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**THE PLACE OF THE ENVIRONMENT IN THE COLUMBIA RIVER TREATY**

By

Elliott Charles Smith

Accepted in Partial Completion  
Of the Requirements for the Degree  
Master of Arts

Kathleen L. Kitto, Dean of the Graduate School

**ADVISORY COMMITTEE**

Chair, Dr. Cecilia Danysk

Dr. Donald Alper

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## **MASTER'S THESIS**

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Elliott Charles Smith  
May 9, 2012

# **THE PLACE OF THE ENVIRONMENT IN THE COLUMBIA RIVER TREATY**

A Thesis  
Presented to  
The Faculty of  
Western Washington University

In Partial Fulfillment  
Of the Requirements for the Degree  
Master of Arts

by  
Elliott Charles Smith  
May 2012

## **Abstract**

At the end of World War II the United States embarked on an ambitious agenda of dam construction to stimulate the economy of the Pacific Northwest. A complete hydroelectric system was planned, including upstream storage dams that would moderate the river's seasonal flow fluctuations and downstream run of river dams that would produce electricity with the modified flow. Assigned to the politically powerful Army Corps of Engineers, the downstream dams proceeded on schedule, while the upstream dams stalled under the direction of the weaker Interior Department. The United States was left in an untenable situation where the downstream dams would sit losing money for most of the year, unable to produce sufficient electricity to repay their cost of construction with the river's unmoderated flow. Political opposition and environmental pressures ultimately coalesced to halt the construction of the upstream dams in the United States, and made Canada the most feasible location for adding upstream storage. This plan ultimately became the 1964 Columbia River Treaty. To fishery advocates, the Treaty was an attractive plan because previous dam construction had made salmon runs extinct on the Canadian Columbia, whereas salmon still ran on the American tributaries where upstream storage had been previously proposed. As such, this study finds that contrary to what has previously been understood about the Columbia River Treaty, the United States pursued the agreement in part out of environmental motives. The construction of three dams in British Columbia under the Treaty ultimately had significant negative ecological consequences for valleys flooded out by reservoirs, and the elimination of seasonal floods was detrimental to salmon runs downstream in the United States.

## **Acknowledgements**

I would like to thank the Association for Canadian Studies in the United States (ACSUS) and the Thomas O. Enders Endowment for funding the research that made this study possible. Thanks to their generosity I was able to travel to the Eisenhower Library in Abilene, Kansas, Archives Canada in Ottawa, Ontario and the Simon Fraser University Archives in Burnaby, British Columbia as the ACSUS Thomas O. Enders Graduate Fellow in Canada-US Relations. I would also like to thank Professors Cecilia Danysk and Don Alper for their unwavering encouragement and intellectual mentorship. Additionally, I owe a debt of gratitude to Herb Pankratz, Archivist at the Eisenhower Library for his keen eye and assistance in finding documents that proved invaluable to understanding the history of the Columbia River Treaty. Thanks also to Kevin Cook, Academic Relations officer at the Consulate General of Canada, Seattle for his support and encouragement throughout this project. Father Michael Treleaven of Gonzaga University and the Pacific Northwest Canadian Studies Consortium provided encouragement and conference funding, for which I am grateful. Thanks to Dr. Anthony White of the Bonneville Power Administration who graciously took the time to sit down with me when I was first beginning this project, and explain the origins of the Treaty from Bonneville's Perspective. Some time later Dr. White and I met again at a conference on the Treaty in Coeur d'Alene, Idaho where he mentioned that Bonneville had copies of the original Treaty negotiation records, which anyone could read in entirety if they so desired. When I took him up on the offer, Dr. White was kind enough to scan and email them to me, obviating the need for a trip to Portland. Thanks also to the staff at the Bonneville Power Administration Library in Portland, Oregon for accommodating my sometimes unusual research requests and providing the security escort required by Department of Energy regulations when information I needed was located deep within areas of Bonneville headquarters off limits to members of the public without a Bonneville employee escort. Thanks to author William Layman of Wenatchee, Washington for supplying me with a copy of the unpublished 1958 Columbia River study by State College of Washington (now WSU) Professor Daniel M. Ogden that proved invaluable to understanding the origins of the Treaty. And last, but certainly not least, thanks to Chuck Hart, Program Manager at the Center for Canadian-American Studies at Western Washington University for supporting this project in ways too numerous to mention here.

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## **Introduction**

The Columbia River Treaty was drafted out of a desire on the part of the United States to maximize hydropower output in the Pacific Northwest and enhance flood control in the American portion of the Columbia River Basin in the 1950s. The Treaty, ratified in 1964, called for the construction of three dams in British Columbia and one in Montana which implemented a regime of stream flow modification to protect downstream communities from floods and raise the efficiency of hydroelectric generating stations in the lower Columbia Basin. This is clear in the official histories of the Treaty and the common regional narrative of its origins. A careful reading of primary sources, however, shows that the United States had environmental conservation motives in pursuing the Treaty with Canada -- motives sometimes hidden, sometimes obvious.

While it is true that the Treaty itself does not specifically address environmental conservation concerns, there is far more to the story. It is common to view products of the time before the generally accepted birth of the modern environmental movement as expressing a disregard for environmental factors, but doing so oversimplifies reality. Environmental conservation factors were partially considered, at least on the American side. For Americans, the Treaty was an opportunity to develop hydroelectric resources without destroying salmon-spawning habitat or being forced to reckon with early environmental legislation that required mitigation to salmon migration impairment.

This study finds that by the mid 1950s environmental conservation motives, particularly those in relation to protecting salmon, were emerging as a strong voice in opposition to further dam construction in the United States.

The Columbia River Treaty was signed by the United States and Canada in 1964, but it had been conceived, studied and negotiated in the post-war era from 1949-1960. The first significant study by the International Joint Commission of placing dams on the upper Columbia River in Canada was done in 1949. Legislative progress towards salmon habitat conservation and a growing political will to exert power to protect anadromous fish in the 1940s and 1950s were one of the key factors that halted dam development in American areas critical to the health of the fisheries, and ultimately pushed dam construction into Canada where it was believed their presence would do less harm to salmon and steelhead runs.

In the United States during this era, significant progress was made at the legislative level by an emerging environmental movement comprised of a small group of intellectuals and conservation-minded outdoor enthusiasts. While it is true that it was not yet a broad mass movement that captured mainstream public attention, this growing environmental movement had gained sufficient traction to require policy makers to factor ecological concerns into large scale development decisions, by securing the passage of the Fish and Wildlife Act of 1956. That law required that large federal resource development projects in the United States mitigate their impact upon fisheries and wildlife habitat. Dam development in Canada, however, was unencumbered by similar legislation. For this, and a series of other reasons that will be explained in this study, Canada became a more feasible location for building large hydropower storage dams in the Columbia Basin in the post World War II era.

This study relies heavily upon primary sources from four archives, two in the United States and two in Canada. American records from the Eisenhower Library in Abilene, Kansas proved invaluable in understanding the American environmental motives in seeking the Treaty with Canada. Canadian federal records from Archives Canada illustrated the backstory of Canadian-American communication in the 1930s regarding the extinction of Canadian Columbia River salmon with the construction of Grand Coulee Dam, which would come to play a large role in making British Columbia the most feasible location for placing upstream storage dams in the 1960s under the Treaty. British Columbia provincial records, as well as informative details about the Treaty came from the Simon Fraser University Archives in Burnaby, British Columbia. And, the Bonneville Power Administration Library at Bonneville headquarters in Portland, Oregon provided a wealth of information in understanding that agency's role in the Treaty, and how its thinking and operations have evolved over time.

## **Chapter 1: American Columbia Basin Development in the Post-World War II Era**

This chapter will explore the bureaucratic and political machinations in the United States that led to the United States seeking the Columbia River Treaty with Canada. The population of the Pacific Northwest increased dramatically during the course of World War II, and as a result, after the war, the US Government embarked on a plan of dam construction for several reasons, including economic stimulus. The dams were justified politically in part because they were to pay for themselves, by generating revenue from the sale of the electricity they generated. A devastating flood in 1948 also made clear the exigency of adding dams to the Columbia Basin and helped to move the program of dam construction through congress; the need to control floods was one of the other prongs in the multi-pronged agenda for federal dam construction in the Columbia Basin in the post-war era. For a series of reasons, responsibility for building the various anticipated dams was divided between two departments of the Executive branch of the US Government: Interior and Defense. The Department of Defense, through its US Army Corps of Engineers was assigned jurisdiction over the dams along the lower Columbia and Snake Rivers, while the US Department of the Interior was given charge of dams at higher elevation further upstream. Lower along the river, the Army Corps would build so called “run of river” dams that store only small amounts of water, but assist with navigation and provide a small amount of flood control, while generating electricity by taking advantage of the downhill flow of water the river offered. The Interior Department was to build storage dams upstream that would store vast amounts of water and serve to moderate the river’s seasonal flow pattern. The complete system of Interior storage dams upstream and Army Corps dams downstream would work together to generate electricity and control

floods in the Columbia Basin. This was system the Federal Government planned for the Columbia basin in the post-world War II era.

What happened was that only the lower Army Corps Run of River dams were ever built, and the United States found itself with half a hydroelectric system, and eventually turned for Canada to help. At the time, the US Army Corps of Engineers was the most powerful agency in Congress, and it was able to push its dam construction agenda ahead, while the politically weaker US Department of the Interior saw its anticipated dam projects in the Columbia Basin delayed. In 1953 when Dwight D. Eisenhower became President, he implemented a policy of “no new starts,” which allowed the Army Corps dams already under construction to be completed, but further stalled the planned US Department of Interior dams upstream. The delay caused by the Interior Department’s political weakness and the Eisenhower Administration’s “no new starts” policy gave an emerging environmental movement just enough time to begin to coalesce and oppose the construction of the planned Interior Department dams. Ultimately, the Interior Department’s planned storage dams upstream were not completed, while (with limited exception) the Army Corps’ downstream run of river dams were built. The problem this presented is that the natural flow pattern of the Columbia River was not conducive to generating electricity profitably with only the downstream Army Corps run of river dams because of the freshet. The Freshet is the annual spring time surge in river flow, when melting snow releases great torrents of water down the river; the river would flow in such great volume that water had to be spilled over the top of run of river dams. Flooding was still a concern, because the run of river dams were not capable of providing assured flood protection to downstream areas during particularly acute freshets. Then,

later in the year, there would insufficient water flowing through the river at the run of river dams for them to produce enough electricity on a year-round basis to pay back the federal government for the cost of their construction. The planned Interior Department upstream storage dams would have provided the needed moderation of the freshet, but they were not built for a series of reasons. Among them being the pre-existing political weakness of the Interior Department, as well as Eisenhower's "no new starts" policy, and local opposition. In addition to these various other factors conspiring against the construction of large storage dams in the United States, emerging environmental opposition began to play an increasing role, and became a significant reason that the planned Interior Department Storage dams were ultimately not built.



Figure 1: Map of the Columbia River Basin, including Columbia River and principal tributaries, which drain portions of seven western US States and the Canadian province of British Columbia. The main stem of the Columbia River is highlighted.

Charles McKinley studied planning. He was a professor of Political Science at Reed College in Portland, Oregon. An expert on the Bonneville Power Administration, he was frequently called upon to serve on government committees. In 1952 he published

Uncle Sam in the Pacific Northwest, an analysis of federal infrastructure investment in the region in the post-World-War-II era. He found that the federal government embarked on a program of dam construction on the lower Columbia and Snake Rivers in the post-war era to serve intertwined agendas of flood control, hydropower generation and economic stimulus.<sup>1</sup>

Economic stimulus was needed in the region in the post-war era because of the rapid population growth the area had experienced as a result of the war. The Pacific Northwest ended World War II with a population 25% larger than it had started the conflict with. Civilian workers were drawn in great numbers to the myriad wartime manufacturing endeavors in the region, including the construction of Boeing Airplanes in and around Seattle, and the Manhattan project on the shores of the Columbia River in Hanford, Washington. The region's large collection of military bases and strategic location close to the war in the Pacific also drew significant numbers of active duty military personnel.<sup>2</sup>

It was not the first time in American history that a war boosted the population of a region heavy in industry and military presence. The degree to which people chose to stay in the region after the war, however, was unprecedented. By and large, the civilian workers and military personnel who deployed to the Pacific Northwest to support the war effort chose to stay and make their permanent peacetime homes in the region. McKinley explained that concerned Federal planners studied the matter and found that while intra-

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<sup>1</sup> Charles McKinley, *Uncle Sam in the Pacific Northwest: Federal Management of Natural Resources in the Columbia River Valley* (Berkeley: University of California Press, 1952), 67-228.

<sup>2</sup> McKinley, 7-11.



national migrations had traditionally been a result of a specific economic opportunity, those who chose to settle in the area after their wartime service largely chose to do so because of an affinity for the region's climate and lifestyle.<sup>3</sup>

There was no particular economic reason that drew them to stay. On the contrary, wartime production was ramping down, and the outlook for the extractive resource industries that had traditionally dominated the economic landscape of the Pacific Northwest was bleak. Logging, which had long been the primary economic engine of the region, could no longer be relied upon as it had been in the past because the forests of the Pacific Northwest had been logged aggressively to support the war effort. Even if the population had remained relatively stable in the region, the forests would have been unable to sustain the harvest rates necessary to keep the area's economy thriving. With the 25% increase in population this problem was exacerbated and it became clear to planners that a new economic model would be needed to carry the region forward and avoid a severe postwar recession.<sup>4</sup>

To this end the Federal government embarked on an ambitious agenda of dam construction in the Columbia River basin. The plan called for smaller “run of river” dams to be built along the lower stretches of the Columbia and Snake Rivers which would work in tandem with larger storage dams upstream to regulate the river’s flow and produce optimum amounts of electricity and control floods year round. This system

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<sup>3</sup> *ibid.*, 1-30

<sup>4</sup> *ibid.*

would provided badly needed flood control in the Columbia Basin and would stimulate the economy of the region by providing abundant low cost hydroelectricity to foster the growth of an industrial economy.

The American plan called for a complete system of dams, upstream and downstream, that would rationalize the flow of the Columbia and Snake Rivers, and generate electricity to build a new post-war economy. The Federal government intended that this complete hydropower system would pay for itself, by replenishing federal coffers with funds generated from the sale of hydroelectricity system wide. That the system was supposed to ultimately be expense-neutral for the federal government, or perhaps, even generate a small profit for the taxpayers of the United States helped to sell the dams politically.

Although the dams would have multiple purposes, only their hydropower generation function could produce revenue. The dams along the lowest portions of the Snake and Columbia Rivers would include navigation locks that would ultimately allow barge traffic to travel upstream as far as the Port of Lewiston, Idaho, but no direct income to the federal government would result from this. The Army Corps of Engineers, operator of federal navigable waterways, did not and does not charge user fees for shippers to use their lock facilities. Likewise, no direct income would result from flood control. Though navigation and flood control would benefit the region's economy, they would not produce direct income for the federal government.

Hydropower could, if only the river would cooperate. The expectation that the dams could generate enough power to pay for themselves was predicated upon the construction of a complete system, a system that would have storage dams upstream working in tandem with run of river dams downstream. This complete system to control the river was necessary given the extraordinary fluctuations in flow volume the Columbia produced in its natural state. The river surged in springtime when snow melted, and then slowed to a relative trickle later in the summer when precipitation became sparse. This annual springtime surge in water flow is known as the freshet, and controlling it would become crucial to preventing floods in the lower Columbia basin, as well as generating sufficient amounts of electricity for the dams to pay for themselves.

Marion Marts was a geographer and scholar of hydropower at the University of Washington. He was intricately familiar with the hydroelectric system the United States was developing in the post-war era. In 1949 an accord, described as a “shotgun marriage” by Professor Marts was forced on the Army Corps of Engineers and the US Interior Department’s Bureau of Reclamation that gave exclusive federal authority to downstream run of river development to the Corps, while placing responsibility for upstream storage in the hands of the Bureau of Reclamation.<sup>5,6</sup>

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<sup>5</sup> It should be noted the federal government was not the only actor building downstream run-of river plants. Washington State Public Utility Districts retained some development rights at non-federal sites. The Grant County Public Utility District built Priest Rapids and Wanapum Dams starting in 1950 and 1959, respectively and the Chelan County Public Utility District built Rocky Reach Dam starting in 1956. Wells Dam was built by the Douglas County Public Utility District and was completed in 1967. All other dams built on the American portion of the Columbia River

There is a rational explanation for this division. Storage dams impound water that can be used for irrigation. For this reason the Bureau of Reclamation had ample reason to be heavily involved in their planning and construction; the agency was created to provide irrigation to “reclaim” land for agriculture in the American West. The run of river dams, on the other hand, would be fitted with navigation locks, traditionally the jurisdiction of the Army Corps.

In any case, when responsibility was divided for the construction of the intended complete system of Columbia Basin dams in 1949 the Army Corps was assigned the downstream run of river dams, and the Interior Department given charge of constructing the upstream storage dams. Because of its enormous political power in Congress, the Army Corps was able to proceed faster with commencing construction on its half of the system, while the Interior Department was slower to proceed with its storage dams.

The Vanport Flood of 1948 also helped to sell the plan politically in Congress. In the Spring of 1948 a devastating “hundred year flood” rushed down the Columbia Basin causing widespread damage to riverfront settlements. Near the confluence of the Willamette and Columbia Rivers just West of the present-day location of Portland International Airport the flood completely demolished the community of Vanport City, at

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were federal projects, and all, with the exception of Grand Coulee – a Bureau of Reclamation project, were built by the US Army Corps of Engineers.

<sup>6</sup> Marion Marts, “Retrospection on the Great River Treaty from South of the Border,” Audio recording, Speech delivered at Simon Fraser University, 1974, F-227 item 23 (ref.), Simon Fraser University Archives.

the time, the second-largest city in Oregon. The flood laid clear the exigency of building dams in the Columbia basin to protect the region from flooding, and authorizing legislation for an initial slate of downstream dams to be constructed by the US Army Corps of Engineers sailed through Congress.<sup>7</sup>

The political landscape changed when Dwight Eisenhower took office in 1953, however. As a reflection of his more conservative beliefs, Eisenhower believed that the Federal government should encourage private capital to develop infrastructure such as power plants on a partnership basis, rather than directly spend taxpayer dollars on large public works projects. To this end, he instituted a policy of “no new starts,” allowing large public projects that had already been commenced to continue, but halting work on everything else that he was able to stop, including the planned federal upstream storage dams in the Columbia Basin. For a series of reasons, the Interior Department dams were delayed to the point that they were affected by this Eisenhower policy. Because of the Corps relative position of political power, their projects were by and large unaffected by this Eisenhower policy.

In the immediate post-war era, the US Army Corps of Engineers was the most powerful agency in the US Government when it came to garnering Congressional appropriations. Because of their enormous political power in Congress, the Corps was able to rapidly push authorizing legislation for McNary Dam through and began construction on that facility in 1947. Soon thereafter, aided by the Vanport Flood, they

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<sup>7</sup> McKinley, 19-20.

received authorization to proceed with construction of Chief Joseph Dam in 1949 and The Dalles Dam in 1952, all before Eisenhower took over and implemented the no new starts policy. Once Eisenhower took over and implemented the policy, his administration was able to stop the construction of a dam in Grant County, Washington<sup>8,9</sup> by the Army Corps, but was unable to prevent the agency from building John Day Dam in 1958.

The lobby that supported the Corps had a reputation for being unstoppable.<sup>10</sup> The Corps ability to lobby Congress and get funding for projects was second-to-none. In the 1940s and 1950s their power was legendary. The Corps was able to leverage its influence and unquestionably assert authority over projects where river navigation was desired, and often where it was not. Furthermore, the Corps built its own institutional momentum as it went along. By refusing to charge user fees of those who benefited from the navigable waterways it maintained, the Corps navigation projects had the net effect of pushing down railroad shipping rates in areas where a river managed by the Corps offered an alternative shipping means. Railroads would lower their fees for shipping commodities to remain competitive with the costs to private business of shipping by waterborne means. This had the effect of causing local business and industrial interests to welcome Corps projects, and encourage the development of navigable channels even in areas where the evidence suggests they weren't truly needed. Exploring the matter in 1949, Harpers

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<sup>8</sup> Blueprints and engineering studies already conducted on that site were given by the Army Corps to the Grant County Utility District and were ultimately used by the Grant County Public Utility District in the construction of Priest Rapids Dam and Wanapum Dam

<sup>9</sup> Robert T. Stevens, Secretary of the Army, to Rowland R. Hughes, Director, Bureau of the Budget, 14 December 1954, Central Files, Official File, 155-A (2), Box #828, 155-A-1 (2), Eisenhower Library

<sup>10</sup> Marts

Magazine summed it up by asking answering: “How do they (the Corps) get away with it? The answer is simple. Congress loves the Corps of Engineers and the Corps loves Congress.”<sup>11</sup> What it really boiled down to was a powerful caucus of congressmen from the Lower Mississippi River region who were so determined to make sure the Army Corps would continue to build and improve flood control and navigation projects in their area that they stood by and supported all Corps endeavors without question.<sup>12</sup>

The essential takeaway from this bureaucratic and political power struggle is that the 1949 division of power ceded the bottom of the Columbia Basin to the powerful Army Corps, an agency that easily pushed its agenda through Congress and later past a reluctant White House and essentially fully developed its half of the Columbia Basin power system. At the same time that 1949 split had assigned responsibility for the other half of the system, the upstream Storage dams, to the politically-weaker Department of the Interior, whose agenda became mired in Congress, stalled by the Eisenhower “no new starts” policy and would become encumbered by emerging environmental legislation and a growing environmental movement. By Eisenhower’s second term it became clear that the United States had only built half of the system it had designed at the end of World War II.

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<sup>11</sup> Robert de Roos and Arthur A. Maass, “The Lobby that Can’t Be Licked: Congress and the Army Engineers,” *Harper’s Magazine* August 1949, pages 21-30.

<sup>12</sup> *ibid.*

The half-built system the United States found itself with by Eisenhower's second term was particularly troublesome because of the freshet. The natural flow pattern of the Columbia River held violent seasonal fluctuations, primarily due to the freshet. The river slowed to a relative trickle in the summer when rain was sparse and again when winter stored the majority of the precipitation as snow. A 1959 report quantified the difference between maximum flow during the freshet and minimum flow during the middle of winter by saying "At the Canada – U.S. border the ratio of high to low flows is about 40 to 1."<sup>13</sup> When this snow melted in the Spring it released great torrents of water - the freshet - surging down the river towards the Pacific Ocean. The 1948 Vanport Flood was caused by a particularly acute freshet. A late Spring cold snap coated the partially-melted snow on the mountain slopes of the Columbia Basin with a layer of ice from freezing rain. A warm rain soon followed, melting the remaining snow in greater volume and less time than typical. The resulting freshet surged over the banks of the Columbia, and destroyed Vanport City on its path to the ocean.

Even in years of milder weather the freshet was an annoyance to the engineers who ran the American Columbia River hydroelectric system, especially in its half-completed state with the Army Corps downstream run of river dams and no storage upriver. When the freshet came, the river's volume grew so great they were forced to spill massive amounts of water over the tops of dams along the system. Water held back and run through a dam's turbines generated electricity, which produced revenue to repay the federal government's investment. Water spilled over the dam represented a lost

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<sup>13</sup> Arthur J.R. Smith, *Canadian-American Committee: Confidential Committee Report R-8, Cooperative Development of the Columbia River Basin*, October 1959, Central Files, Official File, 155-A (2), Box #828, 155-A-1 (2), Eisenhower Library.



opportunity to generate that electric power. To the engineers who ran the Columbia Basin system, the freshet represented a waste; a waste of energy and money.

The seasonal nature of regional electricity demand was another difficulty compounded by the freshet. In the post-war era, the electricity demand in the Pacific Northwest and British Columbia peaked in the winter time, when home heating demands were at their highest. This demand curve conformed almost exactly opposite of the supply availability of electricity on the unregulated Columbia River with the freshet.<sup>14</sup> And although some years later the Pacific Northwest-Pacific Southwest Intertie would connect the west coast's electricity grids and provide markets in southern California for power generated in the Northwest that was not needed locally, there was no such interconnection at the time. The natural flow of the river with the freshet meant that electricity was available in abundant quantity when it was needed least – in the spring and summer – not when cold winter weather caused the demand to rise for home heating in the Pacific Northwest. The fact that the regional electricity demand due to heating needs was opposite of the seasonal availability of abundant electricity supply due to the freshet was an illustrative example of how the irrational river in its natural state refused to conform to the demands of modern industrial society. It would be disingenuous to insinuate that homes in the Pacific Northwest were going dark and cold for want of power, however. The real need to regulate the stream flow came from the economic realities of needing to sustain higher levels of power output at the downstream run of river plants to make them pay for themselves. The home heating example has been

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<sup>14</sup> Canada-United States Columbia River Negotiations, First Session, February 11/12 (1960) – Ottawa, Summary Record of Discussion and Conclusions, 3, Courtesy Bonneville Power Administration.

offered in subsequent years to explain how the natural flow of the river did not conform to the demands of modern industrial society, but to suggest it as a root cause of the Treaty would be to place too much causality on a factor that does more to explain the federal mentality than the realities of the amount of electricity needed to keep the region warm in winter.

When Congress passed the Fish and Wildlife Act of 1956 it fundamentally changed how the Interior Department did business. Though the agency had always possessed a conservation-minded streak, as home of the National Park Service, the 1956 legislation made conservation a primary mission of the entire department. The Act moved the US Fish and Wildlife Service into the Interior Department, and ordered that the conservation of fish be made the highest priority of all Interior Department units, agencywide. The act also affirmed the right of American citizens to fish for recreation and instructed the Interior Department to preserve and enhance opportunities for recreational fishermen in the United States. The Act also instructed the Department of the Interior to take steps to ensure the health of commercial fisheries, including salmon. In the United States, responsibility for the commercial salmon fishery is divided between two cabinet departments. Salmon in saltwater are the responsibility of the Department of Commerce, while salmon in freshwater are the charge of Interior. In addition to affirming the rights of recreational fishermen, the 1956 Act required the Interior Department to protect the commercial salmon fisheries by mitigating the impact of dams upon salmon spawning grounds.

The Izaak Walton League of America (IWLA) is a recreational angler's association, dedicated to the mission of preserving fish habitat so that the League's members, and anglers everywhere, can protect fishing opportunities for future generations. Founded in 1922, the League takes its name from Izaak Walton, a legendary pioneer of fly fishing born in 1593 and author of *The Compleat [sic] Angler*, a classic tome of fishing know-how and legend, first published in 1653 and still considered a highly prestigious book for recreational fishermen to own. The IWLA has a long history of advocating for federal legislation to protect sport fisheries, and is perhaps best known for its efforts to secure the passage of the Clean Water Act of 1972. In the 1950s the group kept a watchful eye on federal dam construction in the Pacific Northwest and contributed important political pressure on the federal government to see to it that the spirit of the Fish and Wildlife Act of 1956 was upheld, and decisions regarding dam development in the region were undertaken with the interests of fish and the anglers who caught them in mind.

Ultimately, there were several factors that conspired to stop the Interior Department's planned development of the upstream storage dams intended to complete the system. The Eisenhower White House's continued insistence on "no new starts" was certainly one. In certain cases, state agencies were opposed; one dam was ultimately stopped because it would have flooded out the intended route of a new highway in Idaho. Karl Boyd Brooks has noted that there was also a growing resistance in the West by the

1950s to the New Deal ethos that damming rivers was always in the public good, the result of both a growing environmental aesthetic as well as an endemic resistance to federal intervention in Western affairs.<sup>15</sup> Another was a growing environmental movement, led by organizations such as the Izaak Walton League of America. Environmental legislation, including the Fish & Wildlife Act of 1956 made dam development more difficult and costly, by requiring mitigation of impact on salmon spawning habitat. That legislation also reorganized the Interior Department and ordered that it grant a greater institutional priority to fish preservation. Some private landowners opposed certain storage dam plans because they would have flooded out mining claims; others on grounds that they would destroy scenic qualities of places such as Lake Pend Oreille.<sup>16</sup> There was also a growing sense of doubt within the Interior Department itself that these dams would, or should, be built, given the catastrophic damage it was known they would cause to salmon spawning habitat in the upper reaches of the American Columbia Basin. It would be an overstatement to imply that it was solely out of an environmental conservation agenda or salmon protection interests that the anticipated upstream storage dams were delayed and ultimately not built. There were several factors at play that conspired to slow and ultimately halt the upstream storage projects, but an environmental agenda and salmon preservation goals were high among them. To put it more precisely, the political and bureaucratic power struggles delayed the planned upstream storage dams just long enough that environmental pressures were able to coalesce to halt their construction permanently.

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<sup>15</sup> Karl Boyd Brooks, *Public Power, Private Dams: The Hell's Canyon High Dam Controversy*, (Seattle: University of Washington Press, 2006), 19.

<sup>16</sup> Marts.

An emerging environmental movement in part stopped the construction of upstream storage dams in the American Columbia Basin. By Eisenhower's second term it was clear that the anticipated dams were not going to be built in the United States, and the US was left in a position of having developed half of a system. This system would sit losing money, lacking the needed storage to regulate the river's annual flow pattern and moderate the seasonal fluctuations to allow the dams built by the Army Corps downstream to generate sufficient power year-round to pay for themselves. To this end, the Columbia River Treaty was an attempt by the United States to rationalize the river, and to complete the system it designed after World War II but could not build within its own borders due to bureaucratic, political and environmental obstacles. In essence, the United States sought a Treaty with Canada because British Columbia was the most feasible location for placing upstream storage dams by 1960. That Canada became the most feasible location will be the focus of chapter two, this chapter will focus on the planned and needed upstream storage dams that were not built in the United States.

Even after many of the proposed Interior Department storage dams had been withdrawn from consideration due to Eisenhower's "no new starts" policy and local opposition, private operators stepped in with proposals to build large storage dams at or near the original proposed Interior Department sites. These too were opposed by environmental interests, and were largely not built. Figure 2 shows an artist's depiction, circa 1960, of the anticipated complete Columbia Basin hydroelectric system reflecting modifications to the plan as of that time. Note the massive amount of storage that would have been provided behind the proposed High Mountain Sheep Dam. High Mountain Sheep was never built. Though this particular dam was proposed by a private entity, it

offers a good representative example of the upstream storage that was needed and not built in the United States.

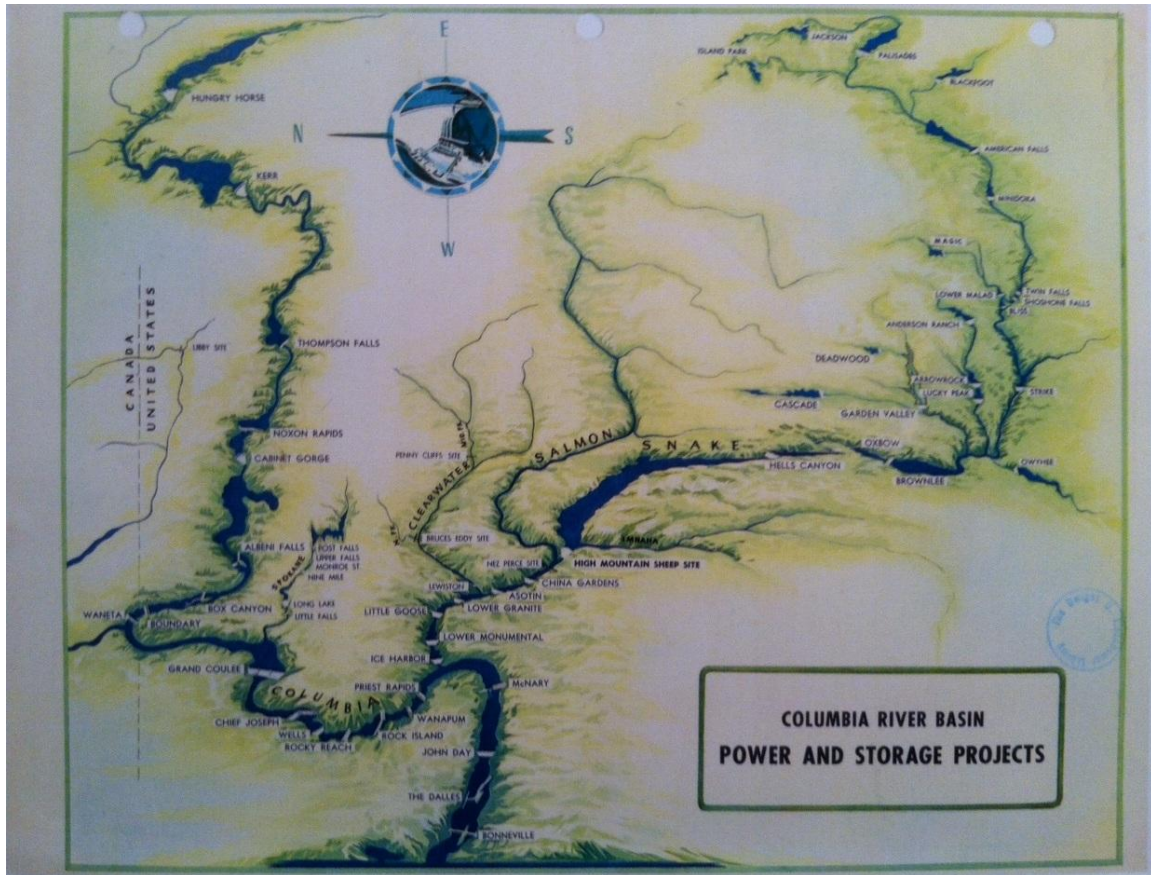


Figure 2: Artist's Depiction c. 1960 of planned Columbia River Basin hydropower system. Eisenhower Library. Elmer F. Bennett Papers, 1950-82. Box #5. Columbia River – Engineering & Legal Groups 1960 (4)

From the American perspective, upstream reservoir storage was needed somewhere in the Columbia River Basin, given the nature of hydroelectric production and the system under construction on the Columbia. For the United States, there were essentially two options of where to put this storage – on Columbia river tributaries in the United States, particularly the upper basin of the Columbia's chief tributary, the Snake River, where anadromous fish still ran and environmental legislation and political

pressure were fighting to protect them, or in the upper Columbia Basin along the main stem of the Columbia River in Canada where salmon runs were already extinct.

Again, the complete Columbia basin system envisioned at the end of World War II anticipated that multiple large-scale storage dams upstream in the American Columbia River basin would be built by the US Department of the Interior to moderate the river's flow and work in harmony with the downstream run of river plants built by the Army Corps to optimize hydroelectric production year round. According to geographer and University of Washington hydropower scholar Marion Marts, the planned American upstream storage dams to be built by Interior were at minimum "a total of six, with a total capacity in the order of 20 million acre feet," or upwards of 15 total proposed sites with a capacity of perhaps as large as 40 million acre feet, depending on how one interpreted the earnestness of individual storage dam plans.<sup>17</sup>

With limited exception, these proposed large-scale storage projects in the United States were not built.<sup>18</sup> Emerging environmental and aesthetic concerns played a significant role in resistance towards building these large projects in the US.

It was 1945 when the complete plan for upstream storage was first developed, and several years hence, very little storage had actually been constructed. According to Marion Marts:

And from 1945 on when that plan first came out in draft form – the recommendations for the upstream storage – the history of Columbia

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<sup>17</sup> Marts.

<sup>18</sup> Brooks, 11-20.

River development in the United States was summed up by the successive failure or withdrawal from consideration of one after another of the upstream storage proposals.<sup>19</sup>

American recalcitrance towards Canada and an unwillingness to negotiate in good faith precluded one of those proposed structures, Libby Dam, from being built at that time. Although the planned dam structure was wholly in Montana, the reservoir behind it would straddle the US/Canada border and as such required international agreement. At that time the American negotiating team was “led by a former used car salesman”<sup>20</sup> who refused to consider sharing benefits of any kind, and so Libby was shelved for the time being. Speaking at Simon Fraser University in 1974, Marion Marts described the successive failures of the other projects:

Glacier View was turned over to the wildlife and the Glacier National Park, so scratch Glacier View for another 3500 feet of storage. The Kuski site on the Clearwater River would have inundated some Indian cemetery land, two or three small communities, and also would have affected the plans for a transmountain highway that the Idaho Highway Department had long had on the drawing boards, and so scratch Kuski, 3 million acre feet. The Boundary Site which has since been built as a low dam by Seattle City Light could have been built as a high dam and backed water clear up on the surface of Lake Pend Oreille, partially destroying the scenic qualities of the lake. It was objected to partly for that reason, but primarily because of the fear that it would drown out some of the mining properties, so the high boundary dam was not built with a loss of something like 4 million acre feet of storage. Well, So on and so on. You’ve got a total of, depending on how you score them, what you say was given serious consideration what was rejected very early on, anywhere from 10-15 large storage reservoirs with a total storage capacity of something in the order of

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<sup>19</sup> Marts.

<sup>20</sup> *ibid.*



35-40 million acre feet that simply were made unavailable by this series of decisions, not to construct.<sup>21</sup>

Marts is describing the complex set of circumstances and concerns that led to these dams not being built. The mining interests resisted to protect their capital investment in lead, zinc and silver mining in Pend Oreille County, Washington. Institutional momentum can be a powerful force too, and the Idaho Highway Department's road construction plans provided this form of resistance. This study, however, is particularly concerned with the fact that environmental factors were emerging as part of the consideration, and part of the opposition to upstream storage dam construction in the American Columbia basin.

Therefore when the factors contributing to the resistance of dam construction already described in the upper American basin met the Eisenhower Administration's reluctance to engage in large scale federal projects, the Interior Department's Bureau of Reclamation acquiesced and storage development was halted. Downstream where the Corps reigned supreme construction proceeded on schedule. Marion Marts:

The Eisenhower Administration simply did not have the political power to stop the Corps of Engineers. Translated into actual operation then this meant that the downstream run-of-river dams were proceeding on schedule, the upstream storage was stymied with the result that we were rapidly developing a situation, a very unbalanced situation in the Columbia River Power Program, with a whole set of downstream power plants that would only become economic, that would sit there and lose money, until adequate upstream storage was provided.<sup>22</sup>

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<sup>21</sup> *ibid.*

<sup>22</sup> *ibid.*

The Bonneville Power Administration (a unit of the Department Interior until 1977) and public utilities in the Pacific Northwest saw the untenable nature of this situation. It was clear to regional power managers that upstream storage would simply have to be added, but it was also clear that the political will to overcome obstacles and resistance and build that storage in the United States was lacking. So, they started looking north. In Marion Marts' words: "It became a fairly standard question in the United States, you know, 'isn't there some way the Canadians can save us?'"<sup>23</sup> Marts adds that for some time American officials believed that "the Canadians would inevitably and unavoidably develop the Columbia River themselves"<sup>24</sup> and that all the United States needed to do was wait for that to happen. That logic changed when Canadian chairman of the International Joint Commission, General A.G.L. McNaughton proposed diverting the waters of the Columbia into the Fraser to develop hydro resources as a Canada-only project. McNaughton's plan would ultimately be shelved for salmon preservation reasons, but at the time, the existence of the plan added urgency to the American desire to negotiate with Canada for a cooperative development of the Columbia. The role of salmon preservation, the McNaughton plan and the Fraser River will be discussed more thoroughly in context in Chapter two.

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<sup>23</sup> *ibid.*

<sup>24</sup> *ibid.*

Salmon were an important consideration in the decisions to not build upstream storage dams in the United States, and the ultimate push to build them in Canada under the Columbia River Treaty. The United States needed the upstream storage to tame the freshet, which was an annoyance to hydropower engineers. To salmon, the freshet was something else entirely. It was the life-sustaining force that pushed them out to sea as juveniles. Adult salmon enter the mouth of a river with an incredibly large calorie budget. The energy of the ocean sustains them as they power upriver, through fish ladders if need be. Juvenile salmon, on the other hand, need a strong current to push them seaward. Without it, they run the risk of exhausting their calorie budget before they reach the ocean. They can also fall victim to the overheated water of still reservoirs behind dams; swift moving water is much colder, and juvenile salmon need cold water to survive. The freshet was their lifeline, supplying both. The torrents of cold rushing snowmelt kept them at a livable temperature, and pushed them seaward. The elimination of the freshet would ultimately prove disastrous for Columbia River salmon. The extent to which this was understood in Eisenhower's time is not perfectly clear. The evidence strongly suggests that the scientific understanding of the day among federal officials and environmental advocates did not fully grasp the importance of the freshet. Frequent reference is found in the records of the Eisenhower-era to concerns of "fish passage issues."<sup>25</sup> In correspondence the Interior Department expressed doubts that certain projects would be built, because of "fish passage considerations."

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<sup>25</sup> Maclyn Burg, Interview with Elmer Bennett, August 23, 1976, for Dwight D. Eisenhower Library, Oral Histories, Eisenhower Library

Richard White argues that the Columbia River Treaty was an attempt to “rationalize the river,” and this paper will argue that White is correct both from an economic and salmon conservation perspective, given the operative scientific understanding prevalent at the time.<sup>26</sup> By Eisenhower’s second term it was clear that upstream storage was needed on the Columbia River system. From the perspective of those who had an interest in salmon preservation in the United States, there appeared to be a very simple choice of where to put it. Storage dams could be put on Columbia tributaries in Idaho and North-Eastern Washington state where salmon still spawned, or in British Columbia, above the point where the salmon of the 1950s reached. For this reason, they furiously advocated for the Columbia River Treaty as an intelligent alternative, in the interest of salmon preservation. When the United States built Grand Coulee Dam on the Columbia River in Washington state in the 1930s, fish ladders were not installed, and the native ocean-running Canadian-spawning Columbia River salmon went extinct. The back story of salmon at the Grand Coulee Dam will be explained in the next chapter. For the moment it is important to remember the decision salmon advocates faced in the Pacific Northwest in the 1950s: upstream storage was badly needed and could be built in two places – Idaho and Washington where salmon still spawned, or British Columbia where they did not. Eisenhower himself would proclaim the benefit to salmon when announcing plans for the Treaty. Although the elimination of the freshet under the Treaty would result in damage to salmon runs, the evidence strongly suggests that this was not fully understood in 1960. From the perspective of salmon preservation, building dams on the main stem of the Columbia River appeared to be the most sensible

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<sup>26</sup> Richard White, *The Organic Machine: The Remaking of the Columbia River*, (New York: Hill and Wang, 1995), 77-78, 107.

option for adding storage to the system because the salmon had already been cut off from reaching that far upstream.

Franklin D. Roosevelt's drive to put the dams on rivers in the Pacific Northwest in the 1930s grew out of the utilitarian ethos that resources ought to be used in a manner that provided the maximum benefit to the maximum number of people for the longest period of time.<sup>27</sup> In the 1930s and 1940s, these benefits were calculated solely by considering economic factors. By the 1950s, Pacific Northwesterners were beginning to factor environmental and aesthetic values into their resource use decisions. By the 1950s the operative logic was that salmon had a commercial and recreational value. The conceptualization of salmon having an intrinsic cultural value to Native Americans, and non-native residents was also beginning to emerge, but at this time resource use decisions involving salmon still typically quantified them for their commercial and recreational value. In any case, by time upstream storage dams were being contemplated in the American Columbia Basin in the 1950s, their costs and benefits were being calculated based on how they would impact salmon, with salmon being valued for their commercial and recreational value. Many of the proposed storage dams in the Pacific Northwest in the 1950s encountered opposition because of the damage it was known they would cause to salmon.

To reiterate, it clearly was not exclusively out of environmental consciousness that these US projects were not built, and salmon considerations were not the only aspect of those environmental considerations involved. Economic reasons and institutional

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<sup>27</sup> Brooks, 1-21.

momentum continued to play significant roles, but the fact that people's esteem for Lake Pend Oreille's scenic beauty and their desire to see wildlife habitat preserved in Glacier National Park played a role in the decision not to dam is of great significance. Certain of these dam sites were presented as alternatives to others, but even those supposedly alternative sites were ultimately not built: "In each instance, however, the 'alternative' projects were shelved by the Engineers themselves because of local opposition or because of fish passage considerations."<sup>28</sup> What makes this story truly remarkable, however, is how this emerging environmental consciousness would ultimately damage ecosystems in Canada to protect those in the United States.

It should be noted that even the Army Corps of Engineers was beginning to reckon with the importance of salmon in the Columbia River basin, however their approach to the issue differed from Interior in three key respects. One, the downstream run of river dams built by the Army Corps were not impounding spawning grounds of salmon, so their impact on the fisheries was thought to be less. Two, because of their political power they were able to push authorizing legislation through Congress before the passage of the 1956 Fish and Wildlife Act that required more serious mitigation measures and cooperation with conservation agencies. And three, the Army Corps lacked the intrinsic culture of environmental conservation embraced by Interior. Interior had a strong conservation ethos by tradition, as home to the National Park Service, and after 1956 the Fish and Wildlife Service. As such, the Army Corps tended to approach salmon

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<sup>28</sup> Daniel M. Ogden Jr., "The Struggle for Upstream Storage on the Columbia" Unpublished Manuscript, State College of Washington, September 1958, 37. Courtesy, William D. Layman, Wenatchee Valley Museum and Cultural Center, Wenatchee, WA (volunteer).

conservation begrudgingly when required to do so, whereas Interior embraced the mission of salmon stewardship with aplomb.

The Corps was aware of the importance of salmon, however, and had in fact incorporated salmon preservation into their comprehensive plan for the Columbia basin, even if they had not done so enthusiastically. As early as 1949 US Government official policy detailed the Corps complete plan for Columbia development. This document clearly spelled out the goals of development, including irrigation, flood control, navigation and power development, but also self-directed the Corps to engage in “Associated work, to be performed by or with the participation of other agencies, embodying the improvement of lower Columbia River tributaries for salmon...”<sup>29</sup> The changing priorities were forcing the Army Corps to begrudgingly accept that salmon were becoming an institutional priority for the federal government. However, it was the Department of Interior that really embraced salmon preservation as a priority in the Columbia Basin. As such, salmon were an important factor in the decision to not build contemplated upstream storage projects.

At the end of World War II, the US Government set upon a program of dam construction in the Columbia River Basin to stimulate the economy of a region that suddenly found itself with a much larger population than it had at the beginning of the war. The hydropower system was designed and, construction commenced with the understanding that the cost of building it would be repaid from the sale of the electricity it

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<sup>29</sup> *ibid.*, 22-32.

produced. The Vanport Flood of 1948 further laid clear the exigency of controlling the Columbia River, and helped politically jumpstart the Columbia River hydroelectric system. In 1949, responsibility for building the intended complete system was divided between the politically powerful Army Corps of Engineers, and the politically weaker Bureau of Reclamation in the Department of the Interior. The politically astute Army Corps was able to commence construction on its downstream run of river dams rapidly, with the expectation that the Interior Department's Bureau of Reclamation would soon follow suit and build the upstream storage dams needed to make the complete system operate efficiently and economically. When Eisenhower took over as President in 1953, he put a halt to virtually all planned dams that were not already under construction. This Eisenhower "no new starts" policy, coupled with emerging environmental opposition would eventually prevent the construction of the needed upstream storage dams. Ultimately, the United States would turn to Canada and seek the Columbia River Treaty to provide the upstream storage needed to make the Columbia River hydroelectric system operate efficiently and economically, as it had originally been intended to when designed after World War II. Chapter two will focus on the need for upstream storage in the Columbia River hydropower system, and the environmental and political opposition that prevented the needed upstream storage dams from being built in the United States. Although the manner in which the Treaty modified the seasonal flow pattern of the Columbia River would ultimately prove severely detrimental for salmon, placing the dams above their furthest spawning grounds in Canada appeared to be the most sensible option to fishery conservation advocates for adding upstream storage to the system in 1960.





## Chapter Two:

### Canada Becomes Most Feasible Location for Upstream Storage

Initially the operative logic in the United States held that Canada would develop Columbia dams on its own, and that no cooperative effort would be necessary. That changed when General Andrew McNaughton, Canadian Chairman of the International Joint Commission proposed diverting the waters of the Columbia into the Fraser and damming the latter river. Whether McNaughton's scheme was ever really taken all that seriously, either in Canada or the United States is a subject of much historical debate. Regardless of how earnest Canada was to follow through with the McNaughton plan, however, its mere presence as a suggestion did two things. One, it added an urgency from the American perspective to bargain for Canadian cooperation on the Columbia. And two, it forced a whole series of resource use decisions, indirectly weighing salmon on the Fraser versus farmland and wildlife habitat in the upper (Canadian) Columbia basin. As Matthew Evenden has described in his book *Fish Versus Power*, the question of whether or not to dam the Fraser was also a bi-national issue due to the enormous salmon fishery spawned in that mighty river. Salmon headed for the Fraser typically enter the bi-national Strait of Juan De Fuca as they return from the Pacific Ocean where they are caught by American and Canadian fisherman.<sup>30</sup> As such the prospect of damming the Fraser was met with tremendous opposition from the fishing industry in British Columbia and Washington state.<sup>31</sup> Ultimately the Fraser was left un-dammed, and remains so to this day. It is one of the only large rivers in the industrialized world capable of producing copious amounts of hydropower that has never been dammed.

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<sup>30</sup> In most years, salmon re-enter the Fraser via the bi-national Strait of Juan de Fuca. In rare sporadic years, they choose to bypass this bi-national Strait and enter the Fraser via the narrow all-Canadian, Johnstone Strait between Vancouver Island and the mainland of British Columbia. This most recently occurred with the 2011 Sockeye run.

<sup>31</sup> Matthew Evenden, *Fish Versus Power: An Environmental History of the Fraser River* (Cambridge: Cambridge University Press, 2004).

Evenden has also noted that opposition to damming the Fraser was particularly fierce within British Columbia because the historical memory of public works intervention centered around developments to help salmon spawn. Following a landslide that blocked part of the river and increased current to near impassable levels, the province of British Columbia built underwater fishway structures to help salmon make their way upstream to spawning grounds. The effort received widespread public attention in BC and created a sort of cultural consensus that government intervention on the river should only be done to further efforts to support spawning salmon. This created a natural constituency for fighting against dam development on the Fraser. The general consensus in British Columbia was against dam construction on that river, according to Evenden, as a result of the shared public experience of investing in supporting salmon runs.<sup>32</sup>

Ultimately, the international fisheries pressure and the domestic opposition in BC combined to thwart plans to dam the Fraser. Meantime, pro-fisheries advocates including the Izaak Walton League were pressuring the US Government to halt the long-delayed storage dams planned along Columbia River tributaries in the United States and consider building dams along the Canadian Columbia River as the fishery-friendly alternative. There is a profound environmental duality to the Columbia River Treaty. On the one hand, the dams ultimately constructed under its terms on the Canadian Columbia caused significant ecosystem disruption and environmental consequences, and the manner in which it altered the river's flow had severe detrimental effects on the health of salmon runs. But at the same time, part of the motivation to build those dams came from the fact that an environmental movement and legislation made it politically unfeasible to build storage in the US, and similar opposition from fisheries interests in BC regarding Fraser dams made Columbia dams in Canada the most environmentally sensible and feasible option.

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<sup>32</sup> *ibid.*

When the last batch of concrete was poured into Grand Coulee Dam in 1942, the Canadian portion of the Columbia River Basin was permanently sealed off to salmon returning from the ocean to spawn. It was built to produce hydroelectricity and store water, no fish ladder was installed. Anadromous fish could still reach deep into other portions of the American Columbia Basin, particularly up the Snake River where several storage sites had been proposed, but they no longer made it to Canada.

Americans therefore saw Canadian storage as more environmentally, politically, and legally feasible than United States locations. By damming upstream of Grand Coulee where no salmon went anyway, storage could be provided without destroying spawning habitat or impairing upstream migration to spawning grounds. Officials at the US State Department recognized this. A memorandum for President Eisenhower prepared by the State Department dated October 7, 1960 lays out four principal benefits to be derived from the Treaty. Number one is flood protection for urban areas downstream in the Pacific Northwest. Numbers two and three explain greater hydroelectric generation potential to be derived from the dams to be constructed upstream as stipulated by the Treaty. And, the Number four and final benefit to be derived as explained to President Eisenhower is the very fact that this development would, it was believed, occur without harming salmon migration:

“4. Due to the location of this proposed storage, there will be no interference with the cycle for salmon and other anadromous fish, which constitute such an important economic and recreational asset for the people of the Pacific Northwest.”<sup>33</sup>

This statement of importance of salmon is particularly notable coming from the State Department during the Cold War, not an agency prone to flowery declarations about environmental

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<sup>33</sup> Department of State, Memorandum for the President, October 7, 1960, 2, Central Files, Official File of 155-A (2), Box #828 155-A-1 (2), Eisenhower Library.

conservation, especially not in that era. In any case this clearly shows that the Columbia River Treaty was crafted, not out of malicious neglect for the environment, but out of a desire to find the most environmentally sensible and feasible path of action. Or perhaps more accurately, it was crafted from the American side out of a desire to maximize hydropower and flood control while minimizing the negative impact on salmon. Notwithstanding, it clearly stands as evidence that the State Department was very much aware of the importance of salmon, if not for their own intrinsic or cultural value, then perhaps for their financial value, and perceived the Treaty as a way to obtain needed power and flood control with the least possible impact on these important fish.

The State Department was not alone in expressing the view that construction of dams on the Canadian sections of the Columbia under the Treaty would be the best option for salmon preservation. The Izaak Walton League of America (IWLA), actively supported the proposed Treaty. As detailed previously, plans to construct storage dams in the upper American Columbia basin had met with considerable resistance and no significant construction had actually taken place. These long-stymied plans, however, remained on the books as of 1960 as potential future construction. IWLA Conservation Leader J.W. Penfold understood the fact that constructing storage dams in the Canadian portion of the Columbia basin would provide the year-round flow of water the Army Corps needed for their downstream run of river dams, and therefore could bring about the permanent halt, rather than just the delay, of American storage dams. While the Columbia River Treaty was being negotiated, there were concurrent proposals for the construction of dams in the Hells Canyon area of Idaho, a region considered critical for salmon spawning, and at that time still unblocked by non-fish-ladder dams such as Grand Coulee. In a letter dated October 23, 1960 Mr. Penfold, congratulated Treaty architect Elmer F. Bennett of the

Department of the Interior for the conclusion of the initial negotiations on the Columbia Treaty – a project that the IWLA lauded for its conservation of Idaho salmon.<sup>34</sup> He wrote:

Dear Elmer: You are certainly to be congratulated on your successful leadership in achieving the basic agreement between Canada and the United States for development of the Columbia Basin. The prospect of early ratification of a treaty based on the agreement would seem to provide opportunity for a new, hard look at the total basin program – particularly at undesirable projects on the Snake River and its tributaries.<sup>35</sup>

As history unfolded Mr. Penfold got his wish, but it did not lead to his desired outcome. Although some small dams were built on the Snake River, the massive storage dams proposed in American territory were never built. The Treaty brought its own environmental pricetag for salmon by regulating the flow and eliminating the freshet upon which juvenile salmon depended for their out-migration to the sea. Because of this impairment of downstream migration, the Columbia River Treaty would ultimately prove disastrous for American salmon, despite having obviated the need to inundate some of their American spawning habitat. Nonetheless, based on the operative understanding the salmon life cycle at that time, this has great historical significance. By sacrificing pristine mountain valleys in British Columbia to reservoir space behind dams, Canadian farmland, towns and wildlife habitat were exchanged for the preservation of downstream American valleys where salmon spawned.

To fully understand the situation as Penfold and the IWLA perceived it in 1960, it is imperative to understand the enormity of Grand Coulee Dam and the massive effects it had on the Pacific Northwest in general and Columbia River salmon specifically. Stopping the flow of water

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<sup>34</sup> J.W. Penfold to Elmer F. Bennett, October 28, 1960, Elmer F. Bennett Papers, 1950-82, Box #7, Columbia River Basin – U.S.-Canadian Treaty (2), Eisenhower Library.

<sup>35</sup> *ibid.*

is one of the most audacious things humans do. The very notion of building dams on rivers to impede their flow is utterly ridiculous in its hubris and scale. By its very nature, any story of the construction of dams on rivers is a tale that must be told in superlatives. This is especially true for the Grand Coulee Dam. The sheer scale of this massive structure is mind-boggling, and its equally massive reach into every corner of the modern history of the Pacific Northwest matches its incomprehensible size.

Though run of river dams were built at Rock Island and Bonneville along the lower stretches of the Columbia River starting in 1930 and 1934, respectively, the real story of dam construction on the Columbia River as it relates to the origins of the Columbia River Treaty starts at Grand Coulee. For decades, enterprising businessmen, farmers, and community boosters in Central Washington state had dreamed of finding a way to harness the natural resources of the region to make the desert bloom. Blessed with hundreds of days of sunshine every year and brilliant growing soil, the only thing the arid region lacked to make it bloom into a veritable Garden of Eden was a way to irrigate the land.<sup>36</sup>

The nearby Columbia River certainly had enough water, but its flow was unpredictable – rising to great torrents of rushing floodwater every Spring when the freshet came, and slowing to a trickle at other times of the year. Furthermore, the deep canyon the river had cut itself through Washington’s Columbia Plateau meant that even if the water could somehow be accessed for agricultural use, it would still have to be raised hundreds of feet up out of the canyon, a task impossible for individual farmers to take on.

There is much myth and legend surrounding the origin story of Grand Coulee Dam. Contrary to popular belief, it was not first dreamed up by Franklin Roosevelt as a “make-work

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<sup>36</sup> Paul C. Pitzer, *Grand Coulee: Harnessing a Dream*, (Pullman, Wash.: Washington State University Press, 1994).

project.” Local civic boosters had been pushing the idea for years before F.D.R. threw his support behind it. The idea was born out of knowledge of local geology. Thousands of years ago when glaciers were still carving out the region’s topography, a massive glacier impeded the flow of the Columbia River and diverted its waters out of its customary channel in Central Washington state. The wayward waters cut a path through the dry land, and carved a massive basin. By the time humans with written records descended on the region, the now bone-dry basin was given the name Grand Coulee. Local boosters realized that if nature had diverted the flow of the water into Grand Coulee then humans could too.<sup>37</sup>

It took years of pressure from local community groups on their members of Congress and leaders to press for action, and when it finally came, President Franklin D. Roosevelt eagerly supported the project and saw its potential to help reclaim hundreds of thousands of acres of farmland through irrigation. That was the word used: reclamation. Nature had provided all the ingredients for productive agriculture: abundant sunshine and arable soil. All that was needed was the will of dedicated people to reclaim the land from being wasted. Putting a low concrete structure across the Columbia would allow part of the river’s flow to be diverted into Grand Coulee and stored, where it could be pumped up as necessary to all the land on the Columbia Plateau and reclaim the desert for productive farmland use. All that would be needed was a modest amount of electricity to run pumps, and the reclamation project would be in business. That would be easy enough, just put a turbine in the structure, and the falling water that went through the dam could provide electricity to run pumps to elevate that portion of the water being diverted into the Grand Coulee to farms.<sup>38</sup>

It is crucial to understand that the Grand Coulee Dam was conceived as a reclamation project. Rural electrification was indeed a priority of the US Federal Government in the early

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<sup>37</sup> *ibid.*

<sup>38</sup> *ibid.*



1930s, but various local Public Utility Districts had been supplying power from small powerplants in the area for some time, and more were already in the works. The region's largest city, Seattle, was still only home to a population of some 365,000 souls and much of that city's power needs were already being taken care of by its own municipal cooperative, generating power with smaller dams on the West side of the State. The real reason Grand Coulee came to be was for reclamation. It was built to provide water for irrigation, to turn a desert into farmland. Powerplants were to be added to run water pumps. Certainly, a use could probably be found in the region for any extra power, but any electrical generation was to a very significant extent, an afterthought benefit of a project built for reclamation.<sup>39</sup>

This is where many have failed in jumping to the conclusion that since the electricity wasn't badly needed at the time, Roosevelt conceived of the Grand Coulee Dam as a 'make work project.' That oversimplification has been perpetuated to the point where it has become conventional wisdom on the project. The reality is that when plans were drawn up for the massive structure, the initial design was for a low dam – a structure that would rise only high enough as needed to divert water into the empty Grand Coulee. At some point the suggestion was made that perhaps a higher dam might be needed, another set of plans were drawn up for a high dam. Congress was initially going to fund the smaller project, built only to size needed for reclamation purposes, but an astute local Congressman paying close attention pointed out the relatively small price discrepancy between the two plans. So much of the cost of the dam lay in preparation and reaching bedrock – tasks that would be required no matter the dam's height – as compared to the relatively small cost of additional labor and concrete to build the high dam, that he effectively argued and convinced Congress that the wisest course of action would be to go ahead and spend slightly more to have a dam capable of storing even more water, and producing copious amounts of electricity. Even if the power wasn't needed at the time, the growth in regional population

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<sup>39</sup> *ibid.*

spurned by the addition of nearly a quarter million acres of productive reclaimed farmland would eventually warrant the installation of more generators to produce more electricity. It is this important difference that has been lost on most who have studied the Grand Coulee Dam: it was started as a reclamation project, and the relatively small cost of increasing its size to allow it to supply electricity beyond what was needed at the time has led many to erroneously conclude it was nothing more than a “make work” project all along.<sup>40</sup>

It worked. With an abundance of available water for irrigation, nearly a quarter million acres of Columbia Plateau desert blossomed into farmland. The availability of abundant, reliable, low-cost electricity prompted the growth of an Aluminum industry in Washington state. Aluminum is made by smelting bauxite – a raw material found in great quantities in places like Australia. By injecting bauxite with massive amounts of electricity, skilled workers can transform the relatively low cost mineral into Aluminum. Traditionally inexpensive bauxite and traditionally very expensive electricity are the two main ingredients of aluminum. Bauxite can easily be shipped worldwide, whereas electricity can not. Smart smelter owners would move the inexpensive commodity to where the expensive electricity could be had for cheap. And, the capital behind the aluminum industry did precisely that, as any good businesspeople would. And the aluminum industry thrived in the region, Boeing started building airplanes made of aluminum, and the population of the region boomed.<sup>41</sup>

The Groundbreaking ceremony for the Grand Coulee Dam took place on July 16, 1933. As work progressed the project began to attract the attention of Canadian authorities. Interestingly, one of the first questions raised was whether American dam projects on the Columbia would violate the Oregon Treaty of 1846, which guaranteed all British Subjects the right of free navigation on the Columbia River. Upon reviewing that concern, officials came to the conclusion

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<sup>40</sup> *ibid.*

<sup>41</sup> *ibid.*

that no violation of the Oregon Treaty would be taking place because the Construction of Bonneville Dam would actually improve navigation along the river, and that Grand Coulee Dam was being built at a location that never had been accessible to boats. Given that the Oregon Treaty recognized the fact that certain portions of the river were un-navigable and required a portage, the agreement stipulated that British Subjects be allowed to portage their vessels at all customary locations. This was interpreted to mean that because Grand Coulee was being constructed at a point upstream beyond where navigation had traditionally occurred, it was no violation of that agreement. In any case, the fact that first serious attention paid to the project by Canadians was that it was a potential violation of a then-almost century old treaty, and not a concern that the structure might block salmon migration, is significant.<sup>42</sup>

In 1934 the Canadian Legation<sup>43</sup> in Washington, DC became aware of the fact that while fish ladders were being constructed at Bonneville Dam downriver, they were not being installed at Grand Coulee. Realizing that this would prevent salmon from migrating upstream beyond the dam prompted diplomats at the Canadian Legation, Washington DC to report on the matter to Ottawa, and inquire as to whether “Canadian interests” would be harmed. On October 16<sup>th</sup>, 1934 Canadian Chargé d’Affaires ad interim Humphrey Hume Wrong of the Canadian Legation sent despatch number 992 to Foreign Affairs Minister O.D. Skelton in Ottawa. Wrong wrote:

I understand that Construction is well under way at the two dams situated at Bonneville, Oregon, and at Grand Coulee, Washington... .. Fishways are being provided around the lower dam at Bonneville, but I hear that the present intention

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<sup>42</sup> The issue was raised again in Ottawa again in 1961 when a Member of Parliament repeated the accusation that the Americans had violated the Oregon Treaty of 1846 with the construction of Bonneville and Grand Coulee Dams, and this supposed violation should have bearing on the consideration of the Columbia River Treaty by Members of Parliament. The Canadian Embassy in Washington, DC was asked to report on the matter, and explained that no violation of the 1846 treaty had occurred.; H.H. Carter to Langevin Block, 31 January, 1961, File 5724-21-40, Archives Canada, Ottawa.

<sup>43</sup> Prior to World War II, the term Legation was used, in lieu of Embassy or Delegation, for the Canadian representation in Washington, DC.

is to provide no fishway at Grand Coulee. This structure will therefore completely block the passage of salmon to the spawning grounds in the Canadian section of the Columbia River. I assume that there is no commercial salmon fishery on the Columbia River in Canada, but I feel that I should draw this matter to your attention, and I should be glad to learn whether the Department of Fisheries considers that any Canadian interests will be affected.<sup>44</sup>

Dr. Skelton forwarded the correspondence to the Fisheries Department for verification that the blockage of salmon from the Canadian portions of the Columbia would not negatively affect Canada's interests. The Deputy Minister of Fisheries William A. Pound, replied in the affirmative, essentially giving the green light to the extinction of Canadian Columbia salmon. He wrote:

Dear Dr. Skelton: I have to acknowledge your note of the 19<sup>th</sup> instant, enclosing copy of Despatch No. 992 from the Canadian Legation at Washington, dealing with the construction of two large dams in the Columbia River system. It is noted that fishways are proposed in the project at Bonneville and Oregon, but in the other, there is the understanding no such facility is to be incorporated and inquiry is made whether Canadian interests would suffer from the fishery standpoint. The assumption that there is no commercial salmon fishery on the Columbia River in Canada is correct, and hence Canadian interests in that respect will not be affected if the dam at Grand Coulee is not equipped with fishway facilities.<sup>45</sup>

The letter was forwarded by Skelton to the Honourable W.D. Herridge, Canadian Minister to the United States on October 29, 1934, and Canada officially laid to rest any objection to the Americans sealing off the river to salmon migration and causing the Canadian Columbia River salmon runs to go extinct. It is noteworthy that at that time the Government of Canada calculated only the commercial value of salmon when assessing Canadian interests. The fact that First

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<sup>44</sup> Humphrey Hume Wong, Chargé d'Affaires ad interim, Canadian Legation, Washington DC, to O.D. Skelton, Under-Secretary of State for External Affairs, 16 October 1934, RG 25 G1 Volume 1702, File 367-1934 Volume 1, part 2. Archives Canada, Ottawa.

<sup>45</sup> William A. Pound, Deputy Minister of Fisheries, Ottawa, to Dr. O.D. Skelton, Under-Secretary of State for External Affairs, Ottawa, October 27<sup>th</sup>, 1934. RG 25 G1 Volume 1702, File 367-1934 Volume 1, part 2. Archives Canada, Ottawa

Nations peoples had for centuries depended on the salmon for sustenance and cultural significance was not considered a part of “Canadian Interests.” Likewise, the value of salmon as a recreational or cultural asset to non-native Canadians in the upper Columbia Basin was not considered in this calculation. In 1934 in Canada salmon were only important to the federal government insofar as they represented a commercial commodity. And because the ocean-run Canadian Columbia salmon had no direct commercial economic value, Ottawa considered them expendable and offered no objection when Grand Coulee caused them to go extinct.

In recent years it has become commonplace for historians and the public to portray hydropower development in the Pacific Northwest as having been a product of an age where environmental concerns were never considered. This simply wasn’t the case. While clearly, the Canadian fisheries and Foreign Affairs departments were not concerned with the potential implications for fish of hydro installations, American dam boosters were very cognizant of the environment and thought clearly about the implications of their actions. This is not to say that Americans were enlightened while Canadians were still in the dark ages, rather the point to be emphasized is that environmental values have changed in both countries over time. It wasn’t as if there was *no* environmental consciousness present at the creation of hydropower infrastructure on the Columbia River, rather, there was a different environmental consciousness at play. Paul C. Pitzer summarized the situation quite eloquently in his book *Grand Coulee: Harnessing a Dream*:

It is fashionable in the late twentieth-century to decry the dams and the environmental damage they brought. But, through the first half of the century, dam builders and irrigation backers saw their work as promoting conservation. To them, taming the rivers, stopping erosion and floods, and reclaiming land outweighed any harm that might follow, and they focused on the promise of power and prosperity. Despite the tragic loss seen in retrospect, people in the Northwest are not likely to tear down Grand Coulee or many other hydroelectric

projects. The challenge now is to find a way to accommodate the works of the past with new visions of the future.<sup>46</sup>

When the last batch of concrete was poured into Grand Coulee dam in 1942, the Canadian portion of the Columbia River Basin was permanently sealed off to salmon returning from the ocean to spawn. It was built to produce hydroelectricity and store water, no fish ladder was installed. Anadromous fish could still reach deep into other portions of the American Columbia Basin, particularly up the Snake River where several storage sites had been proposed, but they no longer made it to Canada.

Because there were no salmon runs left on the Upper Columbia after 1942, and subsequent legislation and political pressure required salmon migration impairment mitigation be incorporated into new projects, Americans began to see Canada as a more feasible and environmentally sensible option. In addition to the local political opposition to new dam construction in the late 1950s and early 1960s and the Eisenhower Administration's policy of "no new starts," environmental factors were beginning to make it difficult to build additional upstream storage in American territory. To re-iterate, it was not exclusively due to environmental considerations that dam construction on the upper Snake River and other Columbia tributaries was stalled, but the environmental agenda was emerging as part of the reason driving the US Government away from American storage dam construction and towards asking Canada to build dams in British Columbia. By 1960 Americans were beginning to see Canadian storage as the most politically-feasible and environmentally-sensible development option for the addition of upstream storage to the Columbia River hydropower system. By damming upstream of Grand Coulee where no salmon went anyway, storage could be provided without harming salmon

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<sup>46</sup> Pitzer

populations, the thought went. Officials at both the US State and Interior Departments recognized this, as did the IWLA.

The IWLA's concerted effort to promote the Columbia River Treaty as an environmentally-responsible alternative to Snake River Dams was not limited to correspondence between IWLA leader Penfold and Interior Department Under-Secretary Bennett. The group actively discussed the topic at local and regional conventions and passed resolutions in favor of the agreement and upper Columbia storage in lieu of Snake River projects. In April of 1960, the Editor of the (Portland) *Oregonian* Newspaper, Herbert Lundy, who also happened to be a regional IWLA leader, wrote Under Secretary Bennett to inform him of a resolution being submitted by the Portland Chapter of the IWLA to the organization's national convention. It read:

We Commend the International Joint Commission for laying the groundwork for agreement between Canada and the United States for mutually beneficial development of the power and flood control resources of the Columbia River System in Canada. We support, and urge all environmentalists and conservation groups to support the efforts of the U.S. team negotiating with a Canadian group on terms of a proposed treaty to implement and fulfill the understanding already reached.<sup>47</sup>

The statement went on to name the individual members of the U.S. Negotiating team, and to “urge” the men to:

to bear constantly in mind these factors related to the U.S. fishery, both commercial and recreational: That because the once great salmon and steelhead trout migrations to spawning beds in Canada have been destroyed by the impassable Grand Coulee and Chief Joseph Dams, no additional harm can be done to this fishery by high dams in Canada.<sup>48</sup>

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<sup>47</sup> Herbert Lundy to Elmer F. Bennett, 12 April 1960, Elmer F. Bennett: Papers 1950-82, Box #6, Columbia River – Miscellaneous (4). Eisenhower Library.

<sup>48</sup> *ibid.*

The construction of Chief Joseph Dam, just downstream of Grand Coulee in 1958 similarly did not include fish ladders, and pushed the upper limit of salmon spawning territory a few miles further downstream. The statement went on to extol the virtues of the proposed storage projects in Canada, and pointed out that they could be an alternate, and more environmentally sensible means of achieving the US Army Corps of Engineer's stated goals for the basin-wide system regarding flood, as laid out in the Corp's own 1958 master plan. The statement continued, saying:

That two dams in Canada at Mica Creek and Arrow Lakes could provide approximately as much usable storage for flood control in the United States as the 13 U.S. projects recommended by the Army Corps of Engineers in its Major Water Plan (1958).<sup>49</sup>

And, the IWLA statement further noted the potential for dams proposed in Canada under a potential Columbia River Treaty to enhance hydropower production in the U.S. (it was thought) without affecting anadromous fish:

That the Canadian dams could provide at least 1,500,000 kilowatts of firm energy in downstream benefits at existing federal dams in the U.S. portion of the Columbia River, without any risk to salmon and steelhead, while several of the proposed U.S. dams would certainly deplete the remaining fish runs.<sup>50</sup>

The IWLA statement went on to juxtapose the upper Columbia storage as being more environmentally favorable for Americans than Snake projects, as well as more economically favorable to Canadians compared to schemes that might dam the Peace River in Northern BC.

Around that time, BC Premier W.A.C. Bennett had been engaged in talks with Swedish venture capitalist Axel Wenner-Gren to dam the Peace River, but the extremely high price of

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<sup>49</sup> *ibid.*

<sup>50</sup> *ibid.*



long-distance electricity transmission at that time with existing transmission technology was one of several factors that ultimately precluded Peace Development for the time being. Bennett would also later claim that he was pursuing that scheme to gain negotiation leverage against the Americans vis-à-vis the Columbia by demonstrating that BC had multiple options. In any case, it is curious to note that the 1960 IWLA Resolution made no mention of General MacNaughton's proposed Columbia to Fraser diversion, which had been on the table since 1954<sup>51</sup>, and the potential harm that plan would cause to bi-national salmon runs. Rather, they chose to emphasize the environmental benefits to the US and the economic benefits to Canada of upper Columbia storage under the proposed Treaty, saying:

That delay in development of the Columbia system in Canada might result in alternative construction of much higher-cost hydroelectric projects on the Peace River in British Columbia, as well as higher-cost hydropower projects damaging to fish migrations in the United States.<sup>52</sup>

The resolution went on to conclude:

Therefore, the Izaak Walton League of America prays for the early conclusion of a treaty with Canada providing equitable and mutual advantages to both countries, including the preservation of remaining salmon and steelhead runs south of Chief Joseph Dam."<sup>53</sup>

Under Secretary of the Interior Elmer Bennett wrote back to Mr. Lundy, who sent him a copy of the resolution, saying:

I think the statement is excellent and should prove to be very effective to the efforts of the United States Negotiators. I commend you and your colleagues in

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<sup>51</sup> Evenden, 182-202.

<sup>52</sup> Lundy.

<sup>53</sup> *ibid.*

the Izaak Walton League for this forthright stand on a very vital matter.<sup>54</sup>

The message was received loud and clear by the U.S. Federal government. It has long been assumed that the oft-repeated goals of hydropower and flood control were the only things the U.S. was seeking from the Treaty. This mistaken interpretation is understandable given the voracity with which it has been emphasized by the Bonneville Power Administration and BC Hydro, the frequency with which it is repeated by scholars in secondary works, and the fact that there appears to have been no discussion of salmon or other anadromous fish, nor any environmental concerns, in the official Treaty Negotiation Records. However, Internal correspondence between State, Interior and the Army Corps of Engineers - the three U.S. agencies involved in the Treaty negotiation shows that they were also negotiating out of a desire to find, what appeared to them to be the most environmentally sensible and feasible course of action, by locating storage dams in Canadian territory where salmon no longer spawned.

Examples of this abound. Internal correspondence at the US Department of the Interior shows that officials at that agency clearly saw upper Columbia Storage as a means to add capacity to the system without impacting salmon in the United States. Although the Bonneville Power Administration is today part of the Department of Energy, it was at the time of the Columbia River Treaty's negotiation part of the US Department of the Interior. Energy wasn't created as a Department until 1977, after which time BPA moved from Interior to Energy. In any case, as one of the three principal agencies involved in the Columbia River Treaty on the American side, the records of the Interior Department offer a wealth of information about the Treaty, and show clearly that officials there were actively seeking the international agreement, in part, out of a desire develop upstream storage where it would cause the least damage to fisheries, and to avoid

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<sup>54</sup> Elmer F. Bennett fo Herbert Lundy, 19 April 1960, Elmer F. Bennett: Papers 1950-82, Box #6, Columbia River – Miscellaneous (4). Eisenhower Library.

the hassles of dealing with legal and political mandates requiring they preserve salmon spawning habitat (and unimpeded access to it) in the US.

A 1960 memorandum from Morgan D. Dubrow, Manager of the Washington office of the Bonneville Power Administration to Interior Department Under Secretary, and chief U.S. Negotiator for the Treaty Elmer Bennett mentions the fish priority. In a discussion about the various options for adding capacity to the hydropower system in the Pacific Northwest, Dubrow criticizes a report by the Army Corps of Engineers prepared for Federal Power Commission hearings as being incomplete and thus, irrelevant. Dubrow wrote that the comparisons prepared by the Engineers may be suitable for the hearings before the Federal Power Commission to weigh options of which (if any) dams in Idaho to license, but that all of the options in the report were inferior to potential Canadian storage under the Treaty because of the impact on salmon and other spawning fish in Idaho. He wrote:

The significant thing to note is that these studies exclude Canadian storage and are, in effect, a comparison of the Nez Perce project vis-à-vis High Mountain Sheep and Lower Canyon operating in the existing, under construction and authorized system plus the Corps of Engineer's major water plan. Presumably this may be acceptable from FPC's point of view for comparative purposes. But it entirely disregards the fact that we are actively negotiating for Canadian storage and the Department of the Interior has serious reservations about both Nez Perce, High Mountain Sheep and Lower Canyon preservation of anadromous fish.<sup>55</sup>

This document is particularly significant because it shows that the Department of Interior was concerned about preserving the ability of ocean-going fish to spawn in the Upper Snake River Basin. Dubrow's words demonstrate that how the Department of the Interior, as an institution,

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<sup>55</sup> Morgan D. Dubrow, Manager, Washington Office, BPA to Elmer F. Bennett, 7 July 1960, Elmer F. Bennett Papers, 1950-82, Box #5, Columbia River – Engineering & Legal Groups 1960 (7), Eisenhower Library.

was taking proactive steps to preserve salmon habitat in the US by seeking Canadian storage. This was an institutional priority for Interior, and it had been for some number of years.

The Fish and Wildlife Act of 1956 had moved the US Fish and Wildlife Service to the Interior Department and mandated that all large scale developments such as river dams take steps to mitigate their impact on priority species such as salmon. For these reasons, it was a legal mandate, as well as a bureaucratic/institutional priority for Interior to seek ways of developing resources with the minimum impact on salmon. Recall that at the time Bonneville was part of Interior. The hydropower administrators reported to a cabinet secretary with a clearly defined conservation mission. As such, the institutional priority to find storage with the least possible salmon impact was a mission embraced by the organization, not a task begrudgingly accepted at the forced hand of legislative requirement. The limited scientific understanding of the time and the limited scope of legislative requirement and bureaucratic vision led these men in Interior to believe that building storage in Canada where the salmon no longer went anyhow, would allow for development of greater power resources with a virtual net zero negative impact on salmon. Unfortunately, the regulation of the stream flow and the elimination of the freshet under the Treaty would ultimately prove to have disastrous consequences in inhibiting the out-migration of juvenile salmon to the sea. But, at the time, these men of Interior were looking for, and believed they had found, a way to build storage dams that would not harm anadromous fish in the Columbia Basin. As such, the proposed Columbia River Treaty dams were pursued as the most feasible location for upstream storage.

As early as 1954 the Department of the Interior had clearly identified anadromous fish habitat preservation as one of their priorities in Columbia Basin Development. In that year, Carl H. Schwartz, Chief of the Resources and Civil Works Division of the Bureau of the Budget prepared a report for the Director of that office detailing the priorities of the various agencies

involved in Columbia Basin Development, and exploring potential funding schemes. Schwartz reported that Interior identified “an ‘acceptable solution to the fishery problem’” as one of their three priorities.<sup>56</sup> Affirmation of the importance of fisheries to the Department of the Interior can be found in the fact that the statement used by Schwartz to outline Interior’s priorities came from the very top of the agency – the Office of the Secretary of the Interior.

Interior’s conservation motives can be traced, in part, to the multiple agencies within it that approached the issue in the 1950s and 1960s from an environmental perspective. Two of the Department of Interior agencies involved in potential further development of dam projects in the Columbia Basin had strong conservation motives by their very nature: the US Fish and Wildlife Service and the National Park Service. As such, it was not just the two development-minded Interior agencies (Bonneville Power Administration and the Bureau of Reclamation) that crafted Interior’s strategy in the region. The Interior Department itself was conflicted, and increasingly leaning towards strongly advocating for protecting salmon in the Columbia Basin. While it wanted to support the dam development goals drive of the two development agencies – Bonneville and Reclamation - its strategy in the Pacific Northwest was increasingly being driven by its conservation-oriented units - the National Park Service and the Fish and Wildlife Service. This became increasingly true after passage of the 1956 Fish and Wildlife Act mandated a stronger conservation ethos for fisheries become a central part of Interior’s operations.

Clearly, it was Interior that was the driving force behind making fish-spawning habitat protection a priority in the Federal Government’s agenda for the Columbia Basin, but the Army Corps of Engineers was also acknowledging, albeit less enthusiastically, the fact that it was a priority for Uncle Sam in the region. In the same document, Schwartz wrote that the Corps had reported to him “They would concentrate review on flood control, power, and navigation, getting

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<sup>56</sup> *Engineering News Record*, “Agreement on the Columbia,” 27 October 1960, Central Files, Official File, 155-A (2), Box #828, 155-A-1 (2), Eisenhower Library.

into related water uses such as irrigation and fish and wildlife only as these impinge upon the ‘primary’ purposes.”<sup>57</sup> Schwartz further described the Army Corps’ position by noting that the agency favored a basin-wide review of potential development plans

in the light of such new factors as (a) probable introduction of significant amounts of thermal power into the system, (b) Canadian participation, (c) partnership projects within the system, and (d) the pressures for preservation of the Columbia fishery.<sup>58</sup>

Even though the Corps itself viewed salmon habitat conservation as less important than generating power and making rivers navigable, it had to reckon with the reality that growing pressure from the public, and the Department of Interior had made it a priority in the region.

Similar to the Corps, the Bureau of the Budget does not appear to have been enthusiastic about preserving salmon habitat for any beneficent ecological reason, but by 1954 had recognized the reality that opposition to hydro projects in the Pacific Northwest that damaged salmon runs would be intense. In an Inclosure [sic] included with Schwartz’s memo to the Director of the Bureau, the recommendation is made that potential projects in the region be evaluated not only in terms of dollars and kilowatts, but also acknowledge the increasing unlikelihood that projects with major impact on salmon would ever be allowed to be built in the region.

Certain power studies contained in H.D. 531 and appendices thereto, were strictly on a hydro-power basis and no consideration was given to possible Canadian storage projects. Certain changes in project availability, including developments by private capital and state agencies, must be taken into consideration. Moreover, experience in recent years indicates that fish and wildlife problems and other potential obstacles require a more realistic assessment as to the probability of

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<sup>57</sup> *ibid.*

<sup>58</sup> *ibid.*

such an extensive hydroelectric power system actually being constructed until needs grow more acute than at present.<sup>59</sup>

By the time the Columbia River Treaty negotiations commenced, the salmon habitat preservation in the Columbia Basin advocated by Interior, the Izaak Walton League, and others had undeniably become a central priority for the US Federal Government. The potential trade off of Canadian storage, with no impact on salmon spawning grounds, versus salmon-harming projects in the Upper Snake Basin in Idaho was neatly summarized in the press by the Engineering News-Record in 1960.

The Administration is arguing that development of the Middle Snake River can be delayed as a result of the U.S. – Canadian Agreement covering the Columbia River. President Eisenhower and Inter Under-Secretary Elmer Bennett say the power potential of the Columbia will provide sufficient hydropower for the Northwest for years to come. So, the argument goes, projects on the Snake, affecting the salmon spawning grounds, can be deferred until a surer method of handling the fish can be found. The Interior Department will express that view to the Federal Power Commission, which is investigating the applications of two groups to build multi-purpose dams at Nez Perce and Mountain Sheep on the Snake. The fish-handling question is a key issue in the contesting applications of the Pacific Northwest Power Co. (private utilities) and the Washington public power supply system [*sic*] (composed of public utility districts). Hearings are scheduled to begin November 4.<sup>60</sup>

Salmon preservation was very much a part of the American agenda in the Pacific Northwest in by 1960. It was the fact that Canadian Storage, it was believed, would allow greater hydropower output that led to the Columbia River Treaty and the construction of dams on the Columbia as opposed to other salmon-bearing rivers such as the Snake in the United States and the Fraser in

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<sup>59</sup> Stevens.

<sup>60</sup> *Engineering News-Record*.

Canada. For Americans with their salmon agenda, the Columbia River Treaty was the most feasible and sensible option.



## **Chapter Three:**

### **Crafting a Treaty**

In the late 1950s, the International Joint Commission, the body created by the Boundary Waters Treaty of 1909 to settle disputes regarding transboundary waters was asked to study the question of joint US-Canadian development of the Columbia River and the potential construction of dams on the Canadian portion to work in conjunction with the American system downstream. The IJC eventually concluded that it was not properly prepared to handle the question of Columbia River development because its charge was to settle questions regarding the fair use of portions of single bodies of water that straddled the border – such as the Great Lakes, or the St. Lawrence River. The IJC did not feel it had sufficient precedent to address questions about bodies of water that flowed *across* the border, nor any questions regarding equitable division of the mutual benefits of a joint development project.<sup>61</sup>

Formal talks on joint development of the Columbia commenced in 1960, with officials from the US Department of Interior, Army Corps of Engineers and US State Department comprising the American side. Canada was represented by officials from Foreign Affairs, and both sides quickly agreed that a formal Treaty would be preferable to any lesser commitment such as a memorandum of understanding. The summary notes

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<sup>61</sup> Smith; United States Department of State, Memorandum of Conversation: President's Visit to Canada, July 10, 1958, White House Office, Office of the Staff Secretary: Records 1952-61, International Trips and Meeting Series, Box #6, DDE Trip to Canada: Chronology July 10, 1958, Eisenhower Library

from the first negotiation session read included a record of this agreement, noting “It was agreed that the Treaty form would be satisfactory to both parties.”<sup>62</sup>

The United States wanted the security of a Treaty, in light of the fact that the Canadian International Joint Commission (IJC) chairman, general A.G.L. McNaughton had proposed diverting the waters of the Columbia to the Fraser to generate power for BC. The United States did not, however, want a permanent treaty, and originally proposed an agreement of 50 years duration.<sup>63</sup>

The IJC was chaired on the Canadian side by General A.G.L. McNaughton, a proud Canadian nationalist theretofore famous for helping leading his country’s troops in World War II, and insisting that Canadian soldiers be assigned to Canadian units and take on assignments as a whole, such as the invasion of Juno Beach, instead of being split up piecemeal among British and other colonial units. McNaughton was much more interested in seeing the Columbia developed for Canada’s benefit and Canada’s benefit only. When discussions began of building dams on the Columbia to be operated in conjunction with American dams downstream, McNaughton offered a counter-proposal that Canada divert waters from the bi-national Columbia to the all-Canadian Fraser, and dam that river to produce electricity for Canada’s sole benefit.<sup>64</sup>

McNaughton had proposed diverting the waters of the Columbia into the Fraser via a tunnel at a point in the mountains of British Columbia where the rivers come within

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<sup>62</sup> Canada-United States Columbia River Negotiations, First Session, February 11/12 – Ottawa, Summary Record of Discussion and Conclusions, 3, Courtesy Bonneville Power Administration.

<sup>63</sup> *ibid.*

<sup>64</sup> State Department, Memorandum of Conversation, July 10, 1958,

a few miles of each other, and using the increased flow on the Fraser to generate power for BC. The evidence suggests that although it initially added urgency to the need to negotiate in good faith with Canada, American negotiators may not have perceived the McNaughton plan as an enormous threat given the substantial engineering challenges it would have presented. Speaking at Simon Fraser University in 1974, Marion Marts described the American response to the McNaughton proposal in a tongue-and-cheek to a mostly Canadian audience by manner by saying:

We didn't take that *too* seriously because we knew the Fraser was a sacred river dedicated to fish, and it would be a long tunnel 14 miles or so and only American engineering and ingenuity would be, and capital, would be able to overcome that kind of a physical barrier, et cetera et cetera.<sup>65</sup>

As an American speaking to an audience at a Canadian university, Marts was clearly poking fun in a good-natured way, but his comments illustrate an actual fact – that the McNaughton plan was not taken seriously by either side for very long because all involved knew that the Fraser had such incredible importance as a fish-bearing stream that wiser resource-use decisions would be made by leaving it to that purpose and generating electricity elsewhere, such as on the Columbia.

This proposal, like others, was countered by fierce opposition from fisheries interests, both in Canada and the United States. By the time it was being discussed, the presence of dams (even with fish ladders), along with over-fishing as a result of greater catch volumes made possible by technology had already reduced the remaining Columbia

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<sup>65</sup> Marts.

fishery to being significantly smaller than the annual Fraser River Salmon fishery. Canadian fishermen were loath to see their pristine river and source of such great volumes of salmon be threatened by dams, and lobbied hard against all proposals to dam the Fraser. They were joined by American fisherman, who harvested great numbers of Fraser salmon annually as the fish entered the bi-national Strait of Juan de Fuca before turning up the Canadian Georgia Strait and re-entering the Fraser River.<sup>66</sup>

The opposition to any scheme to dam the Fraser likely led to fostering Ottawa's willingness to participate in an American scheme on the Columbia, yet they left the McNaughton plan on the table as a possibility for some time, using it as a bargaining chip in negotiations.

The talks began by deliberating a mutually-acceptable set of principles for equitable distribution of benefits, to be applied to the subsequent provisions of the agreement. Both sides were hard bargainers, eagerly seeking the best deal for their nation. But at the same time, an atmosphere of collegiality and conviviality pervaded the talks. Analogies of a "poker game" were frequently employed by both sides when talking amongst themselves. And the poker game analogy had some real relevance – this was a competition among friends to see who would get the most substantial stack of chips when the cards were down, but unlike some Treaty negotiations between enemies, the evidence strongly suggests all sides wanted an equitable solution of distribution of electricity and

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<sup>66</sup> Ogden

cash payments, but each side also had hidden goals not explicitly discussed it was hoping to meet.<sup>67</sup>

From the Canadian perspective, it is important to note that Canadian interests were not as easily described or comprehended as American interests. Because foreign affairs are constitutionally the provision of the Federal Government, Ottawa commenced the negotiations. However, the Province of British Columbia was able to effectively argue that they should have input given that the proposed Treaty concerned only the province of BC and no other part of Canada. The original intent of Canadian negotiators in the first rounds of negotiations appears to have been focused on ensuring that Canada received fair compensation for benefits derived downstream as a result of the Treaty.<sup>68</sup>

The major goal of the Canadian negotiators was to make sure Canada was compensated fairly and was not required to spend untoward amounts of money on constructing the Treaty projects. Even this was the subject of much diplomatic and political maneuvering however. One astute engineer wrote his Member of Parliament complaining about the high price tag of one dam in particular. His Member of Parliament wrote back and told him not to worry:

You mention a cost estimate of \$157 million for the High Arrow Project. This is a new figure as far as I am concerned. High figures have purposely been 'leaked out' by the Canadian and B.C. governments with a view to influencing our negotiations with the United States. Now that the lump

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<sup>67</sup> "Timing And Strategy," Elmer F. Bennett Papers, 1950-82, Box #6, Columbia River – US-Canadian Treaty (6), Eisenhower Library.

<sup>68</sup> Canada-United States Columbia River Negotiations, First Session, February 11/12 (1960) – Ottawa, Summary Record of Discussion and Conclusions, 3, Courtesy Bonneville Power Administration.

sum price settlement has been arrived at we are in a position to produce more realistic figures...<sup>69</sup>

This particular correspondence occurred as the 1964 Protocol to the Treaty was being negotiated, but it is an excellent representative example of the clever tactics employed by both sides to get the best deal they could wrangle out of the Treaty negotiations.

After much negotiation, Canada and the United States agreed in principle to an agreement whereby Canada would construct three storage dams along the Canadian portion of the Columbia River. The United States would also be allowed to build a fourth dam along a tributary, which would cause the flooding of Canadian land along the Kootenay River. The three Canadian dams would be required to provide a minimum of 15.5 million acre-feet of storage annually. A calculation would be made to determine how much electricity downstream federally-owned American dams would have been capable of producing without storage. This figure was subtracted from the amount of electricity those US dams actually produced with the Canadian storage, and Canada was entitled to one half of the difference, deliverable on high-voltage lines at Oliver, British Columbia or to be sold on the open United States electricity market with the cash going to Canada. In addition, Canada would be compensated for the flood control benefits it provided to the US.<sup>70</sup>

After the agreement was concluded in principle, it was signed in 1961 by Prime Minister Diefenbaker and President Eisenhower – actually constituting Eisenhower’s last

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<sup>69</sup> Jack Davis, MP, to R. Deane, 5 February 1964, F-55-39-0-21 Columbia River Power Development (28-9) - Letters, newspaper clippings, press releases, printed material, newsletters, transcript, Simon Fraser University Archives.

<sup>70</sup> Columbia River Treaty, Articles V-VI.

official act while President. It was expected that the US Senate would quickly ratify the Treaty, and after a brief consultation to secure the agreement of the government of British Columbia, the Canadian Parliament would ratify the document as well.

But British Columbia Premier William Andrew Cecil (W.A.C.) Bennett had other plans. Bennett was an empire builder, with an ambitious development agenda for his province. “Over the course of its tenure, Bennett’s government engaged in numerous projects to modernized and connect the outlying regions of British Columbia,” noted historian Phillip Van Huizen,<sup>71</sup> adding “In the 1950s, for example, the Social Credit government constructed more highways, bridges, and roads than all previous British Columbia governments combined.”<sup>72</sup> Bennett had big dreams for his Province. He saw what rural electrification and hydropower dams had meant in terms of economic development for the neighboring US Pacific Northwest, and other parts of Canada, and wanted the same for his BC. His dream was to dam the Peace River in Northern BC, as well as the Columbia, but his personal abhorrence for public debt led him to seek creative solutions and cause a multi-year delay in ratification. Having abandoned an earlier Peace River scheme with Swedish venture capitalist Axel Wenner-Gren, Bennett returned to the Peace idea with different notions in the early 1960s.<sup>73</sup> Bennett knew that BC couldn’t use all the electricity from both rivers at the time, but that as the province grew, a time would come with BC would need all the power it could get. But he wanted to find a way to get the Americans to pay for both. He refused to issue bonds to build dams – he was famous

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<sup>71</sup> Phillip Van Huizen, “Building the Libby Dam,” *Pacific Historical Review* Vol. 12 No. 3 (2010): 418-453.

<sup>72</sup> *ibid.*

<sup>73</sup> Paddy Sherman, *Bennett*, (Toronto: Douglas & McIntyre, 1966).

for despising public debt, having once staged an elaborate media event burning BC's retired bond debt on a barge, as onlookers stood ashore watching the floating pyre.<sup>74</sup>

Intra-national negotiations between Bennett's government and Ottawa dragged on for three years, until a mutually acceptable agreement was struck in 1964. The scheme Bennett concocted was to sell the Canadian entitlement of power to back to the United States up front for the first 30 years, and to demand up-front payment in full for the flood control benefits, instead of receiving compensation on an annual basis. Eager to get the deal ratified and implemented after years of talk and delay, the United States offered no significant objection to the Bennett scheme, but stumbled over how to pay for it, and make it work under existing American laws. The Federal authorizing legislation for the Bonneville Power Administration chartered the agency to act as marketer and sell surplus power from federally-owned dams in the region. It had no authority, nor any fiduciary ability, to purchase excess energy that did not already belong to the United States. Fearing an impasse might cause the whole deal to fall apart, Public Utility Districts in Washington state devised an ingenious solution.

Because Washington State law chartered the PUD's as municipal corporations, they had the same legal authority to issue bonds as any city in Washington. They used this ability to sell municipal bonds to raise cash to purchase the first 30 years of the Canadian entitlement of electricity, and pay British Columbia up front for the energy.<sup>75</sup>

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<sup>74</sup> David Mitchell, *WAC Bennett & The rise of British Columbia* (Toronto: Douglas & McIntyre, 1983).

<sup>75</sup> Ken Billington, *People, Politics and Public Power*, (Seattle: Washington Public Utility Districts' Association, 1988), 204-209.



They were then able to use the energy as needed in their districts, but more often to market it with Bonneville's assistance to regions where power supply was low and demand was high, namely California. The California Intertie subsequently was constructed in 1964 to deliver this surplus power to the Los Angeles area.<sup>76</sup> A problem would emerge several years down the road when it became clear that the electricity sold in advance for 30 years had been undervalued, and Canada was insufficiently compensated for the power, but in 1964 when the final protocol to the Treaty was agreed upon between Ottawa and Victoria, and the United States and Canada ratified the Treaty, it appeared that the pre-sale of electricity was a smart workaround to satisfy the needs and desires of all parties involved.

From W.A.C. Bennett's perspective in 1964, the plan was genius. He announced that the cash revenue generated by selling the Canadian entitlement and receiving flood control benefits from the US all at once provided BC with sufficient capital to build all the dams needed to develop the Peace and Columbia simultaneously without costing BC taxpayers or BC Hydro ratepayers a dime. Bennett's government even had money to spare to make a loan to the province of Quebec, at a time when it was in need of capital.<sup>77</sup>

The agreement between Ottawa and Victoria was added to the Treaty as a Protocol, or modifying document. It was soon ratified by the US Senate and Canadian Parliament, and signed by President Johnson and Prime Minister Pearson on the lawn on

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<sup>76</sup> Northwest Power and Conservation Council, Intertie, (10 May, 2012). <  
<http://www.nwccouncil.org/history/Intertie.asp>>

<sup>77</sup> Mitchell.

the Peace Arch at the BC/Washington border in 1964. The United States presented Canada with a check for \$254 million, payment intended to cover the construction costs of the dams to be built in BC under the Treaty, as well as compensation for flood control benefits and the purchase of the first 30 years of the Canadian electricity entitlement.<sup>78</sup>

As has been discussed previously, officially the Americans wanted increased upstream storage for flood control and hydropower generation, and that has been the extent of the story heretofore. However, records from the Eisenhower administration records show that the United States was also looking at the Treaty as a way to buy time. It was believed that given enough time for research and development of fish passage technology, improved technology might allow dams to be developed in the United States that would not impact salmon runs on the Snake and other Columbia tributaries. More importantly, it was firmly believed that large amounts of nuclear power would soon be added to the region's power supply. To this end, the United States viewed the Columbia River Treaty as a temporary measure to buy the time needed to develop these domestic energy resources. The faith was particularly strong in the future of nuclear power, and the belief in the future of atomic energy was so widespread that the New York Times famously published an article in 1954 quoting a nuclear engineer saying that soon, nuclear power would be so abundant it would be "too cheap to meter."<sup>79</sup>

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<sup>78</sup> Bonneville Power Administration and US Army Corps of Engineers, "Columbia River Treaty – History and 2014/2024 Review," April 2008, (10 May 2012). <  
[http://www.bpa.gov/corporate/pubs/Columbia\\_River\\_Treaty\\_Review\\_-\\_April\\_2008.pdf](http://www.bpa.gov/corporate/pubs/Columbia_River_Treaty_Review_-_April_2008.pdf)>

<sup>79</sup> "Abundant Power From Atom Seen," *New York Times*, September 17, 1954, L5.

During the initial negotiation of the Columbia River Treaty in 1960 Attitudes towards hydroelectric power and the future reflected this faith in a nuclear future. Most thought that hydro was an archaic technology, soon to be replaced by futuristic nuclear power plants. Hydro, and the bi-national agreement being negotiated to produce it was increasingly seen as resoundingly temporary. The conventional wisdom held that the firm power demands of the region would be supplied by nuclear plants, and that hydro dams would remain in place to be used only for the purpose of supplying peaking power.<sup>80,81</sup>

The belief that eventually nuclear power would come online and replace hydro as the primary source of electricity in the northwest was taken as gospel at Bonneville. The Agency was so steadfast in its belief that hydropower as the primary source of firm power was such a temporary arrangement that they studied how to transition the system to function as a source of peaking power. There was even talk of removing the dams altogether because they wouldn't be needed after nuclear power came online. Former BPA employee Larry Hittle recalled:

In fact, there were some people talking about turning the dams on the Columbia into great concrete monuments with big holes in them blown because there wasn't any point in tying down the river, that it was valuable for other things and you could control it in a different way.<sup>82</sup>

Hittle added that there were technological and safety considerations the agency wrestled with in contemplating the supposed transition from the dams functioning as the source of

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<sup>80</sup> In the parlance of the electricity industry, firm power means consistent supply available 100% of the time and used on a regular basis. Peaking power refers to extra power that is produced only in periods of exceptional, or "peak" usage.

<sup>82</sup> Larry Hittle, Oral History. Bonneville Power Administration Library, Portland, OR. 18-19.

primary firm power, and controlling the river's flow, to providing the peaking power to back up the nuclear system. He said:

One of the schemes I can remember is that they were going to fence off [sic] the whole reservoir below Grand Coulee Dam because they were going to put in these tremendous generator units which would vary streamflows incredibly. The theory was that there was no way that you could dam for peaking safely and allow public use of the reservoir, they thought they'd have twenty foot waves going down that reservoir and so the theory was that "by golly, we'll just have to force the public off to protect them from the danger."<sup>83</sup>

In his oral history, Hittle did not specify the exact time period he was talking about, but context clues and other evidence strongly suggest it was after the Columbia River Treaty had been negotiated and implemented. As such, his recollections ought not be taken to suggest disingenuous bargaining on the part of the United States; rather they show how prevalent the mentality was among hydropower administrators in the United States that the Columbia river hydropower system would assuredly transition from being the region's primary supplier of firm power, to the source of peaking power to back up the nuclear system. This mentality was quite prevalent at the time of the negotiation of the Columbia River Treaty in 1960, which is why American negotiators so clearly sought an agreement of a temporary nature. The Columbia River Treaty was a stopgap measure. It was intended by its American architects to be a temporary solution to add power production capacity to the system to generate electricity to be sold to pay back the cost of construction of downstream run-of-river dams which had been built largely as economic

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<sup>83</sup> *ibid.*

stimulus measures. And it was designed to limit the obligations of the United States, both temporally and technologically. When the transition to nuclear took place, as all involved believed was bound to happen, the US would not be obligated to share atomic power with Canada under the Treaty. And when the nuclear system developed to the point that the dams were no longer needed to produce substantial amounts of power, the United States could opt to terminate the Treaty, and elect to compensate Canada for flood control beyond the expiry of the agreement. In fact, the Treaty is structured in such a way that regardless of a potential termination, flood control obligations continue indefinitely on Canada's part, as long as the useful life of the Treaty dams shall last. This was by design. The US wanted to be able to exit from the power sharing obligations, the primary initial motivator for the construction of the upstream dams, once the downstream dams were paid off and the transition to nuclear had taken place.<sup>84</sup> However the development of communities in low-lying areas as a result of flood control making once flood-prone areas now, after the Treaty, desirable areas to inhabit, would necessitate the continuity of flood control into perpetuity. And so it was done. When a Canada-United States Inter-Parliamentary group met in Ottawa following the conclusions of the initial international Columbia River Treaty negotiations, during the interregnum when Ottawa and Victoria were debating their intra-national disagreements on the Treaty and the US Senate was preparing to ratify the document, the subject of nuclear power and its expected importance in the future was reflected in the official records:

The United States Delegation pointed out that the Senate Foreign Relations Committee would hold hearings on the Columbia River Basin

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<sup>84</sup> "Timing and Strategy."

Treaty commencing on March 8 (1961). The Canadian Delegates expressed the view that in spite of expected controversy in Canada over the implementation of the Treaty within Canada, the development of the Columbia River Basin would proceed as contemplated by the Treaty. Satisfaction was expressed by the Delegates of both countries over the successful completion of negotiations which had led to the Treaty. There was general agreement too that in the long run, electrical power generated by atomic energy would become increasingly significant.<sup>85</sup>

This certainty in the future of abundant nuclear power is what led Canadian and American negotiators to conclude a deal after the final 1964 ratification of the Treaty whereby Canada's entitlement of electricity was sold back to the United States for the first 30 years, at a price that was predicated upon the belief that the cost of electric power would decline as nuclear power came online. Particularly in the Pacific Northwest, for those paying attention to energy issues there was good reason to believe that the future lay in nuclear reactors, and that the hydro system would be relegated to peaking power, with firm power derived from reactors.

The planned transition from hydropower to nuclear in the region never came to pass. In the 1970s, Bonneville, using erroneous calculations predicting a 7% annual increase in regional electricity demand sent out letters warning regional utilities that they would be unable to guarantee a supply of firm power to meet regional demand by 1982. BPA then strong-armed Public Utilities into participating in the Washington Public Power Supply System (WPPSS) known colloquially from the beginning as "whoops."

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<sup>85</sup> Department of External Affairs, "Fourth Meeting of the Canada-United States Inter-Parliamentary Group – Joint Press Statement" February 27, 1961. File 5724-2-40 page 96. Archives Canada, Ottawa.

WPPSS planned a total of 24 nuclear plants, and sold bonds to finance the first five. A colossal failure of management mistakes, regulatory nightmares, union squabbles and shoddy workmanship as well as a crashing bond market led WPPSS to abandon four of the five financed projects, and ultimately resulted in the largest public bond default in American history.<sup>86</sup>

The one nuclear plant that was constructed, near Hanford, Washington, has a capacity-plate output rating of 1150 MegaWatts.<sup>87</sup> After the Columbia River Treaty evened out the flow of the Columbia, additional powerhouses were also installed at Grand Coulee Dam. That one dam alone is now capacity-plate rated to produce more than six times the energy the one nuclear plant is capable of.<sup>88</sup>

Back in 1960 during the Columbia River Treaty negotiations, the anticipation of this planned transition to nuclear power was a topic of much discussion at the negotiating table. For Canadian negotiators, concerns about nuclear power were a frequently recurring theme during talks about the Columbia River Treaty. Canadians were concerned that as the anticipated shift away from hydro towards nuclear power occurred in the US Pacific Northwest, the Canadian energy entitlement could decrease over time. After all, if Canada was entitled to one-half of the hydroelectric energy produced in the United States by virtue of Canadian upstream storage, but the dams in the US were

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<sup>86</sup> David Myhra, *Whoops!/WPPSS: Washington Public Power Supply System Nuclear Plants*, (Jefferson, NC: McFarland, 1984), 1-3.

<sup>87</sup> Energy Northwest, Columbia Generating Station, (10 May 2012). <<http://www.energy-northwest.com/generation/cgs/>>

<sup>88</sup> US Bureau of Reclamation, Grand Coulee Dam, (10 May 2012). <<http://www.usbr.gov/pn/grandcoulee/>>

shifted to being used only for peaking power, then Canada's entitlement would decrease as the total hydropower production decreased. Discussions of this conundrum are particularly revealing insofar as they give insight into how the framers of the Treaty saw the agreement, and the regional reliance upon hydropower, as being profoundly temporary. Notes from a March 21, 1960 informal meeting between American and Canadian negotiators in Ottawa show that both of these themes figured prominently into the discussion.<sup>89</sup> A summary of the conversation reads, in part:

Regarding the continuation of power benefits, it was difficult to forecast what the position might be after the end of the treaty period. It seemed likely that such benefits would continue on a substantial scale. General Itschner remarked, however, that he did not expect the United States would ever be required to return such benefits on a scale which would involve drawing on power from other sources (e.g. from atomic or thermo production). Generally he considered that there would be a continuation value of storage for power purposes indefinitely, and that the value for flood-control and for other water sources (e.g. irrigation, domestic water supply, etc.) would be maintained or increased during the years after the treaty.<sup>90</sup>

This passage from negotiation records is significant because it succinctly explains the common view that reliance upon hydropower would decrease as atomic energy took over as the main source of electricity in the region, and it furthermore clearly demonstrates how the framers of the agreement saw it as being intended to have a limited lifespan.

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<sup>89</sup> Columbia River: Notes on Informal Meeting of US and Canadian Negotiators on March 21. March 22, 1960, 5724-2-40, 7, Archives Canada, Ottawa.

<sup>90</sup> *ibid.*



References to the intended temporary nature of the Treaty abound both in the mutually-agreed upon official negotiation records, and in internal correspondence between American officials. As mentioned previously, the Americans wanted a temporary Treaty to buy time to a certain extent so they could develop better ways of handling salmon migration over large storage dams, but primarily because they believed that nuclear and other sources of thermal energy would come online in the region as the primary source of electricity, relegating Canadian storage to a role in supporting the supplying of peaking power. Additionally, they believed that the cost of electricity would decline over time as a result of the increase in nuclear efficiency. As such, Americans were wary of being tied to a permanent or excessively long-term agreement with Canadians, obligating the sharing of half of downstream benefits. Copious evidence from the aforementioned sources affirms the indented temporary nature of the Treaty and the belief that hydro would be relegated to peaking power.<sup>91</sup>

A telling example of this American desire for a limited time span comes from a declassified State Department report, which read:

The necessity from the United States standpoint of placing a definite time limitation on these reciprocal promises arises from the expected future change in the power system on the United States portion of the Columbia Basin from essentially an all-hydro system to a combination thermal-hydro system... ..Eventually the power system in that area will change from a predominantly hydro to a combination hydro-thermal system.

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<sup>91</sup> Views of the Canadian Section, Columbia River International Work Group, Measurement of Canadian Storage Benefits in Future Years, Ottawa, 14 June 1960, Elmer F. Bennett: Papers, 1950-1982, Box #4, Columbia River Drafts – Miscellaneous (4), Eisenhower Library; Columbia River Development, Report of Subcommittee No. 2 of Advisory Committee to Department of State, Elmer F. Bennett Papers, 1950-82, Box #5, Columbia River - Engineering & Legal Groups 1960 (7) 9-10, Eisenhower Library.

Consequently, there will in all probability be a time in the future when the United States will want to re-evaluate the original agreement, with its provisions for payment for downstream benefits...<sup>92</sup>

An internal memo circulated among the American negotiation team repeated this sentiment. The American team knew that the Canadians were seeking US reimbursement for the cost of the proposed Columbia River dams in Canada, and circulated this memo to prepare to engage the other side regarding that issue. It laid out American strategy as follows:

The Canadians are playing their cards extremely well and we cannot afford to do otherwise. They deliberately held us up for eleven years; and we should not be rushed off our feet now...the Canadians need only one main agreement from us, namely that Canadian storage projects will be...reimbursed. Time is on our side. The longer the Canadians wait the less their storage is worth; they now realize it...Power storage is expected to become less valuable in Canada after 20 years...The possibilities of a technological breakthrough in nuclear energy conversion should not be overlooked, which might have the effect of much further reducing the value of electrical energy as presently computed...<sup>93</sup>

The American delegation clearly intended to make sure the life span of the Treaty was limited. Because the price of electricity was expected to fall as nuclear power was developed with increasing efficiency, the United States did not want to be tied to an

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<sup>92</sup> *ibid.*

<sup>93</sup> "Timing and Strategy."

expensive hydropower sharing agreement with Canada when the age of cheap nuclear power had arrived.

The United States Delegation noted that it would want to modify the wording of the proposed article to make it clear that it would be committed to make the most effective use of United States generating equipment and improvement in stream flow in the United States system so that it would be clear that account would be taken of thermal generation in the United States system and the diminishing value of storage. The United States Delegation explained that in the future Canadian storage would be of value primarily for peaking purposes rather than for firm power.<sup>94</sup>

This belief that the value of Canadian storage would decline over time was reinforced by the belief that given time for scientific study, better methods of mitigating the impact of large storage dams on salmon runs would be invented, and the projects in Idaho would perhaps one day be able to proceed without opposition from fisheries interests.<sup>95</sup> For all of these reasons, the United States clearly and unquestionably desired a Treaty with a specific limited life span.

Originally, the United States proposed a Treaty of “fifty years duration.” The language used in early memos, correspondence and bilateral talks would suggest that in fact the US may have been seeking an agreement that would terminate automatically after five decades. As discussions continued, language changed to state the provision as it

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<sup>94</sup> Canada-United States Columbia River Negotiations, Eighth Session, December 14, 15 and 16-- Washington , Draft Summary Record of Discussion and Conclusions, December 16, 1960 page 13 (Courtesy, Bonneville Power Administration)

<sup>95</sup> Proposed Statement by the President, 19 October 1960, Central Files, Official File, Of 155-A (2), Box #828, 155-A-1 (2), Eisenhower Library.

ended up in the final document that the treaty *may* be terminated by either country after a specified length of time “provided ten years written notice.” Even after that language was added, the United States still preferred a 50 year time span. It was the Canadians, in fact, who suggested 60 years instead, noting the long construction time required for large dams and anticipating the delay that would ultimately be caused by political difficulties encountered in getting the government of British Columbia to agree to the Treaty. A December 29, 1960 document prepared for both sides to view noted differences in draft treaties proposed by each side, including the differing length of time. The United States version read “At any time after this Treaty has been in force for fifty years, either U.S.A. or Canada shall have the right to terminate it upon ten years written notice...”<sup>96</sup> The proposed Canadian version of the same clause read “...either Canada or the United States may terminate the Treaty at any time after the Treaty has been in force for 60 years if it has given at least 10 years written notice...”<sup>97</sup> Ultimately the Canadian clause was chosen, and the final ratified Treaty stipulates the 60 year provision, with the exception that certain flood control benefits would continue for the length of the serviceable lives of the dams constructed.

This reflects a success by the United States negotiation team in accordance to their original two-pronged strategy on these issues. When it came to flood control and power, the American goals were one, to secure flood control on a more permanent basis,

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<sup>96</sup>Department of External Affairs (Canada) “Columbia River Treaty – Comparison of Cdn. & U.S. Drafts,” 29 December 1960, Elmer F. Bennett: Papers, 1950-82, Box #4, Columbia River Drafts – Miscellaneous (2), Eisenhower Library.

<sup>97</sup> *ibid.*

and two to secure an agreement for Canadian storage of water for hydropower production that was of a more temporary nature. The latter, again, being based on the assumed declining value of hydropower as peaking energy as nuclear energy came online to provide firm power. This view was expressed repeatedly by the American team during negotiations.

Regarding the lack of discussion of salmon and anadromous fish spawning habitat in the official negotiations, there is a logical explanation. The negotiations were about money and electricity. Each side wanted to get the best deal for their country, and as such, sought to diminish the value of potential Columbia development. The United States downplayed the notion of upper Columbia Basin storage in Canada being an alternative to projects in Idaho, for doing so could have allowed the Canadians to command a higher price for cooperation. Rather, the Americans postured that the Columbia dams would be the most convenient and immediately available option for storage, but that other projects in the US would be built eventually anyway. Similarly, the Canadians left the McNaughton plan on the table, and frequently pointed out that if the United States commanded too high a price for Canadian Columbia cooperation, they might well just develop the Columbia and/or Fraser on their own at a lesser price. Here are some examples of this posturing:

The United States Delegation responded that it did not consider Canadian storage a substitute for United States storage but rather as supplementary

storage which would give a higher degree of flood control; further, the United States would build most of its planned projects in any case.<sup>98</sup>

It was imperative that the United States avoid the appearance of desperation, and adamantly assert that all development planned would proceed with or without Canadian cooperation, lest the Canadians realize that the United States preferred the Canadian Storage option for environmental reasons and extort a higher price. For example, when Canada demanded a higher compensation price in one particular matter, the United States responded that “The United States Delegation noted that any agreement must provide power at a cost which is no higher than it could be obtained for in the absence of an agreement.”<sup>99</sup> Statements like these are common, from both sides in the negotiation records, and reveal that both countries maintained a posture of being willing to abandon the Treaty process and develop resources independently in their own respective countries. As such, both sides were loath to talk about how the other country’s cooperation would save their salmon runs. Therefore, it is clearly understandable how salmon and environmental concerns were left out of the discussion –it simply would have been a bad negotiating tactic.

Ultimately, the United States agreed to pay Canada \$254 million dollars and Canada agreed to construct three dams on the main stem of the Columbia River in BC. Together, Canada agreed to build and operate a combined 15.5 million acre feet of

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<sup>98</sup> Canada-United States Columbia River Negotiations, Third Session March 21 and April 1 – Ottawa, Agreed Summary Record of Discussion and Conclusion. Page 3. (Courtesy, Bonneville Power Administration).

<sup>99</sup> *ibid.*

upstream storage, to be operated in tandem with the downstream run of river dams in the United States. Canada is entitled to one half of the electricity generated downstream by virtue of the Canadian storage, which it sold back to the US for the first 30 years at a price that was, in retrospect, undervalued. This undervaluing is one of the several reasons that the Columbia River Treaty has garnered a negative reputation in Canada. This will be explored in depth in chapter five.

For final note on the status of the Treaty, and why both countries quickly agreed that a Treaty would be the preferable legal instrument for striking a deal to cooperate on the development of the Columbia River, it is important to remember the Cold War context of the negotiations that occurred in 1960. The US State Department at this time pursued an agenda of maximum resource development in allied countries, so that the United States and other NATO / Western Bloc nations would be less vulnerable to potential resource appropriation by the Soviet Union in other regions of the globe. To a certain extent, energy is a fungible commodity. By ensuring that Canada developed this resource, the State Department's thinking went; the West could better handle decreased availability of other energy resources in different parts of the globe if they were co-opted by Soviet Power. When he analyzed the Treaty in the 1960s, economist John V. Krutilla noted that financially, the Columbia River Treaty did not add up according to his calculations as the best choice for resource development for the United States in terms of dollars spent per kilowatt of energy produced, when compared to other projects on the

drawing board, but that the Columbia River Treaty was pursued in part because of the Cold War Allied energy development agenda.<sup>100</sup>

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<sup>100</sup> John. V Krutilla, 1967, *The Columbia River Treaty: The Economics of an International River Basin Development* (Baltimore: Resources for the Future Press).



## **Chapter Four:**

### **The Effects of the Treaty**

The Columbia River Treaty called for the construction of three dams on the upper Columbia River in British Columbia, Mica Dam, Revelstoke Dam, and Keenleyside Dam – which is also known as Arrow Dam. The Treaty also permitted the construction of Libby Dam in Montana, which required the international sanction provided by the Treaty because its reservoir backed water up into Canada. The treaty required that the three Canadian dams to provide a total of 15.5 million acre-feet of reservoir storage. The acre-foot is the traditional large-scale unit of measure for water in the American west. It represents the amount of water required to cover an area the size of one acre with water to a depth of one foot. For comparison purposes, an Olympic swimming pool holds approximately 2 acre feet of water. Canada is compensated for the flood control benefits provided by the Treaty dams, and that compensation was paid in cash up front for the first 60 years. Additionally, Canada is entitled to a block of free electricity from the downstream American dams, which are able to produce greater amounts of power thanks to the upstream storage in BC. Canada chose to sell that electricity back to the United States for cash, paid upfront for the first 30 years.

That sale was undervalued, the calculations used for compensation were based on the assumption that the price of electricity would decline over time as nuclear power came online. Of course, the opposite happened – the energy crisis of the 1970s, the Arab

Oil embargo and nuclear power's failure to thrive all led to skyrocketing electricity prices, leaving many Canadians to justifiably feel that they were underpaid for the first 30 years of electricity. The underpayment for the initial 30 years' worth of electricity is one of several factors that have conspired to give Canadians an overwhelmingly negative view of the Treaty. The ecological damage caused by the storage reservoirs and the displacement of residents is another reason. And, the fact that other Canadian provinces such as Quebec enjoy a position of absolute market dominance in the electricity trade over their American neighbors, whereas BC's relationship under the Columbia River Treaty is more cooperative and by no means dominant is another reason that the perception of the Treaty is overwhelmingly negative in Canada.

Another profound effect of the Columbia River Treaty was the virtual elimination of the freshet.<sup>101</sup> The natural flow of the Columbia River is greatest in the spring, when runoff from melting snow in the Cascade and Rocky Mountains causes the river to swell. The dramatic fluctuations in river flow peak in spring, and fall off over the summer to eventually settle at much lower levels in the winter, when falling precipitation is stored again as snow and ice. This pattern was precisely the opposite of the regional electricity demand in 1960, which at that time peaked in the winter due to power loads required for home heating.

The reservoir storage provided by the Treaty dams in Canada allowed hydropower administrators to even out the natural stream flow to fluctuate less on an annual basis. There is still a moderate spike in water flow during the spring snowmelt,

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but it is dramatically less than the natural flow. This has allowed for increased hydropower production on a sustained year-round basis, as water is stored then released later when needed to produce power. It has also mitigated the intense floods that used to plague the Lower Columbia and the towns along the river in Washington and Oregon. Unfortunately, it has also caused catastrophic damage to the Columbia River salmon runs by eliminating the massive freshet that juvenile salmon rely upon to push them seaward.

The evidence strongly suggests that the importance of the freshet for salmon migration was not fully understood in 1960. Indeed, part of the American motivation to build dams in Canada instead of American tributaries like the Snake was that dams in Idaho would have flooded out spawning habitat for salmon and other fish, whereas it was believed that “no additional harm can be done” to come to the Canadian Columbia fishery<sup>102</sup> because the salmon had been blocked from accessing those waters by the Grand Coulee Dam constructed years earlier without fish ladders. While the Columbia River Treaty did offer a chance to add hydropower capacity to the Columbia River system without flooding out salmon spawning grounds, its elimination of the freshet had severe negative consequences for salmon in the Columbia basin.

To hydropower administrators this annual freshet was wasted energy that could have been hydropower if stored and harnessed later. To salmon this was a necessary and important part of their life cycle. Juvenile salmon do not exactly swim to the sea. Rather, they idly drift, expecting the current to carry them. The freshet is critical to this. The

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<sup>102</sup> Lundy.

annual spring surge is necessary to flush the salmon fry downstream and out to sea. Without it, many of them never make it to the Pacific Ocean.

By building dams in Canada that regulated the flow and removed the freshet, the Columbia River Treaty became another sad chapter in the long decline of Columbia River salmon. Further, it cemented hydropower as the sacrosanct utilization of the Columbia River, and the Bonneville Power Administration as the paramount authority in the river basin. In this way the Treaty and the dams and the flow regulation regime it implemented fundamentally altered the Columbia River basin in both countries.

A Treaty provides the ultimate and unquestionable legal authority. As an agreement between two sovereign nations, it supersedes all national, state or provincial laws and sits above reproach or questioning of constitutionality or judicial scrutiny. As Blumm has noted, prior to the Columbia River Treaty there was a complex web of legislation and case law constantly evolving in Congress and the courts representing the various resource use interests concerned with the Columbia River Treaty, there was a legal malleability to legislative framework of Columbia River management. The Columbia River Treaty, as an international agreement with higher status, stood above that malleable legal milieu, and codified hydropower and the BPA as the pre-eminent resource use and management agency on the Columbia River in the United States, in a manner that was not subject to the same intra-national political and legal wrangling and malleability. By assigning hydropower sacrosanct status on the river and the BPA as conservator of that resource through the ultimate legal instrument of a treaty, the

Columbia River Treaty fundamentally altered the bureaucratic, political and legal landscape, as well as the environmental landscape of the Columbia Basin.<sup>103</sup>

There were also profound environmental impacts for the valleys flooded out by the reservoirs created behind the three Treaty dams in British Columbia. In addition to the environmental impacts of the Treaty, there were profound social justice implications and disturbing human consequences for the people who had lived near the Columbia River in BC. 2000 people lost their homes in the valleys that became reservoirs. British Columbia lost some of its most prized interior agricultural land. And the psychological scars wrought by the destruction of towns, farms, homes and churches are very real. Many BC residents saw their dreams disappear, literally, as a result of fire and high water. When clearing land for inundation by a reservoir behind a dam, the most efficient way to effectively raze a town site is to burn it. Hundreds of families were forced off of their farms and out of their homes only to have insult added to injury when the Province set fire to their buildings in advance of the rising water. The fact that this action was undertaken as a result of an agreement concluded with the Americans was not lost on most of them.<sup>104</sup>

Much scholarly attention has been focused on the plight of the persons displaced by the Treaty dams in British Columbia. University of British Columbia Environmental historian Tina Loo has written an analysis of the situation, drawing on the theoretical

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<sup>103</sup> Michael C. Blumm, "The Columbia River Treaty," in *The Northwest Salmon Crisis: A Documentary History*, Edited by Joseph Cone and Sandy Ridlington. (Beaverton: Oregon State University Press, 1996).

<sup>104</sup> *The Reckoning*, Toronto: Canadian Broadcasting Corporation, 1974 (Documentary)

framework of James C. Scott's *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. Her article "People in the Way" borrows the title of an earlier book by the same title, that one written by J.W. Wilson, a former BC Hydro official tasked with removing people from their homes and presenting the plans for forced re-location and trying to sell the supposed benefits of new communities to the displaced villagers.

Hydro officials such as Mr. Wilson were tasked with entering the towns and settlements in the Arrow Lakes region and buying up the land, telling people that they would have to move off their farms ahead of the coming flood, but not to worry, the region would benefit in the long run. New towns would be built with modern schools, community centers and hockey rinks. Marinas would provide access to boaters and draw boating-based tourism to the area as Vancouverites and urban-dwellers sought a place to play in the sun on new lakes created by the dams.

Most of this never happened. The half-hearted attempts to re-created new towns never yielded the results promised by Hydro. The community centers and hockey rinks remained mostly theoretical, and the promised benefits of boating-based tourism never came to pass. This is perhaps the most visible and colossal instance of the failure of the failure of the proposed new economy that Hydro promised the people of the region. The Treaty dams on the Columbia are operated by BC Hydro and Bonneville under the terms of the Treaty, and the operating plans drawn up on a regular basis by the two entities to satisfy the explicit goals of the Treaty – producing hydropower and controlling floods. Water levels rise and fall according to the needs of hydropower plants downstream to

have a consistent flow, not the needs of local communities to have a successful boating season.

The drastic seasonal water level changes that occur as a result of treaty-obligated management of the reservoir levels for flood control and storage for electrical generation downstream have prevented promised benefits of the reservoirs as recreational tourism engines from ever fully materializing.

As such, the dramatic fluctuations in water levels make it virtually impossible for any real boating activity to take place, at least on a commercially viable level as an engine of tourism generating revenue. The fluctuations in water levels make it an engineering nightmare and cost-prohibitive from a business standpoint to design and build a marina that could allow boats safe continual access to the water as the reservoirs rise and fall throughout the year. And even if, and it is a major if, the engineering and financial hurdles were able to be overcome, no tourist in their right mind would want to spend their vacation budget to go boating in such an aesthetically un-pleasing environment when so many other more enjoyable venues are available nearby, such as Lakes Chelan and Roosevelt in Washington state, or Lakes Penticton and Okanagan<sup>105</sup> in British Columbia.

Speaking strictly from an aesthetic perspective, the shores and land along the reservoirs behind the Treaty dams are ugly. Devoid of vegetation in many areas, the mud flats left behind by the annual drawdown of the reservoirs are ugly and prone to dust

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<sup>105</sup> The international region, valley and river that share the name have different spellings in each country. Okanagan in Canada, Okanogan in the United States.

storms when the sun baked earth meets the winds that resonate down the canyons. Furthermore, the stumps that line the shore are not pleasing to the eye either. The Columbia Basin Trust produced a video describing these and other problems that occur along the shorelines of the reservoirs, and mentioned that although when the reservoirs are full, they can be “quite aesthetically pleasing,” that full-pool level is present only for a brief part of the year, and is managed according to the dictates of hydropower production, not the exigencies of boating tourism or aesthetics.

The “People in the Way” were not country bumpkins unprepared to fight for the preservation of their homes, farms and communities. These were people who were organized, politically active, and ready and willing to use any and all means to have their voices heard in Victoria and Ottawa to stop the planned demolition of their communities and destruction of their livelihood. They wrote letters to the Prime Minister, they wrote letters to the editor of local and regional newspapers, they petitioned their Members of Parliament and Provincial legislators, they organized in community groups and published pamphlets and books in opposition. Resistance to High Arrow Dam in particular was organized and fierce.

The resistance and opposition to the High Arrow project were not lost on American negotiators either. The voracity of political opposition to the dams in British Columbia was not lost on American diplomats, who were concerned that all the effort to negotiate the Treaty might be for naught if construction were unable to proceed. United States Consul General Hayden Raynor discussed the matter confidentially in April, 1960 with two members of the committee tasked with settling differences between Ottawa and



Victoria on the matter, Arthur Paget, British Columbia Water Rights Comptroller, and Maurice Glover. Raynor reported in an airgram to State Department headquarters that “Both men feel that the flooding of Arrow Lakes is politically feasible.”<sup>106</sup> Further evidence of the close attention the US paid to the political resistance developing against High Arrow Dam is found in a similar dispatch from February of that year detailing a conversation between Raynor and British Columbia Minister of lands Ray Williston. Raynor notes in his dispatch to State Department headquarters that Williston was “optimistic” despite previous doubts, “that he could handle the problem politically” of constructing High Arrow despite the opposition, once the Treaty was signed. The sensitivity of this subject in BC, and the difficult political climate created for the BC Government by the resistance to the flooding of the Arrow Lakes is further revealed by Raynor’s concluding comments to State Headquarters: “It is particularly important that Williston’s view on the High Arrow be kept in strict confidence as if it were disclosed in any way at this time it could make his job of selling it very difficult indeed, even impossible, and he might also get into serious difficulty with the Premier.”<sup>107</sup>

There is no way of knowing conclusively how genuine the plans espoused by Williston on behalf of the BC Government really were when they presented the people of the displaced communities with the proposals to build new towns. However, the fact that

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<sup>106</sup> Arthur J.R. Smith, *Canadian-American Committee: Confidential Committee Report R-8, Cooperative Development of the Columbia River Basin*, October 1959, Central Files, Official File, 155-A (2), Box #828, 155-A-1 (2), Eisenhower Library.

<sup>107</sup> Hayden Raynor, U.S. Consul General, Vancouver to United States Department of State, Washington, Despatch no. 123, February 2, 1960, Elmer F. Bennett Papers, 1950-82, Box #7, Columbia River Development Project, Eisenhower Library.

American officials were so keenly aware of the political difficulty the resistance was engendering for the BC Government, and the fact that confidential American memos so clearly discuss the difficult job the province would face in “selling” the plan politically serve to legitimate the questioning of whether said proposals were in fact more than a sales tactic on the part of the BC Government to mollify local opposition.

Due to the massive resistance put up by the people in the affected area, it was necessary for the Province to be able to make a compelling argument that the new towns would offer an improved quality of life. The fact that many of the people affected were not interested in a more urban lifestyle does not change the fact that in order to “sell” the proposals politically, it was necessary for the government to make it look like it would an improvement. At its core, it was an issue of human rights. Displacement of people, especially those denied a voice in determining their fate, could only be justified morally if it could be effectively argued that it was for their own good. The criticisms of the Treaty and the proposed plan created this necessity. A letter from the Water Resources Council to Prime Minister Diefenbaker illustrates the point. “You may not be aware of it, but a great body of public opinion believes it was a violation of human rights for you and Justice Minister Fulton to fly to Washington and sign away the homes, industries and heritage of thousands of Canadian citizens WITH NO HEARINGS WHATSOEVER! And without even the elected representatives of the people to see or discuss the terms.”<sup>108</sup>

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<sup>108</sup> Records of Prime Minister John G. Diefenbaker, Reel Diefenbaker #311962, Archives Canada, Ottawa

Incorporating evidence obtained from declassified American documents allows a fuller understanding of the situation in the Arrow Lakes to be developed. It was a political necessity for BC Hydro to offer a modern superior quality of life to the displaced residents to overcome the resistance. When Vancouver-based American Consulate General Hayden Raynor discussed the matter with British Columbia Lands Minister Ray Williston, he reported back to Washington, DC that Williston "...made it clear that it was on this dam (High Arrow) that the political problem would be greatest because of flooding people out along the shores of the Arrow Lakes."<sup>109</sup> Given that, it is not surprising that BC Hydro was compelled to present their alternative town sites as a modern superior alternative to the traditional way of life in the Arrow Lakes area. Loo's argument that the people of the Arrow Lakes resisted the "high-modernist" vision thrust upon them is reasonable.

There has been profound and lasting negativity towards the Treaty from the Canadian side. Almost immediately after the ratification, criticism of the Treaty and negativity towards the agreement began to mount in BC and all of Canada. This was for a number of reasons. The manner in which WAC Bennett had directly negotiated with a foreign country, the USA, angered Canadian Federalists. They believed having a province in foreign affairs had a devolutionary effect on Confederation. Additionally, world events including a souring economy and the escalation of the Vietnam War had led

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<sup>109</sup> Hayden Raynor, U.S. Consul General, Vancouver to United States Department of State, Washington, Despatch no. 100, January 21, 1960, Elmer F. Bennett Papers, 1950-82, Box #7, Columbia River Development Project, Eisenhower Library.

to a period of high anti-Americanism in Canada, which colored and amplified negativity towards the Treaty. There was no consultation provided with affected communities – Hydro officials moved in and told people how many days they had to be off their farms. To add insult to injury, engineers determined that the most efficient way to clear former town and farm sites for flooding behind dams was by fire; so many displaced residents watched their homes, churches and communities burn ahead of the rising water. The fact that a CBC news camera was allowed in to record the burning of towns where residents had been kicked out because of a Treaty signed with the United States further enraged public opinion across Canada against the agreement.

As time wore on, other factors mounted to raise public ire in Canada against the Columbia River Treaty. The payment offered to British Columbia up front for the first 30 years of power had been calculated based on the assumption that the price of electricity would decline over time, as nuclear came online and supplies increased in general. On the contrary, the colossal failure to build nuclear plants in Washington State became the stuff of legend, and the Middle East Oil Embargo of the 1970s caused all energy prices to skyrocket. The upshot was that because BC had been compensated up front for 30 years under the assumption that energy prices would fall, when they in fact rose through the roof led many Canadians to justifiably feel that they had been underpaid for Columbia power.

Furthermore, the human and ecological consequences of the Treaty in British Columbia were massive. More than 2,000 families were forced off land they had farmed for generations. It was some of BC's most pristine and productive farmland, and seeing

the ecological degradation the Treaty wrought only added to the injury felt by its loss. Juxtaposing this with the veritable Garden of Eden constructed by Columbia River dams in the USA (though not related specifically to the Treaty) further shows how wronged Canadians *felt* by the deal. What had once been prized farmland in BC was reduced to an ugly dust bowl filled with stumps most of the year. Large areas are alternately flooded and drained throughout the yearly operational cycle of filling and drawing down the reservoirs. In some places, the location of the shoreline can vary by 40 miles between when the reservoir is at full-pool, and when it is drawn down to its minimum. The barren landscape left behind when the water recedes has little vegetation cover, and can produce terrible dust storms in the region.

As such, it should come as little surprise that popular memory of the Canadian experience with the Columbia River and the Treaty with the United States is resoundingly negative. The Canadian Experience with the Columbia River is one of tragedy, of sadness, of loss. Momentarily excepting the tremendous losses suffered by Native Americans as a result of Columbia Development, the general non-Native popular American memory and conception of Columbia River development is one of triumph, innovation, success, and the creation of a Planned Promised Land where irrigation water flows to irrigate some of the most productive farmland on the planet and electricity spawns industrial and technological innovations that shrink the world.

It should come as no surprise that Canada's view of the Columbia River Treaty is so powerfully negative, because when measured in terms of human and ecological impact, its destructive force has been written on Canadian collective consciousness in indelible

ink. True, economists and engineers who have studied the Treaty have determined that it had beneficial results for BC's development, and helped lead to the development of a modern, integrated economy in the Province. But try telling that to someone who watched their church burn to the ground and was forced off the family farm their grandfather cleared by hand out of the forest. Careful academic study of the dollars and kilowatts may show that the Treaty did good things for the economy of the province, but academic economic studies don't make popular memory, hearing eyewitness accounts of forced relocation and the burning of villages does.

Canadian farms were destroyed to make way for the dams. This is interesting because American farms along the Columbia River have thrived thanks to irrigation made possible by dams on the Columbia River. Note, that the Treaty itself is not responsible for American irrigation, and has nothing specifically to do with American reclamation projects. But from the perspective of environmental tradeoffs, it is quite ironic that the Canadian experience relating to the Columbia River has been one of sadness and tremendous loss of farmland, whereas the American relationship between the dams on the Columbia is that dams and irrigation have created a veritable Garden of Eden in the American Columbia Basin.

It must be re-iterated that the Columbia River Treaty had nothing to do with American irrigation operations, the infrastructure for those operations was in place long before the Treaty was even contemplated, but the fact that Canada lost prized farmland in a painful forced exodus along the Columbia River while downriver American farms continued to thrive has colored the Canadian perception of the Treaty negatively.

For the United States, the principal effects of the Treaty were a major economic boost from the increase in power generation, but an unfortunate decline in the health of downstream salmon runs due to the elimination of the freshet. The Columbia River Treaty allowed the United States to add the equivalent of another Grand Coulee Dam in terms of power production by evening out the annual flow of the river to more closely align with electricity demand. The flood control has been a resounding success. The region has not experienced a significant damage-causing flood along the Columbia since the Treaty dams were built. When waters came close to spilling over the dykes of downtown Portland in 1996, Canadian officials worked overtime to regulate flows in BC to make sure that although the water came with inches, not a drop spilled into the streets of Portland. The Oregonian newspaper in fact, heralded Canada for saving the day, thanks to the dams built under the Columbia River Treaty.

The dams built in Canada as a result of the Treaty proved to be instrumental in keeping floodwaters at bay during the “Great Flood of 1996” in Portland, Oregon. The Oregonian newspaper noted that devastating floods had recently wiped out communities in the American Midwest in 1993, and that Portland could have suffered the fate of a horrific flood destroying the town were it not for the dams. Proclaimed the Editorial page a week after the floodwaters receded: “This didn't happen here, and a big reason it didn't is the network of storage dams on the Columbia and Snake rivers. Those storage projects can tame 40 percent of the Columbia/Snake flow. They begin in Canada, acting as shock absorbers along the rivers' courses through Idaho, Montana, Washington and Oregon.”<sup>110</sup>

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<sup>110</sup> “What Might Have Been,” *The Oregonian*, February 18, 1996.





**Conclusion:**

The United States sought a Treaty with Canada to regulate the stream flow of the Columbia River in the post-world War II era to help solve problems it could not address domestically. Faced with an unprecedented population growth in the Pacific Northwest at the end of World War II, the Americans embarked on an ambitious agenda of dam construction to rebuild the economy of the Pacific Northwest. Due to Congressional politics and the power differential between the US Army Corps of Engineers and the Department of the Interior, the lower half of the system was constructed, in terms of large government projects, almost immediately. While at the same time, the upper half of the intended system under Interior's control was stalled. The delays encountered by Interior were compounded when Eisenhower took office in 1953 and set to work stopping those large scale dam projects he was able to halt, on grounds of fiscal conservatism. This delay and opposition gave those who advocated against the intended US upstream storage dams on environmental grounds, including those within the Department of Interior itself, to carry the day and ultimately prevent the upstream storage dams from ever being built in the United States.

By 1960 the US was in a very difficult position, having only built half the system it designed at the end of the war and mired in political and environmental opposition that was clearly going to prevent the other half from ever being built in the United States. Desperately needing to add upstream storage to the hydropower system, the US turned to Canada for assistance. The lack of salmon on the Canadian Columbia, the Eisenhower policy of no new starts, and the absence of Canadian legislation complicating large dam

construction with mitigation requirements all combined to make building storage dams in Canada the most feasible option for completing the Columbia Basin hydropower system.

To this end, a Treaty was sought with Canada that would rationalize the river's flow, and allow the downstream run of river dams in the United States to produce electricity on an economically viable basis to return their investment to the American federal government. The US desired the security of a Treaty given the Cold War context, and the rumblings from Canadian IJC Chair McNaughton about potentially diverting the Columbia into the Fraser. The Americans clearly wanted a Treaty with a limited lifespan, however, as a strong faith in technology led them to believe that abundant nuclear power was soon to be a reality, and hydroelectric power's lifespan as the primary source of energy in the Pacific Northwest was limited.

Four dams were built under the Treaty, one in Montana and three in British Columbia, that ultimately did rationalize the river's flow and accomplish the American goals of producing electricity more evenly on a sustained year-round basis, as well as controlling dangerous floods along the populated lower reaches of the Columbia River. For both Canada and the United States, the Treaty has generated economic prosperity and diversification, but it has not come without environmental consequences. For Canada, the forced relocation of people, and the loss of villages and some of British Columbia's most prized farmland in the valleys flooded by the reservoirs left scars that have yet to heal. The environmental consequences for Canada have been clearly visible, and deeply troublesome.

It is ironic that the pressures of complying with American environmental law were one of the factors that led the US Government to pursue a dam building agenda in Canada, outside the jurisdiction of American environmental legal and political constraints. In the form of the Treaty, this agenda would ultimately have devastating ecological consequences for the ecosystems of the Canadian portion of the Columbia basin. And, although the construction of dams there obviated the need to build dams on the Fraser or Snake Rivers that would have destroyed salmon spawning habitat, the Columbia River Treaty would prove disastrous for Columbia River Salmon because it eliminated the freshet, a crucial part of their life cycle.

For the United States, the Treaty's impact on the Columbia fisheries has also been deeply troublesome. By removing the freshet upon which juvenile salmon depend to carry them seaward, the Treaty has sparked a further precipitous decline in the long troubled history of Columbia River salmon. Ultimately, the Columbia River Treaty was an attempt to rationalize the Columbia River, and develop hydropower in the international Columbia Basin in what appeared to be the most environmentally sensible and feasible manner. That course of action, however, has not been without its own troublesome ecological consequences.

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### **SERVICE TO THE COMMUNITY**

Dean's Committee to Review the Role of Graduate Education at WWU, 2009

Western Washington University Graduate Council, board member, 2008-2009

Environmental Science MA program review, committee member, 2009

WWU Associated Students Election Grievance Board, board member, 2009

WWU Associated Students Student Trustee Selection Board, Committee Member, 2008