fact that the 1964 Treaty did not include fisheries or ecosystem flows along with the Treaty's other primary purposes of flood control and hydropower. Subsequent to the Treaty's ratification, Canada and the United States agreed under the Treaty's Detailed Operating Plans to maintain an additional 1 million acre-feet of storage at Canadian dams for flows to improve fisheries. As noted above, the U.S. Entity has recommended that a new Treaty take into account ecosystem flows and include a federal fisheries representative as part of the U.S. Entity.

While tribal and environmental groups have generally agreed that provisions for ecosystem-based functions should be incorporated into the agreement, some also have argued that the proposed recommendations for Treaty modifications did not go far enough in providing for these purposes. They have called for the ecosystem function to be explicitly added as a third purpose of the Treaty, to be treated coequally with hydropower production and flood risk management. Interests have argued that the Regional Recommendation's approach (which mentions the ecosystem function but does not call for it to be treated as a coequal purpose) would effectively subordinate these changes to the other two purposes.³⁰ They acknowledge that adding the ecosystem function as a coequal purpose would likely entail operational changes on the Columbia River in both countries beyond those currently provided for under the ESA, for example. One of the primary goals of these changes would be augmented flows for fisheries in spring and summer months and during water shortages.

Conversely, some power interests (including some BPA customers) are concerned with the approach in the Regional Recommendation for the opposite reason: they think that the recommendation embodies more accommodations for ecosystem flows than should be provided. Thus, they oppose efforts to add ecosystem purposes as a stated coequal purpose of the Treaty. In the comment process, some stakeholders noted that ecosystem flows are already prioritized in both countries through major operational changes that have been required since the Treaty was ratified.³¹ In addition to recent increases in storage for fisheries flows, they point to the listings of salmon and steelhead on the Columbia and Snake Rivers under the ESA, along with related operational changes and mitigation, as having benefited fisheries.³² They also note that BPA's power customers already make significant contributions to mitigation through power rates, which have been estimated by some to provide more than \$250 million per year to improve fish and wildlife flows.³³ Finally, some have expressed concern with potentially inherent contradictions between the maintenance of existing hydropower operations under the Treaty and expanded spring and summer flows to benefit fisheries.³⁴ They believe that further operational changes of this type will be damaging to the Northwest economy and to ratepayers.

Uncertainties Related to "Called-Upon" Flood Control

A final area of concern in the Treaty review process has been the future approach to "called-upon" flood control operations. The Regional Recommendation suggests that modifications to the

³⁰ Save Our Wild Salmon, Public Comment for the Columbia River Treaty Review

³¹ See for example, Northwest River Partners, Public Comment for the Columbia River Treaty Review, August 16, 2013. Hereinafter "Northwest River Partners Comment." For background on these efforts, see previous section, "History and Background."

³² See previous section, "History and Background."

³³ Northwest River Partners Comment.

³⁴ Western Montana Electric Generating & Transmission Cooperative, Inc., Public Comment for the Columbia River Treaty Review, August 16, 2013.

CRT should include a coordinated operation plan and definition of “reasonable compensation” for Canada for called-upon flood control. Both countries have acknowledged that details related to these operations, which U.S. entities would pay Canada for U.S. benefits, and under what circumstances these operations would be required, need clarification, either in modifications to the Treaty or in future operating plans.³⁵ During the Treaty review process, many regional entities (including states, electricity ratepayers, and other regional stakeholders) have focused on the recommendation’s uncertainty regarding payments for these benefits. They have argued that the federal government (rather than ratepayers or other regional beneficiaries) should be responsible for paying these costs, and in late 2022 Congress formally authorized USACE funding for called-upon flood control operations in the basin (see below section, “The Role of Congress in Treaty Review”). For its part, the U.S. Entity focused its Treaty review efforts on estimating flood risk and potential operational needs, which has been a matter of disagreement with Canada and is discussed below.

Canadian Perspectives on CRT Review

Canada, represented by the Canadian Department of Foreign Affairs, Trade, and Development, has the constitutional authority to negotiate international treaties. However, the Canadian Entity (BC) has been the primary entity engaged in Treaty review to date. BC initiated studies to synthesize its perspective on the Treaty beginning in 2011. These studies resulted in a decision, finalized in March 2013, to continue the Treaty while “seeking improvements within the existing Treaty framework.”³⁶ The principles outlined by BC include, among other things, specific requirements and expectations for called-upon flood control operations and a formal statement of the province’s belief that the Canadian Entitlement does not account for the full “range” of benefits accruing to the United States and the impacts on BC. The principles also acknowledge that the potential for ecosystem-based improvements “inside and outside the treaty” is an important consideration for the Treaty, but contend that management of salmon populations (including restoration of habitat) is not a Treaty issue per se.³⁷ Some of the primary differences between the two countries are explained further below.

Over the course of its review, BC documented its disagreement with several of the review findings by the U.S. Entity. It argued that, in contrast to the claims of many U.S. interests, the United States actually benefits from the CRT more than Canada.³⁸ In particular, Canada disagreed with some of the U.S. Entity findings and recommendations pertaining to flood control, hydropower, and ecosystem flows. For instance, Canada noted its disagreement with the U.S. Entity’s previous findings related to flood control benefits and expected operations. It argued that the United States has saved billions of dollars as a result of Canadian storage over the life of the Treaty, and that an agreed-upon operational plan for flood control storage similar to the current approach would be preferable to both entities in lieu of the scheduled transition to called-upon flood control operations in 2024. In particular, Canada has disagreed with the U.S. Entity’s projections of the need and cost for called-upon flood control after 2024, including the expected

³⁵ To date, called-upon flood control operations have not been necessary because of the flood control operations under the 1964 treaty, and the specific details related to “called-upon” storage were not defined in the original CRT.

³⁶ Province of British Columbia, *Columbia River Treaty Review: B.C. Decision*, March 13, 2014.

³⁷ According to the BC decision document, restoration of salmon habitat is the responsibility of the government of Canada and should be handled outside of the Treaty.

³⁸ Province of British Columbia, “U.S. Benefits from the Columbia River Treaty—Past, Present, and Future: A Province of British Columbia Perspective,” June 25, 2013. Hereinafter, “British Columbia U.S. Benefits Study.”

runoff “trigger” for called-upon Canadian flood storage.³⁹ In essence, Canada has argued that smaller U.S. reservoirs that are not currently used for flood control are actually able to provide flood storage, and would be responsible for doing so under the Treaty’s requirement that “effective use” be made of U.S. storage before called-upon storage is required (generally the United States has not assumed this would be the case). Canada argues that these new operations would result in forgone benefits to the United States associated with hydropower generation and fisheries, among other things, and thus called-upon operations may not be as cost-effective as some in the United States have projected. The Canadian Entity estimates that, for power production alone, called-upon operations would result in \$40 million to \$150 million per year in lost benefits to the United States.⁴⁰ In contrast, using its own assumptions, the U.S. Entity has previously estimated costs of between \$4 million and \$34 million per request for called-upon flood control, but has not projected the same level of losses to U.S. generating capacity.⁴¹

Canada has also argued that the Canadian Entitlement is more equitable than previous analysis by the U.S. Entity suggested, and thus that it should remain in place. In its report on U.S. benefits, the Canadian Entity noted that it would see no reason for the Treaty to continue or be renegotiated without the Canadian Entitlement.⁴² Among other things, Canada has argued that the reliability of operations provided for under the Treaty allows for generation that is worth more to the United States than the Canadian Entitlement. The Canadian Entity also noted that if the Treaty were terminated, the lack of reliable expectations for Canadian flow would constrain U.S. hydropower benefits.⁴³ As previously noted, the U.S. Entity has projected that under a Treaty termination scenario, the United States would gain significant revenue while Canadian net revenues would be expected to decrease, largely due to the termination of the Canadian Entitlement.⁴⁴

Treaty Negotiations

On October 7, 2016, the State Department finalized U.S. negotiating parameters for the CRT and formally authorized talks with Canada through the State Department Circular 175 Procedure.⁴⁵ This was the culmination of a two-year interagency review process, which itself built on the Regional Recommendation for Treaty modification.⁴⁶ After finalizing its negotiating parameters, the United States requested engagement with the Canadian Foreign Ministry.

³⁹ The actual trigger for called-upon flood control operations, as well as the cost for these operations, is not currently defined in the Treaty and is likely to be an important point in negotiations between the two countries. While the U.S. Entity has projected that a range of peak flows at the Dalles (a large dam near the mouth of the Columbia River) from 450,000 cubic feet per second (cfs) to 650,000 cfs would activate available Canadian storage, the Canadian Entity has assumed that it would provide called-upon storage only once flows reach 600,000 cfs (which is expected to be rare). If Canada only provides storage under these scenarios, some U.S. dams may need to be operated to account for an increased flood risk.

⁴⁰ British Columbia U.S. Benefits Study, p. 11.

⁴¹ In contrast to Canada, the U.S. Entity appears to have assumed limited losses associated with hydropower generation due to altered operations for maximum power production by Canada, but has not assumed significant losses resulting from new flood control operations at U.S. dams.

⁴² British Columbia U.S. Benefits Study, p. 21.

⁴³ To date, Canada has not produced estimates of the cost of this lack of reliability. British Columbia U.S. Benefits Study, p. 12.

⁴⁴ U.S. Entity, Recent Study Results, p. 7.

⁴⁵ For more information, see State Department, “Coordination with the Secretary of State and the Circular 175 Procedure,” November 16, 2018, <https://www.state.gov/treaty-procedures/>.

⁴⁶ The process was led by the National Security Council, which designated the Department of State to coordinate and oversee an interagency policy review of the Regional Recommendation. The Interagency Policy Committee included (continued...)

Negotiations between the U.S. and Canadian negotiating teams formally began on May 29-30, 2018.⁴⁷ From 2018 to 2023, the two countries held 18 rounds of negotiations, with the last round of negotiations held on August 10-11, 2023.⁴⁸ According to the State Department, the U.S. negotiating position is guided by the U.S. Entity's Regional Recommendation and includes participation on the negotiating team by the Department of State, BPA, USACE, the Department of the Interior, and the National Oceanic and Atmospheric Administration.⁴⁹ The State Department and the Province of British Columbia also have convened town halls and community meetings to discuss the status of negotiations with the public.⁵⁰

2024 Treaty Agreement in Principle and Interim Measures

On July 11, 2024, President Biden and Canadian Prime Minister Trudeau announced an agreement in principle between the two countries on the terms for modernization of the Treaty.⁵¹ As of the date of this report, no formal text has been released and the precise mechanism for changes has not been articulated, but the State Department has noted that the following elements will be included in the “modernized” version of the Treaty:⁵²

- The United States will have access to 3.6 MAF annually of preplanned flood storage space (i.e., similar to current levels) behind Keenleyside Dam, the most important of the Canadian dams for flood risk management purposes. The United States will compensate Canada at a rate of \$37.6 million per year (indexed for inflation) for this storage through 2044, beginning in spring 2025. Once the new agreement enters into force, the United States will pay an additional \$16.6 million (indexed) annually to Canada, through 2044.⁵³
- Beginning in August 2024 (i.e., the beginning of 2025 operating year), there will be an estimated reduction of 37% to the Canadian Entitlement, with plans for an eventual reduction of approximately 50% by 2033 (**Table 1**).⁵⁴ The agreement

the National Security Council; the White House Council on Environmental Quality; USACE; and the Departments of State, Energy, Commerce, the Interior, and others.

⁴⁷ U.S. Department of State, “On the Opening of Negotiations to Modernize the Columbia River Treaty Regime,” May 30, 2018, <https://2017-2021.state.gov/on-the-opening-of-negotiations-to-modernize-the-columbia-river-treaty-regime/index.html>. Hereinafter “State Department May 2018 Announcement.”

⁴⁸ U.S. Department of State, “18th Round of Negotiations to Modernize the Columbia River Treaty Regime and Announcement of Public Virtual Listening Session,” press release, August 14, 2023, <https://www.state.gov/18th-round-of-negotiations-to-modernize-the-columbia-river-treaty-regime/>.

⁴⁹ State Department May 2018 Announcement.

⁵⁰ For additional information on these efforts by the State Department, see <https://www.state.gov/columbia-river-treaty/>. For a summary of efforts by the Province of British Columbia, see <https://engage.gov.bc.ca/columbiarivertreaty/>.

⁵¹ The White House, “Statement from President Joe Biden on Reaching an Agreement in Principle on Modernization of the Columbia River Treaty Regime,” press release, July 11, 2024, <https://www.whitehouse.gov/briefing-room/statements-releases/2024/07/11/statement-by-president-joe-biden-on-reaching-an-agreement-in-principle-on-modernization-of-the-columbia-river-treaty-regime/>.

⁵² U.S. Department of State, “Details About the Key Elements Agreed Between the United States and Canada Regarding Modernization of the Columbia River Treaty Regime,” press release, July 26, 2024, <https://www.state.gov/details-about-the-key-elements-agreed-between-the-united-states-and-canada-regarding-modernization-of-the-columbia-river-treaty-regime/>.

⁵³ While the \$37.6 million begins when Canada provides the flood risk management, the other payments begin when the agreement enters into force.

⁵⁴ U.S. Department of State, “Summary of the Agreement in Principle to Modernize the Columbia River Treaty Regime,” press release, July 11, 2024, <https://www.state.gov/summary-of-the-agreement-in-principle-to-modernize-the-columbia-river-treaty-regime/>.

includes separate schedules for reduction to the Canadian Entitlement both in terms of capacity (i.e., energy generation capability available during a given period) and generation (i.e., average annual generation).

- The revised Canadian Entitlement would be further minimized, inversely correlated with any decreases to the coordinated 15.5 MAF of water storage that come as a result of the development of Canadian hydropower, down to 11.5 MAF through 2039 and 10.5 MAF through 2044. For every MAF of reduced storage, the United States will reduce the Canadian Entitlement by an additional 6.5%. BPA and its Canadian counterpart, Powerex, also will conduct a study on expanding new transmission, as envisioned in Section 40113 of the Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58).⁵⁵
- The amended Treaty also would aim to improve coordination with Indigenous peoples by establishing a tribal and Indigenous-led body to provide recommendations on how Treaty operations can better support ecosystem needs and tribal values.
- The practice of Canadian reservoirs releasing 1.0 MAF of water each year to support salmon migration would be continued; the agreement also includes a new provision to release an additional 0.5 MAF during dry years.

Table 1. Canadian Hydropower Entitlement in Modernized Columbia River Treaty
Reductions Under 2024 Agreement in Principle

Year	Capacity (Megawatts)	Generation (Megawatts)
2024 (Baseline)	1,141	454
2025-2029	660	305
2030	590	278
2031	573	225
2032	565	225
2033	558	225
2034-2044	550	225

Source: U.S. Department of State, “Details About the Key Elements Agreed Between the United States and Canada Regarding Modernization of the Columbia River Treaty Regime,” press release, July 26, 2024, <https://www.state.gov/details-about-the-key-elements-agreed-between-the-united-states-and-canada-regarding-modernization-of-the-columbia-river-treaty-regime/>.

Although reactions to the announcement generally were positive, some have criticized specific aspects of the agreement, most prominently a perceived lack of efforts to bolster fisheries. For example, some environmental stakeholders have voiced displeasure over the lack of provisions to include additional water for salmon, and others have voiced displeasure with the lack of an “ecosystem function” in the agreement in principle.⁵⁶ For their part, power stakeholders and others who support the broad elements in the announcement have noted the importance of gaining

⁵⁵ For additional information, see CRS Report R47034, *Energy and Minerals Provisions in the Infrastructure Investment and Jobs Act (P.L. 117-58)*.

⁵⁶ Save our Wild Salmon, “Columbia River Treaty ‘Agreement in Principle’ Prioritizes Hydropower and Flood Control over the Needs of Imperiled Salmon and River Health,” press release, July 11, 2024, <https://www.wildsalmon.org/news-and-media/press-releases/crt-agreement-in-principle-2024.html>.

a better understanding of specific details in the agreement, and obtaining related reviews by technical experts.⁵⁷

On November 25, 2024, the State Department announced the implementation of interim measures consistent with the proposed amendments in the agreement in principle.⁵⁸ The State Department noted that the interim measures would remain in force until a modernized treaty enters into force and would include the following:

- From 2024 through 2027, Canada is to provide 3.6 MAF per year of water storage at Arrow Lakes reservoir for flood risk management for the United States, upon election and compensation by the United States.
- Beginning August 1, 2024, the Canadian Entitlement decreased by 37%.
- Beginning November 1, 2024, Canada's Powerex assumed and must pay for 1,120 MW of transmission rights previously held by BPA (i.e., to deliver the Canadian Entitlement).
- The United States and Canada promise to continue working on a plan to store water in Canada to aid in salmon migration in 2025.⁵⁹

The Role of Congress in Treaty Review

The President, through the National Security Council, determines the negotiating position on the CRT, and the State Department is responsible for conducting negotiations related to the Treaty. Congress is also involved in this process. The Constitution entrusts the Senate with the power to approve, by a two-thirds vote, treaties negotiated by the executive branch.⁶⁰ The Senate does not ratify treaties; instead, it takes up a resolution of ratification, by which the Senate may formally provide its advice and consent on the ratification process. The Senate is not required to provide an up or down vote on a resolution of ratification, nor are treaties required to be resubmitted after each Congress.⁶¹

In the case of the CRT, the Senate would take up a new resolution of ratification if the executive branch submitted a modified Treaty to the Senate for review.⁶² In some cases, the United States modifies the implementation of treaties through an exchange of notes.⁶³ If the United States and Canada continued the Treaty without modification or if either entity provided a notice of

⁵⁷ Columbia River Treaty Power Group, "Columbia River Treaty Power Group Response to the Agreement in Principle," press release, July 18, 2024, <https://www.crtpowergroup.org/columbia-river-treaty-power-group-response-to-the-agreement-in-principle/>.

⁵⁸ U.S. Department of State, "Interim Measures to Continue Columbia River Treaty Coordination," press release, November 25, 2024, <https://www.state.gov/interim-measures-to-continue-columbia-river-treaty-coordination/>.

⁵⁹ Ibid.

⁶⁰ For more on the Senate's role in treaty consideration, see CRS Report 98-384, *Senate Consideration of Treaties*, by Valerie Heitshusen, or <http://www.senate.gov/artandhistory/history/common/briefing/Treaties.htm>.

⁶¹ For example, some treaties have lain "dormant" in front of the Senate Foreign Relations Committee for multiple Congresses.

⁶² In its November 2024 announcement regarding interim measures for the agreement in principle, the Biden Administration indicated that once the proposed amendments are finalized, it would transmit them to the Senate for advice and consent. See footnote 58.

⁶³ See, for example, the U.S. approach to the 1944 Treaty with Mexico over usage of the Colorado and Rio Grande Rivers. For more information, see CRS Report R42917, *Mexico: Background and U.S. Relations*, by Clare Ribando Seelke.

termination, there would be no apparent advice and consent role for the Senate.⁶⁴ In case of a termination by either country, the Treaty does not address whether such a notice could be reversed (i.e., by a different Administration) prior to the termination date.

In the past, the House and Senate both have weighed in on Treaty review with oversight hearings.⁶⁵ Some Members of Congress also have indicated their concerns to the Obama and Trump Administrations, expressing concern over the perceived slow pace of Treaty negotiations.⁶⁶ On June 29, 2021, a bicameral group of Pacific Northwest lawmakers wrote to President Biden urging prompt negotiation of a modernized CRT, noting among other things the need for a strategy and funding requests for called-upon flood control operations beginning in 2024 (i.e., as early as FY2023).⁶⁷

Congress also has considered resolutions and legislation related to the CRT. As previously noted, the 117th Congress authorized in Section 40113 of the IIJA several provisions related to Columbia River Basin power management, including a study and establishment of an account intended to fund new transmission facilities that facilitate two-way transfers of electrical generation between the United States and Canada.⁶⁸ Separately, Congress also enacted provisions related to called-upon flood control operations in the Columbia River Basin under Division H, Section 8309, of the James M. Inhofe National Defense Authorization Act for Fiscal Year 2023 (P.L. 117-263). That section authorized the Secretary of the Army to expend funds for called-upon Canadian flood control operations in the Columbia River Basin, but only when such funds are appropriated by Congress for these purposes. Congress in that section also required reporting on the expenditure of these funds and authorized USACE to study options for U.S.-based flood control projects with the potential to reduce the need for Canadian calls. Another proposal in the 117th Congress, which was not ultimately enacted, would have authorized \$800 million in USACE funding for cross-border flood protection in the Columbia River Basin. This funding would have been available both for payment for Canadian called-upon operations and for USACE construction of infrastructure in the United States that would further account for changing water cycles and more frequent and intense severe weather events in the basin.⁶⁹ In Section 122 of the Continuing Appropriations and Extensions Act, 2025 (P.L. 118-83), enacted on September 26, 2024, Congress included FY2025 funding for USACE for Canadian flood risk management payments of the amount announced under the July 2024 Agreement in Principle (i.e., \$37.6 million).

⁶⁴ For more background on the Senate's role in treaty termination, see CRS Report RL32528, *International Law and Agreements: Their Effect upon U.S. Law*, by Stephen P. Mulligan, at p. 23.

⁶⁵ The Senate Energy and Natural Resources Committee held a hearing on CRT review on November 7, 2013. The House Natural Resources Committee held a hearing on CRT review on December 9, 2013.

⁶⁶ Letter from Pacific Northwest Delegation to President Obama, April 14, 2015, and Letter from Reps. Dan Newhouse, Kurt Schrader, Cathy McMorris Rodgers, Peter DeFazio, Greg Walden, Jaime Herrera Beutler, and Dave Reichert to President Trump, June 21, 2017.

⁶⁷ Letter from Pacific Northwest Delegation to President Biden, June 29, 2021.

⁶⁸ See footnote 55.

⁶⁹ S.Amdt. 2587, 117th Congress.

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