

Salmon, Power, and the Columbia River Treaty

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## **Introduction**

Last year (2014) marked the 50<sup>th</sup> anniversary of the Columbia River Treaty, the agreement between Canada and the United States to embark on the second major transformation of the Columbia basin. It was also the first year either country could give ten years advance notice to terminate and request to renegotiate the Treaty. The possibility of termination and renegotiation has for a decade loomed over the future of the hydropower system in the Pacific Northwest. Stakeholders and values shut out of the original negotiations—tribal governments and first nations, ecosystem functions such as salmon recovery—have long advocated for fundamental changes in how the system operations. While those interests, power production and flood control, the primary beneficiaries of the established system, want to limit any possible changes in terms and operations. This paper explores the political context of potential Treaty renegotiation, with a goal of sketching out the politically possible and probable. Drawing on the policy streams model of Kingdon (1995), it examines the institutional permanence of the existing system, demands to include ecosystem functions as a new third goal of system operations, and whether incremental adaption or transformational change is the likely outcome.

## **Streams and the Study of Public Policy**

In the study of natural resource politics there is a near bewildering choice of policy theories and models. For example, recent work on natural resources includes

elitism (Gonzalez 2001), pluralism (Allin 1982; Hirt 1994), and historical institutionalism (Klyza 2002; Orren and Skowronek 2004; Wilson 2015). In addition, both punctuated equilibrium (Barumgartner and Jones 1993; True, Jones, and Baumgartner 1999), and advocacy coalition (Sabatier and Jenkins-Smith 1993) have been the basis for recent study of natural resource policymaking in the U.S. (Cashore and Howlett 2007; Davis 2009; Davis and Davis 1988; Sabatier et al. 2005; Wood 2006).

Concurrently, broader trends in the contemporary policy literature are pushing study in new directions. There is increasing attention to how scientific principles can be used to identify, select, and reject different approaches to policy study (Cairney 2013; Sabatier 2007). Additionally, there are evolving efforts to combine multiple policy theories (Cairney 2013; John 2012) and expand and recast existing models to increase explanatory utility and to make them more powerful (Howlett, McConnell, and Perl 2014; Zahariadis 2007). Among the later, is recent work to develop new, more complex models of Kingdon's classic policy stream explanation. Current contributions, for example, have sought to modernize Kingdon by focusing on the policy process and adding stages, whirlpools, and more streams to the original model (Howlett, McConnell, and Perl 2014).

Although engaging theoretically, adding more streams and whirlpools risks overwhelming the original simplicity of Kingdon, overshadowing cases under study, and obscuring understanding and explanation of the potential for policy change. The policy stream model of Kingdon, now somewhat eclipsed by advocacy coalition and punctuated equilibrium, was according to John the first synthetic model and

ultimately very “close to an evolutionary model of public policy” (2003, 488). Additionally, Kingdon put firmly in front of students of public policy the idea of “policy windows,” institutionalized and predictable, that can open and provide opportunity for advocates to promote solutions to problems (Soroka 1999). Moreover, Kingdon drew attention to “the idea whose time has come” and offered an intuitively engaging explanation that answered why some ideas are acted upon and what are the future prospects for change (Kingdon 1995; Howlett, McConnell, and Perl 2014).

Kingdon’s model, an adaptation of the garbage can model, is multi-part and views outcomes as the product of interaction between three independent streams, or processes—*problems, policies, and politics*. The possibility of policy change, concludes Kingdon, is greatest when the three streams are joined and a problem is linked to a potential solution at a point where it is feasible politically to introduce new policies or to change existing ones (1995).

An important feature of this model is the independent nature of the streams. Problems and solutions can exist separately for extended periods of time and then be brought together suddenly and unexpectedly (Kingdon 1995; Zahariadis 2007). Whether the combination of problem and solution will lead to action is dependent on the third independent stream—politics. When the three streams join they can create a policy window that can appear predictably (elections) or unpredictably (sudden crisis). These windows provide policy actors opportunity to recast problems or redefine solutions to generate political support necessary to effect

fundamental change. These windows, however, can prove fleeting, never opening completely or closing quickly (Kingdon 1995; Soroka 1999; Zahariadis 2007).

### **Policy Streams and the Columbia River Treaty**

The Columbia River is one of the world's great ecological treasures. Its tremendous volume begins to gather high in the Canadian Rockies, from where it falls steeply and quickly on the journey to the Pacific Ocean. The Columbia basin covers some 260,000 sq. miles and includes almost all of the state of Idaho, most of Oregon and Washington, and portions of Wyoming, Montana, Nevada, and British Columbia. The river flows approximately 1200 miles through a diverse ecology where average yearly rainfall varies from 6 to 110 inches. With an annual average volume of 160 million acre feet (265,000 cubic feet per second) and an average fall of 2 feet per mile (3 times the Mississippi), the Columbia was long considered a near perfect system for hydropower development. With 10 major tributaries, including the Snake and Kootenai rivers, the Columbia basin has approximately 400 dams of various types. This includes 14 large-scale hydropower facilities on the main stem of the river, with additional large facilities on the Snake, Kootenai, Clearwater, Clark Fork, and Spokane rivers. These facilities produce 75 percent of the energy in the Pacific Northwest, provide water to two of the country's larger irrigated agriculture systems, and afford protection across the region to episodic spring flooding (Hamlet 2003).

Given wide variation in seasonal flow, floods were a continuous threat in the basin. In 1894 and 1948, catastrophic flooding along the course of the river, but most dramatically in the lower reaches, inflicted widespread death and destruction. This included the devastation of Vanport (1948), at the time Oregon's second largest city. By the early 1950s there was tremendous public demand in the U.S. for a system capable of "handling" the wide variation in short- and long-term flow. Given the hydrological reality that the best place to control seasonal flow variation is in the upper reaches of a river system, it was obvious an international agreement between Canada and the U.S. would be necessary.

Following several years of study and negotiations, most notably between B.C. and the Canadian government, the two countries agreed on the terms of cooperative development and the Columbia River Treaty and Protocol were ratified in 1964 (Krutilla 1967; McKinney et al. 2010; Swainson 1979). The treaty required Canada (*i.e.*, British Columbia) to construct three storage dams (Duncan, Keenleyside, and Mica) in the upper basin for flood control and to optimize seasonal flows for hydropower production. In return, the U.S. agreed to compensate B.C. in advance for half the downstream flood control benefits provided by the Treaty dams. In addition, the U.S. also agreed to provide compensation (the Canadian Entitlement) for half the downstream hydroelectric benefits from upstream storage (Krutilla 1967; Swainson 1979). The first 30 years of the Entitlement were sold in advance to a group of U.S. power utilities for \$254 million as part of a set of agreements negotiated shortly after the Treaty was signed (Krutilla 1967; McKinney et al. 2010).

The U.S., in turn, was granted permission to build Libby dam in Montana, whose reservoir, Lake Koocanusa, sits astride the international border.

A defining feature of the Treaty was it provided a combination of benefits (flood control, new and enhanced hydropower capacity, and financial compensation) to multiple stakeholders. British Columbia received the funds to build the Treaty dams, allowing it the financial resources to borrow to build the more valued Peace River facilities (Mitchell 1983), Canada finalized a long-standing commitment to the U.S. to cooperatively manage the river basin, and U.S. stakeholders secured flood control and increased hydropower production. It is this mix of benefits and how they are allocated that is now under challenge from a more complex set of stakeholders who see potential renegotiation of the Treaty as opportunity to create a different mix of benefits for a wider range of claimants.

### *Problem Stream*

There is little disagreement on the benefits of the Treaty for flood control and hydropower production (British Columbia 2013; McKinney et al. 2010; U.S. Entity 2013). The upstream storage capacity created under terms of the Treaty, along with other major infrastructure projects on major tributaries like the Snake and Hungry Horse rivers, has largely eliminated the potential for catastrophic flooding in the lower reaches of the Columbia basin. Moreover, inexpensive electricity, the lowest per kWh in the U.S., has been a cornerstone of the regional economy. From mining, to manufacturing, to modern high-energy consumption server farms, the Pacific Northwest has long benefited from low cost electricity. These benefits, however,

have come with high ecological and social cost, and a number of stakeholders now contend “that things have changed” since the “win-win” of 1964 and it is important to modernize the Treaty (McKinney et al. 2010; U.S. Entity 2013).

Stakeholders pressing for changes generally identify three primary problems—ecosystem health, harm to tribal interests, and a lack of public participation in management of the system. In the Columbia basin, ecosystem health can include a wide range of issues, though it generally starts, and sometimes ends, with salmon. Salmon are the cultural icon of the region and representative of a perceived link between residents and the natural environment (Fallows 2000). Native Americans have long regarded salmon as central to tribal cultural traditions, an important element of tribal economies, and a primary food source. The emblematic significance of salmon is often evident in non-native culture, where salmon and their continued presence are indicators of ecosystem health and a symbol of a way of life that emphasizes a somewhat mythical appreciation and awareness (and use) of nature.

As early as the late 1800s, when mechanized harvesting and processing were introduced, state officials, conservationists, and tribal representatives raised concern over the rapid decline of salmon runs (Lichatowich 1999). An effort to sustain salmon populations and compensate for habitat loss through aggressive hatchery programs was successful in maintaining salmon numbers, though greatly diminished, through the first-half of the 20<sup>th</sup> century. Continued over-harvesting, large-scale hydropower development, and habitat loss combined to produce a steady, precipitous decline in salmon returning throughout the basin. Beginning in

the early 1980s an aggressive, proactive effort was launched to stabilize salmon numbers through rationalized and regionalized oversight of protection and recovery. This has included changing the timing and volume of river flows, construction of fish ladders and other dam by-pass infrastructure, and transportation of smolts downstream via truck or barge. Over a thirty-year period, the regional costs, borne by ratepayers, of these restoration and protection efforts has exceeded \$4 billion.

Native peoples in the Pacific Northwest have endured a disproportionate burden of the costs of hydropower development with little of the benefit (Wilson 2002). Although at the fore of contemporary efforts to restore salmon populations, and in many instances the tribes are the leading actors, the concerns and priorities (*e.g.*, trust obligations and treaty requirements) of native peoples were ignored in the Treaty and in hydropower development across the region (Harden 1996).

The third problem “needing to be fixed” is the lack of public participation in management and oversight of the Treaty system. A product of its times, the Treaty was the result of high level, government to government negotiations with little of the public involvement expected today. Predating NEPA and ESA, it was designed for flood control and hydropower and the entities created to oversee implementation and operations focused on those two outputs. Broad oversight is exercised by the American (U.S. Army Corp of Engineers and the Bonneville Power Administration) and Canadian (Province of British Columbia and B.C. Hydro) entities. Excluded from the negotiations were other potential stakeholders, who now contend the broader, more complex interests in the region require a more inclusive, open, and transparent decision making process (McKinney et al. 2010).

### *Policy Stream*

In broad terms there are three possible solutions to the problems of the Columbia River Treaty—terminate, maintain, or revise. Inherent in all three options are foundational questions of purpose and interconnected calculations of the costs and potential redistribution of a new set of benefits. Outright termination of the Treaty and the potential loss of current predictable benefits from coordinated operation is in the interest of neither side and is highly unlikely without extensive negotiations and a new set of agreements and guiding principles. Maintaining the Treaty largely unchanged is the position of the Province of British Columbia. Recognizing the challenge of climate change and other regional scale ecological considerations B.C., following an extensive public involvement process across the province, issued a formal decision to “continue the Columbia River Treaty and seek improvements within the existing Treaty framework” (British Columbia 2013). The position of the U.S. entity, the basic solution from the American side, is a revised, “modernized” Treaty that addresses a number of problems and is in the best interests of the United States (U.S. Entity 2013). A goal of the U.S. in a revised Treaty is to include a modern third primary output, ecosystem functions, with coordinated management and the health of the regional ecosystem a shared benefit and cost (U.S. Entity 2013).

Native peoples on both sides of the border contend they have never been adequately compensated for the losses incurred under the Treaty (McKinney et al. 2010). Whether loss of access to traditional resources or damage to cultural heritage, they have long challenged the current distribution of costs and benefits.

Moreover, tribal governments have advocated for including their defined interests under various treaties in the designated benefits shaping system priorities, and that they should have a formal decision making role in negotiations to revise the Treaty (Cosens 2010; McKinney et al. 2010).

An expectation of increased participation in formal negotiations is the goal of a wide of range local and regional stakeholders. In addition, there are also claims for a permanent role in future management of the system (McKinney et al. 2010). Active public participation is a characteristic of the oversight entities in the basin, especially in the U.S., managing salmon recovery, recreational use, hydropower production, and water allocation. Whether a byproduct of NEPA public involvement requirements or direct legislative mandates of Congress and state legislatures, stakeholder groups have experience and expectations of active engagement—and contend this should apply to Treaty system operations.

Finally, private and public utilities in in the U.S. want to a revise the Treaty to address what they consider outdated and over generous financial compensation to B.C. The Province, as noted above, receives yearly compensation for one-half the downstream benefits of coordinated system operations that increase hydropower production of U.S. facilities. The first 30 years of this compensation was, as noted above, sold in advance. For the last 20 years, B.C. has received benefits in electricity (\$250-300 million per year) equal to the benefits produced downstream (Hume and Hunter 2013; Learn 2013). The U.S. position is this distribution of benefits provides B.C. substantially more than one-half the downstream benefits from coordinated power operations and in a revised Treaty they should be equivalent to the

difference between coordinated and non-coordinated system operations (U.S. Entity 2013). The estimated value of the B.C. share of the downstream benefits under this new calculation would be approximately \$25 million per year and represent a 90% reduction in compensation. Not surprisingly, B.C. officials have a different view of the problem and solution: “The level of benefits to the Province, which is solely in the form of the Canadian Entitlement, does not account for the full range of benefits in the United States or the impacts to British Columbia” (British Columbia 2013).

### *Politics Stream*

Often a specific model of policymaking can be stretched only so far. Rather than recast the basic attributes of the case to fit the model, the more productive choice is to admit not all theories fit all cases exactly and instead focus on the goal of explaining the case. For Kingdon, the politics stream is comprised of the public mood, election results, pressure group efforts to influence decision making, and changes in Congress or administrations (1995). Although there is an important pressure group component, the political context of the Treaty’s future generally lacks the elements at the center of Kingdon’s politics stream.

Moreover, the case lacks the dramatic focusing event that suddenly shifts attention towards a problem and reconfigures calculations and power balances in the politics stream. The possibility to terminate or renegotiate the Treaty has been known for 50 years and actors across the region have been studying possibilities for at least a decade. The lack of a crisis also means there is nothing to force a confluence of the streams. Yet, while the model may not fit the case closely, the idea

of a politics stream does help draw attention to the politics of the Treaty and further understanding of the possibility and type of change.

A primary demand of stakeholders excluded from direct benefits or meaningful involvement in the current system is to increase the number of participants in negotiations on a revised Treaty and future operations. Will, however, more participants create a different distribution of cost and benefits and more importantly can the system produce a different mix of benefits? Designed and built to provide flood control and hydropower production, the Treaty projects, and most others in the region, are a complex, interlocked set of purpose built infrastructure. Despite demands for new outcomes, it may not be possible for this infrastructure, even with more innovative system operations, to produce more than marginal, incremental new benefits (Wilson 2015).

For example, the construction of Grand Coulee dam closed off the entire Canadian portion of the Columbia basin to salmon. That salmon could not get past the dam, and the devastating effects on the population, was a known cost of development (Harden 1996). Thus without a highly unlikely retrofit of Grand Coulee, and the downstream Chief Joseph dam, there is limited B.C. interest in recasting system operations for salmon recovery—essentially using B.C. water and storage to aid fish passage as a separate ecosystem objective from hydropower production and flood control (British Columbia 2013). Further, a change in operations to produce a different mix of outcomes will redistribute the costs and benefits produced by the Treaty system. How these costs and benefits will be redistributed is the principal question in a renegotiation of terms. All parties have

had years to develop alternative outcomes or strategies to protect or challenge the status quo in any negotiations. Canadian actors have long portrayed the future of the Treaty as a struggle between B.C. and a powerful set of American stakeholders (Hume and Hunter 2013). On the U.S. side, public utilities operating dams in the interior Columbia basin argue their requirement to spill water for fish passage reduces power generation potential and thus the value of B.C. storage is diminished and the Canadian entitlement overvalued. This argument, however, overlooks fish protection efforts are a collaborative, shared cost in the U.S. imposed by decisions made there, not in Canada.

Is there, finally, acceptance or willingness by regional stakeholders to run the system in ways that produce possible suboptimal flood and hydropower benefit in pursuit of a more ecologically and socially balanced set of outcomes. The interconnected operations at the heart of the Columbia River Treaty gives an impression of a single system divided by only an international border. The reality is the system is actually layered physical components, with different pieces of infrastructure, large and small, constructed for different purposes and representing “different historical imperatives and political calculations imposed on the river system (Wilson 2015). These interconnected, historically grounded political calculations may limit claims and aspirations of new stakeholders seeking new benefits from the system. As a result, the politics stream may allow only limited, incremental changes far less than the long-running expectations of many stakeholders.

## **The Policy Window of the Columbia River Treaty**

Policy windows according to Kingdon can be both predictable and unpredictable, but open because of “compelling problems and political happenings” (1995, 194). When windows open problems and proposals flock to them, and they become opportunities to enact new proposals. The possibility to renegotiate the Treaty is certainly a predictable window, known to both sides and all parties for 50 years. Stakeholders therefore have had years to assess problems and develop solutions while waiting for the window to open. What are the political possibilities of these solutions becoming actual change?

American parties have four objectives as they consider terminating the Treaty or pushing for extensive modernization through new agreements or additions— ecological functions as an operating priority, inclusion of native American priorities, expanding public participation, and reducing the amount of compensation paid to B.C. for downstream benefits. Although the preference ordering of the U.S. stakeholders varies depending on problem and solution, there is agreement negotiations over the Treaty’s future provide a policy window for change. Moreover, American stakeholders, not surprisingly, view the Treaty as a formal agreement between the United States and Canada. This understanding overlooks the practicalities of Canadian federalism and the history of the Treaty. Natural resources in Canada are primarily the responsibility of provincial governments, and in the provincial-federal government struggle for control of the Columbia River, B.C. clearly established itself as the primary actor determining Canadian priorities in the

basin and with operational control of the Canadian portion of the system (Mitchell 1983; Swainson 1979).

The B.C. position is to maintain the Treaty and leave open the possibility for some limited, mutually beneficial changes. A more extensive renegotiation of the Treaty seems decidedly counter to Canadian interests. There is very little the U.S. can offer better than the current Treaty terms. In 1995, B.C., after long discussions with local constituencies most affected by the construction of Treaty facilities, created the Columbia Basin Trust to collaboratively manage a \$295 million endowment from the Province that promotes economic activity in affected areas and supports social and economic benefits for residents of the basin. Thus, B.C. has actively moved to “deal with” Treaty problems already and this greatly reduces the need for basin wide solutions linked to the Treaty. The U.S. government has promoted similar solutions by expanding the role of tribal governments in basin governance and providing funding for salmon restoration. In short, many of the problems associated with the Treaty, have been addressed in other ways and this limits the possible efficacy of any changes to the Treaty.

Further, given the long-standing intention to reduce the compensation amount paid for coordinated system operations, there seems little incentive under current conditions for B.C. to agree to joint termination of the Treaty. This confronts U.S. policymaker with a problematic choice. Unilaterally terminate the Treaty and seek new terms meeting U.S. goals without the means to achieve a new agreement. Alternatively, seek a new agreement with increased financial benefits to B.C. being the primary, if not only, incentive to offer in return for changes to promote

ecological benefits, and share these costs across the U.S. utilities and ratepayers. B.C. officials recognizing the value of the Treaty and good relations in the region have expressed an interest in “working together,” while acknowledging their strategic advantage because “no deal is terrible for the United States . . . it will be an environmental and economic mess south of the border” (Hume and Hunter 2013).

Finally, the U.S. position, despite aspirational goals, is limited by hydrologic and physical realities. The current system works as intended to enhance hydropower production and control flooding. An increased risk of flooding according to U.S. officials is not an acceptable outcome: “At the end of the day we are not going to increase flood risk” (Learn 2013). Given this priority and the Canadian preferences to maintain the Treaty, those stakeholders seeking large, even transformational, changes are at a fundamental disadvantage in a political landscape favorable to the status quo.

## **Conclusion**

Simeon (1976), in an insightful yet overlooked analysis, foreshadowed the development of the new era of theory-oriented study of public policy. According to Simeon, a fundamental weakness of the field was an emphasis on descriptive, case specific studies. Because there was little direct effort to link independent and dependent variables, the explanatory utility of most studies was limited. The last twenty years has seen increasing attention to creating “better theories” with generalizability across cases, and has been a much need contribution to the study of

policymaking and politics. In the area of natural resource policy this has included a number of contributions that have moved study beyond atheoretical and prescriptive to explicitly theoretically grounded case study (Cashore and Howlett 2007; Klyza 2002; Klyza and Sousa 2010; Koontz 1997; Orren and Skowronek 2004; Wilson 2001; Wilson 2015; Wood 2006).

Kingdon was an important first step in the direction of using theory to produce better explanations of politics, which in turn can further development of more a robust understanding of the possibility for policy change. Policy windows, he notes, do not stay open long, and that ideas come, but also pass (1995). In many cases, ideas pass because crises prove fleeting and public attention shifts to other more pressing problems. Despite the wide interest among engaged stakeholders, the lack of crisis in the Columbia basin means broad public engagement in the issue has been limited and demands for change muted. Moreover, the inherent tendency of the large-scale infrastructure based systems toward the status quo suggests the most likely outcome of any Treaty renegotiations will be both the policy and politics streams dry up when no feasible options emerge (Howlett, McConnell, and Perl 2014). The likely result will be a limited policy window with small, focused changes, largely compensation oriented, that benefit specific stakeholders yet leave the system largely unchanged.

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