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Columbia River Treaty Review

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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 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, and most of its provisions would continue indefinitely without action by the United States or Canada. Beginning in September 2024, either nation can terminate most provisions of the Treaty with at least 10 years' written notice (i.e., starting as early as 2014). To date, neither country has given notice of termination, but both countries have indicated a preliminary interest in modification of the treaty. If the CRT is not terminated or modified, most of its provisions would continue, with the exception of its 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).

Perspectives on the CRT and its review 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 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 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 State Department finalized its negotiating parameters and authorized talks with Canada in October 2016. The State Department recently announced the start of negotiations on May 29-30, 2018, with the next round of talks scheduled for August 2018.

If the executive branch comes to an agreement regarding modification of the CRT, the Senate may be asked to weigh in on future versions of the Treaty pursuant to its advice and consent role. In addition, both houses of Congress may weigh in on CRT review and negotiation activities through their oversight roles.

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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 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 of additional 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, known as the "Canadian Entitlement."

Implementation of the CRT began in 1964. The Treaty has no specific end date, and most of its provisions would continue indefinitely without action by the U.S. or Canadian Entities.[2] However, beginning in September 2024, either nation can terminate most provisions of the Treaty with a minimum of 10 years' written notice (i.e., notice could be provided as early as 2014). Thus, the U.S. Army Corps of Engineers (Corps) and the Bonneville Power Administration (BPA), in their designated 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, with the notable exception of flood control operations, which are scheduled to end in 2024 and transition to "called-upon" operations.[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 adjusted to more equitably share actual hydropower benefits, or even 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 sees no reason for the Treaty to continue. The final Regional Recommendation to the Department of State, coordinated by the U.S. Entity, was to continue the Treaty post-2024, but with modifications. The State Department has since finalized its proposed negotiating parameters, although they are not available to the public. 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. However, the Constitution gives the Senate 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

[1] The CRT is different, and was considered separately, from tribal fisheries treaty rights on the Columbia River. For more information on these treaty rights, see http://www.critfc.org/.

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

[3] Flood control provided by the Canadian projects would still continue, but is expected to transition to "called-upon" operations at that time. This means that the United States would request and compensate Canada for flood control operations. See below section, "Columbia River Treaty Review," for more information.

vote; in any case, the Senate may choose to review any changes to the CRT.[4] In addition, both houses of Congress may choose to weigh in on Treaty review activities by the U.S. Entity through their respective oversight powers.

This report provides a brief overview of the Columbia River Treaty review. 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 volume flowing to the ocean. The Columbia River Basin receives water that drains from approximately 259,500 square miles in the northwestern United States and southwestern Canada, 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), and approximately 60% of this runoff occurs in May, June, and July. While only 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 the U.S. Army Corps of Engineers (Corps) and the U.S. Bureau of Reclamation (part of the Department of the Interior), and additional dams are owned by nonfederal entities. Power from federal dams on the Columbia River and its tributaries (collectively known as the Federal Columbia River Power System, FCRPS) is marketed by the Bonneville Power Administration (BPA), part of the Department of Energy. 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 which 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.

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

[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.

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.

Figure 1. Columbia River Basin and Dams

Source: U.S. Army Corps of Engineers, 2011.

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,

[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

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 million acre feet from the Columbia River for its own purposes. Based on a number of technical studies, the IJC recommended a compromise, which included 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 (BPA and the Northwestern Division of the Corps, jointly) and the Canadian Entity (the British Columbia Hydro and Power Authority, or BC Hydro).[8] The Treaty provided for the construction of 15.5 million acre-feet (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 benefits throughout the basin (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) received 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 value of the Canadian Entitlement has been estimated by the U.S. Entity to be worth $229 million-$335 million annually, depending on a number of assumptions.[12]

international body. More information is available at http://www.ijc.org/en_/Role_of_the_Commission#sthash.zDSITn0p.dpuf.

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

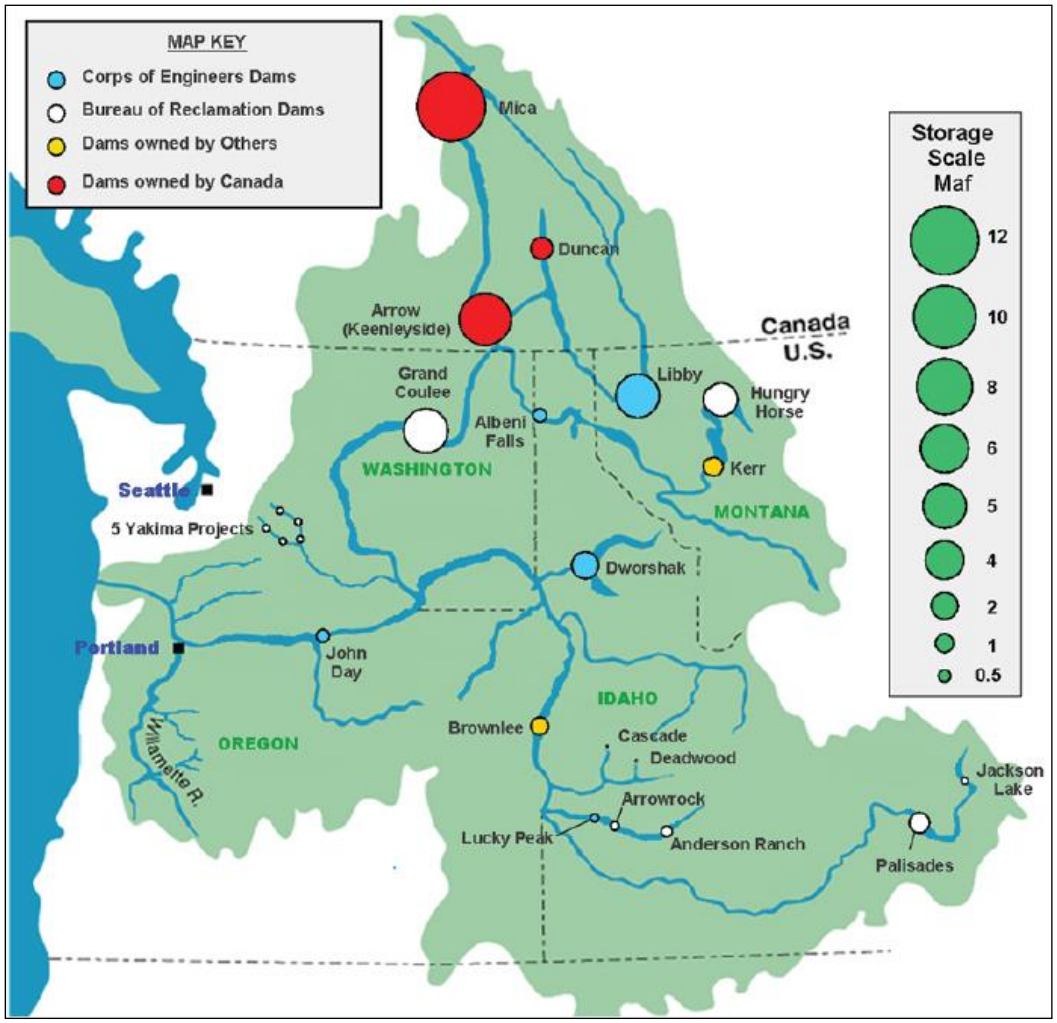
[9] For example, since 1995, Detailed Operating Plans under Article XIV of the Treaty have provided extra flow storage of 1 million acre-feet per year for fisheries flows.

[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, http://www.crt2014-2024review.gov/Files/Columbia%20River%20Treaty%20Recent%20Study%20Results%20-%20FINAL%20June%202012%20-%20singles.pdf. 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" indicates "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] For more information on these listings and related federal actions, see CRS Report R40169, *Endangered Species Act Litigation Regarding Columbia Basin Salmon and Steelhead*, by Stephen P. Mulligan and Harold F. Upton.

[13] As noted above, limited operational changes on both sides of the border have occurred pursuant to supplemental agreements under the Treaty.

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. However, beginning in September 2024, either nation can terminate most provisions of the Treaty with a minimum of 10 years' written notice (i.e., beginning in 2014). Thus, the Corps and the BPA, in their role as the U.S. Entity, undertook a review of the Treaty and delivered a final recommendation to the Department of State in December 2013.

If the Treaty is not terminated or modified, most of its provisions would continue, with the notable exception of flood control operations. 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]

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. The SRT is made up of representatives of the 4 Northwest states, 15 tribal governments, and 11 federal agencies.[16] 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 1 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.[17] Iterations 2 and 3 included additional analysis of various scenarios, such as modeling effects on fish and wildlife habitat and species. Since Treaty review began, the U.S. Entity has also produced a number of summary reports and fact sheets on Treaty review and potential future scenarios.[18]

Treaty Review Regional Recommendations

On June 27, 2013, the U.S. Entity shared an initial working draft of its recommendation with the Department of State for comments. On September 20, 2013, the Entity released its Draft Regional Recommendation for additional review and comment through October 25, 2013. The final

[14] The Treaty does not describe the methodologies and procedures for how called-upon flood control is to be implemented after 2024. Those details, including potential costs for these operations, still need to be resolved between the two nations. Canada and the United States disagreed with some of the initial assumptions regarding implementation of called upon flood control by the U.S. Entity in its Treaty review studies.

[15] Separately, Canada has undertaken its own studies.

[16] A complete roster is available at http://www.crt2014-2024review.gov/Files/SRT%20Roster%20May%202013.pdf.

[17] For a summary of these studies, see U.S. Entity, Recent Study Results.

[18] The U.S. Entity posted most of this information on its Treaty review website at http://www.crt2014-2024review.gov/.

Regional Recommendation was delivered to the Department of State in December 13, 2013.[19] 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, will make the final determination on those changes to the Treaty that are in the national interest and will conduct any negotiations with Canada related to the future of the CRT. This process may involve additional coordination with the U.S. Entity and regional stakeholders.

In its Regional Recommendation, the U.S. Entity notes that the Treaty provides benefits to both countries, but recommends that it be modernized 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."[20] The recommendation included nine "general principles" for future negotiations, as well as several specific recommendations related to alterations of the existing Treaty.[21]

Some of the notable recommendations for modifications to the Treaty include providing stream flows to promote populations of anadromous and resident fish, including expansion of present CRT agreements to further augment flows for spring and summer (with these flows coming from reduced fall and winter drafts—i.e., drawdowns—in Canadian reservoirs) and development of a joint program for fish passage.[22] Other recommendations include minimizing adverse effects on tribal resources (and addressing them under the FCRPS Cultural Resources Program); incorporating a dry-year strategy; rebalancing the power benefits between the two countries;[23] 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.[24] Finally, the recommendation also suggests that, following negotiations with Canada over the CRT, the Administration should review membership of the U.S. Entity.[25]

Status of 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.[26] The document, which is not available to the public, was the culmination of a two-year interagency review process, which itself built on the Regional Recommendation for Treaty

[19] U.S. Entity, "U.S. Entity Regional Recommendation for the Future of the Columbia River Treaty after 2023." December 13, 2013. http://www.crt2014-2024review.gov/Files/Regional%20Recommendation%20Final,%2013%20DEC%202013.pdf. Hereinafter, "Regional Recommendation."

[20] Regional Recommendation, p. 2.

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

[22] The Regional Recommendation noted that these changes should not detract from existing Treaty obligations. See Regional Recommendation, Page 5.

[23] 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.

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

[25] 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.

[26] For more information, see http://www.state.gov/s/l/treaty/c175/.

modification.[27] After finalizing its negotiating parameters, the United States requested engagement with the Canadian Foreign Ministry. The State Department recently announced the start of negotiations on May 29-30, 2018.[28] Negotiations are expected to be guided by the U.S. Entity's Regional Recommendation and will include participation by the Department of State, BPA, the Corps, the Department of the Interior, and the National Oceanic and Atmospheric Administration.[29] The next round of talks is scheduled for August 15-16, 2018.[30]

Perspectives on Columbia River Treaty Review

Various perspectives on the Columbia River Treaty and the review process have been represented in studies, meetings, and other public forums that have been conducted since Treaty review began. The Regional Recommendation represents the views of the U.S. Entity and the SRT, as well as many of the stakeholders who have weighed in through meetings and the public comment process.[31] However, the Regional Recommendation does not represent the final U.S. approach to Treaty review. The executive branch, through the State Department, will handle those negotiations.

To date, the primary Canadian perspectives provided on Treaty review have been centrally coordinated by the British Columbia (BC) provincial government, and BC announced its own decision on March 13, 2014.[32] BC recommends continuing the Treaty, but seeking modifications within the existing framework. A summary of the perspectives of the U.S. Entity, U.S. stakeholders, and BC is provided below.

U.S. Entity and Stakeholders

To date, studies by the U.S. Entity have 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 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 would 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 (and eliminating the Canadian Entitlement), while Canada would likely see reduced financial benefits from

[27] 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 the National Security Council; the White House Council on Environmental Quality; the U.S. Army Corps of Engineers; and the Departments of State, Energy, Commerce, the Interior, and others.

[28] U.S. Department of State, "On the Opening of Negotiations to Modernize the Columbia River Treaty Regime." May 30, 2018, at https://www.state.gov/r/pa/prs/ps/2018/05/282867.htm.

[29] Ibid.

[30] Ibid.

[31] The full list of comments is available at http://www.bpa.gov/applications/publiccomments/CommentList.aspx?ID=199.

[32] These comments are consolidated at http://blog.gov.bc.ca/columbiarivertreaty/.

hydropower generation under a scenario that abolishes the Canadian Entitlement.[33] 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 acknowledge 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: how to handle the Canadian Entitlement, how (or whether) to incorporate flows to benefit fisheries into the current coequal Treaty goals of hydropower and flood control, and 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.[34] 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.[35] 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.[36]

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 as part of the U.S. Entity a federal fisheries representative.

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[33] 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.

[34] 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.

[35] See, for example, Tacoma Public Utilities, Public Comment for the Columbia River Treaty Review, August 16, 2013, at http://www.bpa.gov/applications/publiccomments/CommentList.aspx?ID=199.

[36] See, for example, Public Power Council, Public Comment for the Columbia River Treaty Review, August 6, 2013, at https://www.bpa.gov/applications/publiccomments/CommentList.aspx?ID=199.

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.[37] 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.[38] 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.[39] 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.[40] 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.[41] 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 CRT should include a coordinated operation plan and definition of "reasonable compensation" for Canada for called-upon flood control. Details related to these operations, in particular who will pay Canada for U.S. benefits and under what circumstances these operations would be required, are noted to be necessary by both sides. These details will need to be defined in upcoming negotiations (either in modifications to the Treaty or in future operating plans).[42] During the Treaty review process, many regional entities (including states, power ratepayers, and other

[37] Save Our Wild Salmon, Public Comment for the Columbia River Treaty Review, http://www.bpa.gov/applications/publiccomments/CommentList.aspx?ID=199.

[38] See for example, Northwest River Partners, Public Comment for the Public River Treaty Review, August 16, 2013, http://nwriverpartners.org/images/NWRP_Treaty_Letter_8-16-13.pdf. Hereinafter "Northwest River Partners Comment." For background on these efforts, see previous section, "History and Background."

[39] See previous section, "History and Background."

[40] Northwest River Partners Comment.

[41] Western Montana Electric Generating & Transmission Cooperative, Inc., Public Comment for the Columbia River Treaty Review, August 16, 2013. http://www.bpa.gov/applications/publiccomments/CommentList.aspx?ID=199.

[42] 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.

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. For its part, the U.S. Entity has not taken a formal position on who should pay for these benefits, and has instead focused on estimating flood risk and potential operational needs. These estimates have been a matter of disagreement with Canada (see below section, "Canadian Perspectives on CRT Review").

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, the Province of British Columbia (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."[43] 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 British Columbia. 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.[44] Some of the primary differences between the two countries are explained further below.

Over the course of its review, British Columbia 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.[45] 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 runoff "trigger" for called-upon Canadian flood storage.[46] In essence, Canada has argued that smaller U.S. reservoirs which 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

[43] Province of British Columbia, *Columbia River Treaty Review: B.C. Decision*, March 13, 2014, http://blog.gov.bc.ca/columbiarivertreaty/files/2012/03/BC_Decision_on_Columbia_River_Treaty.pdf.

[44] 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.

[45] 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."

[46] 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.

"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.[47] 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.[48]

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.[49] 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.[50] 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.[51]

The Role of Congress in Treaty Review

The President, through the National Security Council, determines a final negotiating position on the CRT, and the State Department is responsible for conducting any future negotiations related to the Treaty. However, Congress nonetheless may be asked to weigh in on the process. The Constitution gives the Senate the power to approve, by a two-thirds vote, treaties negotiated by the executive branch.[52] The Senate does not ratify treaties; instead it takes up a resolution of ratification, by which the Senate formally gives its advice and consent. 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.[53]

In the case of the CRT, as the Treaty has been previously negotiated and ratified, the Senate would take up a resolution of ratification only if the Treaty were modified and the executive branch submitted the modification to the Senate for review (but not if it is continued without modification or terminated, since there would not be a new Treaty for the executive branch to ratify in either case).

[47] British Columbia U.S. Benefits Study, p. 11.

[48] 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.

[49] British Columbia U.S. Benefits Study, p. 21.

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

[51] U.S. Entity, Recent Study Results, p. 7.

[52] 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.

[53] Some treaties have lain "dormant" in front of the Senate Foreign Relations Committee for multiple Congresses.

Both the House and the Senate have weighed in on Treaty review through their oversight capacities.[54] Additionally, the Northwest delegation (including all 26 lawmakers representing Idaho, Montana, Oregon, and Washington) sent letters to President Obama in 2014 and 2015 expressing concerns with the perceived slow pace of the Interagency Policy Committee review process. In the most recent letter (dated April, 2015), lawmakers expressed a collective desire to finalize an Administration position and begin negotiations with Canada in 2015.[55]

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[54] The Senate Energy and Natural Resources Committee held a hearing on CRT Review on November 7, 2013. See http://www.energy.senate.gov/public/index.cfm/hearings-and-business-meetings?ID=79a4a23f-1644-41e6-bea8-3f4d3cb05656. The House Natural Resources Committee held a hearing on CRT Review on December 9, 2013. See http://naturalresources.house.gov/calendar/eventsingle.aspx?EventID=363025.

[55] Letter from Pacific Northwest Delegation to President Obama, April 14, 2015, http://www.murray.senate.gov/public/index.cfm/2015/4/murray-wyden-defazio-walden-northwest-delegation-urge-obama-to-initiate-negotiations-on-columbia-river-treaty-this-year.