THE COLUMBIA BASIN AND THE COLUMBIA RIVER TREATY: Canadian Perspectives in the 1990s

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Introduction

The main purpose of this paper[1] is to identify the current issues within the Columbia Basin from a Canadian perspective. The paper analyzes the effect of the Columbia River Treaty and the Boundary Waters Treaty on the management of the waters of the Basin. A particular concern is to investigate the extent to which either treaty facilitates or constrains the use of Canadian storage reservoirs to manipulate river flows for salmon migration in the lower Columbia. Responding to a particular question posed in the terms of reference for this paper, the final part of the paper investigates possible linkages between Columbia River Treaty issues and the Pacific Salmon Treaty (PST).

The first part of the paper describes the Canadian portion of the Columbia Basin including the Columbia River and its major tributaries. This introduction emphasizes the international nature of the Columbia system, the extent to which Canada has developed it for power generation, and the extent to which hydro developments in Canada and the United States have affected anadromous salmonid populations. The analysis shows that salmon migration to the upper Columbia in Canada was cut off by the Grand Coulee Dam, and that salmon migration to the Similkameen system was cut off by the Enloe Dam. Salmon migration to the Okanagan system continues to this day.

The second part of the paper contains an analysis of the international treaty regime applicable to the Columbia Basin. This analysis focuses on the Columbia River Treaty (CRT) but begins with a consideration of the Boundary Waters Treaty (BWT) of 1909 and the role of the International Joint Commission (IJC). The reasons for beginning with a consideration of the BWT are four-fold. First, there are several facilities in the Columbia Basin that predate the CRT, and continue to be regulated under the terms of the BWT. These facilities include the Grand Coulee on the mainstem and the Corra Linn facility on the Kootenay. Second, the IJC performed an important role in preparing the ground for the CRT. It provided comprehensive studies of the Basin to the two governments and also developed the power principles that directly informed CRT negotiations. Third, new projects within the Basin, may still come within the jurisdiction of the IJC or may be referred to the IJC by the two governments. The most notable example here is provided by the relatively recent Flathead Reference. Fourth, discussion of both the BWT and the CRT provides a useful study in contrasting institutional design. The IJC, established by the BWT, has shown itself to be capable of evolving over time and to be able to respond to changing values on both sides of the border. On the other hand the Permanent Engineering Board (PEB)

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[1] I would like to thank the following individuals who either consented to be interviewed for this project or provided me with information or advice: John Allan, David Oulton and David Burpee (past and present Canadian representatives on the Permanent Engineering Board), Ken Peterson and Tim Newton (Powerex), Steve Duke (US Fish and Wildlife Service), Les McLaren (BC, Energy Mines and Petroleum Resources), William Green (Canadian Columbia River Inter-Tribal Fisheries Commission), Michael Vechsler, Murray Clamen and the archive staff (Canadian section of the International Joint Commission), David Allin (Foreign Affairs), Gordon Ennis, Mal Farquhar, Don Kowal, Sandy Argue (Department of Fisheries and Oceans), Steve Mathews and Jay Hammond (BC Department of the Environment), Peter McMullan, Ralph Legge, Hugh Smith and library staff (BC Hydro), Chris Sanderson (Lawson Lundell), Andrew Thompson (Ferguson Gifford). Michael Blumm and Brett Swift (Northwestern School of Law of Lewis and Clark College) provided detailed comments on an earlier draft and Denise Jakal provided research assistance.

established by the CRT has proven to be unwilling to assume a progressive role in the interpretation and application of the CRT.

The third part of the paper identifies and analyses several current issues in relation to the application and interpretation of the CRT. These issues are: (1) matters related to the return of the downstream entitlement; (2) the operation of Libby and the recovery plan for Kootenay sturgeon; (3) the regulation of Canadian treaty dams to protect Canadian fish values; and, (4) developments in regional governance within the Basin through the creation of the Columbia Basin Trust, (CBT) in 1995 and a re-assertion by First Nations of their interests in the Columbia fishery through the creation of the Canadian Columbia River Inter-Tribal Fisheries Commission (CCRIFC) in the early 1990s.

The fourth part of the paper analyses the question of linkages between CRT and the PST. Research for the paper provided no evidence to support the claim of a linkage between the two treaty questions. From, the perspective of provincial and federal Canadian governments, the Canadian portion of the Columbia Basin was written off long ago as a source of salmon for Canadian harvesters. The Okanagan fishery, although still clinging to life, has not loomed large in the calculations of Canadian fishery managers in PST negotiations. Whether this attitude will continue remains to be seen. Local interests, especially those represented by the CCRIFC are committed to restoration of salmon runs. I would, however, hypothesize that Canada is likely to have little interest in enhancing Okanagan stocks and reintroducing anadromous salmonids into the Similkameen system in the absence of equitable treatment of the results of the enhancement.

The final part of the paper contains some brief conclusions.

The Columbia Treaty, ratified in 1964, will remain in force until at least 2024, another 28 years from the time of writing. We are, however, nearing the end of one very significant milestone in the treaty regime. Beginning in 1998, the Canadian downstream power entitlement, presold for a series of 30 year terms in 1964, will return to Canada. If there is one Canadian perspective that is dominant at the federal, provincial and regional levels, it is that the United States should be held to the terms of its bargain over the balance of the treaty term. Canada incurred considerable costs in the 1960s and 1970s in the construction of the Treaty dams. The operational costs continue, as does the bitterness of residents of the Columbia-Kootenay region of BC. Those residents lost homes and a way of life when the dams were built, and they continue to live with the everyday reality of storage reservoirs that are managed to optimize downstream power generation and flood control in the US. The Treaty defines Canada's entitlements and obligations in terms of flood control and power. Power is the basic currency of the Treaty. From the dominant Canadian perspective, the CRT does not require Canada to operate Treaty facilities to maximize or enhance fish values. Furthermore, given Grand Coulee and the interception rules of the PST, there is little incentive for Canada to provide fish flows for salmon in the US. This is not to say that BC Hydro (BCH), the operator of the Treaty dams in Canada, will refuse to co-operate in attempts to provide fish flows, but it will exact a price, and it will examine carefully the effects of US proposals on Canadian interests.

To the extent that a contrary view has been articulated in Canada, it has been articulated by the First Nations of the Columbia Basin. Not surprisingly, their perspective has embraced not

only a much longer time horizon, but also a different set of inherent values. The CCRIFC has posed two questions. First, what is in it for the river and second, what is in it for the fish?

Part I: The Canadian Portion of the Columbia River Basin

1.1 General

The drainage basin of the Columbia River covers some 260,000 square miles. Fifteen per cent of the basin, or 40,000 square miles, lies in British Columbia,[2] but this area supplies a disproportionate share of the flows, contributing about 30% of the runoff for the entire basin.[3]

For the purposes of this introduction, I have divided the Canadian portion of the Columbia Basin into four sub-basins: (1) the main-stem of the Columbia River from its source at Columbia Lake until its crosses the international boundary; (2) the Kootenay (spelled Kootenai in the US) from its source until it joins the Columbia mainstem near Castlegar, British Columbia; (3) the Okanagan (spelled Okanogan in the US) /Similkameen; and, (4) the Clark Fork/ Pend d'Oreille (spelled Pend Oreille in the US).I shall describe each of these main basins, paying particular attention to the extent to which the Canadian portions of these rivers have been regulated. I shall also provide some account of resident fish populations, as well as an account of the historical utilization of these basins by anadromous salmonids.

With the exception of small municipal facilities, and a recent change of ownership affecting one dam,[4] all the dams in the region are currently operated by BCH, West Kootenay Power, (WKP) or Cominco. All dams in the province are licensed under the terms of the provincial *Water Act*.[5] BCH is a Crown corporation[6] and the dominant monopoly supplier of

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2 *Report of the International Columbia River Engineering Board* (hereafter *ICREB Report*) on the Water Resources of the Columbia River Basin to the International Joint Commission, 1959 at 8, Table 1; Bourne, "The Columbia River Controversy" (1959), 37 Can. Bar Rev. 444, at 445.

3 *Id.*, at 34-35. In addition to *ICREB* there are good discussions of the physiography of the basin and other more general descriptions in John V. Krutilla, *The Columbia River Treaty: The Economics of International River Basin Development*, Resources for the Future, The Johns Hopkins Press, 1967, chapter 2, (hereafter, Krutilla) and *Columbia River System Operation Review, Final Environmental Impact Statement, Main Report*, November 1995, chapter 2 (hereafter, *SOR, Main Report*).

4 See section 3.5 *infra*, a joint venture of the Columbia Basin Trust (CBT) and the Columbia Power Corporation recently purchased Brilliant *Golden Star*, June 5, 1996.

5 RSBC 1979, c. 429 .

6 The corporation was established and continued by the *Hydro and Power Authority Act*, RSBC 1979, c.188. BC Hydro is subject to regulation on a modified rate base, rate of return method of regulation by the BC Utilities Commission: *Utilities Commission Act*, SBC 1980, c.60. The modified nature of the regulation arises from general or special directions issued by the Lieutenant Governor in Council and relating to such matters as interest coverage ratios and deemed provincial equity. For a summary of recent special directives see *BC Hydro: Annual Report: 1995* at 26. BCH's system has an installed capacity of nearly 11,000 MW of which 9,700 MW is hydroelectric and the balance thermal, *id.,* at 3. During the fiscal year ending 31 March 1993,

electrical energy throughout most of the province. BCH is the designated Canadian Entity under the terms of the Columbia River Treaty.[7] WKP is a regional utility operating in the Kootenay-Columbia region of the province. Historically, WKP owes its origins to, and is closely associated with, Cominco's mineral operations. Cominco is a major mining company with energy intensive smelting facilities at Trail, BC

1.2 The Columbia Mainstem[8]

The mainstem of the Columbia has its origins at Columbia Lake from whence it flows north to Golden before swinging in a big arc (the Big Bend) north, west and ultimately south to Revelstoke. From Revelstoke, the river flows due south through the Arrow Lakes, to Castlegar and Trail, before crossing the international border at Waneta. The Columbia mainstem has been extensively dammed in Canada pursuant to the Columbia River Treaty but also independently of the Treaty.

The historical record makes it clear that salmon used the entirety of the mainstem of the Columbia[9] all the way to its source at Columbia Lake and Canal Flats. The gravels of both Lake Windermere and Columbia Lake were important spawning grounds for chinook salmon in

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38% of Hydro's generation was from hydro facilities on the Peace system, 34% from Mica and Revelstoke on the Columbia and a further 10% from Kootenay Canal and Seven Mile on the Kootenay and Pend d'Oreille respectively: *Making the Connection: The B. C. Hydro Electric System and How it is Operated*, BC Hydro, 1993 (hereafter *BCH System Review*) at 3. Powerex - the British Columbia Power Exchange - a wholly owned subsidiary of BC Hydro is responsible for the purchase sale and exchange of electricity between BC and the western United States: *id*., at 7. For further background on BCH see Jacard *et al*., "Managing Instead of Building: BCH Role in the 1990s" (1991-92), BC Studies 98 (nos. 91-92).

7 Treaty between the United States of America and Canada Relating to Cooperative Development of the Water Resources of the Columbia River Basin, Washington, January 17, 1961, 15 UST 1555, TIAS No.5638, 542 UNTS 244, hereafter Columbia River Treaty or CRT. In addition to the formal treaty citation, the CRT, along with the Protocol of January 22, 1964 and other documents associated with the CRT is reprinted in several collections. The most useful are: (1) Ruster, Simma and Bock, (eds) *International Protection of the Environment*, Vol. X, at pp.5181-5257; *Columbia River Treaty Documents*, Bonneville Power Administration, January 1979 (hereafter *CRT Documents*); and (3) *The Columbia River Treaty, Protocol and Related Documents*, External Affairs and Northern Affairs and Natural Resources (Canada), 1964 (hereafter *Related Documents*).

8 The mainstem is well described in any number of sources including Krutilla *supra* note 3, and N. Swainson, *Conflict over the Columbia*, 1979. Swainson is an authoritative Canadian account of the negotiations leading up to the ratification of the Columbia River Treaty discussed *infra* in section 1.2.

9 The fisheries material in this section of the paper relies heavily upon Allan Scholz *et al, Compilation of information on salmon and steelhead total run size, catch and hydropower related losses in the Upper Columbia River Basin, above Grand Coulee Dam*, Fisheries Technical Report No. 2, Upper Columbia United Tribes Fisheries Center, hereafter "Scholz *et al*."

stupendous numbers.[10] The Arrow Lakes were equally important for salmon, and, in addition, Indians from Canada routinely fished at Kettle Falls on the mainstem in Washington State.[11]

1.2.1 The Treaty Dams

1.2.1.1 Keenleyside

The CRT called for the construction of two dams on the Columbia mainstem: one at Keenleyside, at the outlet of the Arrow Lakes, and the other at Mica. The Keenleyside Dam became operational in October 1968, ahead of the Treaty-scheduled date of April 1969.[12] The reservoir behind the dam is about 145 miles long and embraces both the Upper and Lower Arrow Lakes, which were natural lakes before impoundment. The facility provides 7.1 million acre feet (MAF) of Treaty storage. A number of communities were flooded when the Arrow project was completed, and the project was by far the most contentious and bitterly fought of all the Canadian Treaty projects.[13]

There are no generation facilities at Keenleyside although there is a plan to install turbines in the not too distant future.[14] The dam has no fishway.[15] Pending installation of

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[10] *Id.*, Scholz *et al*, at 58.

[11] Scholz *et al id.*, provide a compilation of information on the salmon and steelhead resources of the Upper Columbia. The report does not segregate the Canadian portion of the Basin but is nevertheless a very valuable source (at 62-66). Others have estimated total run sizes into what is now British Columbia at between 192,000 and 600,000 fish. *Canadian Columbia River Inter-Tribal Fisheries Commission, Compensation Workshop Discussion Paper: Toward the Restoration of the Columbia River Basin*, mimeo, November 15, 1993, at 1 and, Thompson *et al, No Way Up: First Nations' Legal Options for the Loss of the Columbia River Fishery*, prepared for the CCRIFC, October 1993 at 3 relying upon Douglas Gordon and Wayne Choquette, Canadian Columbia River Co-operative Fisheries Management Project - Study Report FY 1991/92, April 1992.

[12] Columbia River Treaty Permanent Engineering Board, *Annual Report to the Governments of the United States and Canada*, 1994 at 15 (hereafter *PEB Annual Report*).

[13] For an excellent and emotional account written by one of the affected residents see Donald Waterfield, *Continental Waterboy: The Columbia River Controversy*, Clarke, Irwin and Co. Ltd, 1970. Waterfield questioned the need for the Keenleyside or "High Arrow" Dam and his views did receive some support from Krutilla, *supra* note 3, esp. at 192-193.

[14] See Part 3.5.1 of this paper.

[15] S.M. Hirst, *Impacts of the Operation of Existing Hydroelectric Developments on Fishery Resources in British Columbia, Volume II, Inland Fisheries*, Canadian Manuscript Report of Fisheries and Aquatic Sciences 2093, 1991 (hereafter Hirst, Volume II) at 6. For a more detailed account of fisheries concerns see Adam F. Lewis et al, *Fish Flow Studies Project: Fish Flow Overview Report*, British Columbia Hydro and Power Authority, Safety and Environment Report, No. EA:95-06, 1996, at 16-20 (hereafter, *Fish Flow Report)* and RL & L Environmental Services et al, *Keenleyside Power Project, Load/Flow Shaping: Potential Effects on the Aquatic Environment*, 1995. At the present time, the Columbia Power Corporation (CPC) has determined that Keenleyside generation is uneconomic. CPC has also modified its generation proposal to take account of fisheries concerns. It has decided that it will not operate Keenleyside for peaking purposes and will only use turbines, once installed, for base load generation. CPC has also abandoned a proposal to dredge the Tin Cup

turbines, Keenleyside is operated primarily to optimize flood control and hydroelectric generation within the US in accordance with the terms of the CRT. Annual drawdowns are significant and typically reach 15-20 meters below full pool. Although some water is passed through low level ports, the spillway is typically used in conjunction with the ports. The project is licensed for storage purposes only and deals only superficially with fisheries concerns.[16]

The pre-impoundment lakes provided habitat for rainbow and bull trout and kokanee, Flooding resulted in the loss of trout spawning habitat and drawdowns result in dewatering of eggs. Fluctuations in reservoir levels create additional expense for log boom operators, access problems for recreational users, and the possibilities of dust storms. There is considerable local pressure to achieve and maintain higher water elevations in the Arrow Lakes. Downstream of the dam,[17] fish values are high on the largest remaining free-flowing section of the Columbia River in Canada. Important species include kokanee, rainbow trout, walleye and lake and mountain whitefish. There are also significant fisheries problems. Due to dam design and method of operation, very high levels of gas supersaturation occur in the Columbia River downstream of Keenleyside. In addition, daily flow fluctuations and rapid ramping rates may cause stranding of fish. Dewatering of trout redds has occurred at an important spawning ground known as the Norns Creek fan. Low flows downstream of Keenleyside are also known to dewater whitefish eggs and cause mortality. Attempts to provide minimum fish flows for Keenleyside are dealt with in more detail in Part III of the paper.

In addition to sport fish concerns, of equal importance is the white sturgeon population downstream of the dam. This population was declared "threatened" by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in 1990.[18] The cause of the decline of this population is poorly understood. It is possible that the reduction of sediment supply to the Columbia immediately downstream of Keenleyside, and resulting clearer water, increases

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rapids to increase the head at Keenleyside. Tin Cup rapids is a sturgeon spawning site. See Columbia Power Corporation, *Keenleyside Response Document*, 1996, section 5.

16 The licence is issued under the *Water Act supra* note 5. Two clauses of the licence deal with fisheries concerns:

> (n) The licensee shall make available an amount not to exceed $5,000 (five thousand dollars) per annum to the Department of Recreation and Conservation in each of the years 1962 and 1963 to conduct a study and make a report on such remedial measures as may be determined to be necessary for the protection of fisheries and wildlife.
>
> (n) The licensee shall undertake and complete such remedial measures for the protection of fisheries and wildlife as the Comptroller may direct following receipt of the aforesaid report ....

Conditional Water Licence, 27068, issued April 16, 1962 as am. A Final Water Licence has yet to be issued. Hirst Volume II, *id.*, at 6-7 reports that protracted negotiations between the province and BCH over a 20 year period, resulted in a $3 million contribution from BCH for the Hill Creek hatchery used for rainbow and bull trout.

17 This section is based upon Hirst, Volume II *supra* note 15, at 6 and Lewis et al, *supra* note 15, at 16 to 20.

18 Canada does not yet have federal endangered species legislation. COSEWIC was established in 1977. For discussion see Versteeg, "The Protection of Endangered Species: A Canadian Perspective" (1984), 11 Ecol. L.Q. 267.

predation on larval stages of sturgeon. There has been some successful recruitment in recent years. The sturgeon population is known to migrate downstream into Lake Roosevelt behind the Grand Coulee Dam and is therefore a shared population, as are the trout, walleye and kokanee populations.[19]

1.2.1.2 Mica

Declared operational in March 1973, the Mica Project has a storage capacity of 20 MAF of which 12 MAF is live storage. Of that amount, only 7 MAF is dedicated to the Treaty.[20] Of the balance, 4.5 MAF is subject to the BCH and Bonneville Power Administration (BPA) Non-Treaty Storage Agreements (NTSA) of 1984 and 1990. BCH retains the remaining 0.5 MAF of storage for its own purposes.[21]

Although not required by the CRT, BCH added a powerhouse to Mica in 1977. At present, the powerhouse has an installed capacity of 1,736 MW with space for another 868 MW.[22] The Mica Dam creates a reservoir 135 miles long, Kinbasket Lake. Annual drawdowns are large. The reservoir typically reaches more than 25 meters below full pool in March and April and is held at full pool for a short period in August and September each year. Turbine discharges are very erratic due to daily and seasonal fluctuations in power production, water availability and management to meet the terms of the CRT and the NTSA. Mica provides anywhere from less than 1% to over 28% of BCH's total electrical output.[23] BCH did not provide fisheries mitigation or enhancement facilities for Mica.[24] Flooding resulted in the loss of spawning habitat in tributary creeks, and at some elevations, access to some tributaries is blocked by steep gradients along tributary delta fans.[25] Kinbasket Lake currently supports a recreational fishery based upon rainbow and bull trout and kokanee. Reservoir fluctuations cause problems for recreational access and seriously impede the use of Kinbasket for log booming operations. Mica Dam discharges directly into Revelstoke reservoir.

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19 *Fish Flow Report*, *supra* note 15, at 17-18 and interview with Hugh Smith, Manager, Strategic Fisheries Project, BCH, June 25, 1996. Smith also noted that sturgeon declines might be due to increased competition from the introduction of walleye into Lake Roosevelt.

20 Columbia River Treaty Permanent Engineering Board, *Annual Report to the Governments of the United States and Canada*, 1979 at 12 (hereafter PEB *Annual Report).*

21 Agreement of July 9, 1990, BPA Contract No. DE-MS79-90BP92754. The Agreement is a complex document. There is a good account in the *SOR Main Report*, *supra* note 3, at 4-25 to 4-26. The relationship between the Treaty and the NTSA is considered *infra* in the text to notes 300 to 308.

22 *PEB Annual Report*, 1994 at 15; *BCH System Review, Summary supra* note 6, at 37.

23 Hirst, Volume II *supra* note 15, at 2-3.

24 *Id.* Hirst also notes that the fisheries provisions in the Mica water licences CL 39431 and CL39432 were similar to those for Keenleyside (*supra* note 16) and mitigation and compensation measures have yet to be finalized.

25 *Fish Flow Report supra* note 15, at 11.

1.2.2 The Canadian Non-treaty Dams

In addition to the Treaty dams, BCH operates 4 non-treaty dams on the Columbia mainstem or immediate tributaries: Whatshan (1951, 50 MW), Walter Hardman (1960s, 8 MW), Revelstoke (1984) and Spillimacheen (1955, 4 MW). Of these, by far the largest, is the dam and generating plant at Revelstoke with a capacity of 1,843 MW.[26] The Revelstoke facility is a run-of-the- river facility immediately downstream from Mica and is operated synchronously with Mica to maximize the benefit of releases from that upstream facility. As a run-of-the-river facility the reservoir fluctuates within a very narrow range of no more than 1.5 meters. This provides a stable littoral habitat for kokanee, rainbow and bull trout, mountain whitefish and turbot, but one effect of both Mica and Revelstoke was to cut off trout migration throughout this reach of the Columbia. As part of the terms of its water licence for Revelstoke, BCH constructed the Hill Creek hatchery on Upper Arrow Lake for kokanee and rainbow trout.[27]

1.2.3 US Dams on the Mainstem

In the previous section we noted that salmon and steelhead resources used to be distributed throughout the mainstem of the Columbia.[28] Those resources were destroyed by dams on the mainstem in the United States above the confluence of the Similkameen-Okanagan system with the Columbia at Brewster. These dams are the Chief Joseph and the notorious Grand Coulee. The Grand Coulee completely destroyed all up-river salmon runs on the Canadian portion of the Columbia system. To adapt the condemnation of Wilkinson and Conner,[29] the closing of the gates at Grand Coulee in 1941 was undoubtedly the single most destructive act against Canadian spawning Columbia Pacific salmon. Today, this receives hardly more than a passing nod from US commentators,[30] and there has been little attempt to explore the legal implications of this devastating act. Indeed, in an ironic twist, some US commentators have recited the cutting off of Canadian spawning grounds behind the Grand Coulee as the reason why Canada received no Columbia salmon entitlement under negotiations for an apportionment of Pacific salmon stocks.[31] Construction of Grand Coulee required the approval of the

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[26] *BCH System Review, Summary supra* note 6, at 41, 47, 51, 52.

[27] Hirst Volume II *supra* note 15, at 4 to 5. Conditional Water Licence C47215 was issued to Hydro on December 1, 1976. Hirst notes that the "fisheries compensation program for Revelstoke received relatively more study and attention than any previously developed BC Hydro project, and was intended to cover all project-related fisheries losses."

[28] *Supra* text to notes 9 to 11.

[29] Wilkinson and Conner, "The Law of the Pacific Salmon Fishery: Conservation and Allocation of a Transboundary Common Property Resource" (1983), 32 Kansas L. Rev. 17 at 39.

[30] *Id.*

[31] *Id.*, at 60. At this point Conner and Wilkinson note that the proposed US-Canada Salmon Treaty (not then ratified) would provide for recognition of salmon originating in upstream Canadian transboundary waters of British Columbia, and the Alaska Panhandle as "shared fish". Without a trace of irony, the authors also note (n.237) that "The Columbia River, which originates in British Columbia, is specifically excluded from the

International Joint Commission established by the Boundary Waters Treaty because the reservoir behind the dam (Lake Roosevelt) altered water levels at the international boundary.[32]

1.3 The Kootenay

The Kootenay River rises in Canada in Kootenay National Park and flows south to the border picking up three significant tributaries on the way, the Bull, the Elk and the St Mary River from the west. There are no significant dams on this portion of the river in Canada.[33] The Kootenay then proceeds south, west and north again to Bonners Ferry. From there, the Kootenay heads north, recrossing the international border just south of Creston before entering the natural reservoir of Kootenay Lake.

Between the international boundary and the Lake, a number of reclamation works have been carried out. These projects required the approval of the IJC because they affect water levels and drainage upstream in Idaho.[34] Although these facilities are relatively minor, the region constitutes a wetland of international significance and is of exceptional importance for migratory wildfowl and other migratory birds. From the point that the Kootenay leaves Kootenay Lake until it joins the Columbia mainstem just north of Castlegar, the Kootenay is subject to extensive regulation.

In the pre-dam era the Kootenay River was not an important source of anadromous salmon or trout because Bonnington Falls[35] on the Kootenai River downstream from Kootenay Lake blocked passage of salmon up the Kootenay River. Much more important therefore was the resident kokanee (landlocked sockeye) population of Kootenay Lake, as well as resident trout and sturgeon. Just below Bonnington Falls, the confluence of the Kootenay with the Slocan River emerging from Slocan Lake was a noted fishing place. Salmon were plentiful throughout the Slocan district in the pre-dam era and supported a First Nations Fishery in historic times.[36]

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transboundary river provisions since sea-run salmon are now blocked from its Canadian reaches." Issues related to the Pacific Salmon Treaty (PST) are explored in Part IV of this paper.

[32] The International Joint Commission (IJC) was established by the Treaty Between the United States and Great Britain Relating to Boundary waters, and Questions Arising Between the United States and Canada, Washington, January 11, 1909 35 Stat. 2448, 102 British and Foreign State Papers 137 (1908-1909). The BWT is analyzed in detail in Part II of this paper, as is the specific case of the Grand Coulee Order of Approval.

[33] There is one small facility at Abefeldie on the Bull River (5 MW, 1922), and another 12 MW facility at Elko on the Elk River (1924) *BCH System Review Summary supra* note 6, at 19. The Kootenay is joined by the Moyie River which rises in Canada just east of Bonners Ferry.

[34] The role of the International Joint Commission is explored in detail in Part 2.1 of the paper. Bloomfield and Fitzgerald, *Boundary Water Problems: Canada and the United States*, Carswell, Toronto, 1958 at 123, 128-129, 133-135, IJC Dockets 23, 29, 30, 34, 42, 48, 62, 70.

[35] Scholz *et al supra*, note 9 at 57-58. Bonnington Falls is the site of the Upper and Lower Bonnington hydro developments.

[36] *Id*., at 60.

1.3.1 The Treaty Dam

The only BCH Treaty facility on the Canadian portion of the Kootenay system is the Duncan Dam located on the Duncan River before that river joins Kootenay Lake. Scheduled by the Treaty to be operational April 1, 1968, it in fact became operational on July 31, 1967. The reservoir behind the dam extends for about 27 miles and provides 1.4 MAF of storage, all of which is dedicated to the CRT. There are no generating facilities at Duncan.[37] Available storage is used to the maximum extent possible. Reservoir volume is reduced in February-March of every year to 4 per cent of maximum to receive the spring freshet. The drawdown is 25-27 meters below full pool.[38] During the flood control refill period, the Columbia River Treaty Flood Control Operating Plan requires that outflows from Duncan be reduced to 100 cubic feet per second (cfs).[39] The dam cut off kokanee salmon, rainbow and bull trout from their spawning grounds in the Duncan River system.[40]

As a result of the manipulation of water levels, and cold glacial-fed inflows, Duncan reservoir is not very productive for fish. The dam is currently manipulated to allow bull trout to move in and out of the reservoir, and a hatchery is operated at Meadow Creek to replace natural spawning habitat in Meadow Creek and Lardeau River, but escapement levels have not reached 50% of pre-dam construction levels.[41] This decline has affected downstream fish populations in Kootenay Lake. Kootenay Lake habitat has also been affected by high flows from Duncan in December and January, the opposite of the unregulated pre-project hydrograph.[42] Kootenay Lake is a large natural lake which historically supported large populations of rainbow trout, kokanee, bull trout, burbot and mountain whitefish. Natural oligotrophic conditions in the lake were altered in the 1950s when a fertilizer plant upstream on the St. Mary's River, commenced discharging large quantities of phosphorous and nitrogen rich effluent. The construction of the Duncan and Libby Dams, and the introduction of effluent controls have stripped nutrients from inputs into the natural lake, to the point where nutrient loadings are probably lower than in historical times. Furthermore, with the construction of these two dams, fully 57% of the inflow into Kootenay Lake is now regulated, and winter inflows are about four times the historical norm.[43]

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37 *PEB Annual Report*, 1994 at 14.

38 Hirst, Volume II *supra* note 15, at 19.

39 *Columbia River Treaty Flood Control Operating Plan*, prepared by the North Pacific Division, Corps of Engineers for the United States Entity, October 1972, revised 1995, at 18.

40 Scholz *et al supra* note 9 at 125-126.

41 Hirst, Volume II *supra* note 15, at 20.

42 *Id.*

43 *Id*., at 21-22.

1.3.2 Non-Treaty Dams

The non-treaty dams on the Kootenay are located downstream of Kootenay Lake. Historically, lake levels were controlled by a natural obstruction at Grohman Narrows. The first dam in line below the Lake is the Corra Linn facility operated by West Kootenay Power (WKP). When initially constructed in 1930-32, the dam was operated as a run-of -river facility. Subsequently, WKP sought approval to use the dam to store up to 6 foot of water in Kootenay Lake and, at the same time, to remove the obstruction at Grohman Narrows.[44] This had two beneficial effects. First, and most obviously, it allowed WKP to even out the hydrograph for the Kootenay River, thereby allowing additional firm and interruptible power to be generated at WKP's facilities on the Kootenay. It also offered significant downstream benefits to facilities on the mainstem of the Columbia in the US. This facility was, in effect, a prototype for Columbia River Treaty facilities, but in this case Canada did not capture a share of the downstream power and flood control benefits conferred on the United States.[45]

Second, the removal of the obstruction at Grohman Narrows actually allowed WKP to lower the level of Kootenay Lake below natural levels and to lower it faster than under natural conditions. This ability was of considerable importance to those farming the land in the Kootenay Flats area to the north of Bonners Ferry in Idaho, and the corresponding area south of Kootenay Lake in British Columbia. It also led directly to the involvement of the International Joint Commission. The IJC needed to consider WKP's application because the proposed facility had the capacity to alter the level of the Kootenay River at the international boundary. This triggered the compulsory jurisdiction of the IJC, for reasons that will be explained in Part II of the paper.

1.3.2.1 The IJC's Kootenay Lake Levels Order

WKP originally sought approval from the IJC to store water in Kootenay Lake in 1932[46] but withdrew its application because of opposition from Idaho farming interests. The application was revived in 1938. By then, Idaho farmers had turned their opposition to the project into active support, because of a new appreciation of the potential value of the facility for flood control purposes.[47] The IJC approved the application subject to certain terms and conditions. Subsequent

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44 W.J. Tindale, "Power Development on the Kootenay River" (1948), 31 The Engineering Jnl 283-289.

45 Swainson, *supra*, note 8 at 376 (note 2), remarks that the subject of downstream benefits was not addressed by the IJC in its deliberations on the matter. He notes that the IJC "assigned to the applicant [WKP] responsibility for damage done to upstream farms [the Idaho farmers]. No reference was made to downstream benefits, either by the applicant or the commission. Such a benefit was realized in the United States, nevertheless, and a major purchaser of the energy thus made available in the United States, the Washington Water Power Company, assisted the West Kootenay Power and Light Company in meeting the upstream damage costs." Swainson cites no authority for these propositions.

46 Bloomfield and Fitzgerald *supra*, note 34, at 125, IJC Docket 27. The authors note that WKP's original application, filed in 1929, was to build a facility at Granite BC. The amended application for Corra Linn was filed in 1932.

47 *Id*., at 130-131, IJC Docket 39.

applications during and after the war to store an additional two feet of water in Kootenay Lake were considered and approved by the IJC.[48]

The IJC's 1938 terms and conditions still govern the operation of Corra Linn.[49] The terms oblige WKP to compensate Idaho farmers who incur increased pumping costs because of raised lake elevations, and also established a rule curve[50] for the operation of the storage. The rule curve is based, in part at least, upon the needs of the agricultural community. More specifically, the rule curve establishes a maximum elevation for the lake of 1745.32 feet from September 1 until January 7 of each year, but then requires WKP to progressively lower levels so as to reach 1739.32 feet on or about April 1.[51] This lowering serves the twin rationales of flood control and facilitating drainage.[52] The rule curve goes on to prescribe that, upon the commencement of the spring freshet, WKP must abide by a "lowering formula" designed to ensure that at least as much water flows out of the lake as would have occurred under pre-project conditions. Lowering thence continues until a level of 1743.32 is reached, whereupon WKP is entitled to maintain that level until August 31. At that time, the level is allowed to rise to 1745.32. Notwithstanding the fact that the Order does not prescribe minimum levels, WKP generally maintains lake elevations

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48 *Id*.

49 IJC Order of Approval, "Permission to Construct and Operate Certain Works in and Adjacent to the Kootenay River ... and for the Right to Store Water in Kootenay Lake..." November 11, 1938; cl. 5 stipulates the Rule Curve. The IJC does not publish its Orders of Approval, but they are available from the offices of the IJC.

50 A rule curve is a guide (usually graphic) to the use and storage of water in a reservoir. A curve may be based upon a single value such as flood control or assured refill, or it may be an integrated curve incorporating a number of different values. For discussion of different rule curves see *infra* text to notes 238 to 247.

51 The rule curve actually prescribes an elevation of 1744 on February 1, 1742.4 by March 1 and 1739.2 by April 1 (which is referred to as zero at the Nelson gauge) "except under extraordinary natural high inflow conditions, when sufficient gates shall be opened and remain open throughout such period of excess so as to lower the level of the main body of Kootenay Lake to the storage level at that time obtaining as defined above." *Id*. This latter provision offers a greater measure of flood protection than would have obtained under natural conditions given the natural obstruction at Grohman Narrows.

52 "The two drawdown periods, to 1739.32 in April and to 1743.32 in August, were basically designed to satisfy farmers' concerns for drainage from agricultural lands - the spring drawdown to dry out fields and allow equipment out for cultivating and planting and the August drawdown to allow drainage after the flood peak." BCH File, Kootenay Lake Operations, BCH Library, #A2189. The agricultural case for the 1938 Order was well articulated in a 1971 letter from the Kootenai Valley Reclamation Association, Bonners Ferry to the Corps of Army Engineers raising concerns about the construction of Libby. A copy of the letter is on file with the IJC Canadian Section, Docket 39. The letter notes that if drawdown to 1739.2 feet is not attainable, increased pumping would be required and "crop production on many acres will not be possible". It also noted that if there is a very low draw down during the summer months, yields will drop given the poor water quality retention of the soils.

at, or only slightly below, the specified rule curve.[53] WKP's performance is monitored by the Kootenay Lake Board of Control which reports annually to the IJC.[54]

I have dwelt at such length on the regulation of Kootenay Lake by Corra Linn and the IJC for several reasons. First, the method of regulation offers an example of a rule curve which takes account of values other power and flood control, and indeed, gives priority to agricultural interests. One effect of the 1938 Order is to confer a significant benefit upon those agricultural interests. Second, the IJC's rule curve continues in force notwithstanding dramatic changes in the natural hydrograph, as a result of the development of storage at both Libby and Duncan. Third, the CRT itself[55] accords some priority to the IJC Order. This is because Article XII(6) of the CRT requires that Libby shall be operated in a manner that is consistent with any order of approval made from time to time by the IJC for Kootenay Lake levels. The full implications of this obligation elude precise definition because the Order is based upon the natural hydrograph of Kootenay Lake. The point is an important one because the generation capacity available downstream from the Lake is not in balance with inflows and outflows. Hence, water is spilled at Corra Linn in the May-July period and occasionally at other times.[56] Obviously, the amount of water that WKP needs to spill depends upon the timing of releases from Libby, in conjunction with other inflows and the IJC's rule curve.[57] The matter has recently become exceedingly contentious in light of the operation of Libby to meet minimum flows for sturgeon. This issue is dealt with in detail in Part III of the paper. Finally, in light of these considerations and the growing complexity of Kootenay regulation, it is conceivable that the IJC might be asked to reconsider its 1938 Order.[58] It is worth emphasizing that the respect or priority that the CRT

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53 BCH File *id.* In part this seems to be to avoid conflict with recreational users. See also Thompson, "Every Inch Counts in Kootenay Lake" Nelson Daily News, September 23, 1976.

54 The reports of the Board of Control are not published but may be inspected at the offices of the Canadian section of the International Joint Commission. For the most part, the reports are *pro forma*. In 1984, the Board of Control filed a special report with the IJC (October 26, 1984). The Report noted that the 1938 Order did not establish a minimum level for Kootenay Lake, only maximum permissible levels (at 6). The Report also noted that with the introduction of Libby and Duncan storage, residents around the lake had "expressed concerns that during drought years lake levels are too low on the rising limb of the snow melt." The Report went on to note that some informal adjustments had been made to take account of this concern.

55 *Supra* note 7.

56 Hirst, Volume II *supra* note 15, at 21.

57 It is clear that in some years it is necessary to curtail drafting at Libby and Duncan. See for example *Annual Report of the Columbia River Treaty, Canadian and United States Entities, 1 October 1990 through 30 September 1991*, November 1991. The Report notes as follows at 29: "Kootenay Lake began drafting according to the IJC curve in early January and continued being draw down in February and March. Because of the IJC-required draft of the lake, which has precedent over Libby and Duncan flood control draft, and the reduced channel capacity of the lake outlet [Grohman Narrows], especially in February and March, it was necessary to begin reducing the Duncan and Libby discharges on 6 February to keep the Kootenay Lake level from exceeding what is allowed per the IJC Order."

58 Given the changes that have occurred in the Columbia River system on both sides of the border over the last couple of decades, it is astonishing that the 1938 IJC Order seems to be one of the very few fixed points. Why? Is it appropriate, given all the other pressures on the system and the other values that need to be

accords to the Kootenay levels order is not specific to the 1938 Order. The CRT gives priority to "any order of approval which may be in force from time to time ... ".

Below the Corra Linn facility, there are further generating facilities on the Kootenay at Upper Bonnington, Lower Bonnington, South Slocan and at Brilliant just above Castlegar. All of these facilities are run-of-the-river facilities and are owned and operated by WKP with the exception of Brilliant which, until recently, was owned and operated by Cominco.[59] Only the Corra Linn facility required IJC approval since that was the only facility that affected levels at the international boundary. In addition to these facilities, BCH constructed the 529 MW Kootenay Canal Plant to take advantage of the additional regulation provided by the Libby Dam. The Canal Plant was added to the system in 1972.[60]

1.3.3 Kootenay Dams in the US

Under the terms of the CRT (and dealt with in detail below in part 3.3), the United States obtained the option to build the Libby Dam on the Kootenai River in Montana. The option was exercised. Construction began in 1966, the dam was completed in 1973, and commercial

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accommodated, to continue to accord Kootenay Flats agricultural interests such a high level of priority, if not sacrosanct status?

[59] Brilliant was recently sold to a joint venture formed by the Columbia Basin Trust and the Columbia Power Corporation: see Part 3.5.1. of this paper.

[60] The additional storage at Libby and Duncan dams had the potential to confer significant downstream benefits upon existing Kootenay plants, and made it economic to build further capacity on the lower Kootenay to take advantage of these benefits. The Province needed to ensure that these downstream benefits accrue to it rather than a private utility such as WKP or Cominco. The Province achieved this result through Article XI of the CRT *supra* note 7, which provides as follows:

> 1. Improvement in stream flow in one country brought about by operation of storage constructed under the Treaty in the other country shall not be used directly or indirectly for hydro-electric power purposes except:
>
> (a) in the case of use within the United States of America with the prior approval of the United States entity, and
>
> (b) in the case of use within Canada with the prior approval of the authority in Canada having jurisdiction.
>
> 2. The approval required by this Article shall not be given except upon such conditions, consistent with the Treaty, as the entity or authority considers appropriate.

This provision, combined with ownership of Duncan, allowed the Province, through the instrumentality of BCH to appropriate all the incremental benefits of Duncan and Libby. The results of negotiations between BCH and WKP are recorded in the Kootenay Plant Agreement, August 1, 1972.That agreement allows for the construction of the Canal Plant (which draws water from the Corra Linn forebay) and effectively integrates WKP's operations with those of BCH: interview with Tim Newton, vice president Powerex June 26, 1996.

generation commenced in 1975.[61] The dam creates Lake Koocanusa which extends 42 miles back into Canada. The manipulation of water levels in Koocanusa continues to cause concern for Canadian tourism and fishing operators. Drawdowns also reduce the productivity of the reservoir for fish.

Libby provides downstream flow regulation which benefits facilities in Canada, especially the Canal Plant. As noted above, it also contributes to the change in the natural hydrograph for Kootenay Lake and has cut off the supply of nutrients to the Lake. Libby also affects white sturgeon populations below the dam, and the population has been listed under the US Endangered Species Act. As a result, the Army Corps of Engineers which operates Libby, is required to release water from Libby to mimic the spring freshet flows. BCH objects to these flows on the basis that they require the spilling of water and hence a loss of power at Corra Linn and downstream plants. This issue is dealt with in more detail below (part 3.3).

1.4 The Okanagan/Similkameen System

The Similkameen River joins the Okanagan River at Oroville just south of the border. Its main tributaries are the Pasayten, Tulameen, Otter, Hayes and Ashnola Rivers. Of those tributaries, the Pasayten and Ashnola both rise in the United States.

The Okanagan River crosses the international boundary at Osoyoos. The river drains the Okanagan, Osoyoos and Skaha Lakes. These lakes are supplied by a number of relatively small feeder creeks and rivers, including Mission Creek and Trout Creek. The Okanagan River sockeye run constitutes the only exception to the complete evisceration of Canadian Columbia Basin ocean salmon runs by American dams. Sockeye still return, albeit in relatively small numbers, to spawn in the southern part of the Okanagan River, downstream of Vaseaux Lake.[62] In addition to passage problems at dams on the mainstem of the Columbia, this stock also faces serious problems in Canada including high water temperatures, passage problems at a number of smaller Canadian dams, and loss of habitat as a result of channelizing the Okanagan River south of Oliver.[63]

1.4.1 Canadian Dams

There are no major power dams on the Similkameen or Okanagan systems in Canada although there are irrigation and flood control facilities on the Okanagan. These facilities, constructed during the 1950s, attracted adverse attention from the United States. The US insisted

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61 *PEB Annual Report*, 1994 at 16.

62 Canadian Columbia River Inter-Tribal Fisheries Commission, (*October-December Report*, 1995); escapement to the spawning grounds in the fall of 1995 was estimated at 2,000-3,000. The author comments "This is the lowest number of sockeye spawners which has been observed... In the past, sockeye spawner numbers have ranged between 6,000 and more than 30,000."

63 *Id., July Report*, at 3.

that the IJC take up the issue as part of the main Columbia River Reference.[64] The US was concerned that channel improvements between Osoyoos lake and the Oliver Diversion Dam (which at that time represented the upstream limit for spawning) would destroy the spawning grounds of Okanagan-run sockeye. Furthermore, US officials were of the view that, with the installation of fishways in existing dams, it might be possible to introduce sockeye to the Okanagan Lake and spawning areas in tributary streams above that lake. The US was particularly interested in this matter because, following the construction of Grand Coulee, it had attempted to transplant sockeye runs into the Okanagan system as a method of mitigating the disastrous effect of Grand Coulee.[65]

1.4.2 US Dams

It is important to emphasize that salmonid migration into the Canadian Okanagan and Similkameen system is not blocked by the Grand Coulee Dam. Nevertheless, salmon heading north to spawn in Canadian waters must still pass significant obstacles on the Columbia mainstem, specifically the dams at Wells, Rocky Reach, Rock Island, Wanapum, Priest Rapids, McNary, John Day, The Dalles and Bonneville. Despite these obstacles, sockeye continue to spawn in the southern part of the Okanagan River in Canada downstream of Vaseaux Lake and sockeye smolts successfully make the return trip to the ocean.[66]

At the point where the Okanagan River crosses the international boundary, there is a natural lake, Osoyoos Lake. Just below the Lake, on the US side of the border, lies the Zosel Dam. This dam, because of its effects on the water levels at certain times of the year is subject to IJC approval and control pursuant to Article IV of the BWT. The matter first came before the

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64 Columbia River Reference, *Report of the International Joint Commission, In the Matter of the Facilities to be Provided in the Okanagan River in Canada for the Passage and Spawning of Blueback Salmon*, February 1, 1952. This fascinating saga is properly the subject of another paper.

65 The matter was taken up by the IJC upon the request of the US and referred to the International Columbia River Engineering Board which was then carrying out its overall investigations of the entire Basin. ICREB submitted its report to the IJC on July 10, 1951. ICREB noted that there were several difficulties with the US proposals, not the least of which was the adequacy of suitable water conditions during the winter months to protect spawning areas. ICREB seemed to think that the US case had not been established, but it also noted that BC claimed exclusive jurisdiction over these matters. The hot potato was then handed back to the IJC which, after several bitterly contested meetings, issued a report February 1, 1952.The Commission noted the uncertainties surrounding the adequacy of the water supply; suggested that the proposed flood control works proceed as soon as possible; recommended that channelization proceed in such a way as to "retain as large a percentage of the existing blueback spawning area as possible and to provide ... where possible, other suitable spawning areas in lieu of those that will be destroyed; recommended that Canadian authorities carefully monitor construction; and recommended that construction be carried out so as to cause as little disturbance as possible to "migrating blueback salmon and their spawn." The IJC's Report, *In the Matter of the Facilities to be Provided in the Okanagan River in Canada for the Passage and Spawning of Blueback Salmon*, is available in the files of the Canadian section of the IJC. The ICREB Report is attached to the IJC Report as an appendix.

66 The difficulties faced by both returning spawners and smolt out-migration to the ocean have been well documented by others and will not be repeated here. For good accounts see Wilkinson and Conner, *supra* note 29 and the *SOR Review, Main Report supra* note 3, esp. at pp.4-75 to 4-88.

IJC in 1942.[67] The IJC approved the application subject to certain terms and conditions and created the International Osoyoos Lake Board of Control to monitor its Order.[68] The matter has been revisited by the IJC on several occasions.[69] A new dam was completed in 1987. The current order of approval requires the construction of fish passage facilities at Zosel Dam.[70]

At the present time there is no anadromous salmonid escapement to the Similkameen system because of the 54-foot high Enloe Dam in Washington. The dam is located 8 miles above the confluence of the Similkameen and Okanagan. The dam was constructed between 1916 and 1923. It is not equipped with fish passage facilities.[71] Power was generated from Enloe until 1959, at which time its operation was deemed economically unfeasible.[72]

As a result of the Northwest Power Act and the Northwest Power Planning Council's Columbia River Basin's Fish and Wildlife Program, BPA let a contract to ICE Beak Consultants in 1983 to investigate the suitability of the Similkameen and tributaries for anadromous fish stocks and spawning, with a view to "providing access for anadromous salmonids to many miles of spawning and rearing habitat in the upper Similkameen watershed."[73] The study was designed to estimate the quantity of spawning and rearing area available for steelhead and chinook, and to assess the system's potential for smolt production, with an assessment of water quality, temperature and quantity as possible constraints. The study estimated smolt production for the Similkameen system at 610,000 steelhead and between 1.6 and 4.8 million chinook.[74] The study concluded that "provision of passage at Enloe Dam is justified on the basis that it would provide access to extensive anadromous salmonid rearing and spawning areas."[75]

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67 Bloomfield and Fitzgerald *supra* note 34, at 161, IJC Docket 49; BWT *supra* note 32.

68 IJC Order of Approval, September 12, 1946.

69 See *In the Matter of the Application of the State of Washington for Approval to Construct a Control Structure Near the Outlet of Osoyoos Lake*, Order of Approval, 28 April 1982, Supplementary Order of Approval October 17, 1985, amended condition 2.

70 *Id*. Neither the 1982 Order, nor the Supplementary Order, provide any details as to the purpose of the fish passage facilities.

71 Bonneville Power Administration, *Natural Propagation and Habitat Improvement Volume IIB- Washington: Similkameen River Habitat Inventory Final Report 1983*, published April 1984, at 3.

72 *Id.*

73 *Id.*, at 1.

74 *Id.*, at 67.

75 *Id.*, at 68. Since then (1984) there has been no action. Steve Mathews, Princeton Office of the BC Department of the Environment, (telephone interview February 9, 1996) suggested two reasons (1) the costs would not justify the potential benefit; and (2) the province was concerned about diseased fish being introduced into these waters. I surmise that BC would also be interested in a prior arrangement as to the division of the benefits that might flow from anadromous salmonid spawning in these waters. See the discussion in Part IV of this paper on the Pacific Salmon Treaty's treatment of Columbia transboundary stocks. The most recent version of the

1.5 The Clark Fork/ Pend d'Oreille

The Clark Fork rises near Butte, Montana and flows generally northwesterly to Pend Oreille Lake in Idaho. Emerging from the lake, the river becomes known as the Pend Oreille (Pend d'Oreille in Canada) and flows westerly to the Washington Idaho line and thence northerly to the international boundary. From the boundary to its confluence with the Columbia (a distance of only 16 miles), the river flows in a westerly loop. The Clark Fork-Pend d'Oreille Basin covers an area of nearly 26,000 square miles.[76] Within the Basin there are two relatively small areas within British Columbia. First, the upper part of the Basin embraces some 649 square miles of south eastern BC. The principal tributary here is the Flathead River which flows due south to join the Clark Fork at mile 245. The second portion of the Basin in Canada consists of 554 square miles of the lower basin immediately above the confluence of the Pend d'Oreille with the Columbia.[77]

1.5.1 Canadian Dams

There are two Canadian dams on the short stretch of the Pend d'Oreille in British Columbia, Seven Mile and Waneta. Seven Mile is owned and operated by BCH.[78] It is a run-of-the-river facility with a capacity of 607.5 MW, completed in 1979. The dam is located immediately downstream of Seattle City Light's Boundary Dam which also operates as a run-of-the-river plant. Given limited storage capacity at Seven Mile and upstream, Seven Mile spills water every year.[79] Seven Mile is not subject to the CRT. Upon completion of the project, there was a dispute between the US and Canada over the filling operation. Canada took the view that since the Pend d'Oreille was not dealt with by the CRT, Canada was simply entitled to go ahead and fill the reservoir, without needing to compensate the US for lost water. Canada took the same position upon the filling of Revelstoke, which, although on the mainstem, is not a Treaty

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NPPC's Fish and Wildlife Program, *Columbia River Basin Fish and Wildlife Program*, *1994* still contains a reference to the Enloe Dam as well as a more general reference to the enhancement of transboundary stocks. The specific reference to Enloe is at 7.10C.1. The *Program* proposes that any holder of a licence for Enloe should provide upstream and downstream passage facilities for anadromous fish. The *Program* notes that development of upstream passage could be considered as enhancement for mainstem Columbia losses. The more general reference is at 2.2G.1 at which point the *Program* "calls for the development, funding and implementation of agreements between the fish and wildlife managers on both sides of the US/Canada border that recognize the mutual benefit of protection, mitigation and enhancement for transboundary species." John Harrison, Information Officer, NPPC, (telephone discussion, July 1996) notes that little progress has been made on this front.

[76] *ICREB Report, supra* note 2, *Appendix III, Clark Fork - Pend Oreille Basin*, at 1.

[77] *Id.*

[78] BCH System Review, Summary *supra* note 6, at 44.

[79] Hirst, Volume II *supra* note 15, at 10 to 11.

dam. The resulting disputes between the parties were resolved as part of the negotiations on the NTSAs.[80]

On the face of it, Seven Mile also did not require the approval of the IJC under the terms of the BWT as it did not affect the level of the Pend d'Oreille at the international boundary. However, when operated at full pool, the resulting reservoir causes tailwater encroachment at Boundary Dam and the loss of energy and capacity. As a result, and in the absence of an IJC Order, the dam was operated at less than full pool until 1988. In the event, approval to operate at full pool came in the form of a supplementary treaty[81] between Canada and the United States to resolve another bilateral dispute involving the Skagit River and the Ross Dam. Under the terms of this 1984 Treaty, Canada is allowed to operate Seven Mile at full pool elevation, provided that Canada is not in breach of its obligations to deliver power to Seattle, to compensate Seattle for foregoing raising the Ross Dam on the Skagit River.[82]

Cominco completed the second Canadian dam, Waneta, in 1954. Waneta operated as part of the WKP system with a capacity of 373 MW. A 2 km reach of regulated river extends from the Seven Mile tailrace to the Waneta reservoir.[83] Waneta operates as run-of-the-river project and without storage or increased generating capacity, will continue to spill water on a sustained basis, often for 3-4 months.[84]

Prior to construction, Cominco applied for and obtained IJC approval for the project. This was required because the dam floods about 3 acres in the Cedar Creek Valley in

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80 Interview with Tim Newton *supra* note 60. On the NTSAs see *supra*, note 21.

81 Treaty Between Canada and the United States relating to the Skagit River and Ross Lake and the Seven Mile Reservoir on the Pend d'Oreille River, Washington, April 2, 1984. The Treaty is scheduled to the *Skagit River Valley Treaty Implementation Act*, S.C. 1984, c. 11.The Treaty allows operation at full pool (Article III(2) and suspends the operation of the BWT and the powers of the IJC under Articles IV(1) and VIII. Annexed to the Treaty is an agreement between British Columbia and Seattle dated March 30, 1984. Section 7 of that Agreement indicates that BC may operate Seven Mile to normal pool elevation of 1730 feet flooding into Washington State to a depth of approximately 15 feet. For commentary on the Skagit dispute see Parker, "High Ross Dam: The International joint Commission takes a Hard Look at the Environmental Consequences of Hydro Electric Power Generation - The 1982 Supplementary Order" (1983), 58 Wash. L. Rev. 445.

82 This is not the place to discuss the Skagit matter, but note for present purposes that the two governments resolved an environmental dispute with an undertaking from BC to deliver power to Seattle, in return for Seattle foregoing its entitlement under an IJC Order to flood the Skagit Valley in BC. For further discussion of the IJC's continuing jurisdiction see *infra* note 150.

83 Hirst, Volume II *supra* note 15, at 12 and 10.

84 *Id*., at 12.

Washington.[85] The IJC's Order of Approval was careful to reserve the freedom of the US to operate upstream storage on the Pend d'Oreille as it saw fit.[86]

There are no dams on the Flathead River in the upstream portion of the Canadian part of the Basin. A proposal to develop a coal mine in the valley occasioned considerable international interest and a reference to the IJC in 1984 (see detailed discussion in Part 2.1.4.2).

1.5.2 US Dams

In addition to the Boundary Plant, there are several other hydro facilities located upstream from Seven Mile on the Clark Fork\Pend d'Oreille in the United States. The main storage facilities are Hungry Horse on the south fork of the Flathead in Montana (constructed 1952, storage 3.16 MAF), and Albeni Falls (1955) which provides 1.16 MAF of storage in Lake Pend Oreille.[87] The two Canadian facilities do benefit from the availability of this storage. Proposals to use the American storage, either to provide salmon flows in the lower Columbia, or to maintain reservoir levels to benefit resident fish, will have an impact on both Seven Mile and Waneta. Cominco and BCH have both commented adversely on the way in which elements of the NPPC's 1994 Fish and Wildlife Program may affect generation at their facilities.[88]

Since the Pend d'Oreille joins the Columbia upstream of Grand Coulee, that dam blocked anadromous salmonid runs to the Canadian portion of the Clark Fork - Pend d' Oreille Basin, notably the Salmo River.

1.6 Conclusions

The account to this point demonstrates that the Columbia Basin has been extensively developed on both sides of the border for power and flood control purposes. With the exception of some small facilities in the headwaters, and the development of the Kootenay at the

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85 Bloomfield and Fitzgerald *supra* note 34 at 196, IJC Docket 66.

86 IJC Order of Approval, July 25, 1952. Clause 1 provides as follows:

> 1. That the issuance of this Order of Approval shall not be considered or construed as waiving or otherwise impairing in any degree the right of the United States recognized in Article II [of the BWT] ... to construct and operate such works as it may consider necessary or desirable for the purpose of making the most advantageous use reasonably practicable on its own side of the international boundary of the Pend d'Oreille River as regulated by headwater storage within the United States and constructed wholly at the expense of the United States, or at the expense of United States interests.

87 The others are Boundary, Box Canyon, Noxon Rapids and Thompson Falls, Hirst Volume II *supra* note 15, at 12.

88 *Supra* note 75. The relevant recommendations are at 10.3A and 10.6E.1; a summary of the comments of BCH and Cominco is found at 15-165. Suffice it to note for present purpose that BCH suggested that any reduction in drawdown for Lake Pend Oreille that might affect generation at Waneta or Seven Mile should be submitted to the IJC for consideration.

Bonnington Falls (which provided a natural obstacle to the upstream passage of fish), significant development of the Basin in Canada only occurred after the construction of the Grand Coulee on the mainstem. Indeed, apart from WKP's continued development of the Pend d'Oreille and the Kootenay, significant development only occurred in Canada following the negotiation of the CRT. The account also demonstrates that, with the exception of the Okanagan downstream of Okanagan Lake, Grand Coulee closed the Canadian portion of the Columbia Basin to anadromous fish.

There is an important resident fishery in some portions of the Basin. This is particularly true of Kootenay Lake, the Arrow Lakes and the free flowing portion of the Columbia downstream of the Keenleyside Dam. The most critical resident fisheries issues include the endangered status of white sturgeon in the Columbia downstream of Keenleyside and upstream of Kootenay Lake; the nutrient blocking effect of dams (especially Libby); the effect of drawdowns on the overall biological productivity of storage reservoirs; the availability of spawning habitat in those reservoirs; and, the need to ensure minimum flows downstream of Keenleyside to protect trout redds. Some of these important fisheries, especially Kootenay River and the Columbia downstream of Keenleyside, are shared fisheries with the United States.[89]

In addition to fisheries concerns, residents of the Columbia Basin, including the East Kootenays in the area of Lake Koocanusa, are vitally interested in the effects of reservoir levels on industrial use for log booming, recreational activities, and aesthetics, the stability of reservoir banks and slopes, and generally, the need for a healthy littoral environment.

In the course of the discussion to this point we have adverted on numerous occasions to both the BWT and the CRT. We now turn to a more detailed and systematic discussion of these two instruments.

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[89] Proposals to install generation at Keenleyside stimulated spirited comment from US interests. See *Keenleyside Response Document, supra* note 15, esp. section 4.0 letters from Trout Unlimited USA and Northwest Steelhead and Salmon Council.

Part II: The International Legal Regime

The two main components of the international legal regime affecting the Columbia Basin are the Boundary Waters Treaty of 1909[90] and the Columbia River Treaty.[91]

2.1 The Boundary Waters Treaty of 1909

2.1.1 Introduction

Readers already familiar with the text of the CRT may wonder why it is necessary to analyze the BWT, given that Article XVII of the CRT seems to contemplate that the BWT will not apply for the duration of the more specific treaty.[92] However, a moment's reflection should suggest that this is too simplistic a reading. For example, although the BWT has clearly been superseded by the CRT with respect to the specific facilities that it authorizes, the IJC still retains jurisdiction over other facilities within the Basin such as Grand Coulee, Waneta[93] and the various facilities that affect the levels of Kootenay Lake,[94] and Osoyoos Lake.[95] Furthermore, the IJC retains its general reference jurisdiction and recently exercised it in the Basin on the Flathead.[96]

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90 *Supra* note 32 .

91 *Supra* note 7. A complete survey would need to canvass applicable rules of customary international law as well as earlier international instruments. See in particular the Oregon Treaty, Washington, June 15, 1846, 9 Stat. 869; 12 Bevans 95. Article II of the Oregon Treaty guaranteed freedom of navigation on the Columbia to British subjects from the 49th parallel to the mouth. The Columbia Treaty File of the IJC Canadian section contains a copy of a legal opinion from C. M. Bedard of the Legal Division of the Department of External Affairs (February 5, 1954) to the effect that Canada had concluded that no claim could be pressed against the United States in relation to lower Columbia dams, based on the Oregon Treaty, on the grounds that these dams had actually improved rather than impeded navigation.

92 CRT, Article XVII *supra* note 7; para. (2) provides as follows:

> (2) Upon termination of this Treaty , the Boundary Waters Treaty, 1909, shall, if it has not been terminated, apply to the Columbia River basin, except insofar as the provisions of that Treaty may be inconsistent with any provision of this Treaty which continues in effect.

Compare this provision with the more specific drafting of Article VI of the Skagit Treaty *supra* note 81.

93 *Supra* notes 85 and 86 .

94 *Supra* notes 34 and 39.

95 *Supra* note 70.

96 See *infra* text to notes 151-164.

The BWT[97] was designed to achieve three objectives. First, the Treaty stipulates certain substantive rules of international river law; second, the BWT established the IJC and stated the basis of the Commission's jurisdiction; and, third, the Treaty was designed to solve, or provide the basis for solving, a couple of very specific disputes.[98] We are only concerned here with the first two objectives of the BWT.

The BWT accorded the IJC[99] three distinct jurisdictions: a compulsory jurisdiction, an advisory or reference jurisdiction, and an arbitral jurisdiction. In brief we can say that the IJC's compulsory jurisdiction (i.e. jurisdiction over projects that cannot be constructed without the approval of the IJC) is limited to those projects that change the levels of boundary waters, and those projects in one country that result in flooding lands in the other country. Apart from these instances, the IJC has no compulsory jurisdiction over those projects that occur within one state and harm interests in the other state. The IJC's reference jurisdiction extends to any matter referred to the Commission by the Parties. The arbitral jurisdiction accorded to the IJC by Article X of the BWT has never been exercised.

2.1.2 Substantive Rules

The substantive rules of the Treaty apply to two categories of waters: boundary waters and waters that flow across the boundary.[100] The BWT defines "boundary waters" as waters along which passes the international boundary between Canada and the United States.[101] The phrase does not include tributaries that might flow into those waters or, in a phrase that clearly encompasses the Columbia as well as the sub-basins discussed above, "the waters of rivers

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97 The literature on the BWT *supra* note 32, is legion. It includes the following: Bloomfield and Fitzgerald, *supra* note 34; Jordan "The International Joint Commissions and Canada - United State Boundary Relations" in Macdonald *et al*, *Canadian Perspectives on International Law and Organization*, University of Toronto Press, 1974, at 522-544, Jordan discusses the Columbia at 528 to 529 and 535 to 536. For an historical analysis of the background to the BWT and an indication that Canada would like to have negotiated a treaty that dealt with waters crossing the international boundary as well as boundary waters as defined in the BWT, see Dreisziger, "Dreams and Disappointments" in Spencer, Kirton and Nossal, *The International Joint Commission Seventy Years On*, Centre for International Studies, Toronto, 1981 at 8 to 23 .

98 These disputes are dealt with in Article V and VI of the BWT, *id*. Article V deals with the Niagara and the level of Lake Erie; Article VI deals with the St. Mary and Milk Rivers in Montana and Alberta.

99 The IJC is composed of 6 members, 3 appointed by the US and 3 appointed by Canada (Article VII, BWT *id*). The IJC is organized into two sections (see Article XII) which maintain separate offices in Washington and Ottawa respectively. For profiles of the Commissioners see the IJC's most recent annual report. Appointments to the IJC occur at the highest political level. US appointments change upon a change of administration. Canadian members are often appointed from among the ranks of former elected, high-ranking politicians, although senior academics (lawyers and economists) and professional engineers have also been prominent members. Over the years, the Canadian section of the IJC has sought to remove itself from the direct tutelage of the Department of Foreign Affairs, whose offices it used to share, and has assumed a more independent stance and a separate location.

100 I will use the term "transboundary waters" for these waters although the BWT *id*., does not use the term.

101 Paraphrase of BWT, Preliminary Article *id*.

flowing across the boundary" (i.e. transboundary waters). Consequently, there are no boundary waters, as defined by the Treaty, within the Columbia Basin.[102]

The Treaty contains at least two substantive rules to govern the utilization of transboundary waters. First, the rule enshrined in Article II reserves to each country the exclusive jurisdiction and control over all waters on its own side of the boundary which, in their natural channel, would flow across the boundary. Second, the rule contained in Article IV provides that no state may change the level of transboundary waters at the boundary without the consent of the IJC. This rule, of particular importance here, provides the IJC with the source of one its claims to "compulsory jurisdiction".

2.1.2.1 The Article II Rule

The legal debate in Canada during the run-up to the CRT focused on the Article II rule. As noted above, Article II reserves to each country the exclusive jurisdiction and control over all waters on its own side of the boundary which in their natural channel would flow across the boundary. Most commentators have interpreted this clause as an endorsement of the Harmon Doctrine[103] and therefore of the dominant position of the upstream riparian. Article II, however, balances this proposition somewhat by creating a limited private cause of action for injured parties on the other side of the boundary who may be injured as a result of the "diversion or interference". The cause of action is limited since the upstream diversion or interference shall only "give rise to the same rights and entitle the injured parties to the same legal remedies as if such injury took place in the country where such diversion or interference occurs".[104] Article II may be ousted by a special agreement between the "parties hereto". Article XVII of the CRT provides one such example.

Article II focuses on upstream diversions that may have an effect on the downstream riparian. Upstream diversions do not require the approval of the IJC, but an injured party may

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[102] Consequently, we may ignore for present purposes, the following provisions of the BWT *id*., Art. I (freedom to navigate boundary waters), and Art. III (changes to the levels of boundary waters).

[103] Scott, “The Canadian - American Boundary Waters Treaty: Why Article II?” (1958), 36 Can. Bar Rev. 511; Austin, "Canadian-United States Practice and Theory Respecting the International Law of International Rivers: A Study of the History and Influence of the Harmon Doctrine" (1959), 37 Can. Bar. Rev. 393. The Harmon Doctrine articulated by Judson Harmon, the Attorney General of the United States, in a dispute with Mexico, holds that an independent state has unrestricted sovereignty with respect to that part of a river which lies within its territorial boundaries and is free to divert and use it in any way the upstream state sees fit without liability to a downstream state (Scott, at 512, note 3). The international community has rejected the Harmon Doctrine in favour of the principle of equitable utilization and the duty not to cause significant harm to other riparians. See the International Law Commission, Draft Articles on the Law of the Non-Navigational Uses of International Watercourses and Commentaries Thereto, Adopted on Second Reading by the International Law Commission at its Forty-Sixth Session, UN Doc. A/CN.4/L.493, 12 July 1994 and for commentary see (1992), 3 Colo. J. Int’l Envt’l L. & Pol’y Doman Colloquium, special issue, various papers.

[104] The quotations are from BWT *supra* note 32, Article II. For discussion see Austin and Scott, *id*.

have a cause of action in domestic courts if, and only if, there is a cause of action in the domestic law of the upstream party.[105]

The Columbia Basin provides several example of the restrictive operation of Article II. Perhaps the most notable is Seattle City and Light's Boundary Dam on the Pend d'Oreille. As noted above, this facility, constructed immediately adjacent to the international boundary, has a direct effect on flow levels in Canada but is not subject to regulation by the IJC.[106] Similarly, during negotiation of the CRT, some Canadian commentators argued that Article II entitled Canada to engage in massive diversions from the Kootenay to the Columbia, and from the Columbia to the Fraser, and for which the United States would have no recourse.[107]

The domestic remedy proviso contained in Article II speaks only to injury resulting to a downstream proprietor as a result of an upstream diversion or storage project. The proviso does not seem to speak to harm resulting from a project constructed by the downstream state that affects the upstream state. Thus, neither the Article, nor its proviso, speaks to the situation of a downstream dam preventing upstream escapement and spawning of anadromous fish.

2.1.2.2 The Article IV Rules

Article IV establishes two substantive rules. First, neither Party will authorize a project that changes the level of transboundary waters at the boundary without the approval of the IJC. Second, neither boundary nor transboundary waters "shall be polluted on either side to the injury of health or property on the other." The second rule does not accord an independent source of jurisdiction to the IJC. The first rule does, and, in the present context, is the more important rule. The second rule can be engaged by the IJC only as an incident to a levels application, or as part of its reference jurisdiction.[108] This second rule is therefore dealt with below in the section on the Flathead Reference (Part 2.1.4.2.).

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105 Bourne *supra* note 2, at 455-456; Cohen, (1958), 38 Can. Bar Rev. at 37-38 considers that there must be a real remedy in domestic law.

106 See discussion *supra* text to notes 87-88.

107 See authorities referred to in note 105. In ratification hearings on the CRT before the Committee on Foreign Relations, United States Senate, Secretary Udall noted that one of the key benefits of the CRT to the US was that it removed the potential of the diversion of the upper Columbia to the Fraser which would have caused disastrous power losses to mainstem dams in the US on the lower Columbia: Hearing before the Committee on Foreign Relations United States Senate, 87th Congress, First Session, 1961 at 27.

108 Waite, “The International Joint Commission: Its Practices and Its Impact on Land Use” (1963-64), 13 Buff. L. Rev. 93 at 97.

2.1.3 The Jurisdiction of the IJC

2.1.3.1 The Compulsory Jurisdiction of the IJC under the Article IV Rule

Since the waters of the Columbia system are not boundary waters, the relevant compulsory jurisdiction of the IJC is limited to Article IV of the Treaty. Article IV stipulates that no works shall be constructed, *inter alia,* "in waters at a lower level than the boundary in rivers flowing across the boundary, the effect of which is to raise the natural level of waters on the other side of the boundary unless the construction or maintenance thereof is approved" by the IJC, upon application.

Applications are governed by Article VIII of the BWT.[109] Article VIII provides a priority rule and an indemnity rule. The priority rule states that the IJC shall not approve an Article IV levels application if the application tends materially to conflict with the following order of precedence: (1) domestic and sanitary; (2) navigation; (3) power and irrigation. If the application passes this test, the IJC may approve the application and may, in its discretion (and in the case of Article IV applications, shall) require remedial or protective works and an indemnity for those interests which may be injured.[110] One influential commentator, Professor Cohen, a former Commissioner and eminent international lawyer, has drawn attention to the broad ambit of the term "interests" as used in this Article, opining that existing Orders of Approval need to be updated to take into account the changing nature of interests deserving of protection, "particularly environmental and riparian interests."[111]

Developments in the Columbia Basin have occasioned numerous applications to the IJC under Article IV. On the American side, the reservoir behind the Grand Coulee required IJC approval because it backed up across the international boundary. Libby also required IJC approval until that requirement was waived as part of the terms of the CRT. The need for IJC approval of Libby was a significant spur to treaty negotiations and probably provided Canada

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[109] Article VIII of the BWT *supra* note 32, applies equally to applications under Article III and IV; Article III is of no concern here, since it applies only to "boundary waters". The final paragraph of Article VIII indicates that a decision may be made by a majority of the members of the Commission. For the Rules of Procedure of the IJC see *The International Joint Commission and the Boundary Waters Treaty*, 1990, at 15-24 and for discussion see Waite *id*.

[110] The precise text is important. Whereas Article VIII para. 4 BWT *id*., provides that in any case the IJC *may* require remedial or protective works, in a levels application pursuant to Article IV, para. 5 of Article VIII prevails and it stipulates that:

> .... the Commission *shall* require, as a condition of its approval thereof [the Article IV application], that suitable and adequate provision, approved by it, be made for the protection and indemnity of all interests on the other side of the line which may be injured thereby. [emphasis supplied]

For an example of an indemnity requirement see the discussion of the Order of Approval for Corra Linn *supra* text to notes 49-50. In that case, the indemnity was required for Idaho farming interests. See also the discussion of Grand Coulee *infra* text to notes 143 to 147.

[111] Cohen, "The Commission From the Inside" in Spencer *et al supra* note 97 , pp. 106 to 123, at 123 (note 12).

with significant bargaining power.[112] The only other US project in the Basin that has required IJC approval thus far is the Zosel Dam on Osoyoos Lake. Hence, Grand Coulee is the only US mainstem dam to require IJC approval.[113]

A significantly larger number of Canadian projects in the Basin have required IJC approval. The most important of these have been referred to above. They include Waneta, on the Pend d'Oreille, Corra Linn on the Kootenay and other reclamation projects on the Kootenay in the Creston area. Other projects have not engaged the jurisdiction of the IJC even though they involve transboundary waters. These include all the projects downstream of Corra Linn on the Kootenay, the Canadian Columbia Treaty projects, and Revelstoke. None of these projects would have engaged the compulsory jurisdiction of the IJC even had the terms of the BWT not been overridden by the CRT. This is because these projects did not affect water levels of a transboundary stream at the boundary. Thus, while the IJC may still have a role to play in the Columbia Basin through its compulsory jurisdiction under Article IV (most obviously in the relation to the Kootenay Lake levels order), it cannot use that jurisdiction to play a more holistic planning role for the Basin. For it to assume that role, the IJC needs to rely upon its reference jurisdiction which, as the following section demonstrates, the IJC cannot trigger of its own motion.

2.1.3.2 The IJC's Reference Jurisdiction

In addition to its compulsory jurisdiction, Article IX of the BWT endows the IJC with a so-called reference or advisory jurisdiction. Under this head, the Parties to the BWT, either individually or jointly,[114] may ask the IJC to examine into and report upon the "facts and circumstances" "together with such conclusions and recommendations as may be appropriate" relating to any "questions or matters of difference arising between [the Parties]...".[115] Most commentators have been impressed by the fact that the IJC's reference jurisdiction has enabled

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112 For initial Canadian opposition to Libby see Swainson *supra* note 8, at 43. Swainson makes it clear that BC was much more aggressive than was the federal government about the return of a benefit to BC as a condition for permitting storage on Canadian territory. Swainson notes that most of the live Libby storage is in BC and that the depth of water at the border would be 150 feet under the original proposal. He also notes that one result of inundation is the loss of power producing potential at a number of sites in Canada (*id*., at 48). The Libby proposal to the IJC is also discussed in Bloomfield and Fitzgerald *supra* note 34, at 190-195, IJC Dockets 65 and 69.

113 The Enloe Dam on the Similkameen *supra* note 71, did not require IJC approval.

114 In practice, all references are joint references. Canada, had it been able, would undoubtedly have objected to the Okanagan Salmon reference (*supra* note 64). It was unable to do so because the reference was effectively a sub-reference as part of the main Columbia Reference discussed *infra* notes 118-120. The Commission may make a joint report to the Governments but, where it is unable to do so, each section may make a separate report. In the case of the Okanagan Salmon Reference, the Canadian records in the IJC offices make it clear that the two sections came very close to submitting separate reports. Willoughby, "Expectations and Experience" in Spencer *et al supra* note 97 pp.24 to 42, notes at 37, that on only one occasion (the Waterton and Belly Rivers Reference) did the IJC fail to render a unanimous report on a reference matter.

115 All quotations are from BWT *supra* note 32, Article IX, paras. 1 and 2.

the IJC to assume new responsibilities as the environment in which it operates has changed over the decades.[116] IJC reference reports are not binding on the governments but most have been approved and implemented.[117]

The reference jurisdiction of the IJC was instrumental in laying the groundwork for the negotiation of the CRT. In the first Columbia reference, (March 9, 1944) the governments asked the Commission to advise upon "whether a greater use than is now being made of the waters of the Columbia River System would be feasible and advantageous...". More specifically, the governments asked, would further development of the water resources of the river basin:

> be practicable and in the public interest from the points of view of the two Governments, having in mind (A) domestic water supply and sanitation, (B) navigation, (C) efficient development of water power, (D) the control of floods, (E) the needs of irrigation, (F) reclamation of wet lands, (G) conservation of fish and wildlife, and (H) other beneficial public purposes.[118]

The governments also invited the Commission to consider the distribution of benefits and adverse effects, necessary indemnities and the apportionment of costs and damages. As is its custom, the IJC fulfilled its responsibilities vicariously, primarily through the appointment of the Columbia River Engineering Board (ICREB). ICREB was composed of professionals drawn from federal, provincial and state government services. In 1959, 15 years after the initial reference, ICREB provided its multi-volume report to the IJC. The Report focused on the twin issues of power generation and flood control[119] with some substantial treatment of irrigation in the Okanagan Similkameen sub-basin. Other issues were dismissed:

> (d) at present there is no urgent need for cooperative development in the fields of domestic water supply and sanitation, navigation, or conservation of fish and wildlife.[120]

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116 See, for example, Sadler “Shared Resources, Common Future: Sustainable Management of Canada - United States Border Water” (1993), 33 Nat. Res. Jul. 375; Willoughby *supra* note 97, at 29.

117 Willoughby *id*., at 37. A full consideration of all IJC references in the Columbia Basin would of course include the famous Trail Smelter matter in which the IJC played a preliminary role: see Bloomfield and Fitzgerald *supra* note 34 at 137, IJC Docket 25.

118 The text of the reference is reproduced in *Related Documents supra* note 7, at 17 and in the *ICREB Report supra* note 2 at 1. The Canadian perspective on the reference is provided *Documents on Canadian External Relations,* vol. 9 (1942-43) at 1600-1617. In general the mandarins in External Affairs were delighted with the American initiative and sought only to broaden the scope of the reference as much as possible. Fisheries concerns were not high on the agenda: see comments of Rodd *id.,* at 1607.

119 *ICREB Report*, *id*. For discussion see Swainson *supra* note 8 and for penetrating analyses of the alternatives considered by the report see Krutilla *supra* note 3.

120 *ICREB Report supra* note 2, para. 268 at 109. Fish and wildlife issues also receive passing reference at 24 and 59. At 24 the Board notes the historical prolific runs of Columbia salmon and concludes with the following note of hope rather than tragedy: "Elimination of the Indian fishery at Celilo Falls, Oregon, resulting from The

The IJC's consideration of alternative development scenarios for the Columbia Basin, some of them involving diversion of the Kootenay, formed the core of the Report.[121]

With this analysis of project alternatives in hand, the two governments next requested the IJC to advise on the principles to be applied in determining the benefits that would result from cooperative development, and the apportionment of those benefits, especially in relation to electrical generation and flood control.[122] The Commission reported, later that same year, that "it approached the problem of formulating principles within the context and intent of the Boundary Waters Treaty of 1909."[123] In its report, the Commission developed a set of general principles, a set of power principles and a set of flood control principles. These principles subsequently informed the actual negotiation of the Columbia Treaty.[124]

In short, the IJC laid the necessary technical groundwork for the detailed negotiations on the CRT that were to follow. This groundwork consisted of both the technical studies related to matters such as alternative dam configurations, hydrology and load growth, but also the economic and political matters concerned with the sharing of benefits.

The only IJC reference in the Columbia Basin relates to a proposed coal mining operation on the Flathead River (see discussion below in Part 2.1.4.2.).

2.1.3.3 The Arbitration Jurisdiction of the IJC

Article X of the BWT accords the IJC an arbitration jurisdiction. The Article allows "any questions or matters of difference" to be referred to the IJC "for decision." A submission under this article requires the consent of both Parties. In the case of the US, a reference to arbitration may only be made "by and with the advice and consent of the Senate."[125] The Parties have never availed themselves of this option under the BWT.[126]

Dalles reservoir will benefit the fish runs greatly." At 59 the Board noted the destructive effects of the Grand Coulee dam. The report does not contain any discussion of the effect of US dam construction on Canadian fisheries. The part of the report dealing with benefits and costs (*id*., at 100) frankly noted that "For the purposes of this report, it was unnecessary to consider the development of water uses other than for power and flood control, and for water requirements for irrigation."

121 *Id*., at 63-108.

122 *Report of the International Joint Commission on Principles for Determining and Apportioning Benefits for Cooperative Use and Storage of Waters and Electrical Interconnection within the Columbia River System*, 29 December 1959, reproduced in *Related Documents supra* note 7, at 39-55.

123 *Id*., at 39.

124 The principles are well discussed in Krutilla *supra* note 3, chapter 4.

125 BWT *supra* note 32, Article X.

126 See Willoughby *supra* note 97, at 34 for a discussion of some of the reasons. Article XVI of the CRT *supra* note 7, accords the IJC an additional arbitral jurisdiction. This is discussed further in Part 2.2.6 of the paper. It also has yet to be used by the Parties.

2.1.3.4 Summary

We have now analyzed the main elements of the BWT and the IJC's jurisdiction. We have noted that the IJC has exercised its compulsory jurisdiction on a number of occasions within the Basin, and we have noted that that jurisdiction continues. We have also seen that the Commission's reference jurisdiction played an essential role in the studies leading up to the CRT.

Before analyzing the provisions of the CRT in similar detail, I consider two examples of the IJC's activities in the Columbia Basin. First, I examine the IJC's decision in the Grand Coulee application as an example of the IJC's compulsory jurisdiction. Given the dramatic effect of Grand Coulee on the Canadian upper Columbia fishery we need to ask whether fisheries values were considered by the IJC, and if so, what was the outcome?[127] Second, I discuss the Flathead Reference to the IJC, partly because it stands in such vivid contrast to the Grand Coulee application, but also because it demonstrates a much broader ecological approach to transboundary development issues than that evidenced by earlier "levels" applications under Article IV of the BWT.

2.1.4 Examples of the IJC's Compulsory and Reference Jurisdiction

2.1.4.1. The Grand Coulee Dam and its Licensing by the International Joint Commission

As noted above, the Grand Coulee Dam required the approval of the IJC because the impoundment behind the dam, subsequently known as the Roosevelt Reservoir, backed up into British Columbia.[128] That said, the US application to the IJC was not filed until September 30, 1940, by which time construction of the dam was well underway. The IJC devoted three days of hearings to the matter at Spokane on February 28, and September 6, 1941, and at Trail BC on September 3, 1941. Both the province and Canada made formal submissions to the IJC at the opening day of the hearing in Spokane.

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[127] Apart from some cryptic references to the issue in Bloomfield and Fitzgerald, *supra*, note 34, at 158, I have been unable to locate any other references in the literature to the IJC's treatment of fisheries issues in the Grand Coulee application.

[128] Although the position seems clear under articles IV and VIII of the BWT, the point was not entirely free from doubt in the minds of advisors to the United States, perhaps because the US had apparently contemplated the construction of a low dam at Grand Coulee that would not have flooded Canadian territory. The point was made by US counsel in introducing the US case before the IJC at Spokane, February 28, 1941, Transcript at 31-32:

> It is pointed out in the application that there may be some reasonable grounds for contending that it is not essential to obtain the approval of the Commission to this project, but we do not desire to stress the point now and merely mention it in passing as a partial explanation of the fact that the application was not made until September 1940.

The transcripts are available at the Canadian section of the IJC. Subsequent references to the transcripts are to the place and date of hearing.

a. The Hearing

Fisheries issues were not uppermost in anybody's minds.[129] Most of the hearing was taken up with a consideration of technical issues related to dam construction and the projected reservoir levels. The most significant issue for Canada as the upstream state, was a concern that the backwater of the Coulee reservoir would have a detrimental impact upon the operation of the yet-to-be-constructed dam at Waneta on the Pend d'Oreille.[130] This concern was taken care of by the terms and conditions of the Order of Approval.[131] Clearly, judging by the extraordinarily saccharine response from Mr. Stanley, the chair of the US section of the Commission, Canada's concerns were not of great moment in plans to push ahead with construction:

> .... this Commission will be most solicitous to ascertain to what extent, if any, the operation of this dam has inflicted any loss of any kind upon any of the nationals of Canada before entering a formal Order approving the operation of the dam at Grand Coulee. In addition may I say that all problems arising out of the vast interests affected by ... [this project which] .... change the levels of the water in our dear sister state to the north of the border, can be adjusted in this delightful and amicable way when each side is willing to give and take; never has there been an expression of resentment or suspicion or acrimonious argument. Therefore to me it is unspeakably sad that today there is no other place on the face of the earth where two great nations can meet and solve involved questions in this graceful way.[132]

Fisheries issues were not raised at all by either federal or provincial government representatives at the hearings. It was left to private citizens to question the effect of the dam on anadromous fisheries. Mr. W.J.E. Biker of Trail took the lead. His submissions, both orally at the Trail hearing, and subsequently by way of letter to the Canadian Chair of the IJC, led to more

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129 This observation is based upon a review of the IJC transcripts.

130 At 137 of the Grand Coulee, Spokane transcript February 28, 1941, Wershof for Canada, after noting that "as might be expected, the Canadian Government is anxious to do anything in its power to expedite the conclusion of the hearing", indicated that the primary interests affected would be the Province, and the Cominco and WKP power interests on the Pend d'Oreille. A right to claim compensation was expressly reserved in rather more general terms:

> ... if it appear to the Commission that some damage or financial loss may be suffered by a Canadian interest, either a private corporation or an individual, or the Government of British Columbia, or all three, then we will at the proper time submit to the Commission that provision should be made in the order approving the United States Government's application pursuant to [Article VIII] ...

The position of British Columbia was similar: see the Spokane Transcript, February 28, 1941, at 140-141.

131 See discussion *infra* text to notes 143 to 147.

132 Grand Coulee, Spokane Transcript, February 28, 1941 at 141.

formal consideration of the matter by the Canadian government. Mr. Biker's submissions were subsequently echoed by the Nelson Board of Trade.

Mr. Biker began his remarks at the Trail hearing by stating that his concern was not with the Kootenay River to which escapement was precluded by natural falls, but with "probably sixty percent of the watershed above the dam".[133] It appears from the transcript as if Senator Stanley, the Chair of the US section of the IJC, misread the import of Mr. Biker's remarks for Stanley responded by referring to steps that were being taken to protect "game" fish rather than commercial fish.[134] "We are" said Colonel Banks, a representative of the US government,"taking care of the game fishermen. We all like to fish down in our country as well as you folks do up here."[135] Biker's subsequent letter to Stewart was much more revealing.[136] It's all very well, wrote Biker, to have such a sympathetic hearing and expressions of gratitude from all and sundry, but we should be aware that much was at stake here, creating as we were a "continuing condition for all time to come, we need something more substantial than courtesy and promises....".[137]

In the balance of his letter, Mr. Biker made four important points. First, he argued that US fishery enhancement investments should pay equal regard to the portion of the basin above the dam as was being paid to enhancing runs downstream of Grand Coulee. Second, he noted that the results of Grand Coulee were already being appreciated upstream. The construction of the coffer dam at Grand Coulee had obstructed upstream escapement for three years. Imminent disaster loomed. This led to Biker's third point, which was that it was a little late in the day to be considering these matters when the dam was half-constructed. In effect, the US had unilaterally made the decision to deprive Canada of "our Salmon". Finally, noting that both steelhead and chinook were taken in the upper Columbia, Biker rejected Colonel Banks' characterization of the issue as one of commercial versus game fish..[138]

Fisheries issues returned to the agenda for the second set of hearings held at Spokane on September 6, 1941 when Mr. Burpee, the secretary to the Canadian section of the IJC, tabled a letter and resolution from the Nelson Board of Trade. The Board of Trade had noted with interest the submissions of Mr. Biker and asked that the Commission investigate further and "write into its Order of Approval sufficient safeguards to protect the interests of British Columbia in this respect."[139] Tabling of the resolution occasioned an exchange between Senator Stanley and Colonel Banks. That exchange revealed that while fish ladders had been required by the IJC in

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133 Grand Coulee, Trail Transcript, September 3, 1941, at 40.

134 *Id.*, at 41.

135 *Id.*, at 42.

136 Biker to Stewart, September 27, 1941; IJC Canadian Section, Grand Coulee File.

137 *Id.*

138 *Id.*

139 Grand Coulee, Spokane Transcript, September 6, 1941 at 32-38.

another case dealing with the St. Johns River, they would not be a success at Grand Coulee. Instead, Colonel Banks indicated that the authorities had "undertaken the problem of changing the homing instinct of the salmon - to reeducate them to up (sic) those smaller streams in place of coming up the Columbia River."[140]

The files of the IJC's Canadian section clearly indicate that Mr. Biker had done enough to raise concerns in the minds of the Canadian Commissioners, but that he had little effect at the end of the day. Perhaps things had simply gone too far already; perhaps the war time demand for power made it unrealistic for Canada to take a strong line for the sake of what were portrayed to be a few fish;[141] perhaps the Canadian Commissioners accepted that there was nothing that could be done. Certainly, nobody suggested that approval could or should be withheld on fisheries grounds. No doubt it was too late for that anyway. But neither was there any suggestion that Canada was entitled to an indemnity for any losses suffered to fishery interests as a result of the dam, in addition to an indemnity for losses that might be incurred by power interests in Canada.

Following receipt of Mr. Biker's letter, Messrs Stewart and Perrault (Canadian Commissioners) met with Mr. J.A. Rodd of the federal Department of Fisheries. Rodd informed them, and the Canadian Commissioners subsequently informed a meeting of the entire Commission, that he, Rodd, "agreed that a fish ladder in the Grand Coulee Dam was impracticable, and that in his opinion land-locked salmon could not be successfully developed in the upper waters of the Columbia."[142]

That concluded the issue for the Canadian commissioners. At a subsequent meeting of the Commission in New York in December 1941, discussion turned to ensuring the Commission's continuing jurisdiction over water levels, provision for an equitable distribution of hatchery releases throughout the reservoir, and the question of whether or not the Commission could require Washington State authorities to provide fish releases north of the border. The Commissioners settled the form of the Order at that meeting.

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140 *Id.*, at 36.

141 Banks at the Spokane hearing September 6, 1941, *id*., at 36 said that "Our figures indicate that only about 4 percent of the salmon that got by Bonneville ever got to Coulee, anyhow."

142 Minutes of the IJC semi-annual meeting, House of Commons, Ottawa, October 7, 1941 at 2. IJC Canadian Section Files. Mr. Biker's letter was read at this meeting. This position was not Mr. Rodd's only contribution to the demise of Canadian Columbia salmon. In 1943, when the US first raised the possibility of a Columbia Reference with Canada, Mr. Rodd at an internal meeting at which the possible terms of reference were being discussed remarked: "anadromous fish in the Columbia River Watershed were of no commercial value to Canada and that the Dominion Department of Fisheries had withdrawn from the area." *Canadian Documents on External Affairs supra* note 118, at 1607.

b. The Text of the Order[143]

The Order of Approval contains both recitals and operative provisions. The recitals confirm the Commission's understanding of the evidence that it received, and the assurances provided by American authorities. Three of the recitals dealt with fisheries issues. The first indicated that private citizens, and the Province, had urged the IJC "to safeguard Canadian interests in sport fisheries on the Columbia River". In the second and third recitals, the IJC referred to the fact that a game fish hatchery was being constructed in Washington for the purpose of stocking the reservoir, and noted that the "competent State authorities have given assurance satisfactory to the Commission that young fish from the aforesaid hatchery will be distributed throughout the reservoir from the dam to the international boundary...".[144]

The operative part of the Order approved the application subject to five conditions, all of which are potentially relevant. First, the IJC stipulated an indemnity to meet the requirements of Article VIII of the BWT:

> 1. That the Applicant make suitable and adequate provision, to the satisfaction of the Commission, for the protection and indemnification of all interests in British Columbia by reason of damage resulting from the construction and operation of the Grand Coulee dam and reservoir.

The IJC drafted the clause in exceptionally broad terms which mirror the language of the BWT.[145]

The second section of the Order reserved the IJC's jurisdiction to issue such further orders as might be appropriate to deal with: (1) the "effects on the natural levels or stages" as might result from the dam and reservoir; and (2) damages actually sustained in Canada "on account of the raising of the natural levels of the Columbia River at and above the international boundary" upon receipt of an applications from an aggrieved party.[146]

The third section of the Order dealt with Cominco's concerns for its Waneta project. The section stipulates that in the event that the Grand Coulee reservoir causes a backwater effect that limits power output at an upstream facility on the Pend d'Oreille, the IJC shall, upon application,

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143 *In the Matter of the Application of the Government of the United States for the Approval of the Construction and Operation of the Grand Coulee Dam and Reservoir*, Order of Approval, December 15, 1941. Text available from the offices of the International Joint Commission.

144 *Id*., at 5 and 6.

145 BWT Article VIII *supra* note 32. See the comment on the term "interests" *supra* note 111. There is no indication in the open files of the Canadian section of the IJC that the indemnity clause has ever been used.

146 Order of Approval *supra* note 143, cl. 2 at 7. Once again, the public file in the IJC Canadian section suggests that no such applications have ever been made.

determine the net effects of the dam and make an appropriate indemnifying order.[147] The fourth section, the "fisheries" clause, provides in its entirety as follows:

> 4. That in stocking the Grand Coulee reservoir with game fish the Commission considers it advisable that the United States Government or the State of Washington take appropriate steps as to secure an equitable distribution thereof throughout the reservoir.

The final condition provided for the appointment of an International Columbia River Board of Control to monitor compliance with the Order of Approval.

c. Analysis

One may draw several conclusions from the IJC's consideration of Grand Coulee. First, the US government took the IJC's approval of its application for granted. Why else did it delay its application until dam construction was well underway? Second, the applicant made no attempt to draw the Commission's attention to fisheries issues, and, once raised, downplayed their significance. Third, neither level of Canadian government raised concerns about the loss of the salmon fishery. Fourth, the IJC itself ignored the salmon issue. Fifth, the drafting in the fisheries clause is the weakest of the five IJC conditions of approval. Unlike the other conditions, the IJC framed this clause in hortatory rather than imperative terms. That said, it may be possible to bring fisheries issues within the ambit of the first and second conditions,[148] subject of course to arguments that it is far too late to raise these concerns now, and textual arguments to the effect that fisheries damages are not damages suffered "on account of the raising of the natural levels of the Columbia River at and above the international boundary." [149]

d. The Continuing Jurisdiction of the IJC

The terms of the Order make it clear that the IJC has endeavoured to maintain a continuing jurisdiction over the Grand Coulee Dam. The extent of that jurisdiction is no doubt open to argument. In the last couple of decades, the IJC has revisited some of its earlier orders

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147 The Canadian section IJC file contains a letter dated 7 March 1953 from General McNaughton to Mr. Burbridge in the Legal Division at External Affairs seeking advice as to how to ensure that the running of time did not affect any Canadian entitlement to an indemnification for losses suffered in the operation of Waneta which was then under construction. No response is recorded.

148 For example, could a First Nation argue that its historic salmon fishery had been destroyed by Grand Coulee and that this was "an interest" that had suffered damage by the construction and operation of the dam, all within the meaning of Article VIII of the BWT *supra* note 32, and s.1 of the Order of Approval *supra* note 143?

149 The quotation is from s.2 of the Order of Approval, *id.*

on a number of occasions. Probably the best known of these cases is that of the Ross Dam on the Skagit River.[150]

2.1.4.2. The Flathead River Basin Reference

In 1984 the two governments submitted a reference to the IJC on a proposed coal mine on Cabin Creek, a tributary of the Flathead, in British Columbia.[151] In its Report, the IJC placed great weight upon fisheries values. I discuss the reference here as a useful counterpoint to the IJC's dismissal of far more important fisheries issues in the Grand Coulee decision nearly half a century earlier.

a. The Reference

Sage Creek Coal Limited proposed a conventional coal mine with a projected 41 year life. The BC Government granted the mine approval in principle in 1984, but the mine awaited full permitting and licensing from the relevant government departments. Meanwhile, the United States and Montana Governments expressed serious concerns about the possible effects of the mine on the Flathead River system, Glacier National Park and Flathead Lake in Montana. Accordingly, the United States and Canadian governments agreed to a reference to the International Joint Commission.

Absent a Reference, the IJC had no jurisdiction over the project notwithstanding the injunction contained in the proviso to Article IV not to pollute waters flowing across the boundary "to the injury of health or property" on the other side of the border. Unlike the first part of Article IV considered earlier in this paper,[152] the second part of Article IV does not accord any jurisdiction to the Commission, it merely establishes a substantive rule. The rule may be applied by the Commission as part of a reference or a levels application, and it certainly binds the Parties as a matter of international law, but it does not require a person who proposes to pollute, to obtain the prior approval of the IJC.

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150 For background on the Skagit case see Bloomfield and Fitzgerald *supra* note 34, at 159, IJC Docket No. 46 For discussion of the Skagit case see Parker *supra* note 81. This is not the place to resolve a question as to the scope of the IJC's continuing jurisdiction, suffice it to make one point. One can and should draw a distinction between a request that the Committee interpret and apply the terms of an Order of Approval on a continuing basis and a request that the Commission, for example, revisit an existing apportionment of boundary waters. The second type of request may interfere with vested rights. The first type of request does not; it merely asks the Commission to apply its order to a changed set of circumstances and to apply the very jurisdiction that it reserved. For a brief discussion of the first type of request see Willoughby *supra* note 97, at 28-29 dealing with the apportionment order for the St. Mary and Milk Rivers.

151 International Joint Commission, *Impacts of a Proposed Coal Mine in the Flathead River Basin*, hereafter *Flathead Impacts*, December 1988. Background is provided in Wilson, "Cabin Creek and International Law" (1984), 5 Public Land L. Rev. 110 and Sax and Keiter, "Glacier National Park and Its Neighbors: A Study of Federal Interagency Relations" (1987), 14 Ecology L. Q. 207 at 237-240.

152 *Supra* text to notes 109-113.

b. The IJC's Report

The two governments framed the reference broadly[153] and the IJC responded by establishing the Flathead River International Study Board (FRISB). The IJC asked the FRISB to undertake a technical assessment to guide the IJC's deliberations. The Board established a number of technical committees and provided the Commission, after three years work, with six committee reports and two reports of its own.

The IJC acknowledged that even after all this study there remained continuing uncertainties, not least because of a poor understanding of groundwater flows in the area and because the proposed mine was being compared with operations in the neighbouring Elk Valley. Those uncertainties aside, the relevant section of the IJC's report indicates that the proposed mine was not anticipated to be a major polluter.

> [The IJC noted that the FRISB had reached consensus on the following matters]... certain water quality measures would not be affected at and below the boundary under either [an optimal or an adverse] scenario, that total dissolved solids and acidity would not change so as to affect any uses south of the boundary, that there would be no significant changes in dissolved oxygen and temperature levels at the boundary and that, even under the adverse case, the mine would not contribute measurably to eutrophication of Flathead Lake (one of the important initial concerns). On the other hand, various Committee reports state that there would be marked increases in total suspended solid (sediments), nontoxic nitrogen compounds and to a lesser degree phosphorous reaching the international boundary. While the Board itself appears to diminish the significance of these levels they do represent increases above the levels considered in the United States to be acceptable for the uses concerned.[154]

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153 The text of the Reference is reproduced in *Flathead Impacts supra* note 151, at 15-16. The Governments asked the IJC to "make recommendations which would assist Governments in ensuring that the provisions of Article IV of the said treaty are honoured." The Reference went on to ask the Commission to examine and report upon:

1. The present state of water quality and quantity at the border (including fluctuations) and the current water uses (including water dependent uses such as recreation) in the Flathead River Basin;

2. The nature, location and significance of fisheries currently dependent on the waters of the Flathead River and its tributaries, Howell and Cabin Creeks;

3. The effects on present water quality and quantity at the border and consequent effects on current water uses such as recreation) which would result from the construction, operation and post-mine reclamation of the proposed Cabin Creek Coal Mine; and

4. Such other matters as the Commission may deem appropriate and relevant to water quality and quantity at the border (including downstream effects in the United States) as occasioned by the proposed ... Mine.

154 *Id.*, at 6.

The last comment is important because it is clear that the IJC thought it was essential to consider the special status of the lands and waters to the south of the border. The IJC pointed out that the North Fork of the Flathead forms the western boundary of Glacier National Park. The North Fork is protected under a federal Wild and Scenic Rivers classification, while Glacier park is valued as an important wilderness recreation and natural heritage area with status under UNESCO's International Biosphere Reserve project, and nomination as a World Heritage Site.[155]

In the end, the IJC recognized the tremendous importance of fisheries, concluding that "a significant loss of fish population will occur" as a result of nitrogen toxicity, reversed ground water flow, increased sedimentation, temperature change, flow modification, degradation of habitat, dissolved oxygen reductions, increased dissolved solids etc. Direct harm would occur within Canada, but harm would also result in the United States, because habitat loss in Canada:

> ... would be such as to cause a reduction in the quantity and quality of the sport fishing activity in the United States and create a negative impact on the associated economic infrastructure since the affected populations migrate for much of their adult lives to United States waters.[156]

The indirect nature of the impact did not cause it to fall outside the ambit of the BWT. The IJC concluded that "Article IV does not require that the pollution itself cross the boundary, but rather that water which crosses the boundary shall not be polluted in one country to the injury of property on the other side."[157] Thus, pollution in Canada that would cause "these consequences to the fishery" would "clearly constitute a breach of Article IV."[158] The Commission stated that it did not base this conclusion upon the dollar losses that might be sustained (although the Commission noted that there would be losses[159]) but on the damage "to the integrity of the fishery itself":

> While the fishery is in the public domain, that fact does not render it any less a property. A reduction of the fish population to the extent and of the duration involved here would undoubtedly be an injury of most serious consequence to the integrity of the fishery itself, and thus to that property interest in the public domain on the other side of the border.

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155 *Id.*, at 6.

156 *Id.*, at 8.

157 *Id.*, at 8.

158 *Id.*, at 9.

159 The Summary of the Board Report (reproduced *id.*) noted that the annual economic loss resulting from elimination of the bull trout fishery dependent upon Howell and Cabin Creek for spawning would be between $300,000 and $800,000. The Board went on to note that "losses associated with non-user values" had not been quantified but that they "could increase the losses currently projected." (*Id.*, at 25).

> It should be noted that there are far-reaching implications of this Article IV principle as applied to an important migratory fishery that moves in both directions to spend part of its life cycle in each country. In such cases there is a mutual obligation to protect that fishery by a range of management practices in both countries which will ensure that the provisions of the Treaty will be jointly honoured.[160]

This conclusion led the IJC to articulate a far-reaching principle which it proceeded to apply to the facts of this case. If a proposed development project, "has been shown to create an identified risk of a transboundary impact *in contravention of article IV*, existence of that risk should be sufficient to prevent the development from proceeding. This principle should apply, even though the risk cannot be measured with certainty, unless and until it is agreed that such an impact - or the risk of it occurring - is acceptable to both parties."[161] Given the risks identified earlier in the report, the sensitivity of downstream uses and the damage to the fishery that would occur, the IJC concluded that the facts of this case fell within the principle as articulated. Therefore the Commission recommended that:

> (1) the mine proposal not be approved unless and until the potential impacts were determined with a reasonable level of certainty and with an acceptable level of risk to both parties, and the fish impacts could either be avoided or fully mitigated in an effective and assured manner; and,
>
> (2) the Governments consider opportunities for implementing compatible, equitable and sustainable development in the upper Flathead Basin.[162]

In articulating and applying the “risk averse” or precautionary principle in this case, the IJC was fully cognizant of the fact that one result might be that one country, by adopting uses with particularly stringent environmental requirements in a border area, "could preclude the otherwise legitimate development opportunities in the other."[163] This potential result did not cause the Commission to resile from its conclusions. Instead, the IJC proposed a "bilateral process for identifying and assisting in creative, alternative-development opportunities that are both sustainable and consistent with maintaining the aforementioned environmental requirements pertinent to Article IV while paying due regard to the legitimate goals of the other country."[164]

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160 *Id.*, at 9.

161 *id.,* at 9, emphasis supplied. This is not the place to analyze in detail the principle articulated by the Commission. It is clearly a broad reading of Article IV and one that is fully consistent with a precautionary approach to project approval.

162 *Id*., at 11.

163 *Id*., at 9.

164 *Id*.

c. Conclusions

What can we learn from the Flathead reference? First, the reference amply illustrates the sensitivity of the IJC of the 1980s to environmental concerns. Second, the reference suggests that while neither state can dictate the terms of development in the other, each must be sensitive to the legitimate goals of the other. Third, the IJC assessment was thorough. The Board and the IJC considered all impacts, whatever their location, and on whichever side of the border they happened to fall. This contrasts with domestic assessment processes which rarely succeed in coming to grips with transboundary impacts in a meaningful and non-discriminatory way.[165] Fourth, the Commission articulates an important principle pertaining to shared fish resources. It may be too late to apply the principle to upper Columbia salmon, but, as noted above, there are several important shared stocks that continue to be harmed by power generation on the Columbia system.

There are obvious differences between the IJC's Grand Coulee decision and its decision on the Flathead reference. In the Grand Coulee decision, important fisheries values were completely ignored. In the Flathead decision, the IJC shows itself as extraordinarily sensitive to fisheries values. We can explain many of these differences simply by the passage of time and changing values. To that extent we should celebrate the fact that the BWT has proven flexible enough to accommodate these changing values.[166] We may explain other differences in light of the source of the IJC's jurisdiction. By their nature, Article IV applications encourage a narrow focus, but current practice, as evidenced by the IJC's reconsideration of the Ross Dam and Skagit River matter suggests that the IJC will reject a narrow approach even on an Article IV matter. In any event, Governments tend to draw reference terms with a broad brush, and the Commission now paints with an equally broad brush.

Finally, we began this section with the observation that the CRT has not completely overridden the BWT in the Columbia basin. The IJC still has a role to play. It has a continuing jurisdiction over Kootenay Lake, Lake Roosevelt, Osoyoos Lake and the Waneta project. In addition, it is open to the Governments, at any time, to invite the IJC to conduct a broad ranging assessment of the Columbia basin. The Governments asked the IJC to conduct that type of assessment in 1944. At the time, the Commission all but ignored fish and recreation values. If there is the political will, the two Governments could ask the Commission to rectify its omissions.

We are now in a position to consider the Columbia River Treaty.

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[165] Three examples for the Columbia basin help make the point. In the case of the Keenleyside power generation proposal, American interests felt excluded from the process and felt that downstream impacts in the US in Roosevelt Lake were not being taken seriously; see *Keenleyside Response Document supra* note 15. Similarly, in the case of the Columbia River System SOR, the lead agencies have, by and large, (not completely, see for example at 4-35) ignored impacts within Canada and treated dam operations in Canada as givens; *supra* note 2 at 1-7. Finally, it is clear that the EIS on the return of the Canadian entitlement provides only a partial assessment of the alternatives: see *infra* note 349.

[166] See Sadler *supra* note 116.

2.2 The Columbia River Treaty

2.2.1 Context

In December 1959, the IJC transmitted its *Report on Principles for Determining and Apportioning Benefits from Cooperative Use of Storage of Waters and Electrical Interconnection within the Columbia System* to the two Governments.[167] The two Governments then commenced an intensive period of negotiations, and the CRT was signed by representatives of the two governments in January 1961.[168] However, ongoing differences between Canada and British Columbia, well chronicled in Professor Swainson's book, *Conflict Over the Columbia*,[169] precluded early ratification. The Province, which under Canadian constitutional law owned the development rights to the Columbia, refused to countenance the deal unless it received some assurances. First, it wanted the assurance of a binding agreement to sell its share of the downstream power benefits in the United States at a price which it found acceptable. Second, the Province wanted to be sure that the two federal governments would approve the sale, effective upon ratification of the Treaty.[170] Third, the Province also wanted to clarify some of the terms of Treaty.

Three years later, the Province achieved its goals through a series of supplementary agreements.[171] At the international level, the United States and Canada negotiated a Protocol to the CRT which they approved by an Exchange of Notes[172] effective upon ratification of the Treaty by both parties. The US ratified the CRT on March 23, 1961; Canada ratified September 16, 1964 and the instruments of ratification were exchanged that same day.[173] At that same time, the two Governments also approved, by a separate Exchange of Notes,[174] the terms of the

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167 *Supra* note 122.

168 *Supra*, note 7. For discussion, see, in addition to Swainson *supra* note 8, R.W. Johnson, "The Columbia Basin" in A.H. Garretson et al, 1967 at pp. 167-254; Sewell, "The Columbia River Treaty and Protocol Agreement" (1964), 4 Nat. Res. Jnl 309.

169 *Supra* note 8.

170 The province wanted to use its share of the benefits to allow it to proceed simultaneously with the development of the Columbia treaty dams and dams on the Peace River. BC needed a sale, and federal approval of the export, because the province could not absorb the power from both projects: Krutilla *supra* note 3, at 153-156.

171 Some of the background is discussed in Blumm, “The Northwest’s Hydroelectric Heritage: Prologue to the Pacific Northwest Electric Power Planning and Conservation Act” (1982), 58 Wash. L. Rev. 175 at 214-219.

172 *CRT Documents supra* note 7, at 20-29.

173 *Id*., at 41, 57 & 38-39.

174 The terms of approval are contained in a further exchange of notes between the two Parties dated September 16, 1964 and reproduced at *id*., 30-35. Governmental approval was required by CRT Article VIII as modified by the Protocol, s.3.

Canadian Entitlement Purchase Agreement.[175] By that Agreement (CEPA), the province sold its share of the downstream power benefits (DPBs) that accrued to BC under the terms of the Treaty and Protocol.

At the domestic level BC negotiated two agreements with Canada. These two agreements allocate responsibility for the liabilities and benefits flowing from the CRT.[176]

At the commercial level, BC, through BCH, negotiated the sale of the DPBs by the CEPA to an entity known as the Columbia Storage Power Exchange (CSPE), a nonprofit corporation representing a group of 41 Pacific Northwest utilities in the US. The sale was for a thirty year term measured from the specified in-service date for each of the three Canadian Treaty dams. Hence, the sale terminates in blocks in 1998, 1999 and 2003.

The actual energy that is the subject of the sale is generated at six US federal dams (Bonneville, The Dalles, John Day, McNary, Chief Joseph and Grand Coulee) and five non-federal projects (Wells, Rocky Reach, Rock Island, Wanapum and Priest Rapids) located downstream of the storage facilities constructed by Canada under the terms of the CRT. To give effect to this arrangement with BCH, the US utilities needed to negotiate additional agreements to coordinate their activities to provide for optimal use of the Canadian storage, and to allocate the attribution of the DPBs to the mainstem dams. To meet the first objective, the Army Corps of Engineers, the Bureau of Reclamation, BPA and 15 public and private utilities that own and operate dams on the Columbia River system, negotiated the Pacific Northwest Coordination Agreement (PNCA).[177] To meet the second objective, each of the owners of the five non-federal dams entered into a Canadian Entitlement Allocation Agreement (CEAA).[178] The owners of the dams must deliver the DPB to BPA, which in turn delivers the power to the 41 members of the CSPE. Both the CEAAs and the PNCA expire in 2003 upon the expiry of the final stage of the CEPA.[179] For present purposes, the real relevance of this background information is that it demonstrates the extent to which power was the focus of the CRT negotiations.

The remaining analysis of the CRT is divided into four sections. First, I provide an interpretive framework for the CRT. Second, I describe the rights and obligations of Canada and the United States. In the third section I analyze the role of the Permanent Engineering Board (PEB) and the possibility of using Treaty storage and non-Treaty storage to provide fish flows. Article XV of the CRT establishes the PEB and the Parties delegated ongoing supervision of

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175 CEPA *id*., at 63-69.

176 Canada-BC Agreement, July 8, 1963, *id*., at 49-53; Canada-BC Agreement, January 13, 1964, *id*., at 54-55.

177 *SOR Main Report supra* note 3, at 1-3: Agreement for the Coordination of Operations among Power Systems of the Pacific Northwest, September 1964, as am.: BPA Contract No. 14-08-48221, available from BPA.

178 *Id*., at 1-4.

179 In November 1995, the Army Corps, BPA and the Bureau of Reclamation issued a Final Environmental Impact Statement on the Columbia System Operation Review. The need for the SOR was triggered in part by the expiration of the three agreements outlined above. The review is required by NEPA. *Id*., at 1-1.

Treaty implementation to the PEB. Each Party also designated an "Entity" to formulate and carry out the operating arrangements necessary to implement the CRT.[180] Canada designated BCH[181] and the United States designated the Administrator of BPA and the Division Engineer, North Pacific Division, Corps of Engineers Department of the Army, as the US Entity.[182] The final section of this part of the paper deals with the duration of the CRT, and dispute resolution.

2.2.2 Interpretive Framework

In the following sections of the paper I argue that the overriding purpose of the CRT is to foster the co-operative and co-ordinated development of the Columbia River for two purposes, power and flood control. The CRT does not *oblige* Canada to manage treaty storage in order to satisfy other values and purposes.

This is contentious ground, especially in some quarters in the United States, and therefore this section begins with a framework for interpreting the CRT. I consider three questions. First, what are the general rules for treaty interpretation and what, is the "context" within which we must interpret the CRT? Second, what supplementary aids to interpretation are available for the CRT? Third, should the treaty be interpreted in light of the legal and other circumstances prevailing at the time the treaty was negotiated, or, at the time that the treaty falls to be interpreted; in other words, what account can we take of the changing legal climate over the last 30 years in our interpretation of the CRT?

The starting point for any analysis of treaty interpretation is the Vienna Convention on the Law of Treaties (VCT)[183] articles 31-33.[184] The Convention was adopted by a diplomatic conference on the basis of a set of articles developed over a number of years by the International Law Commission (the ILC).[185] Article 31 of the VCT specifies the general rule of interpretation and Article 32 indicates the circumstances in which one may resort to supplementary means of

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180 CRT, *supra* note 7, Article XIV.

181 P.C. 1964-1407, September 4, 1964, reproduced in *CRT Documents*, *supra* note 7 at 60.

182 *Id*., at 44.

183 Vienna, May 28 1969, 1155 UNTS 332 reproduced in Ian Brownlie (ed), *Basic Documents in International Law*, 2d ed, 1972, at 233 and for commentary see I. Sinclair, *The Vienna Convention on the Law of Treaties* (2d. ed, 1984), especially c.5.

184 Article 4 of the VCT, *id*., indicates that the Convention only applies to treaties concluded after the VCT enters into force. Hence, the VCT does not apply on its terms to the Columbia Treaty. Nevertheless, the commentators agree that much of the VCT, and in particular the rules of interpretation, represents a general expression of the rules of customary law, binding as such on both Canada and the United States: Sinclair, *id*., at 153. For the same reason it is not significant that Canada has ratified the VCT, but the US has not.

185 The Draft Articles of the ILC together with the ILC's commentary are reproduced in the Yearbook of the International Law Commission, 1966, Volume II, at 169 *et seq.* (hereafter ILC Commentary).

interpretation, including the preparatory work leading up to the treaty, generally referred to as the *travaux préparatoires*.[186]

2.2.2.1 The General Rule[187]

The general rule is that a treaty is to be interpreted in good faith, in accordance with its ordinary meaning. Terms in the treaty are to be interpreted in their context, and in light of the object and purpose of the treaty. The role of the object and purpose of the treaty is dealt with below.

The *context* of the treaty[188] is a defined term and includes not only the full text of the treaty including annexes and the preamble, but also any agreements relating to the treaty made by all the parties "in connexion with the conclusion of the treaty" and, any instrument made by one of the parties "and accepted by the other parties as an instrument related to the treaty." In addition to context, Article 31(3) instructs the interpreter to take account of any subsequent agreement between the parties on the application or interpretation of the Treaty, as well as any subsequent practice "which establishes the agreement of the parties regarding its interpretation." Terms shall be given a special meaning if it is established that the parties so intended.[189]

It bears emphasizing that an interpreter should, at all times, have regard to all of the above materials in order to establish the true meaning of the Treaty. A yet broader range of materials may be considered in the event of ambiguity, obscurity or absurdity.[190]

What then is the context for the Columbia River Treaty? The interpretive context must include, in addition to the Treaty, the two Annexes, the preamble and the Protocol, and the Protocol's accompanying "attachment relating to terms of sale" of the Canadian downstream entitlement. The "attachment" is an attachment to a diplomatic Exchange of Notes. It specifies

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186 Article 33 of the VCT *supra* note 183, deals with the subject of treaties that are authenticated in two or more languages; the only authoritative version of the CRT is the English text: CRT *supra* note 7, Article XXI.

187 VCT, Article 31(1), *id:*

> A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.

188 VCT, *id*., Article 31(2):

> The context for the purpose of the interpretation of a treaty shall comprise, in addition to the text, including its preamble and annexes:
>
> (a) any agreement relating to the treaty which was made between all the parties in connexion with the conclusion of the treaty;
>
> (b) any instrument which was made by one or more parties in connexion with the conclusion of the treaty and accepted by the other parties as an instrument related to the treaty.

189 VCT, *id*., Article 31(4).

190 VCT, *id*., Article 32, discussed *infra*.

the basic elements of the terms of the sale that was to occur between the Canadian operating entity BCH and the Columbia Storage Power Exchange.[191] Finally, there was an additional Exchange of Notes approving the terms of sale at the time of ratification.[192] All of these constitute agreements between the parties "made in connexion with the conclusion of the treaty".

In addition, the context might also include the two agreements between the Province of British Columbia and Canada,[193] and perhaps the actual terms of sale between BCH and the CSPE, (the Canadian Entitlement Purchase Agreement).[194] I express some doubts about this latter agreement solely because Article 31(2)(b) of the Vienna Convention speaks of agreements "by one or more of the parties." Clearly, neither "party" to the CRT was a party to the sale agreement, but the "Entity" of one of the parties was.[195] While the point may not be significant here since the "Attachment" clearly forms part of the context, and there is much overlap between the two documents, the point assumes much greater significance in relation to Article 31(3) of the VCT which directs the interpreter to the relevance of any "subsequent agreement between the parties" as well as the subsequent practice of the parties. Can one have regard under this heading to agreements between, and subsequent practice of, the "Entities". This is surely an important point for the Entities have entered into a multiplicity of agreements over the decades.

The argument in favour of including the subsequent practice of, and agreements between, the Entities as part of the interpretive matrix for the CRT is based upon the language of Article XIV of the CRT and the status of the designated Entities. The CRT itself[196] indicates that the Entities are "empowered and charged with the duty to formulate and carry out the arrangement necessary *to implement* the Treaty" (emphasis supplied); they are, the Entities *of* the Parties, and in practice, their agents in relation to treaty implementation. In each case, the Entities are governmental entities. Thus it seems tolerably clear that all of the agreements relating to both the realization of the benefits of the Canadian storage, and the disposition of the DPB, form part of the context of the CRT, even though the Entities may have been the chosen instruments for effecting these arrangements.

The argument against including agreements between, and the practice of, the Entities is that the text of the CRT does differentiate between the actions of the Parties and the actions of the Entities. For example, Article VIII indicates that any sale of the DPB must be authorized by

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191 Attachment to the Terms of Sale, attached to an exchange of diplomatic notes dated January 22, 1964 and reproduced in *CRT Documents supra* note 7, at pp. 24-28.

192 September 16, 1964 *supra* note 174 and *id*., at 30-35.

193 *Supra* note 176.

194 *Supra* note 175.

195 In relation to the CEPA the point is surely clinched by para. 14 of the Exchange of Notes approving the disposition, *supra* note 174. This Exchange of Notes provides that a dispute under the CEPA is deemed to be a difference under the CRT and "the parties to the [CEPA] may avail themselves of the jurisdiction hereby conferred."

196 CRT *supra* note 7, XIV(1).

an Exchange of Notes between the parties, while para. 2 of the same article authorizes the Entities to arrange and carry out exchanges of capacity and energy.

On balance I incline to the view that *at least for the purposes of the VCT,* the practice of the Entities pursuant to the CRT and any agreements that they may negotiate for the implementation of the Treaty are all part of the interpretive matrix under Article 31, either as context under para. 2 or as subsequent practice or agreements under para. 3. Analysis of all of these agreements is beyond the scope of the present paper. However, analysis of those specific agreements mentioned above confirms that the CRT was concerned exclusively with flood control and power values. It did not deal with a broader range of values.

2.2.2.2 Object and Purpose

The ordinary meaning of the treaty terms in their context must be established in light of the object and purpose of the treaty.[197] The phrase "in light of" used in Article 31 of the VCT has led commentators to note that the search for an object or purpose of the treaty is a "secondary or ancillary process .... (t)he initial search is for the 'ordinary meaning' to be given to the terms of the treaty in their 'context'".[198] The object and purpose of a treaty are likely to be elucidated in the preamble.[199] The point was put this way by Fitzmaurice:

> Although the object of a treaty may be gathered from its operative clauses taken as a whole, the preamble is the normal place in which to embody, and the natural place in which to look for, an express or explicit general statement of the treaty's objects and purposes. Where these are stated in the preamble, the latter will, to that extent, govern the whole treaty.[200]

What then is the "object and purpose" of the Columbia River Treaty?

The full title of the CRT is the Treaty between Canada and the United States of America relating to Cooperative Development of the Water Resources of the Columbia River Basin. The long title is significant. It emphasizes both the principle of cooperative development and the fact that the CRT's ambit is the entire basin of the Columbia rather than just the mainstem. The principle of cooperative development is further emphasized by the third and fourth preambular paragraphs of the CRT.

> Being desirous of achieving the development of those resources [the water resources of the Columbia River basin] in manner that will make the largest

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197 VCT *supra* note 183, Article 31.

198 Sinclair *supra* note 183, at 130.

199 *Id*., at 128 and 130.

200 (1957), 33 BYIL 226 and quoted in Sinclair *id*., at 128.

> contribution to the economic progress of both countries and to the welfare of their peoples of which those resources are capable, and
>
> Recognizing that the greatest benefit to each country can be secured by cooperative measures for hydroelectric power generation and flood control, which will make possible other benefits as well ...

These preambular paragraphs also emphasize that co-operation is confined to the subjects of power generation and flood control. We can attach little significance to the reference to "other benefits" for several reasons. First, the reference is too general. Second, it is clear that these "other benefits" are secondary. They are simply benefits that flow as a consequence of attaining flood control and power benefits.

2.2.2.3 Supplementary Aids

The materials referred to above are all primary materials. They can and should be relied upon in the interpretation of the CRT, without the need to show ambiguity or absurdity in the terms of the CRT. They must all be weighed as part of discerning the preferred interpretation of the treaty. However, in addition to these materials, Article 32 of the VCT authorizes recourse to supplementary materials to "confirm" the meaning derived from the application of Article 31 or to "determine" a meaning where, following application of Article 31, the meaning is "ambiguous or obscure" or produces a result that is manifestly absurd or unreasonable.

The VCT does not define the term "supplementary means of interpretation" other than to say that it includes "the preparatory work of the treaty and the circumstances of its conclusion"[201] but it is clear that the *travaux* "are simply evidence to be weighed against any other relevant evidence of the intentions of the parties, and their cogency depends on the extent to which they furnish proof of the *common* understanding of the parties as to the meaning attached to the terms of the treaty."[202] Consequently, agreed-upon interpretations of particular clauses during negotiations would constitute persuasive *travaux*, while statements made by officials in the course of the ratification process would not be persuasive unless those opinions happened to be shared by officials on both sides. In the present case, the ratification debate on both sides of the border focused on the power and flood control benefits. Fisheries were discussed on occasion, but not to argue for an expansion of the treaty objectives.[203]

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[201] The ILC Commentary also does not define the term: ILC Commentary *supra* note 185 at 223.

[202] The quotation is from the commentary provided by Waldock, Special Rapporteur in his Third Report on the Law of Treaties, reproduced in the Yearbook of the International Law Commission, 1964, Volume II, at 58.

[203] *Hearing before the Committee on Foreign Relations supra* note 107. The administration presented three witnesses, Udall, Itschner (Army Corps and a member of the negotiating team) and White (Department of State). Itschner focussed on flood control benefits. Udall referred to power benefits and benefits for irrigation, navigation, municipal uses and recreation (at 9). Of the three, only White referred to fisheries issues. See note 204, *infra*.

Fisheries issues were generally discussed in one of two contexts. First, during the US ratification debates, commentators emphasized that the CRT concentrated development upstream of Grand Coulee. Consequently, there would be no further damaging effect on anadromous fisheries.[204]Instead, the Treaty would alleviate demands for development of the Snake system thereby providing "collateral" fisheries benefits.[205] Second, commentators on both sides of the border noted that the CRT effectively precluded a Columbia-Fraser diversion, thereby making it less likely that Canada would develop the Fraser with consequent fisheries losses on both sides.[206]

There is a set of agreed Summary Records of Discussion and Conclusions for the CRT for nine negotiating sessions between February 1960 and January 1961. To this point, those records are treated as confidential by the governments and the Entities, but clearly those records constitute important *travaux*. The IJC's preparatory work for the Treaty is less persuasive as *travaux* since there is some indication that the US side in particular did not agree to be bound by the IJC's 1959 Report on *Principles for Determining and Apportioning Benefits from Cooperative Use of Storage of Waters and Electrical Interconnection within the Columbia River System*[207] for the purposes of CRT negotiations. Nevertheless, to the extent that the Report did actually form the basis for CRT negotiations, it would help reinforce, or confirm, preferred interpretations. Certainly, the preambular paragraphs to the Principles make it clear that the IJC did not give serious consideration to benefits other than power and flood control:

> The principal benefits in the downstream country from cooperative use of storage of waters within the Columbia River System are improvements in hydro-electric power production and prevention of flood damage. Although other benefits would also be realized from such cooperative use, the outlook at this time is that their value would be so small in comparison to the power and flood control values that formulation of principles for their determination and apportionment would not be warranted. This is not intended to preclude consideration by the two Governments

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204 *Id*., White at 33 and 45.

205 *Id*., at 70-71, Senator Neuberger of Oregon. See also Krutilla *supra* note 3, at 26-27, who notes the suggestion that the Treaty projects would buy time for the salmon of the Middle Snake.

206 *Id*., Udall at 27, and former Senator Dill at 63. On the Canadian side see Standing Committee in External Affairs, Minutes of Proceedings and Evidence, December 13, 1957 at 279 (pre-ratification). There were also comments in Canada about the destructive effects of Grand Coulee, Standing Committee in External Affairs, Minutes of Proceedings and Evidence, May 15, 1964 at 983 and, on the failure to consider impacts on the resident fish in the Arrow Lakes, *id*., April 24, 1964 at 709.

207 *Supra* note 122 .The background is discussed in Swainson, *supra*, note 8, at 100-101 and 113-114. Swainson reports that while Canada was willing to use the principles as the basis for negotiations, the US was less enthusiastic. "In the end," reports Swainson at 133 "the negotiators agreed that the principles need not be formally approved; they were designed as guides to both governments in the course of the negotiations." To the same effect McNaughton, "The Proposed Columbia River Treaty" (1962-63), 18 International Journal 148 at 153 and Krutilla *supra* note 3 at 88-114. Failure to formally approve the Principles will doubtless affect the weight to be given to the Principles as an interpretive aid.

> of any benefits, tangible or intangible, which may prove to be significant in the selection of projects or formulation of agreements thereon.[208]

In sum, the main *travaux* for the CRT are confidential. The IJC's Report is not completely reliable as *travaux.* However, to the extent that it can be used, it reinforces our assertion that the CRT is confined to flood control and power matters.[209]

2.2.2.4 Changing Circumstances and Values

There have been significant developments since the treaty was ratified in 1964. Attitudes towards the environment have changed in both Canada and the United States, and these changes have been reflected in domestic and international law. We have also enhanced our understanding of the Columbia Basin ecosystem. To what extent should these changes affect the way in which we approach the interpretation of the CRT? May they be used to attack the validity of the CRT?

The second question can be dealt with summarily. Article 62 of the VCT contemplates that a party may not terminate, withdraw from, or suspend, treaty obligations, even if there is a fundamental change in circumstances from the time that the treaty was concluded, unless two conditions can be met:

> (a) the existence of those circumstances constituted an essential basis of the consent of the parties to be bound by the treaty; and
>
> (b) the effect of the change is radically to transform the extent of obligations till to be performed under the treaty.[210]

These conditions cannot be met in the case of the CRT, even if one could establish that the evolution in values that had occurred since 1964 constituted a fundamental change. This conclusion is surely confirmed by the fact that while fisheries issues were included on the agenda of the IJC[211] neither party took issue with the IJC's dismissal of fisheries values.[212] It is also clear that, to the extent that changing values have been incorporated in domestic law, those changes in domestic law cannot be relied upon to explain or justify non-performance.[213]

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208 *Id.*, at 40. The Commission does refer to other values in its comment on General Principle No. 1, *id*., at 42.

209 Although the Parties certainly did not rigidly apply the IJC principles as Krutilla and others *supra* note 207 have established, none of the commentators suggest that either of the Parties wished to expand the scope of the Treaty, beyond the flood control and power matters recommended by the IJC.

210 VCT *supra* note 183, Article 62(1).

211 Terms of Reference, 1944 *supra* note 118.

212 *ICREB Report supra* note 2 at 22,24,59,100, and 109 and IJC Principles Report *supra* note 122.

213 VCT *supra* note 183, Article 27 contains the flat statement that "A party may not invoke the provisions of its internal law as justification for its failure to perform a treaty." While this is clear law, it seems equally clear that changes in domestic law may assert pressure on the Parties to amend the agreement. See for example the

That issue disposed of, we are now in a position to confront the more difficult interpretive question. Article 31 as it finally emerged in the VCT, requires the interpreter to take into account in addition to context, not only subsequent agreements and subsequent practice between the parties but also "any relevant rules of international law applicable in the relations between the parties."[214] Although, this does not seem to speak to the precise question that I have posed, earlier drafts of the article, together with the ILC's commentary, reveal that this was indeed the ILC's attempt to take account of the changing legal and conceptual environment in the course of treaty interpretation.

As originally formulated by the Special Rapporteur for the ILC, the provision stated that a treaty should be interpreted in the context of the rules of international law in force at the time of the treaty, but taking account of "the emergence of any later rule of customary international law affecting the subject matter of the treaty and binding upon all the parties".[215] The inconsistency between these two directions was resolved by the ILC upon first reading of the text in 1964 when the ILC decided firmly in favour of the rules of international law in force at the time the treaty was concluded.[216]

That was not the end of the matter. The ILC changed its position upon the second reading of the Draft Articles when the ILC adopted Article 31 in its final form.[217] Here, the ILC dropped the temporal reference to the relevant rules of international law that should inform treaty interpretation. The ILC's commentary on the matter does not shed much light on the reason for the change but the ILC did note that "some members suggested that [the original formulation] failed to deal with the problem of the evolution of the law of the interpretation of legal terms in a treaty and was therefore inadequate."[218] The true position is hard to state, and indeed seems to vary with the type of treaty provision that is subject to interpretation. Thus, while a treaty should be interpreted in light of the law in force at the time the treaty was concluded, some concepts used in the treaty may evolve over time. For example, a treaty reference to "the territory" of a state, might be interpreted to embrace developments in the international law of the sea.

In conclusion, although Article 31(3)(c) of the VCT leaves some room to argue the general point that changes in international law should affect the interpretation of a treaty, this is only likely to be of practical significance where the treaty terms in question are not static but

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effect of the recognition of US tribal fishing rights under the Stevens treaties on the then current Pacific Salmon regime between the US and Canada: see Yanagida, "The Pacific Salmon Treaty" (1987), 81 AJIL 577 and *infra*, Part IV of this paper.

214 VCT *supra* note 183, Article 31(3)(c) and quoted *supra* note 188.

215 Waldock's Third Report *supra* note 185, Draft Article 73, at 53.

216 Report of the ILC to the General Assembly, Yearbook of the International Law Commission, 1964 Volume II, at 202-203.

217 ILC Commentary *supra* note 185, at 222.

218 *Id*.

evolutionary.[219] Most of the CRT is written in static rather than evolutionary language. Indeed, parts of the Treaty read more like a commercial arrangement than an international treaty. This was deliberate. The United States wanted to ensure itself that building storage in Canada was just as effective, useful and reliable as storage built and operated in the United States by the Army Corps. Similarly, Canada wanted guarantees of an economic return before it would incur the cost of constructing the dams. In short, the Parties elected to use precise language because they desired commercial certainty. Hence, the opportunity to provide an ambulatory interpretation of the operative terms is limited[220] and there is little chance for either party to argue that the treaty should be modified in light of recent dramatic developments in international environmental law.[221]

With this interpretive framework in place we can now turn to consider the main provisions of the CRT, beginning with Canada's obligations to construct and operate Treaty storage.

2.2.3 Canada's Treaty Obligations

The CRT requires Canada to provide storage for flood control and power purposes. In addition, it also requires Canada to provide, free of charge, the lands required in Canada for the Lake Koocanusa reservoir behind Libby Dam, and to permit the consequential flooding of valuable agricultural land.[222]

Article II(1) of the CRT requires Canada to provide 15.5 MAF of storage "in order to improve the flow of the Columbia River". The Treaty does not define the term "improve the

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219 See Sinclair *supra* note 183 at 140.

220 In some respects, the language of the BWT *supra* note 32, lends itself to a more ambulatory interpretive approach. See for example the discussion of the term "interests" in Article VII *supra* note 111. There is, however, at least one phrase in the CRT *supra* note 7, that would lend itself to a more organic interpretation, and may provide each party with some security against changes in domestic law. I refer to the use of the term "established operating procedures" in CRT, Annex B, para.7. This paragraph is critical to the calculation of Canadian DPBs. The point is further discussed at notes 275 and 356 *infra*.

221 I refer here exclusively to the modification of treaty terms as an interpretive exercise. It is possible for the parties to modify the terms of a bilateral relationship by entering into a subsequent bilateral or multilateral treaty. Much will depend upon the terms of the subsequent treaty. A particular case in point is the Convention on Biological Diversity, Rio de Janeiro, June 5, 1992 reproduced in (1992), 31 ILM 814. Article 22 (1) headed "Relationship with Other International Conventions" reads as follows:

> 1. The provisions of this Convention shall not affect the rights and obligations of any Contracting Party deriving from any existing international agreement, except where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity.

Canada has ratified this Convention, the United States has yet to do so.

222 That responsibility was in fact assumed by BC pursuant to s.3(c) of the federal-provincial agreement of 8 July 1963, *CRT Documents supra* note 7, at 49.

flow" but one can infer from the material canvassed above, and the balance of Article IV, that the Parties intended to use the storage to alter the natural hydrograph to provide flood control, and to make more effective use of installed and new generating capacity downstream.

The Treaty divides the Canadian storage obligation between the three Canadian Treaty dams. Canada must provide 7 MAF at Mica, 7.1 MAF at Arrow/Keenleyside and 1.4 MAF at Duncan. As noted above[223] Mica provides approximately 20 MAF of storage. Canada retained the balance to facilitate at-site generation at Mica and at downstream run-of-the-river sites such as Revelstoke.[224] Since then, BCH has committed some of the remaining capacity under the NTSAs and retains some for its own internal use.[225]

Article IV and Annex A of the Treaty oblige Canada to operate some or all of the Treaty storage for two purposes. The first purpose is to increase hydroelectric power generation in Canada and the United States, and the second is flood control. Both requirements constrain BCH's ability to manage the three Treaty dams for the benefit of resident fish, recreational and other values. The following sections provide further detail on both of these constraints.

2.2.3.1 Flood Control Obligations

The CRT imposes three distinct flood control obligations on Canada. First, for the first 60 years following ratification, Article IV(2) of the CRT requires Canada to operate a total of 8.45 MAF of Treaty storage strictly in accordance with a flood control operating plan developed in accordance with Annex A. The CRT split this primary storage obligation as follows: Mica, 0.08 MAF, Arrow 7.1 MAF and Duncan 1.27 MAF. Annex A allows Canada to alter the split "provided that the Entities agree that the exchange would provide the same effectiveness for control of floods on the Columbia River at The Dalles, Oregon."[226] Since ratification, the Entities have agreed to two changes to the split. Almost immediately, the Entities agreed to move 2 MAF of the dedication from Arrow to Mica.[227] Much more recently, the US entity accepted a proposal from BCH to shift a further 2 MAF to Mica.[228] The location of the storage obligation is important because Annex A of the CRT requires that the dedicated storage space must be

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223 *Supra* text to notes 20 to 21.

224 This justification is offered in *Columbia River Treaty and Protocol: A Presentation*, issued by the Departments of External Affairs and Northern Affairs and National Resources, April 1964, hereafter *Treaty Commentary*. The appendix of this publication provides an article-by-article commentary on the CRT and Protocol. The present point is made at 118.

225 *Supra* note 21.

226 CRT *supra* note 7, Annex A, para. 5. Initially, Canada preferred to concentrate flood control obligations at Arrow and Duncan because BCH intended to install generation at Mica.

227 US Army Corps, *Summary Report Proposed Reallocation of Flood Control Space of Mica and Arrow Reservoirs*, 1995 at 2.

228 Letter from Dodge, Chair US Section, CRT Operating Committee to Legge, Chair, Canadian Section CRT Operating Committee, April 12, 1995.

evacuated, if required, by a specified time.[229] Furthermore, the Flood Control Operating Plan limits outflow from the Treaty dams during the flood control refill period.[230] Consequently, the current split of Mica 4.08 MAF, Arrow 3.6 MAF and Duncan unchanged at 1.27 MAF, reduces the need for a spring drawdown in the Arrow Lakes.

Canada's second flood control obligation is an "on call" obligation for the fist 60 years of the CRT. Under Article IV(2)(b) of the CRT, the US may require Canada to operate *any* additional storage in the Columbia basin if required to meet flood control objectives at the Dalles and if those objectives cannot adequately be met by flood control facilities in the US.[231]

Canada's third obligation relates to the period after the expiration of 60 years from the ratification of the CRT. Article IV(3) requires Canada to provide on-call flood control at any storage in the Columbia basin when required by the US Entity. This obligation endures "for so long as the flows in the Columbia River in Canada continue to contribute to potential flood hazard" in the US.[232]

2.2.3.2 The Obligation to Operate to Increase Hydroelectric Power Generation

Article IV (1) of the CRT requires Canada to operate all the Treaty storage in accordance with Annex A, and hydroelectric operating plans made thereunder. Thus the Treaty requires BCH to operate the Treaty storage on the basis of two types of operating plans, a Flood Control Operating Plan and Hydroelectric Operating Plans. Developed in accordance with the CRT, these plans represent the core of Canada's Treaty obligations.

As noted in the previous section, paragraph 5 of Annex A deals with flood control. Paragraphs 6 though 9 of the same Annex deal with power and the development of hydroelectric operating plans for the Canadian storage. Paragraph 6 obliges Canada to operate the entire Treaty storage "in accordance with operating plans designed to achieve optimum power generation downstream in the United States of America".[233] Thus, while the Treaty constrains

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229 CRT *supra* note 7, Annex A, para. 5.

230 *CRT Flood Control Operating Plan, supra* note 39.

231 CRT *supra* note 7, the Protocol, para.1, requires the US Entity to fulfill a set of conditions prior to making a call under this Article of the CRT.

232 *Id*., CRT Article IV(3); this obligation was also modified by para. 1 of the Protocol.

233 CRT *id.*, Annex A, para. 6. The balance of paragraph 6 and paragraphs 7 and 8 of the Annex modify this obligation. Paragraph 7 provides that once generating capacity s installed at Mica or at downstream locations (e.g. Revelstoke), the operating plans must be designed to achieve optimum power generation at-site in Canada and downstream in the US, provided that the downstream benefits to which the US would otherwise be entitled are not reduced beyond certain specified amounts. The Canadian Entitlement Purchase Agreement complicated this scenario. Under the terms of CEPA, BCH conveyed the DPBs to CSPE "without the reductions provided for in paragraph 7 of Annex A of the Treaty". Section 10 of CEPA requires BCH to make good any shortfall. CEPA, s.2, and 7, *CRT Documents*, *supra* note 7, at 64. Generation was installed at Mica in 1977. Since then, the Entities have determined BCH's liability to deliver additional energy to the United States on an annual

the operation of Canadian Treaty storage, the constraints are not open-ended. The CRT does not entitle the US Entity to require the Canadian Entity to operate the storage for whatever purpose best suits the US Entity. Instead, the CRT only obliges Hydro to operate the storage in accordance with operating plans that must be designed to achieve flood control and optimum power generation.

Paragraph 9 of Annex A, and Article XIV(2)(h) and (k) both provide the Entities with additional guidance on the preparation of the hydroelectric operating plans and establish a clear link between Canada's obligations to operate, and the availability of downstream benefits. The interaction between these and other provisions of the CRT is complex.[234]

Article XIV of the Treaty provides an appropriate starting point. Article XIV is entitled "Arrangements for Implementation". It establishes the need for the Entities and specifies their obligations. Paragraphs 2(h) and 2(k) provide the only indication in the Treaty that the Parties contemplated two types categories of operating plans, an assured plan of operations (AOP) and an annual detailed plan of operations (DOP).[235]

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basis. For an example, see *Annual Report of the Columbia River Treaty, Canadian and United States Entities*, *1 October 1990 through 30 September 1991*, 1991, at 11.

234 In addition to the provisions mentioned in the text, one also needs to consider Annex B CRT, *id.* This Annex is primarily concerned with the calculation of benefits, but is relevant because of the close link between Canada's obligations and the provision of benefits. That link is confirmed by paragraph 7(1) of the Protocol which states that "As the downstream power benefits credited to Canadian storage decrease with time, the storage required to be operated by Canada pursuant to paragraphs 6 and 9 of Annex A of the Treaty, will be that required to produce those benefits." For background on the hydro planning process and the calculation of DPBs, see Lesser, "Resale of the Columbia River Treaty Downstream Power Benefits: One Road from Here to There" (1990), 30 Nat. Res. Jnl. 609; Wandschneider, *Control and Management of the Columbia-Snake River System*, 1984, and Swainson "The Impact of Canada on Management of the Columbia River" in Broches and Spranger (eds) *The Politics and Economics of Columbia River Water*, 1985 and other papers in that volume esp. those by Wandschneider at 25-31, Dodge at 94-98 and Lond at 99-102; Green "Regulation of the Columbia Basin Reservoir System for Hydropower and Other Purposes" in Toebes and Sheppard, *Proceedings of the National Workshop on Reservoir Systems Operations*, 1979 at 401-418.

235 CRT *id.*, Article XIV(2) provides as follows:

> (2) In addition to the powers and duties dealt with specifically elsewhere in the Treaty the powers and duties of the entities include:
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> * * *
>
> (h) preparation of the hydroelectric operating plans and the flood control operating plans for the Canadian storage together with determination of the downstream power benefits to which Canada is entitled,
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> * * *
>
> (k) preparation and implementation of detailed operating plans that may produce results more advantageous to both countries than those that would arise from operation under the plans referred to in Annexes A and B [the AOPs].

We can now return to Annex A. Paragraph 9 of Annex A requires the Entities to agree annually on "an operating plan and the resulting downstream power benefits for the sixth succeeding year of operation thereafter". This plan is the Assured Operating Plan and it establishes the base obligations of the Canadian Entity. Downstream benefits are determined on the basis of the AOP.[236] In addition, at the beginning of each calendar year, the Entities must prepare a DOP that may produce more advantageous results to both countries than the rigid application of the AOP. The DOP reflects the latest load, resource, flood control and hydro meteorological data available, if agreed to by the Entities.[237]

Both the AOP and the DOP are complex documents.[238] The Plans are designed to prescribe a schedule of reservoirs drafts that will allow the Columbia hydroelectric system to meet electrical power loads efficiently, while producing the optimum amount of power and providing an adequate level of assurance of refill of system reservoirs.[239] The Plans take account of the operating criteria for each facility (e.g. maximum and minimum levels of discharge and other physical or regulatory constraints), and prescribe guides for storage and release in the form of rule curves. Typically, the Plans stipulate multiple rule curves and prescribe which is to prevail at any one time (the operating rule curve). For example, a Plan may prescribe critical rule curves, an assured refill curve, limiting rule curves and upper rule curves.

A critical rule curve is designed to guide storage drafts and refills to provide optimum energy to meet system firm loads.[240] A critical rule curve is always based upon the critical period. The critical period[241] is that historical period of stream flows that provides the most

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236 CRT *id*., Annex A, para. 9 and Annex B, para. 1.

237 From time to time the Entities have provided guides to the development of the AOP and the DOP. The current guide is *Columbia River Treaty Principles and Procedure for Preparation and Use of Hydroelectric Operating Plans*, Columbia River Treaty Operating Committee, December 1991, hereafter, *Principles and Procedures.*

238 Each year the Entities must develop both a DOP and an AOP. The resulting reports are published by the Columbia River Treaty Operating Committee (CRTOC). The formal citation for each series is (for example) as follows: CRTOC, *Columbia River Treaty Hydroelectric Operating Plan*: *Assured Operating Plan for Operating Year 1987-88*, September 1982; CRTOC, *Detailed Operating Plan for Columbia River Treaty Storage 1 August 1992 through 31 July 1993*, November 1992. In addition, the CRTOC publishes each fall an *Annual Report on Columbia River Treaty Projects* for the year August 1 through to July. The CRTOC is an operating committee composed of representatives of the Entities. It is one of two committees established by the Entities; the other committee is the Hydrometeorological Committee. There is a useful organizational chart in *Principles and Procedures id*., at 5.

239 *Principles and Procedures, id,.* at 7.

240 *Id*., at 7.

241 The CRT *supra* note 7, defines the term "critical stream flow period" in Article 1; see also *Principles and Procedures, id.,* at 22 and Redman, "Nonfirm Energy and BPA's Industrial Customers" (1983), 58 Wash. L. Rev. 279, at 282 (note 11). Reservoirs are assumed to be full at the beginning of the critical period and drafted to empty by the end. Para. 8 of the Protocol to the CRT prescribes the relevant historical period as the thirty year period July 1928-1958. This provision amended CRT Annex B, para. 6 which called for a 20 year period of flows.

adverse flow sequence and which produces the least amount of firm energy load-carrying capability for the system.[242] Where the critical period covers more than one year the Entities will need to develop a critical rule curve for each of the years of the critical period.[243]An assured refill curve is designed to show the minimum levels that must be attained to ensure refill of a reservoir, should there be a recurrence of the second lowest January through July inflow to the system.[244] Variable refill curves are similar to assured refill curves except that they rely on forecast data on inflows, as well as historical records.[245] A limiting rule curve provides a further constraint on drawdown and is designed to guarantee that the system can meet the firm load between January 1 and March 31.[246] Finally, an upper rule curve is designed to ensure sufficient reservoir capacity so as to allow the storage to fulfill flood control requirements.[247]

The DOP for August 1, 1992 to July 31, 1993 is illustrative.[248] The operating rule curve for Duncan, Arrow and Mica prescribes that for the period August 1 through December 31, reservoir levels at the end of each month shall be no lower than that prescribed by the critical rule curve for the first year, or the assured refill curve, whichever is the higher. Between January and July 31, the same curve shall prevail unless the variable refill curve is lower, in which case that curve will prevail, subject of course to the additional constraint provided by the limiting rule curve. Upper rule curves may impinge on all of the above depending upon flood control conditions during the flood control period. Within the constraints imposed by these curves, and the operating limits of the particular facilities, the US Entity may make weekly requests for the storing or drafting from the Canadian storage.[249]

What is important for present purposes is that this combination of curves represents a considerable constraint on Canadian operational flexibility. Canada committed to this arrangement in return for tangible benefits.

2.2.4 Canada's Treaty Entitlement

The CRT provides three types of benefits to Canada in return for Canada's commitments detailed in the previous section. First, Canada received lump cash compensation for primary

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242 The lowest period of stream flows on record is a 43 month period between August 1928 and March 1932.

243 *Principles and Procedures, supra* note 237, at 7.

244 *Id*., at 9.

245 *Id*. All forecasts are discounted by 95%. Obviously, in most years the use of forecasted data will allow the use of storage to meet non-firm energy needs. Non-firm energy in a hydro system is any energy made available by above-critical water conditions: Redman *supra* note 241 at 82.

246 *Principles and Procedures supra* note 237, at 12.

247 *Id*.

248 *Supra* note 238. The following paragraph provides a simplified and partial account only.

249 *Id*., at 6 to 7.

flood control benefits and the promise of more compensation if the US exercises its entitlement to on-call flood protection.[250] Second, Canada receives 50% of the downstream power benefits determined in accordance with the Treaty.[251] Third, Canada is allowed to retain the downstream benefits accruing as a result of the regulation provided by Libby.[252] I discuss the nature of the Libby benefits in Part III, and since the flood control benefits are straightforward and non-contentious,[253] the balance of this section deals with DPBs. First I describe briefly how the Entities calculate the benefits that accrue to Canada. Second, I consider the effect of the 30 year sale of the DPBs. Third, I critique Professor Blumm's claim that if dam operators in the United States are forced to spill water at mainstem dams in order to provide for fish flows, Canada is not entitled to a share of the foregone power. Professor Blumm's claim is based upon his reading of Article VIII(4) of the CRT.

2.2.4.1 Determining the Downstream Power Benefits

The Canadian storage provides two benefits to the American system.[254] First, it allows US mainstem facilities to convert non-firm energy into firm energy. Second, it provides additional energy at those facilities, since less water needs to be spilled than would be the case under natural conditions. This is because water is made available at more even flow rates throughout the year. These benefits are not constant over time. In particular, the value of storage in firming interruptible power within a hydro system declines as the system adds thermal capacity. Over time, the thermal capacity will be used for base load, and the hydro facilities increasingly used for peaking purposes.[255]

Articles III, V and VII and Annex B of the Treaty and paragraphs 9 and 10 of the Protocol are all relevant to the determination of Canada's DPBs. These provisions establish two important principles which are essential to the determination of the DPBs. First, they establish that the US will operate its facilities in the most effective way for power production, or at least, that DPBs will be calculated on the assumption that the US will operate on that basis. Second, the Canadian storage is treated as "next added".

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250 CRT *supra* note 7, Article VI. The compensation for operation of the Treaty storage was calculated in advance for the 60 year term of the Treaty. Canada is entitled to additional compensation for the operation of non-treaty storage and for the provision of flood control benefits after the term of the Treaty.

251 *Id*., CRT, Article 5.

252 *Id*., CRT Article XII(2) .

253 Non-contentious in the sense that they do not raise difficult issues of treaty interpretation, Some Canadian commentators have certainly questioned the level of compensation and the potentially perpetual term of Canada's obligations to provide on-call storage under CRT *id.,* Article IV(3): e.g. McNaughton *supra* note 207 at 162 to 163.

254 Krutilla, *supra* note 3, at 32-34 notes that during the 1950s the US Columbia system was out of balance with too many head plants unsupported by adequate storage.

255 Krutilla *id*., at 48.

2.2.4.2 The duty to make the most effective use of the stream flow

Several provisions of the CRT confirm that Canada will receive DPBs calculated on the assumption that the US operates its system to provide maximum power benefits. Article III is most explicit. It provides that the US shall maintain and operate new and existing hydro facilities on the mainstem "in a manner that makes most effective use of the improvement in stream flow ... for hydroelectric power generation."[256] On its own, the term "most effective use" might bear several meanings, but in the present context it can only mean most effective for the purpose of generating power. Paragraph 2 of Article III allows the US to deviate from this standard in the actual operation of its facilities, provided that this does not affect the calculation of the benefits.[257] This serves to emphasize that the calculation of DPBs is a prospective, theoretical exercise, rather than a retrospective analysis of how much incremental capacity and energy was made available. Other provisions confirm this interpretation including Article VII(2)(c),[258] the companion Annex B, and Annex A.[259] Paragraph 6 of Annex A is especially noteworthy because it specifies that the design criterion for the operating plans is "to achieve optimum power generation".

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256 CRT *supra* note 7, Article III:

> 1. The United States of America shall maintain and operate the electrical facilities included in the base system and any additional hydro electric facilities constructed on the main stem of the Columbia River in the United States of America in a manner that makes the most effective use of the improvement in stream flow resulting from operation of the Canadian storage for hydroelectric power generation in the United States of America power system.
>
> 2. The obligation in paragraph (1) is discharged by reflecting in the determination of downstream benefits to which Canad is entitled the assumption that the facilities referred to in paragraph (1) were maintained and operated in accordance therewith.

The "base system" is defined in Annex B. The Table in that Annex lists the projects, and para.7 indicates that they are to operated "in accordance with established operating procedures".

257 *Id*.

258 Article VII(2) *id.,* provides that for the purposes of determining DPBs "the hydroelectric facilities included in the base system shall be considered as being operated to make the most effective use for hydroelectric power generation of the improvement in stream flow resulting from the operation of the Canadian storage."

259 Both Annex A, para. 9 and Annex B para. 5 *id.,* require determination of DPB five years in advance and Annex B, para. 6 insists that "No retroactive adjustment in downstream benefits will be made at any time during the period of the Treaty."

2.2.4.3 The Blumm Thesis

Professor Blumm, a noted authority on the Columbia system, argues that Article VIII(4) of the Treaty[260] "appears to allow a reduction in Canadian power entitlements when water bypasses power generators and is not used for power production." Article VIII(4) is undoubtedly one of the least felicitously expressed articles in the entire Treaty. It provides as follows:

> (4) The bypassing at dams on the mainstem of the Columbia River in the United States of America of an amount of water which could produce usable energy equal to the energy component of the downstream power benefits to which Canad is entitled but not delivered to Canada under Article V or disposed of in accordance with paragraphs (1) and (2) at the time the energy component was so delivered or disposed of, is conclusive evidence that such energy component was not used in the United States of America and that the entitlement of Canada to such energy component is satisfied.[261]

Blumm's argument implies that the United States need not account to Canada for Canada's share of the DPBs, when water is spilled at mainstem dams in order, for example, to provide for fish flows. This argument is untenable for at least three reasons.[262]

First, Blumm's interpretation directly contradicts the United States' duty to optimize power generation. I have established in previous sections that the central bargain at the heart of the CRT is Canada's obligation to construct and operate storage to maximize power and flood control values, in return for half of the DPBs, calculated on the assumption that the US would maximize power production.[263] Blumm's interpretation allows the US to spill, and thereby unilaterally to reduce Canada's entitlement. Blumm does not suggest, and the Article does not offer, a test for distinguishing between those spills that may reduce the entitlement, and those that do not. Blumm's interpretation contradicts the express provisions of Articles III (1), VII(2)(c) and Annex A and B. This is not to suggest that the US cannot spill water at mainstem

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260 Blumm, "Hydropower vs. Salmon: The Struggle of the Pacific Northwest's Anadromous Fish Resources for a Peaceful Coexistence with the Federal Columbia River Power System" (1981), 11 Envt'l L. 211 at 244 to 245. In fairness to Blumm, the main question that he is addressing at this point is one of whether or not the CRT authorizes Federal Columbia River Power System operation for hydropower generation. That is primarily a question of domestic law, not international law. From the perspective of international law it is hard to see why one needs to look beyond Article III of the CRT. Nevertheless, as part of this argument Blumm offers the comment quoted in the text.

261 CRT *supra* note 7, Article VIII(4).

262 Accord, see Lesser, *supra* note 234 at 615 "Thus, while the water budget may reduce maximum hydroelectric output, it remains an American constraint that will only affect the downstream benefits calculation to the extent that Canada allows."

263 Plus an additional payments for flood control benefits *CRT supra* note 7, Article VI.

dams. Article III(2) allows it to spill whenever it chooses; but the US cannot, by spilling, reduce the DPBs.[264]

Second, Blumm's thesis ignores the context of the paragraph as part of an article dealing with Canada's rights to dispose of its DPBs. As already noted, several article of the CRT deal with different aspects of the DPB. Article V establishes Canada's entitlement and specifies the delivery location and method. Article VII clarifies the content of the DPBs, while Article VIII is headed "Disposal of Downstream Benefits".[265]

In 1961 when Canada and the US agreed to the original treaty text, BC did not have a market for its DPBs. The CRT was designed to keep open the options of sale, or delivery, of the incremental power. The default position was to deliver the power to Oliver,[266] but Article VIII contemplated that BC might sell all, or a portion of its entitlement, within the US. It is important to emphasize that the Parties negotiated Article VIII, at a time when BC did not have a sales contract, and might not be able to take physical delivery because of limited demand. The Parties therefore needed to address the consequences of that scenario in Article VIII. This is the sole purpose of Article VIII (4).

Paragraph 1 of Article VIII specifies that any disposition of the DPB within the United States required approval of the two governments through an Exchange of Notes "to be made as soon as possible after the ratification date."[267] As we have already seen,[268] BC was dissatisfied with this arrangement and the Protocol therefore provided that the Exchange of Notes was to be contemporaneous with ratification.[269]

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264 Spills may occur for many reasons; flood control, an imbalance between generating capacity and flow (see for example Waneta *supra* note 84), fish flows to aid downstream migration or control water temperatures, but one of the purposes of an AOP is to minimize spill and maximize the utilization of storage. The only type of spill that could reduce liability for DPBs is a spill that the planners considered, *at the time the AOP was developed (i.e. 6 years in advance), to be unavoidable*

265 The following reading of CRT Article VIII *supra* note 7, is hinted at in *Treaty Commentary, supra* note 224 at 127. Tim Newton of Powerex greatly enhanced my understanding of the text on this and many other points: interview, *supra* note 60.

266 CRT *supra* note 7, Article V(2) requires delivery at Oliver, or another mutually agreeable location of the entire DPBs, minus an amount for transmission loss, any portion disposed of in the US under Article VIII(1) *as well as* any energy spilled under Article VIII(4).

267 This is a continuing requirement. Hence, any future sale of the DPBs after the expiry of the original 30 year terms will also require approval evidenced by an exchange of notes.

268 *Supra* text to notes 169-176.

269 CRT *supra* note 7, Protocol, para. 3.

Paragraph 2, which is not relevant here, provides for exchanges of capacity and energy between the Entities. Paragraph 3 provided important protection to Canada.[270] BC was concerned that if it did not have a sale by the time storage became available, the incremental power would still be produced at the downstream facilities. True, it could take delivery at Oliver or another location as contemplated by Article V(2), but only to the extent that it had a market. You cannot store electricity and BC did not expect to have a market for the full DPBs. Canada therefore insisted upon Article VIII(3):

> (3) Energy to which Canada is entitled may not be used in the United States of America except in accordance with paragraphs (1) [government approved sale] and (2) [exchange].

If BC could not take the power because there was no demand, and if BC could not dispose of the power in the United States because it did not have a contract, and if that power could not be used in the US because of the paragraph 3 prohibition, then there remained but one alternative: spill. And "spill" is the subject of paragraph 4. Paragraph 4 is a companion provision to paragraph 3. It explains that when spill occurs at mainstem dams because the energy[271] that would have been produced but for spill could not be sold, or delivered to BC, Canada would have no further claim; its entitlement to the energy component would be satisfied, as would the US obligation to deliver.[272]

To conclude this second point, Professor Blumm interprets Article VIII(4) in isolation and not in the broader context of the entire Article and the relationship between this Article and the other provisions of the CRT dealing with the DPBs. The more contextual approach offered above suggests that Article VIII(4) was intended to require spills when BC did not have a sales contract and was not in a position to take the energy itself, and to clarify the consequences of that type of spill for Canada's entitlement, and the US obligation to deliver.

Third, Blumm's interpretation contradicts those provisions of the CRT that require a prospective determination of DPBs and that prohibit the retrospective redetermination of those benefits in light of actual rather than forecast conditions. The CRT determines the DPBs in six years advance. It does not allow for a retrospective reduction. The relevant provisions of the Treaty are Article VII(1) and Annex A, paragraphs 9 and Annex B paragraphs 4-6.[273]

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[270] It also protected US utilities concerned about dumping of surplus power: *Treaty Commentary*, *supra* note 224 at 127.

[271] Article VIII(4) only deals with energy. The capacity benefit conferred by Canadian storage operated in accordance with an AOP cannot be avoided. You cannot spill a capacity benefit if the capacity benefit conferred by the CRT was to transform high quality interruptible energy into firm energy.

[272] Hence the provision in CRT Article V(2) *supra* note 266.

[273] Finally, even if correct, Blumm's argument has no practical effect until the expiry of the 30 year sale of the DPBs. For discussion of the sale see *supra* text to notes 175 to 179.

2.2.4.4 Canadian Storage as "Next Added"

In a hydro system, the value of storage for power or flood control purposes declines with each addition to the system beyond a certain point. The more storage the system provides, the lower the incremental value of the last added storage which provides only a marginal increase in flood protection and firms up very little additional interruptible power.[274] By contrast, storage that is deemed first added, markedly increases both firm power and flood control.

Article VII of the CRT treats Canadian storage as "next added" to the existing US storage of 13 MAF. The value of the benefits accruing to Canada is the difference between the power capable of being generated in the United States with and without the use of the Canadian storage. Annex B paragraph 7 stipulates three steps for computing the increase in capacity and the increase in average annual hydroelectric energy. The details do not concern us here.[275] Suffice it to state that at the time the Treaty was negotiated the Parties assumed that the value of the Canadian storage would decline dramatically over the life of the Treaty as the US added thermal installations to the base generation. This has not happened as quickly as predicted. For example, for 1998, the forecast benefits used in the calculation of the CEPA were approximately 230 Average MW of energy and 350 MW capacity compared with actual figures of 550 Average MW of energy and 1200 MW capacity.[276]

The Entities calculate the DPBS as part of the annual AOP process. The calculation is required notwithstanding the sale of the Canadian entitlement for several reasons. First, the CRT requires that the Entities make the calculation and the PEB has insisted upon compliance.[277] Second, as noted above, there is a close connection between Canada's duty to operate and the

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274 Krutilla, *supra* note 3, at pp. 37-48. The incremental value of storage for power diminishes as the critical period lengthens. As a result of treaty storage the critical period for the Columbia system moved from 7 months to 43 months, *id.,* at 44.

275 The best discussion is in Lesser, *supra* note 234, at pp.614-619. For a simplified account see Dodge and Newton, Bi-National Development of the Columbia River" (1988), 43 Water Power and Dam Construction 33 at 34. One detail is relevant to this work. CRT *supra* note 7, Annex B, para. 7, Step 1 stipulates that the capability of the system to supply the Pacific Northwest load is determined "on the basis that the system will be operated in accordance with the established operating procedures of each of the projects involved." The Canadian position is that the term "established operating procedures" must refer to the operating procedures of the projects as agreed by the Entities as part of their original studies on Treaty implementation. Newton interview, *supra* note 60. On this view additional constraints in the form of minimum flows for fish or reservoir drawdown requirements would not be considered unless these requirements were terms of the licences at the time the Treaty was negotiated. In any event, the addition of further limiting operating procedures would not necessarily result in shifting a portion of the cost of meeting these requirements to Canada. It might actually increase the value of Canadian storage. Nevertheless, if the CRT is indeed to grow and accommodate changing values, Annex B, Step I may be a more likely place to accommodate those changes than Article VIII(4). The PEB has agreed with Canada on this point, see *infra* note 356.

276 *The Columbia Report*, "The Canadian Entitlement" , Ministry of Energy, Mines and Petroleum Resources, 1993, the 1998 figures are actuals based upon the calculation in advance, and based upon the AOP, as required by the CRT.

277 CRT *supra* note 7, Annex A, para. 9 and Annex B.

calculation of the benefits.[278] The Entities must adopt an AOP that results in the greatest downstream benefit. Consequently, the Entities cannot avoid the calculation. Third, with the addition of Canadian generation at Mica in 1977, the Entities must perform calculations to optimize energy production in the US alone and then in the US and Canada taken together.[279] So, for all these reasons, and notwithstanding the sale, the Entities calculate the DPBs annually and have done so from the inception of the Treaty projects.

2.2.5 The Role of the PEB and the Accommodation of Non-Power Values

Thus far I have defended the conclusion that Canada does not have a Treaty obligation to accommodate any values other than flood and power values. In particular, Canada does not have a Treaty obligation to provide fish flows. This interpretation of the Treaty has been confirmed by the Permanent Engineering Board (PEB or Board), but the PEB has also confirmed that non-Treaty values may be accommodated, without violating the Treaty, as the Entities move from the AOP to the Detailed Operating Plan (DOP). All of that requires some explanation, but before providing that, I shall consider the role of the PEB.

2.2.5.1 The Role of the Permanent Engineering Board

Canada and the United States delegated the primary responsibility for CRT implementation to the Entities, and created a new institution, the Permanent Engineering Board (PEB) to supervise the Entities' activities. Article XIV of the Treaty requires the Entities to assist and cooperate with the PEB in the discharge of its functions.[280] The PEB, established by Article XV, consists of four members, two appointed by each country.[281]

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278 *Supra* note 234.

279 CRT *supra* note 7, Annex A paras 6 to 8 and see *supra* note 233.

280 CRT *id*., Article XIV(2)(f). There is little literature on the PEB, but see Swainson, "The Columbia River Treaty - Where Do We Go From Here?" (1986), 26 Nat. Res. Jnl. 243. The PEB publishes an Annual Report. The Report is written in technical language. It is not intended to inform the general public and rarely provides supporting reasoning for its conclusions.

281 The two Canadian members have always been career civil servants, one federal and one provincial. Article 6(2) of the federal-provincial agreement of 8 July 1963 allows British Columbia to nominate one of the two Canadian members, *supra* note 176. The Secretary of the Interior and the Secretary of the Army each appoint one person to the PEB: Executive Order 11177, September 16, 1964, reproduced in *CRT Documents supra* note 7 at 44. The PEB has established an engineering committee to advise it. The Canadian members of the engineering committee have all been career civil servants drawn from the federal and provincial bureaucracies. The US members include employees of both the Army Corps and BPA. Canada has made some attempt to maintain a separation between the Entity and the PEB but this will never be completely successful for so long as BCH is a Crown corporation that reports to a Minister of the Crown, and the provincial Crown also appoints a member of the PEB. Interviews with past and present Canadian members of the PEB (John Allan and David Oulton, February 1996) suggest that the PEB strives to avoid a national partisan approach, but the PEB's loyalties to the power and flood control values of the CRT are clear.

Article XV, Annex A and the Protocol of the CRT identify eight separate roles for the PEB:[282]

a. to assemble records of the flows of the Kootenay and Columbia rivers at the international boundary;

b. to report to the parties on substantial deviations from the hydro-electric and flood control operating plans, and where appropriate, recommend remedial action and compensation;

c. to assist in reconciling differences between the two entities concerning "technical or operational matters";

d. to make periodic inspections and require the entities to prepare reports with a view to ensuring that the objectives of the Treaty are being met;

e. to report to the Parties at least annually on the results being achieved under the Treaty and on any other matter which it considers should be brought to their attention;

f. to investigate and report on any other matter within the scope of the Treaty at the request of either Party;

g. to consult with the Entities on a hydro meteorological system;[283]

h. to reconcile differences between the Entities on flood control calls.[284]

The PEB is a dispute avoidance mechanism, not a dispute settlement mechanism. It collects information, monitors, reports, and assists in reconciling differences, but it does not give orders, binding interpretations of the Treaty, or settle disputes and order compensation.[285] Its fact finding functions may aid dispute resolution insofar as the CRT provides that reports of the PEB are "prima facie evidence of the facts therein contained and shall be accepted unless rebutted by other evidence".[286]

For much of its 30-year life, the PEB has assumed a low profile. Nevertheless, it has been vigilant to ensure that the Entities live up to their Treaty obligations, and, in the last few years, it

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282 Paragraphs a-f paraphrase Article XV(2) of the CRT *supra* note 7.

283 CRT *id*., Annex A, para.1.

284 CRT *id*., Protocol, para. 1.

285 The flood control responsibility added by the Protocol, *id*., is a partial exception.

286 CRT *id*., Article XV (3).

has assumed a more prominent role as the Entities have grappled with a series of disputes surrounding the return of the DPB. These issues are dealt with in Part III of this paper.

The PEB's treatment of the matter of streamflow records illustrates its vigilance in monitoring Treaty compliance. The PEB's 1980 report noted that the Entities, starting with the AOP for 1980-81, decided to use a 40-year period for stream flow analysis rather than the 30 year period specified by the Protocol.[287] The PEB commented as follows:

> While the Protocol reference is to streamflow records employed to calculate downstream power benefits, the Board's view is that Canada's commitment to operate under an assured plan is tied directly to the benefits produced by that plan; therefore the streamflow records used must be identical.[288]

The PEB effectively required[289] the Entities to revert to the use of the 30-year streamflow period for subsequent calculations, thereby restoring the AOP to one that was "consistent with Treaty objectives."[290] The PEB insisted upon these changes even though it acknowledged that the Entities had made the change to keep the AOPs as current and realistic as possible and considered that little if any difference resulted.[291]

This example provides background to the substantive issue of accommodating non-power values discussed in the following section. The PEB's treatment of the critical flow period matter speaks volumes about the PEB's interpretation of its own role. It does not see itself as being responsible for creating a "better" treaty or one that speaks to changing needs. Instead, it has consistently, rigorously, and single-mindedly confined its roles to reporting on deviations from the operating plans, and ensuring that the objectives of the Treaty are met.

2.2.5.2 Accommodating Non-Power and Non-Flood Control Values in Treaty Operations

Canada's basic obligations under the CRT are determined by the AOPs, but there is nothing in the CRT to preclude the two Entities from agreeing to vary the detailed operating plans (DOPs), provided that both are in agreement. Indeed, the Treaty specifically invites the Entities to prepare and implement a DOP "to obtain results that may be more advantageous to both countries than those which would be obtained by operating in accordance with the assured

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287 *PEB Annual Report*, 1980 at 22.

288 *Id*., at 23.

289 *PEB Annual Report*, 1981, at 23. The PEB noted that AOPs must revert to the 30-year period unless the governments agreed to change the terms of the Protocol.

290 *PEB Annual Report*, 1980, at 23.

291 *Id*., at 22.

operating plan."[292] For example, one Entity may wish to suggest a change that allows it to accommodate non-power or non-flood values or, more generally, allows it to meet domestic legal obligations. In addition, there is nothing in the CRT that precludes BPA and BCH from making whatever arrangements they consider to be appropriate for non-treaty storage, provided that treaty obligations are not compromised.[293]

In this section we need to address two questions. First, can the US Entity insist that the AOPs incorporate fish flow requirements and, if not, can the US Entity incorporate fish flow requirements into the DOP? Second, what other arrangements can the Entities use to meet fish flows, and what role does the NTSA play?[294]

2.2.5.3 Fish Flows and the Assured Operating Plan

The Canadian Entity takes the position that the storage or release of water to provide for fish flows or other enhancements in the lower Columbia River falls outside the ambit of the CRT. Consequently, BCH opposes any attempt to include these consideration in the AOP or the calculation of downstream benefits. The PEB supports this interpretation of Canada's treaty obligations.

The PEB first confronted this matter in the early 1980s when the idea of a water budget first emerged with the introduction of the Northwest Power Planning Council's (NPPC) draft Fish and Wildlife Report. The PEB noted as follows:

> The Board has become aware of the [NPPC's] view, as presented in a draft report entitled "Fish and Wildlife Program", that Treaty storage in Canada can be used for fisheries purposes in the United States. The Board is concerned that this could conflict with the terms of the Treaty and that such proposals are being made

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292 CRT *supra* note 7, Article XIV(2)(k); *PEB Annual Report*, 1993, at 21.

293 The PEB has examined the NTSAs and other Entity agreements for filling non-Treaty storage (e.g. Revelstoke) to determine if they are compatible with Treaty objectives. See for example *PEB Annual Report*, 1985 at 23-24 commenting on the 1984 Entities' Agreement and *PEB Annual Report, 1992* at 24 commenting on the July 1990 Agreement.

294 In his contribution "Legal Issues Shaping Salmon's Future" (1995) 25 Envtl. L. 413 at 415 to the 1994 Lewis and Clark Colloquium on "Who Runs the River" Dan Rohlf raised a interesting set of questions as to the role that Canadian storage, both treaty and non-treaty, could play in assisting US federal agencies in meeting their obligations under both ESA and the NWPA:

> > ... one thing we have not talked about a great deal is the 20.5 million acre-feet of storage in Canada. That is a lot of storage. We have yet to take a comprehensive look at how Canadian storage can help salmon. The Bonneville Power Administration (BPA) has, to some extent, used its ability to regulate Canadian storage to help fish by inserting water budget requirements into treaty operations. But I think a larger question needs to be asked: What additional benefits can Canadian storage provide to fish in the Columbia Basin.

> without adequate consultation with the Board. The Board is currently reviewing these concerns.[295]

The PEB returned to the question in its 1983 report, by which time the Fish and Wildlife Program had been adopted by NPPC. By this time also, the PEB had clarified its own thinking, for it now took the position that fish flows should not be used in the development of the AOP as this would be contrary to the CRT. However, the PEB did suggest that the Entities could accommodate fish flow requirements through the development of the annual DOP.

> The Board does not agree that use of Canadian storage could be considered for fishery purposes in developing Assured Operating Plans as it contradicts Treaty requirements for optimum operation for power and flood control benefits. The Board notes however that the Entities could, by agreement, provide water for fish migration under detailed operating arrangements provided this does not conflict with Treaty requirements. Such arrangements must not result in any decrease to Canadian downstream power or flood control benefits.[296]

The PEB's position has not changed since this comment. In its Annual Report to the two Governments, the PEB routinely notes that the Entities accommodate non-Treaty values "such as accommodating construction in river channels and providing water to assist the downstream migration of juvenile fish in the United States" through the negotiation of DOPs that provide "mutual benefits".[297] The chief difficulty that this poses to those who wish to ensure that Treaty storage will be made available at the time, and in the quantities required, to aid downstream fish migration or to provide minimum flows for spawning fish, is that the CRT does not oblige Canada to incorporate these requirements in a DOP. It is the AOP that expresses Canada's primary operating obligations under the Treaty. DOP obligations and entitlements can only detract from, or add to AOP obligations if *both* Entities agree and thus, only if there is some mutual advantage to the arrangement[298]

In light of the PEB's comments quoted above on the negotiation of mutually beneficial DOPs, one might expect to find fish flow issues dealt with explicitly in the DOPs, either in the form of explanatory text, or by the adoption of integrated or biological rule curves that incorporate fish flows. This is not the case; fisheries issues are not mentioned in the DOPs. Thus, although the PEB's Annual Reports confirm that Treaty storage is being used to provide fish flows, Treaty storage is not used for that purpose because the Entities have suddenly agreed to incorporate biological rule curves in the DOP. Instead, fish flows are simply made available as

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295 *PEB Annual Report*, 1982, at 23.

296 *PEB Annual Report*, 1983, at 23. The Board reiterated its position in *PEB Annual Report*, 1985 at 24, the *PEB Annual Report*, 1986 at 24-25, the PEB noted that progress was being made to resolve concerns in *PEB Annual Report*, at 25 and expressed itself to be satisfied with an agreement that the Entities had reached in its *PEB Annual Report*, 1988 at 24.

297 See for example *PEB Annual Report*, 1993 at 42 and *PEB Annual Report*, 1994 at 37.

298 CRT, *supra* note 7, Article XIV(2)(k), quoted *supra* note 235.

an incident to BPA's scheduling of releases within the conventional constraints of rule curves developed for power and flood control.

In order to provide a guide to Entity operations for non-power and flood control purposes, the Entities, for the last several years, have developed annual fish flow agreements.[299] These agreements establish targets for both Entities for storage and minimum flows at certain times of the year. They are designed to meet non-power objectives on both sides of the international boundary. The agreements are treated as supplements to the DOPs and may make use of non-Treaty storage as well as Treaty storage. Before considering the 1995 Fish Flow Agreement we need to examine the role of the NTSA.

a. The 1995 NTSA

The most important non-Treaty agreement between the Entities is the 1990 NTSA. The 1990 NTSA[300] provides 4.5 MAF of active storage at Mica for use by BCH and BPA in equal shares.[301] In addition, the agreement allows BCH to make further storage available on a recallable basis at Mica and other BCH facilities.[302] The NTSA deals with technical issues of storage and release, scheduling of power deliveries etc. Fish issues are not dealt with explicitly. Each party receives all the benefit (through additional generation downstream) when it releases its water from storage, and suffers all the energy losses when it elects to store.[303] Neither party has an unfettered right to store or release water, and each must consult with the other party on operations. Several conditions apply to storage and release. First, if BPA requests a release from its storage account to meet downstream fish flows, BCH is required to provide the return unless it reasonably determines that it cannot provide energy for the return, or it cannot accept the resulting increase of flow at projects downstream from Mica.[304] Similar conditions apply if BPA requests permission to store water. Second, where both BCH and BPA wish to store or release water, and this would involve a violation of operating conditions, or exceed downstream generating capacities or discharge limits, then the requests of both shall be proportionately

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299 Columbia River Treaty Entity Agreement on Operation of Treaty Storage for Non-power Uses for January 1 through July 31, 1995 (hereafter 1995 Fish Flow Agreement). There were similar agreements in 1993 (*PEB Annual Report*, 1993 at 29) and 1994 (*PEB Annual Report*, 1994 at 23).

300 Agreement between BPA and BCH Relating to (1) Use of Columbia River Non-Treaty Storage; (2) Mica and Arrow Reservoir Refill Enhancement; and (3) Initial Filling of Non-Treaty Reservoirs, July 9, 1990, BPA Contract No. DE-MS79-90BP92754.

301 *id.*, s.3(a).

302 *Id*., s.3(b).

303 *SOR Main Report*, *supra* note 3 at 4-26. In addition to any obligations that it may incur on the application of this principle, s.13 of the NTSA *supra* note 300 also requires BPA to deliver energy to BCH for energy generation losses at Mica due to the loss of head incurred by BPA's use of its storage account.

304 *Id*., s. 5(b). The conditions apply equally to BCH.

reduced.[305] Third, the entire agreement is subject to the priority of the Treaty.[306] This latter condition may or may not be a serious limitation.[307]

As a result of these conditions on BPA's contractual rights under the NTSA, the lead agencies involved in the US System Operation Review for the Columbia system ruled that they could not rely on NTSA water as a separate source of water that should be considered as part of the SOR.[308] In sum, NTSA storage is qualitatively different from Treaty storage. BPA can require BCH to release water from Treaty storage in accordance with the AOP as modified by the DOP. In the case of NTSA storage, BCH may be entitled to refuse to meet the call.

We are now in a position to examine the 1995 Fish Flow Agreement.

b. The 1995 Fish Flow Agreement

The cautious approach of the Canadian Entity to agreements such as this is signaled at the outset. In both the recitals to the agreement, and its operative paragraphs,[309] the Canadian Entity attempted to ensure that the agreement did not set a precedent, could not be interpreted as an acknowledgment by Canada of any obligation to achieve the objectives contemplated by the agreement, and did not constitute a waiver of Canada's claims in respect to the operation of Libby (a matter dealt with in further detail in Part III below).

The agreement established five separate objectives for the Entities: (1) maintenance of Keenleyside flows for the purposes of protecting white fish, and (2) trout eggs; (3) maintenance of levels in Arrow reservoir to protect seeded areas, thereby avoiding severe dust storms; (4) additional Arrow storage of 1 MAF, and releases between April and July to help meet desired

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305 *Id*., s. 10(c).

306 *Id*., s.10(a):

> The use of Treaty storage space and the use of all other facilities at Mica and Arrow and Downstream US projects to fulfill the requirements of the Treaty shall receive priority over all uses provided for in this Agreement.

The Entities would anticipate that the PEB would examine the NTSA to satisfy itself that it did not prejudice the attainment of treaty objectives: see *supra* notes 293 to 298. The heading for s.10 is "Priority of Use of Facilities"; this would be a place to include a priority for fish flows if the Entities were so inclined. The NTSA is silent on the issue but it does provide some guidance on appropriate levels of releases for the period September through April (s.10(b)); presumably this priority is dictated by power or flood considerations.

307 The Treaty's primary concern is with Treaty storage and it is therefore difficult to think of many examples in which the Treaty itself (as opposed to US calls on Treaty storage) would actually constrain the use of non-Treaty storage for non-power or non-flood purposes. On example might be on-call flood control storage. Non treaty storage is available for on-call flood control under the Treaty and if Mica were evacuated to meet such a call the result might be insufficient water later in the season to provide adequate flows.

308 *SOR, Main Report supra* note 3, at 4-26.

309 1995 Fish Flow Agreement *supra* note 299, s.2 .

target flows at McNary to assist the downstream migration of salmon, and (5) controlled releases so as to provide for a minimum stream flow below Priest Rapids to cover salmon redds during the first half of the year.[310]

The agreement articulates a set of principles and procedures through which the Entities will attempt to achieve these objectives. In particular, the Entities agreed to shift storage between Arrow and Grand Coulee to achieve the objectives of the agreement.[311] To give effect to this, the Agreement contains a statement of general procedures for each month of the 6-month term of the agreement.[312] The month of July provides a simple example.[313] For that month, the agreement provides that the US Entity may use any of the remaining 1 MAF stored in Arrow for flow augmentation and not already called on. If such a release causes a risk of a drawdown at Arrow (i.e. outflows are higher than inflows) the agreement requires the Entities "to share equally the use other operating flexibilities"[314] and release at least one-half of the remaining amount of the 1 MAF stored at Arrow.[315]

The example illustrates several points. First, the agreement acts as a guide to the operation of storage. Second, both US and Canadian objectives are given equal weight. Third, where those objectives conflict, the Entities agree to share the difference i.e. the Entities will strive to achieve both objectives to a limited extent. Fourth, although the agreement focuses on Treaty storage at Arrow, it contemplates that the Entities will also use other resources (e.g. non-treaty storage) to meet the objectives of the agreement. Finally, the agreement is a supplement to the DOP, it does not override it and several other provisions of the agreement make it clear that other values will prevail in the event of a conflict.[316] In sum the agreement provided a guide to reservoir operation but the guide has not been fully integrated into the rule curves, and is subsidiary to those rule curves.[317]

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310 *Id*., ss.2 and 3(a).

311 *Id*., s.3(a).

312 *Id*., s.4.

313 *Id*., s.4(f). This is a particularly straightforward example. The targets for the other 5 months are much more complicated as the Entities endeavour to balance multiple objectives.

314 *Id*., s.4(f): I take this to be a reference to other storage, including Mica NTSA storage.

315 *Id*., s.4(f).

316 As one would expect, Treaty operations for power, in accordance with rule curves, prevails. Thus s.3(b), *id*., requires the US Entity to use all available flexibility at Grand Coulee before requesting Treaty storage releases that conflict with the Canadian non-power objectives, but at then end of the day the implication is that the Treaty will prevail. Similarly, Paras 3(c) and 3(d) indicate that nothing in the agreement shall constrain the operation of either Arrow or Grand Coulee, but US Treaty flow requests will be based on the assumption that both Arrow and Grand Coulee will follow the principles and procedures of the agreement.

317 Rule curves do constrain reservoir operation; this agreement does not, *id*.

In conclusion, the PEB has made it clear that the US Entity does not have the right to incorporate fish flow requirements into the AOP. The PEB has indicated that it will permit fish flows to be integrated into DOPs if both Entities are in agreement. To date this has not resulted in the explicit incorporation of fish values into the DOPs. Thus the DOPs do not mention fish flows and do not prescribe integrated rule curves that incorporate biological values. Nevertheless, the US Entity may demand storage releases to meet fish flows provided that those demands do not violate the DOPs. In addition, the US Entity may request BCH to release some of BPAs non-Treaty storage to meet fish flow requirements. Under some limited circumstances BCH may refuse to provide the releases or to store water for future fish flow requirements. Finally, the Entities have developed fish flow objectives and incorporated them in annual agreements that are designed to meet the multiple objectives of both Entities. This is a useful step, but the agreements seem to establish targets and principles rather than rules.

2.2.6 The Duration of the Treaty Regime and Dispute Resolution

2.2.6.1 Duration

In plain language, the CRT has a minimum life of 60 years. The CRT expresses that basic proposition in more complex terms.

The Treaty does not terminate automatically on a particular date. Instead, Article XIX provides that either Party may terminate the Treaty (with the exception of certain provisions) upon at least ten years written notice. The notice will not be effective until the Treaty has been in force at least 60 years. Hence, neither Party may terminate the Treaty before September 15, 2024 and in order to terminate the Treaty upon that date, the Party desiring to terminate must give notice on or before September 15, 2014. Some provisions remain effective even upon termination. Thus, Canada is obliged to continue to provide on-call flood protection under Article IV[318] and the Libby Dam can continue to impond water on Canadian territory for the useful life of the dam.[319] Finally, Canada retains the Kootenay River diversion rights reserved by Article XIII of the CRT[320] and the provision dealing with the restoration of the pre-treaty legal status quo which we have already discussed in the context of the BWT continues in force as well.[321]

Thus contrary to some opinion,[322] all that expires between 1998 and 2003 are the 30 year terms of the sale of the Canadian DPBs from the three Treaty Dams. The expiry of the sale, and

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318 CRT *supra* note 7, Article XIX(4).

319 CRT *id*., Article XIX(3) provides that the entirety of Article XII remains in force; thus whatever benefits Canada may derive from the operation of Libby continue as well.

320 CRT *id*., Article XIX(2).

321 CRT *id*., Articles XIX(2) and Article XVII, Restoration of the Pre-Treaty Status Quo, *supra* note 92.

322 Moos, "Remember Us: The Vantage Point of a State Agency" in Broches and Spranger (eds), *supra* note 234, pp. 137-139 at 138.

the return of the DPBs, has already resulted in negotiations between the Entities on a renewed sale or delivery of the entitlement at Oliver, or at other locations,[323] but there is no requirement to renegotiate the Treaty.[324]

2.2.6.2 Dispute Resolution

As noted above, the PEB's responsibilities are largely confined to overseeing the implementation of the CRT by the Entities.[325] The PEB may assist the Entities in "reconciling differences concerning technical or operational matters"[326] and may play a fact finding role.[327] The PEB cannot interpret the CRT so as to bind the Parties. Thus the PEB performs a role in avoiding disputes by assisting the Entities in coming to mutually acceptable conclusions, but if issues cannot be resolved before the PEB, either Party may invoke the formal dispute resolution mechanisms provide by Article XVI of the Treaty.[328]

Article XVI(1) provides that "differences arising under the Treaty which Canada and the United States cannot resolve may be referred *by either* to the International Joint Commission for decision." (emphasis supplied) If the IJC does not render a decision within three months either Party may submit the difference to arbitration.[329] Paragraph (4) further provides that the two states "shall accept as definitive and binding and shall carry out any [such] decision ..." either of the IJC or the arbitration tribunal. Finally, Article XVI(6) provides that the Parties may agree upon an alternative dispute resolution procedure. Thus far, all differences between the Parties have been resolved without the need to resort to formal dispute resolution.

Given the way that the IJC has evolved over the decades since the ratification of the CRT, it seems unlikely that either Party would feel entirely comfortable referring a contentious matter to the IJC.[330] The Parties do have the option of agreeing on an alternative procedure under

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323 CRT *supra* note 7, Article V(2).

324 Negotiations on the return of the DSP are dealt with in Lesser, *supra* note 234, and in Part III *infra.*

325 See discussion *supra* text to notes 282 to 286.

326 CRT *supra* note 7, Article XV(c).

327 CRT *id*., Article XV(3).

328 There is no requirement that the Parties attempt to resolve matters before the PEB before resorting to Article XVI and indeed in the ongoing dispute on the operation of Libby, *infra* notes 374 to 411, there is no evidence in the Annual Reports of the PEB that this matter has ever been submitted to the Board.

329 CRT *supra* note 7, Article XVI(2).

330 Willoughby, *supra* note 97 at 34 makes the more general point that it is now extremely unlikely that the two governments would ever make use of the IJC's arbitral powers under the BWT *supra* note 32. Note that if the IJC attempts to resolve the matter, there is no neutral party as provided for in Article XVI(3) of the CRT (a three person arbitration panel with the third person chosen by agreement of Canada and the US or, failing that, the President of the International Court of Justice).

Article XVI(6), and, additionally, the extremely tight time lines for the IJC's response suggests that, a Party could insist upon arbitration unless the IJC could meet three month reporting period.

2.2.7 Conclusions

Absent the Treaty, the US would have no control over the operation of storage in Canada. Under the CRT, Canada committed to operate its Treaty storage to optimize downstream power generation and flood control. Canada did not agree to operate Treaty dams for whatever purposes the US Entity deemed appropriate, or for whatever purposes required of the US Entity by US law.
The Canadian Entity *may* agree to operate Treaty dams for purposes other than power or flood control, and the Treaty does not preclude this possibility, but the Treaty does not require Canada to do so. Furthermore, the Treaty requires the Entities to calculate Canada's DPBs on the assumption that US dams are operated to optimize power production. The US may elect to use its dams for other purposes, and to spill water for fish flows, but it cannot unilaterally reduce Canada's DPBs and it cannot require Canada to store or release water on a schedule that is different from that which would be dictated by rule curves developed for power and flood control purposes.

Treaty storage has been used for fish flows. The power and flood control rule curves allow the US Entity to schedule releases in such a way that they can be used for fish flows. In addition, the NTSA provides BPA with additional storage and additional flexibility. BPA has less control over non-Treaty storage but it may use that storage to achieve fish flows. Finally, in supplementary DOP agreements the two Entities have agreed on a set of non-power objectives. These objectives are consistent with the Treaty, and the Entities may use Treaty and/or non-treaty storage to achieve the objectives. However, these objectives are less authoritative and prescriptive than the rule curves developed for power and flood control purposes.

Clearly then, the CRT does not give the US Entity *carte blanche* in meeting fish flow requirements. But does the Treaty actually impede the satisfaction of non-power values? Now at one level one could say that, absent the Treaty, the natural hydrograph would prevail and that would be much friendlier to fish. Such a response assumes that Canada would never have developed the upper Columbia on its own. It also misses the point that Treaty storage may be used to provide fish flows for Snake River runs. Thus, in order to gain a fuller appreciation of the position we need to ask what would have been the US position *without the Treaty*? In other words, what options has the Treaty made possible?

Again, absent the Treaty the US Entity would have had no say in the operation of Canadian storage. The Treaty provides the US Entity with significant powers to shape releases for power and flood purposes and, within those limits, to provide fish flows. Furthermore, the Treaty offers the possibility of further benefits through the negotiation of DOPs . Finally, the

Treaty has created a working institutional environment[331] in which the Entities seek cooperative solutions to problems and a continuing search for more optimal arrangements.[332]

Despite extensive scholarly writings on the Columbia in the United States, little attention has been paid to the role of the PEB. Thus far, the PEB has escaped serious criticism in spite of (or perhaps because of, depending upon one's perspective) the rigid line that the Board has hewn. Whether it would have emerged thus unscathed, had it not been for the flexibility provided by the availability of Canadian non-treaty storage on the Columbia system, is an open question. For the future, one can expect Canada to guard jealously its Treaty entitlements. The PEB shows every sign of continuing to support Canada's power and flood control interpretation of the Treaty. The analysis to this point suggest that both are fully justified by the Treaty text.

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331 For example, compare the institutional effectiveness of the Columbia River Treaty regime with those of other regimes designed to provide for shared resources. The institutional arrangements for Pacific Salmon, for example, seem almost dysfunctional by comparison. See the discussion in Part IV *infra*.

332 It may be that relations between the Entities are somewhat strained at present because of a failure to reach agreement on the terms of the return of the DPB's but it is clear that generally, cooperation between the Entities extends far beyond the requirements of the Treaty. See for example the discussion in the *PEB Annual Report*, 1993 at 31 dealing with the temporary transfer of storage from Mica on the Columbia to Hungry Horse so as to reduce the amount of spill at Waneta on the Pend d'Oreille. Neither Waneta nor Hungry Horse are Treaty projects. Storage between treaty projects occurs on a routine basis, for example between Libby and Duncan so as to maintain water levels on Lake Koocanusa for recreation purposes: *Id.*

Part III Current Issues

3.1 Introduction

This section of the paper examines four current developments. The first development is the obvious set of issues surrounding the return of the Canadian downstream entitlement. The sale of the Canadian entitlement rendered moot many issues related to the calculation of the DPBs. As the thirty year terms draw to a close, that is no longer the case. Difficult issues of treaty interpretation confront the Entities and the two Parties. Formal dispute resolution for some of these issues is a serious, if not imminent, possibility. Fisheries matters are not central to these negotiations, and one can expect Canadian governments to attempt to forestall attempts to link progress on DPBs with progress on fish flow issues.

The second development concerns the ongoing dispute between the Parties as to the operation of the Libby Dam. In recent years, changes to the flow regime of the dam to provide flows for the endangered Kootenay sturgeon have led Canada to contend that the US is in breach of its CRT obligations. Canada acknowledges the endangered status of the population, takes issue with the proposed solution, and contends that any response by the US must be constrained by US Treaty obligations to Canada.

The third development concerns conflicts between the federal Department of Fisheries and Oceans and BCH over the operation of treaty dams. Although not as acute as similar issues in the United States, there are common themes. What is the proper relationship between federal fisheries regulations and international treaty obligations? What is the effect of the two federal/provincial agreements which form the back drop to Canadian ratification? Do they permit BC to shift the cost of meeting domestic fish flows to the federal government?

The fourth and final issues involves two positive regional developments in the Columbia basin in Canada. One is the formation of the Columbia Basin Trust (CBT) and the second is the development of a new political organization concerned with aboriginal fisheries issues in the Canadian portion of the basin, the Canadian Columbia River Intertribal Fisheries Commission (CCRIFC). Each is positive in a different way. The CCRIFC brings a fresh perspective to basin management in Canada. The CCRIFC is more concerned with intrinsic values such as the health of the river and fish than with optimizing power production. The CBT is positive because it provides the people living in the Basin, those most concerned with BCH's manipulation of reservoir levels, with a direct stake in regional planning.

3.2 The Return of the Downstream Entitlement

3.2.1 The Treaty Provisions

As we have seen,[333] Canada, upon the ratification of the Treaty, sold its downstream entitlement to the Columbia Storage Power Exchange for a series of 30-year terms commencing

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[333] *Supra* note 174.

with the in-service date for each of the Treaty dams. Those terms expire for Duncan in 1998, Keenleyside/ Arrow 1999, and Mica, in 2003.[334]

Article V(2) of the CRT specifies that the DPBs shall be delivered at Oliver "or at such other place as the entities may agree upon". Also relevant to the return of the DPBs[335] are the provisions in Article X requiring the United States to provide standby east-west transmission facilities “in accordance with good engineering practice” in order to safeguard transmission from Oliver to Vancouver.[336] At present there are no transmission services at Oliver on either side of the border.

Negotiations surrounding the return of the DPBs are primarily the responsibility of the Entities under Article XIV(2) of the Treaty. Various paragraphs of that Article provide that the powers and duties of the Entities include:

> (c) calculation of the amounts payable to the United States of America for standby transmission services;
>
> (is) preparation of proposals to implement Article VIII [Disposal of entitlement to DPB within the US];
>
> (j) making appropriate arrangements for delivery to Canada of the downstream power benefits to which Canada is entitled including such matters as load factors for delivery, times and points of delivery, and calculation of transmission loss.[337]

In negotiating return of the DPBs, BC takes the view that it will consider the full range of options "with the objective of maximizing the value of the entitlement."[338] The options include taking a return of the power at Oliver, agreeing to return points other than Oliver, permitting the US to pay for the construction of alternate power facilities in BC instead of returning the

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334 Duncan provides 9% of the Canadian entitlement, Keenleyside 46% and Mica 45%.

335 Other relevant provisions in CRT *supra* note 7, Article VIII are discussed in detail *supra* text to notes 260 ff.

336 CRT *id*., Article X, Canada was to be charged $1.50 US for each kilowatt hour of dependable capacity. The Protocol to the CRT provided that upon the sale of the DPB within the US, the US would be relieved of its obligation (Protocol, para.4(1)). The Protocol similarly relieved Canada of the obligation to pay for that service. The provision is not confined to the term of the initial sale. The Protocol also went on to confirm that the US would not be required to provide, and Canada would not be required to pay for, standby service to the extent that delivery occurred at any point other than Oliver.

337 CRT *supra* note 7, Article XIV(2).

338 Columbia Report, # 2, *The Canadian Entitlement*, published by the Ministry of Energy Mines and Petroleum Resources, February, 1993, at 6.

entitlement, reselling some or all of the entitlement, or some combination of the above.[339] Possible arrangements for resale have become more attractive to BC with recent developments in wheeling rules within the United States. The United States *Energy Policy Act* 1992[340] expanded the jurisdiction of Federal Energy Regulatory Commission (FERC) to order transmission-owning utilities to provide transmission service or wheeling to other utilities. The utilities have responded to this requirement by forming regional transmission groups (RTGs) which provide non-discriminatory access to members on the basis of tariffs filed with each utility's regulator. BCH has taken advantage of this opportunity. It joined the Western Regional Transmission Association (WRTA) as a charter member and succeeded in having "Canadian" language included in the WRTA agreement[341] to protect the jurisdiction of the BC Utilities Commission (BCUC, BCH's regulator). BCH filed its wholesale wheeling rates with the BCUC in November 1995.[342] In the past, BCH has always faced discrimination from BPA in its attempts to access markets in the US south west. The WRTA should relieve this problem.[343]

3.2.2 The Course of Negotiations for Return of the Entitlement

3.2.2.1 The Interim Agreement

In spring 1992, BPA officials indicated that if the DPBs were to be returned at Oliver as contemplated by the Treaty, planning would have to commence shortly. Negotiations between the Entities over the spring and summer resulted in an interim agreement.[344] The interim agreement covers the period until 2003 (when the Mica entitlement returns to Canada) unless sooner terminated by an express agreement between the Entities, or upon 87 months' notice by either Entity.[345] Essentially, the Entities have agreed that, until that time, the return can be handled without the need for the construction of new facilities. Thus, the Entities agreed that one half, or 300 MW of capacity (whichever is less), could be delivered at Nelway through two existing 230 kV interconnections at Nelway and Waneta, and that the balance could be delivered

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339 *Id*.

340 PL. 102-486, 106 Stat. 276 ss.721 to 724, amending *Federal Power Act* 16 USC 824.

341 Governing Agreement: Western Regional Transmission Association, n.p., n.d., available from BCH. The "Canadian" language is sprinkled throughout the agreement but see in particular paras 10.1, 10.5.6, 11.3 and 12.10. In general, the language is designed to require BCH to offer service conditions comparable to those required by FERC and subject to the approval of BCH's regulator, the BCUC. The Agreement does not require BCH to attorn to FERC.

342 BCH and Power Authority, Wholesale Transmission Services Application, Submission to the British Columbia Utilities Commission, November 1995.

343 Interview with Ken Peterson, President and CEO, Powerex, January 11, 1996.

344 Columbia River Entity Agreement on Aspects of the Canadian Entitlement Return for April 1, 1998 through March 31, 2003, July 28, 1992.

345 *Id*., s. 3.

through two existing 500 kV lines close to west coast load centres at Blaine.[346] The agreement also fixed the deduction for transmission losses at 3% of the entitlement.[347]

3.2.2.2. The MONA

Formal negotiations to reach a more permanent agreement commenced in April 1993. The negotiators ratified a Memorandum of Negotiators' Agreement (MONA) on July 8, 1994.[348] Under the MONA the Entities established legal and technical working groups to carry out the intent of the agreement, but the consensus started to unravel in October 1994. Negotiations resumed but to no avail, and the deal collapsed in May 1995 when BPA indicated that it would not proceed. The reasons for the collapse of negotiations are well summarized in the Final EIS prepared by the United States Entity on the Delivery of the Entitlement:

> After the MONA was signed, the electric utility market changed dramatically resulting in a significant reduction in the value of the proposed Entitlement agreements to the United States. The key factor responsible for this change is *the dramatic reduction in the value of capacity in the western United States.* Electricity from gas-fired combustion turbine power plants, once priced well-above hydropower, is now priced competitively with, and in some cases, below the price of hydropower. That situation, coupled with requirements imposed on Columbia River hydropower operations as a result of listings under the US Endangered Species Act, resulted in a significant drop in the value of capacity. The mid-Columbia utilities advised the United States Entity that they could not go forward with the $180 million payment under the MONA. Following a thorough review of the economics of the MONA, the United States Entity and BPA concluded that the agreement contemplated by the MONA no longer had an economic advantage over building the required transmission facilities to deliver the Entitlement to Oliver, BC, and that they could not complete the agreements with the Canadian Entity and the Government of British Columbia [If agreement cannot be reached between the United States and Canada regarding alternative arrangements for delivery of the Canadian Entitlement, the Entitlement will be delivered to Oliver, BC in accordance with the terms of the Treaty.][349]

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346 *Id*., s. 2.

347 *Id*., s.7.

348 Memorandum of Negotiators' Agreement between the United States Entity and the Canadian Entity, July 8, 1994. The chronology is derived from discussions with Ken Peterson, *supra* note 343 who provided me with an account of the non-confidential aspects of the negotiations.

349 *Delivery of the Canadian Entitlement: Final Environmental Impact Statement*, January 1996, DOE/EIS-0197, at 1-5, as corrected by an errata sheet.

The MONA explicitly stated that it was not binding on the Entities,[350] but British Columbia's political position continues to be that BPA's failure to continue with the process was a gross breach of faith.[351] The agreement had resolved a number of contentious issues between the Entities which have now been reopened.[352] One contentious matter that will plague negotiations of this nature is the size of the entitlement credit. Current estimates put the energy entitlement at 550-600 average megawatts (aMW) and between 1,200 and 1,500 MW capacity.[353] In effect, the Entities agreed that whatever the actual calculation, Canada would accept a one-time payment of $180 million to buy down Canada's capacity credit to 950 MW.[354] The Entities also agreed upon delivery of the entitlement over existing facilities, or resale by Canada in the United States, as well as non-discriminatory terms for access and transmission.[355]

3.2.2.3 The Involvement of the PEB

With the collapse of the negotiations, neither Entity is bound to the terms of these compromises, and each has reverted to its own bargaining position. Thus, the US Entity takes the position that it will construct the necessary facilities to allow for delivery to Oliver,[356] and that the Canadian Entity will have to act accordingly to be in a position to receive the entitlement at that point. Canada takes the view that an Oliver delivery point is simply a base case against which the Entities must measure, and cost, alternative arrangements. Furthermore, Canada argues that the US Entity has an obligation, based upon the overall intent of the Treaty as expressed in the Preamble[357] and other operative clauses of the Treaty[358] to consider other

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350 MONA *supra* note 348, s.6(d).

351 See for example: Speaking Notes for Anne Edwards, Minister of Energy Mines and Petroleum Resources, for delivery to the Northwest Electric Light and Power Association Meeting, "Who Controls the Rivers - For What Purpose?" Portland, Oregon, December 7, 1995, esp. at 5.

352 In addition to agreements on the size of the entitlement, the MONA *supra* note 348, also dealt with place of delivery, (Schedule A, s.2) transmission charges and some problems that had plagued the preparation of the AOPs in recent years (Schedule A, s.4). These matters included the definition of the critical stream flow period and the treatment of "established operating procedures" for the purposes of Annex B calculations: on this latter point see *supra* note 275.

353 Final EIS *supra* note 349 at 1-4.

354 MONA *supra* note 348, s.1(b).

355 BCH has now achieved acceptance of this principle of non-discrimination independently of the MONA through the WRTA. See discussion *supra* text to notes 340 to 341.

356 See the Record of Decision of the US Entity, Delivery of the Canadian Entitlement, Final Environmental Impact Statement, March 12, 1996 at 15. The US Entity selected the base case of "Full Delivery at Oliver" while at the same time stating that "it continues to be open to discussion with the Canadian Entity regarding commercially acceptable delivery arrangements to full delivery at Oliver." (*id*., at 2)

357 CRT *supra* note 7, Preamble:

> Being desirous of achieving the development of those resources in a manner that will make the largest contribution to the economic progress of both countries and to the welfare of

arrangements that are mutually beneficial in terms of the Treaty values of power and flood control.

One such alternative is the delivery of the entitlement, or a portion of the entitlement, at Blaine close to load centres.[359] Certainly, Article XIV(2)(j) indicates that the Entities must consider a series of factors in arranging for the delivery of the entitlement including load factors, times and points of delivery and transmission losses.[360]

In order to counter the inertia associated with an Oliver default delivery, the Canadian Entity has made several attempts to obtain favourable rulings from the PEB. Thus, in the last 12 months, BCH has asked the PEB to choose between competing interpretations of the Treaty, and, for almost the first time, lawyers for the Entities prepared detailed legal briefs on the contentious issues and appeared before the PEB.[361]

Canada has been only partially successful in its efforts to obtain the support of the PEB. Although the PEB has ruled in favour of Canada on one significant issue (the matter of critical stream flow period),[362] the Board has also declined jurisdiction in another important matter (the obligation of the US Entity to consider alternative delivery points). We will deal with the latter issue here, as it sheds light upon the role of the PEB and its approach towards its responsibilities under the CRT.

As discussed above, Canada argues that the US is obliged to consider alternative delivery points where such alternatives might "make the largest contribution to the economic progress of both countries".[363] As part of that argument, Canada claimed that the US had a very strict obligation to deliver, which obligation could only be met (in the event of delivery at Oliver) by building at least two transmission lines from the existing transmission grid, to Oliver. A single line, it was argued, would provide insufficient protection against outage.[364]

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their peoples of which those resources are capable.

358 *Id*., Article XIV(2)(k).

359 See the interim agreement *supra* note 344.

360 CRT *supra* note 7, Article XIV(2)(j).

361 Interview with Newton *supra* note 60.

362 PEB Letter to the Entities, October 18, 1995. The longer the critical stream flow period, the greater the value of the Canadian storage and therefore of the DPBs. That same letter also dealt with the issue of “established operating procedures” in CRT *supra* note 7, Annex B, para. 7. The PEB essentially adopted the Canadian position on this matter. The Canadian position is discussed in note 275 *supra*.

363 CRT *id*., Preamble.

364 This paragraph presents a very condensed version of the Canadian argument. See "Delivery of the Canadian Entitlement Under the Columbia River Treaty". Submission of the Canadian Entity to the Permanent Engineering Board, September 25, 1995. The effect of the argument is of course to make Oliver delivery relatively more expensive.

The PEB declined to deal with these and related arguments on standby transmission standards because it saw them as involving questions of treaty interpretation that were beyond its mandate.[365] The Board did however acknowledge that it had a responsibility to engage in the technical and operational issues associated with the return, and, to that end, it indicated that it would consider arguments in relation to transmission reliability.[366] However, after hearing those arguments the Board concluded that they too raised interpretive issues that went beyond its mandate.[367] In the circumstances, and given the importance that the Board attached to a successful resolution of these issues, the Board intimated that it would be prepared to "go beyond its mandate" and perform a mediation role, but only if the governments concurred and the Entities were committed to the process.[368] Failing that, the Board advocated that the Entities should resume negotiations, or the Entities should ask their governments to initiate the dispute resolution procedure under the Treaty.[369]

In February 1996, the Government of Canada made a formal request to the State Department for consultations on a series of questions relating to the return of the entitlement and in relation to future sales in the United States. Canada also indicated that it was actively contemplating referring certain issues to arbitration under Article XVI of the Treaty.[370]

3.2.3 Conclusions

For more than the last 30 years, the Entities have succeeded in finding mutually agreeable solutions to their differences. In addition, the pre-sale of Canada's DPBs rendered moot many difficult problems of treaty interpretation. With the expiration of the sales contract for the DPBs, these issues are now coming to the fore. They are rendered more intractable by the volatile state of the electricity market in the Pacific Northwest and by the precarious financial status of BPA.

At the present time, there has apparently been no attempt to link Canada's desire to settle these issues with US pressures to use Canadian storage for non-power and non-flood control purposes. I predict that Canada would resist any attempt to do so. In order to protect itself from linkages of this sort, Canada may resort to the dispute resolution mechanisms provided for by the CRT. Insofar as those mechanisms provide for binding arbitration based upon legal principles of treaty interpretation, Canada will doubtless opt for these mechanisms rather than linked political solutions to the series of problems facing the Entities.

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365 Letter from the PEB to the Entities, 18 October 1995.

366 *Id*.

367 Letter from the PEB to the Entities, December 21, 1995.

368 *Id*.

369 *Id*.

370 Diplomatic Note No. 29, February 15, 1996. I am not aware of any response from the State Department.

3.3 The Regulation of the Libby Dam

3.3.1 Background

The US originally applied to the IJC for its approval to construct Libby in January 1951.[371] In many respects, Canada regarded the proposal as a test case.[372] Here was a dam that would afford significant flood control, storage and direct power generation revenues to the US, but at the price of flooding Canadian territory. Should not Canada, or more specifically, British Columbia, be entitled to a portion of the power benefits and downstream flood control benefits that would result from the construction of Libby? We now know how the general question of downstream benefits was dealt with, but how did the CRT deal with the DPBs from Libby? What constraints, if any, did the CRT impose upon the US operation of Libby?

3.3.2 The Treaty and Protocol

3.3.2.1 The Treaty

As a dam that impounded water on the Kootenai River in such a way as to flood back into Canadian territory, Libby required the approval of the International Joint Commission.[373] Article XII of the Columbia Treaty waived that requirement[374] and accorded the US the option to construct the Libby Dam. The US exercised the option.

Under Article XII(4) of the CRT, Canada agreed to prepare and make available for flooding, free of charge, the lands in Canada required for the storage reservoir of the dam.[375] This was stated to be in return for the allocation of the benefits provided for in paragraph 2 of the Article:

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371 Bloomfield and Fitzgerald *supra* note 34, at 190.

372 Swainson *supra* note 8, esp. at 43-51.

373 BWT *supra* note 32, Article IV and VIII; see discussion *supra* in Part 2.1.

374 CRT *supra* note 7, Article X. The Article does not expressly override the BWT but it has always been interpreted as having that effect. The conclusion can be supported by reference to Article XVII of the Columbia Treaty which deals with the "restoration" of the pre-Treaty legal status (i.e. the BWT).

375 Libby imposes other costs on Canada. These include debris removal costs for the reservoir, road relocation, changes in the levels of the reservoir with adverse impacts on recreation operators, and loss of nutrients flowing downstream into Kootenay Lake. This latter is thought to have contributed to a crash in Kokanee salmon populations in the Lake and has led, in turn, to an experimental fertilization project in the Lake. See discussion *supra* text to note 61. In some years the Entities agree to limit the effect of Lake Koocanusa (Libby's reservoir) by exchanging storage between Duncan and Mica and Libby. For example, in 1992 and 1993, exchanges allowed the Entities to maintain Lake Koocanusa 6 feet higher than it would otherwise have been, thereby enhancing recreational opportunities in both countries: *PEB Annual Report*, 1993 at 31.

> (2) All benefits which occur in either country from the construction and operation of the storage accrue to the country in which the benefits occur.[376]

These benefits, the downstream power and flood control benefits, have been realized in Canada at plants downstream from Libby, Corra Linn and the Canal Plant. Indeed, BCH constructed the Canal Plant specifically to take advantage of the regulated flows provided by Libby.[377] Two provisions of the Treaty, and one provision of the Protocol, indicate that Canada was obviously concerned about its ability to capitalize on the value added by Libby. The first such provision was paragraph (5) of Article XII which provided that:

> (5) If a variation in the operation of the storage is considered by Canada to be of advantage to it the United States of America shall, upon request, consult with Canada. If the United States determines that the variation would not be to its disadvantage it shall vary the operation accordingly.[378]

In addition, there is some suggestion from the contemporaneous record that Canada also viewed paragraph (6) as providing a measure of protection against dramatic changes in flows. This paragraph provided that the operation of Libby should "be consistent" with any order made "from time to time" by the IJC with respect to the levels of Kootenay Lake.[379] From time to time, discharges from Libby have been restricted in order to comply with IJC orders.[380]

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376 CRT *supra* note 7, Article XII(2).

377 Construction of the Canal Plant was completed in 1976: BCH Systems Review Summary *supra* note 6 at 34.

378 CRT *supra* note 7, Article XII(5). There has been at least one agreement as contemplated under this paragraph. In 1973 the US agreed to modify discharges at Libby so as to minimize spill at Corra Linn and downstream plants. WKP (the operator of Corra Linn) compensated BPA for resulting head losses at Grand Coulee by agreeing to deliver compensatory energy. Columbia River Treaty Operating Committee, *Report on Operation of Columbia River Treaty Projects 1 August 1973 through July 1974*, 1974 at 6.

379 The contemporaneous comment comes from *Treaty Commentary, supra* note 224 at 132, as follows:

> Any operation of Libby must not, through the discharge of excessive flows, violate International Joint Commission orders ... With this curtailment of extremes of operation of Libby, the downstream generating plants in Canada will be able to make a more effective use of the improvement in streamflow.

No doubt the formal *travaux, supra* text to note 207 would provide more guidance, but the negotiating minutes are still held confidential by the governments, although they have been shared with the Entities.

380 See, e.g. *PEB Annual Report,* 1976 at 34; *PEB Annual Report,* 1977 at 30-31.

3.3. 2.2 The Protocol

At Canada's insistence, the Parties returned to consider the operation of Libby during the negotiation of the Protocol. As a result, of those negotiations the Parties added the following provision:[381]

> 5. Inasmuch as control of historic streamflows of the Kootenay River by ... [Libby] ... would result in more than 200,000 kilowatt hours per annum of energy benefit downstream in Canada, as well as important flood control protection to Canada, and the operation of that dam is therefore of concern to Canada, the entities shall, pursuant to Article XIV(2)(a) of the Treaty, cooperate on a continuing basis to coordinate the operation of that dam with the operation of hydroelectric plants on the Kootenay River and elsewhere in Canada in accordance with the provisions of Article XII(5) and Article XII(6) of the Treaty.

If one construes the Protocol together with the Treaty provisions one can suggest that the operation of Libby is constrained by the following parameters.

(1) Libby must be operated in a manner that is consistent with the IJC levels order for Kootenay Lake as amended from time to time.

(2) The Entities shall cooperate on a continuing basis and shall coordinate the operation of Libby with downstream Canadian operations.

(3) Although the US Entity is obliged to co-operate and coordinate, the US Entity may not be required to operate Libby in a way that causes "disadvantage" to it.

Neither the Protocol nor the Treaty amplify what might have been meant by the term "disadvantage". There appear to be two possible constructions of the term, either of which might be supported or rebutted by the *travaux préparatoires*.[382] The first possibility is that the term "disadvantage" takes its colour from values that are at the heart if the Treaty: power generation and flood control. The second possibility is that the term has its ordinary meaning and encompasses any disadvantage that the United States might suffer, whether that be to recreational values, fish values, power values and so forth. In the absence of further guidance from the *travaux,* it seems most reasonable to construe the term in a way that is consistent with the overall tenor of the Article, the Treaty and the Protocol, and that therefore the term must be confined to power and flood values.

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381 CRT *supra* note 7, Protocol, para. 5. The Canadian comment on this provision, *Treaty Commentary supra* note 224 at 162 was as follows:

> This Item acknowledges that Canada will benefit from the operation of Libby and makes more specific the obligation of the United States to coordinate the operation of that dam with the operation of Kootenay River plants in Canada where that would not be against the interests of the United States.

382 See *supra* text to note 207.

The Protocol did not specify the nature of the coordination that the Parties envisaged. The Treaty itself seemed to contemplate that the development of assured and detailed operating plans was to be confined to the operation of the Canadian storage. Nevertheless, perhaps in light of the requirements of the Protocol for cooperation on a continuing basis to coordinate Libby with Canadian Kootenay operations, the Entities do include Libby in the development of DOPs, thereby imposing detailed restraints on the operation of Libby.[383]

Thus, from the in-service date in 1975, until the last couple of years, Libby has been operated in accordance with something known as the Detailed Operating Plan-Actual Energy Regulation Study which typically called for minimum discharges of about 4 kcfs from Libby during May and June, with Lake Koocanusa being allowed to refill during late July or August. In the last couple of years the US significantly changed the operating regime at Libby to provide minimum flows for sturgeon. That change has led to the current dispute between Canada and the United States.

3.3.2.3 Libby and White Sturgeon

Until recently, Canadian concerns with Libby focused on the effects of flow manipulation on recreational users in Lake Koocanusa. Additional concerns centred on the effects of both Libby and Duncan on nutrient levels in Kootenay Lake but, by and large, power concerns seem to have been adequately dealt with by coordination between the Entities. That picture has changed dramatically in the last few years, with the listing of Kootenay white sturgeon as an endangered species under the US Endangered Species Act.[384]

a. The Listing Process and Canadian Responses

The Kootenay white sturgeon is a distinct population of sturgeon that is restricted to the reach of the Kootenai River between Kootenai Falls Montana and the Cora Linn Dam at the outflow of Kootenay Lake in British Columbia.[385] The population is shared between Canada and the US. Fisheries biologists on both sides of the border are in agreement that there has been essentially no recruitment to the population since Libby commenced regular operations in 1975.

In 1992, the US Fish and Wildlife Service received a petition to list the Kootenai River population of white sturgeon as an endangered species. Following a request for comments[386] the Service published a proposed ruling in 1993 that listing was warranted.[387] The listing was

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383 See for example *PEB Annual Report*, 1976 at 26, *PEB Annual Report 1977*, at 26 and *Annual Report of the Entities*, November 1991, at 27-28 and Chart 9.

384 (1973) 16 USC 1531.

385 Kootenai River Population of White Sturgeon, Final Rule, (1994), 59 Fed. Reg. 45989.

386 (1993) 58 Fed. Reg. at 19401.

387 (1993) 58 Fed. Reg. 36379, proposed rule.

finalized in 1994.[388] The Service acknowledged that while several activities had had an impact upon Kootenay sturgeon (including channelizing of the Kootenay and some chemical pollution), the main impact was undoubtedly as a result of the construction and subsequent operation of Libby. The listing decision summarized the threat to the sturgeon as follows:

> The reduced flows during the critical spring spawning and early rearing season as a result of the operation of Libby Dam has impacted recruitment since the mid-1970's, and threatens the continued existence of this population. The population also faces threats from reduced biological productivity, and possibly poor water quality and the effects of contaminants.[389]

In its proposed rule making, the Service cited two concrete examples of the adverse effects of Libby's operations on sturgeon.[390] As a result of consultations prior to listing, the Kootenai White River Sturgeon Technical Committee[391] (established in June 1992) recommended adoption of an interim flow strategy for Libby to ensure that river flows through spawning areas at Bonners Ferry stayed at 35,000 cfs throughout the periods of white sturgeon spawning, egg incubation and early rearing. Adoption of this policy led to formal complaints by the Canadian Entity (discussed further below) and informed Canadian comments on the possible consequences of listing.

The listing decision revealed that Canadian interests, including BCH, made a number of objections to listing. First BCH objected that the proposed flows would draw down the reservoir causing adverse impacts on recreational interests in Lake Koocanusa. Second, BCH argued that high flows at this time of the year would cause spilling at downstream hydro plants: ".... some Canadian citizens and all BCH ratepayers would be adversely affected by the proposed rule to list the sturgeon ... as endangered."[392] Both objections were ignored by the Service on the basis

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388 (1994) 59 Fed. Reg. 45989, Listing Decision.

389 Listing Decision, *id.,* at 46000.

390 Proposed rule *supra* note 387, at 36383. First, the Service noted that a 1992 energy exchange agreement designed to maintain Lake Koocanusa levels for recreational reasons (*supra* note 385) dropped flows below Libby from 20,000 cfs to 4,000 cfs during the critical spawning period. Second, the Service noted that in February 1993 BPA began drafting 1 MAF for power reserve generation when the Service believed that this would be used to enhance sturgeon spawning flows and complement proposals fro salmon flows. The Service also noted (*id*., at 36382) that flow fluctuations for load factoring purposes "may adversely affect sturgeon spawning behaviour and reduce any egg/larvae survival."

391 58 Fed. Reg. 36379, at 36384. Canadian agencies were represented on this committee (Federal Fisheries and provincial fish and wildlife) and are also represented on the Sturgeon Recovery Plan Team but Canadian representatives and the Department of Foreign Affairs are at pains to point out that they participate as observers and to provide input and advice for the benefit of the sturgeon; they are not bound by the results of the process and are not sitting as representatives of Canada: interviews with David Allin (Foreign Affairs, February 20, 1996) and Gordon Ennis (March 1, 1996) Area Chief, Eastern BC Habitat Unit, Department of Fisheries and Oceans, Vancouver BC.

392 59 Fed. Reg. 45989 at 45993.

that economic considerations were not relevant to listing but only to the designation of critical habitat and the development of a recovery plan.[393]

Canadian agencies also argued that the Service should be careful to ensure that measures taken to protect sturgeon did not have an adverse effect upon "non-targeted stocks of Canadian fish". The Service agreed with this concern and undertook to:

> ... work with Canadian government agencies to promote international cooperation for recovery of the Kootenai River white sturgeon and to address potential environmental impacts to other aquatic resources in Canada and the United States.[394]

While fisheries biologists on both sides of the border may well agree upon the source of the problem affecting the sturgeon, they may disagree as to the solutions. Furthermore, and as one might expect, fisheries interests and power interests in Canada disagree as to the appropriate solution.

The biological consensus is that successful spawning requires increased flows and velocities when air temperatures are increasing during the spring and early summer.[395] There is, however, some suggestion that this is not enough. In particular, Canadian biologists have suggested that the backwater effects of Kootenay Lake on the Kootenay River may precipitate sturgeon to spawn in the wrong place, that is to say, in areas of the river where the substrate is sandy rather than rock or gravel, with the result that any eggs may be buried by sand deposition.[396] This hypothesis is important here for a couple of reasons. First, it may require some re-consideration of the IJC levels order for Kootenay Lake.[397] The Board of Control for Kootenay continues to report that there have been no violations of the Order but, since Libby, Kootenay Lake has been maintained at a lower levels than was historically the case. While lower levels probably benefit agricultural interests on both sides of the border, it is conceivable that these levels have had a detrimental effect on the success of sturgeon spawning.[398] Since the IJC Order does not actually specify minimum lake levels it is possible that the IJC should be asked to revisit its Order and to look into this matter.[399] To the extent that this hypothesis merits attention, Canadian power interests will certainly use it to argue that there is little point in increasing spring flows if another necessary condition for spawning success has not been satisfied.

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393 *Id.*, at 45993.

394 *Id.*, at 45995.

395 Ennis interview *supra* note 391.

396 *Id.*

397 See the earlier discussion in Part I of this paper, *supra.*

398 *Id.*

399 See detailed discussion of the Order *supra* notes 49 to 57.

The second area of disagreement relates to the size of the flows that are required. Power interests in Canada are not convinced that the flows required by the Service in its biological opinion are necessary. Here, there may be a divergence within Canada between the views of power interests and fisheries interests. Thus, while the federal Department of Fisheries and Oceans might have doubts as to the efficacy of higher flows, it is more willing than the power interests to subscribe to the precautionary principle and to accept the need for the Service's proposed flows.

b. Designation of Critical Habitat and the Development of a Recovery Plan

The *Endangered Species Act* requires that the Service designate critical habitat at the same time that a species is listed as endangered unless there is insufficient information to do so, or unless the biological needs of the species are not known.[400] As yet, there has been no designation of critical habitat. This was justified at the time of listing on the basis that there was not enough known about the life history requirements of the sturgeon to justify a designation. In addition, the Service noted that any designation would be confined to US territory and could not apply to Canada.[401] Since then, work has proceeded on designation but there is now a moratorium in place on further measures under the Act.[402]

Work has also proceeded on the development of a recovery plan and a draft was released in summer 1996.[403]

3.3.3 Canadian Complaints About the Operation of Libby

Following listing, the Army Corps was required to consult with the Service on the operation of Libby. As a result of that consultation, Libby flows were increased from approximately 4,000 cfs to between 25,000-30,000 cfs during May and June 1995.[404] Upon learning of this requirement Canada argued in a Diplomatic Note[405] that this action would

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400 16 USC 1533 6(c).

401 (1994), 59 Fed. Reg. 45989 at 46001.

402 Conversation with Stephen Duke, US Fish and Wildlife Service, Idaho, March 8, 1996. Duke noted that his office had made a recommendation on designation. Further action was precluded by a general moratorium.

403 US Fish and Wildlife Service, *White Sturgeon: Kootenai River Population, Draft Recovery Plan*, n.d.

404 The Service's Biological Opinion, March 1, 1995 required the following flows for 1995: April 15, 15,000 cfs; May to June 1, 15,000 cfs; June 1 greater than 20,000 cfs and maintain levels for 42 days, before ramping down to 11,000 cfs for 21 days, and, finally, ensure storage for sturgeon flows for the 1996 year. For the 1996-98 water years the Opinion required the following flows: April 15 begin increasing flows at constant rate to 15,000 cfs; May 1 to June 1, maintain flows at 15,000 cfs; June 1 ramp up flows to achieve 35,000 cfs and maintain them at that level for 42 days and then ramp down to 11,000 cfs for a further 21 days. All of the above figures are for flows at Bonners Ferry downstream of Libby; actual Libby flows may be different depending upon natural inflows between Libby and Bonners Ferry.

405 Diplomatic Note No. 010, January 12, 1995.

prejudice Canadian interests under the CRT. In particular, Canada suggested that it would result in the loss of significant downstream power benefits and that theses benefits were critical to Canada's agreement to provide the lands required for the Libby reservoir and were important to its decisions for major investments on the Kootenay River.[406] Canada recognized the importance of conserving endangered fish stocks in the Basin but stated that it expected US agencies to operate Libby in such a way as to fulfil both their obligations under ESA and their obligations to Canada under the CRT.[407] The Note concluded by seeking consultations under Article XII of the Treaty with respect to the proposed variation in the flow from Libby and, if appropriate, the compensation to which Canada would be entitled should the flow be changed.[408]

The formal US response to the Canadian Note took issue with the Canadian characterization of the problem. Whereas Canada argued that the US needed to consult prior to changes in the flow regime, the US Note emphasised the actual language of the Treaty:[409]

> The Department wishes to note further that pursuant to Article XII(5) of the Columbia River Treaty, consultations may be requested by Canada to discuss a variation in the operation of storage which would be of advantage to Canada.
>
> The Department of State is of the view that such a request for variation should be specific and set forth detailed proposals so that meaningful consultation within the Terms of Article XII(5) of the Treaty can occur. Should Canada wish to present a particular proposed variation, the Government of the United States would be pleased to proceed with consultations in the spirit of the full spectrum of mutual interests reflected in the Columbia River Treaty.

Since this exchange, matters have become more heated. In a Note of September 1995,[410] Canada alleged breach of the Treaty, the Protocol and the DOP and AOP for 1994-95 (August 94 to July 95) and asked the US to engage in discussion concerning liability for the economic losses suffered by Canada. Details of Canada's losses for the 1994-95 year were provided by a further Note in November 1995.[411] One of the consequences of the dispute over Libby and associated ESA issues is that the US entity has refused to sign annual Assured Operating Plans.[412]

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406 *Id*.

407 *Id.*

408 *Id*.

409 Note from the US State Department, April 4, 1995.

410 Canadian Diplomatic Note, Note No. 150, September 5, 1995.

411 Canadian Diplomatic Note No. 179, November 3, 1995. Further discussions between the two Parties were anticipated in the Spring of 1996 but were postponed.

412 *PEB Annual Report*, 1994 at 19.

3.3.4 Conclusions

The current dispute in relation to Libby illustrates once again how much more complex Treaty operations have become in the last number of years. This dispute also reinforces the point that this complexity is not solely attributable to the return of the Canadian entitlement. Instead, the dispute emphasises the extent to which different values, especially fish values, have come to assert an important influence upon the operation of Treaty facilities. Nevertheless, Canada has consistently sought to hold the US to its obligations under the terms of the original bargain. Thus, even in relation to a shared stock such as sturgeon, Canada argues that the US Entity must comply with the Treaty and the Protocol and that it cannot use its ESA obligations to avoid its international treaty obligations; neither can the US Entity shift a portion of the costs of ESA compliance to Canada. It is clear law that a party to a treaty cannot invoke domestic law as a justification for failure to perform a treaty. Furthermore, while there may have been a Treaty violation in the present case because the US unilaterally departed from a DOP, it does not follow that this conclusion would apply to future operations of Libby to meet sturgeon flows. This is because while the Treaty and Protocol require cooperation and continuing coordination, Canada cannot control the operation of Libby in the same way that the US Entity can control Canadian storage, in particular it cannot require the US to operate Libby at a disadvantage to the US.

3.4 Canadian Fisheries Issues in the Columbia Basin

3.4.1 Introduction

This section of the paper reviews some of the legal issues associated with recent concerns of the Canadian federal Department of Fisheries and Oceans (DFO) with the operation of one of BCH Treaty dams: Keenleyside. Obviously, this is not intended as an exhaustive statement of the domestic fisheries concerns associated Treaty facilities[413] but the example does raise legal problems that may be common to other Treaty dams. In particular the example requires us to consider how Canadian law would deal with a conflict between a federal statute and the CRT.[414]

3.4.2 The Operation of Keenleyside

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413 Some of the other issues are discussed in Part I *infra*.

414 I emphasize that at this point in the paper I am only considering the issue as a matter of Canadian law. The international law for Canada is obviously the same for Canada as for the United States and articulated in the previous section of this paper. Thus, if DFO orders minimum flows at Keenleyside, and if those flows violate the AOP/DOP, Canada will be internationally responsible. Whether those flows will violate the AOP/DOP might depend upon the proper interpretation of Annex B, para.7 and the term "established operating procedures"; see discussion *supra* note 275, and see also Annex A paras. 1-4. These latter paragraphs deal with Entity approval of the operating capacities of Treaty dams.

In recent years, DFO has expressed concerns about the operation of Keenleyside.[415] DFO was concerned that low flows from Keenleyside in the winter months were dewatering spawning habitat for trout and stranding whitefish spawn. In general, DFO would like to see much higher and more constant flows from Keenleyside during the spring and early summer (April to June), in order to protect trout.[416] Matters came to a head in February 1995 when BCH notified DFO that it had reduced flows from Keenleyside from 24,000 cfs to 18,000 cfs. The relevant official in DFO formed the opinion that this might jeopardize trout and whitefish spawn and issued an order under s.22(3) of the *Fisheries Act.*[417] The order required BCH to restore flows to 24,000 cfs until otherwise ordered.[418] To put this in some sort of perspective, this is only the second occasion[419] that such an order has been issued.

A similar situation arose at the end of January and early February 1996 when BCH proposed to reduce flows from Keenleyside as part of a strategy to protect Portland from flooding as a result of unusually high water levels. On this occasion, DFO approved of the proposed plan because of the flood control objectives.[420]

3.4.3 Relationship between the Treaty and Federal Law: the federal-provincial agreements

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415 In previous decades DFO, in practice, left provincial fisheries managers to deal with habitat concerns for resident fish. Litigation in *Friends of the Oldman River Society v. Canada (Minister of Transport)*, [1992] 1 SCR 3 reminded DFO of its responsibilities for inland fish. Since then, DFO has been much more aggressive in its dealings with BCH: interview with Hugh Smith, BCH, Manager of Fisheries, June 25, 1996. Gordon Ennis, DFO notes that concerns over Keenleyside were triggered by operations pursuant to the NTSA; Ennis interview, *supra* note 391.

416 Ennis *id.* DFO would like to have releases of about 40,000 cfs whereas BCH would like to see flows of about 15,000 cfs.

417 Section 22(3) of the *Fisheries Act*, RSC 1985, c. F-14 provides as follows:

> The owner or occupier of any obstruction shall permit the escape into the river-bed below the obstruction of such quantity of water, at all times, as will, in the opinion of the Minister, be sufficient for the safety of fish and for the flooding of the spawning grounds to such depth as will, in the opinion of the Minister, be necessary for the safety of the ova deposited thereon.

418 Letter from Tousignant, Director General, Pacific Region, DFO, to Sheehan, President and CEO, BCH, February 9, 1995.

419 So far as the author and officials in DFO and the Department of Justice are aware: interview with Gordon Ennis, March 1, 1996, letter from John Clark, Department of Justice, Vancouver, March 4, 1996. The only other order issued under the section was issued against Alcan for the Nechako River and resulted in litigation: *AG Canada v. Aluminium Co. of Canada Ltd.* (1981), 115 DLR (3d) 495 (BCSC). In that case, Justice Berger issued an interlocutory injunction against Alcan requiring it to comply with the DFO order. The matter was ultimately settled by an agreement between the parties.

420 Ennis interview *supra* note 391.

This dispute draws attention to the relationship between the CRT, the *Fisheries Act* and the federal-provincial agreements between British Columbia and Canada on CRT implementation.[421] There are two issues. First, in the event of a conflict between the Treaty and the *Fisheries Act*, which takes precedence? Second, if the *Fisheries Act* takes precedence, is the Province entitled to compensation from Canada for losses that might ensue?

Under the Canadian constitution, it is clear law that the ratification of a treaty by Canada does not change the domestic law of the country, or create rights or obligations for citizens except to the extent that Parliament has implemented the treaty in domestic law,[422] and then only to the extent that Parliament has the legislative jurisdiction to do so in accordance with the distribution of powers under s.91 of the *Constitution Act, 1867*.[423] Although Parliament implemented the Boundary Waters Treaty,[424] parliament never adopted legislation to implement the CRT. Accordingly, one can assert with a high degree of confidence, that, in the event of a conflict between the Treaty and a federal statute, such as the *Fisheries Act*, the *Fisheries Act* will prevail. In other words, BCH cannot hide behind the Treaty.[425]

It is fairly easy to see that this may lead to a situation in which an order under a federal statute such as the *Fisheries Act* causes the Canadian Entity to be in breach of obligations under the Treaty.[426] This may cause Canada to be liable to the USA for damages under Article XVIII of the CRT.[427]

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421 *Supra* note 176.

422 *Francis v. The Queen*, [1956] SCR 618, Hogg, *Canadian Constitutional Law*, 3d ed. at 286.

423 *AG Canada v. AG Ontario (Labour Conventions Case)* [1937] AC 326 (PC), unless of course the treaty is an Imperial treaty (like the BWT *supra* note 37) in which case s.132 of the *Constitution Act, 1867*, RSC 1985, Appendix 5, accords to the federal parliament the competence to implement the treaty.

424 *International Boundary Waters Treaty Act*, RSC 1985, c. I-17.

425 This claim assumes that the particular provision of the *Fisheries Act* cannot be impugned on some other constitutional ground. Current case law requires a nexus between the exercise of the federal fisheries power under s.91 of the Constitution Act and fisheries concerns i.e the federal parliament cannot regulate dams unless fish are affected by the dam's operation*: Crown Zellerbach v. R.* [1988] 1 SCR 401, *Fowler v. R.* [1980] 2 SCR 213, *Northwest Falling Contractors v. R.* [1980] 2 SCR 292. Thus, s.22(3) of the *Fisheries Act supra* note 417 should be beyond attack notwithstanding that under ss.92 and 92A of the *Constitution Act, 1867* dam construction and operation is a matter of provincial jurisdiction: Hogg *supra* note 422 at 727 -729. It also assumes federal paramountcy in the event of a conflict between the Keenleyside water licence and federal law: Hogg *id*., chapter 16.

426 Canada would first exhaust other arguments such as that the breach was not a breach of the Treaty but merely a breach of another agreement such as the NTSA.

427 The US argument would parallel Canada's argument on Libby. Canada claims compensation for alleged breaches of the CRT notwithstanding the US claim that it operates Libby to meet domestic ESA obligations.

How would Canada and BC allocate responsibility for this liability? The issue is complicated by the 1963 federal-provincial agreement on CRT implementation.[428] The parties needed the agreement because most of the rights and benefits of the CRT, as a matter of Canadian constitutional law, flow to the province,[429] whereas, as a matter of international law, Canada bears the burden of a default. The agreement was therefore designed to recognize that state of affairs and to ensure, so far as possible, that the recipient of the benefits, also bore the burdens. Consequently, the Province assumed a general duty to fulfil CRT obligations to construct and operate the Treaty dams. BC also undertook to ensure that BCH, as the designated Canadian Entity, and a provincial Crown corporation, fulfilled the obligations imposed by the Treaty upon the Canadian Entity.[430] Finally, the Province assumed a duty to indemnify Canada for losses that Canada might suffer as a result of the Province's failure to live up to the CRT obligations.[431]

While that general picture is quite clear, it may be less clear what the result would be if the default by the Province or the Canadian entity results from the Entity's compliance with a federal law. This is not the place to reach a definitive conclusion on this point, but the question seems to turn upon the construction of two clauses of the agreement. The first is s.8, the general indemnity provision and its exception:

> 8. (1) British Columbia shall indemnify and save harmless Canada from and in respect to any liability of Canada to the United States of America arising under the Treaty.
>
> (2) British Columbia shall not be required to indemnify Canada pursuant to subsection (1) of this section in respect of any liability to the United States of America *directly attributable to any action or failure to take action by Canada*.[432]

The second relevant provision is the general compliance with laws clause, s.13:

> 13. (1) The construction of the dams and operation of the storages required by the Treaty shall be carried out in accordance with all laws in force from time to time whether those of Canada or British Columbia.[433]

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428 *Supra* note 176.

429 By virtue of provincial proprietary rights under s.109 of the *Constitution Act, 1867* and the BC Terms of Union, 1871, RSC 1985, Appendix 10.

430 Agreement, *supra* note 176, s.6.

431 *Id*., s.8.

432 *Id*., emphasis supplied.

433 *Id*., s.13. Subsection 13(3) provides that:

> Canada shall do everything possible to expedite the issuance of all licences and permits required under the laws of Parliament by either British Columbia or the British Columbia

Section 13 then states that the province shall be obliged to repeal and not enact any law, permit or regulation that might operate to "frustrate, hamper or interfere" with the discharge of obligations under the Treaty. Canada made no similar commitment.

A mere agreement between the federal and provincial governments cannot alter laws of general application like the *Fisheries Act*. British Columbia contractually bound itself to comply with those laws. It also agreed to indemnify Canada against all losses except losses "directly attributable to any action or action failure to take action by Canada." Is the issuance of a minimum flow order an "action of Canada" within the meaning of that clause? It seems more likely that this provision is directed at the executive actions that Canada may be required to take under the Treaty. Surely much more explicit language would be required before we could reach the conclusion that Canada should be required to bear the liability flowing from enforcing federal laws of general application.

3.4.4 Conclusion

Whatever the correct conclusion, the dispute does highlight the difficulties associated with the interrelationship between domestic laws and international obligations, especially in federal states. We have already noted that the Treaty uses language that does not lend itself to an ambulatory or organic interpretation that changes over time, and we have noted also the minimum 60 year term of the Treaty. Within that time, the domestic environmental laws of both countries have changed dramatically since 1964, and will continue to change. It is surprising that disputes such as these have not been more common.

3.5 Institutional Developments in Canada

Thus far the paper has taken several different perspectives on the Canadian portion of the Columbia Basin. I have discussed the geography of the basin, and have provided both an historical and contemporary perspective on the international regime of the Basin. This section provides the reader with a sense of some of the institutional developments within the Basin in Canada. The section begins with an account of the recent evolution of the Columbia Basin Trust, and concludes with some discussion of the creation of the Canadian Columbia River Inter-Tribal Fisheries Commission. The first is a unique experiment in regional governance in Canada, while the second owes much to the precedent set by tribal organizations on the Lower Columbia in the US.

3.5.1 The Columbia Trust

3.5.1.1 The Regional Background

> Hydro and Power Authority in order for them to carry out and perform their obligations under this Agreement ....

The present issue does not seem to engage a licensing matter under the *Fisheries Act supra* note 417.

At the time that the Columbia Treaty was signed and the Treaty dams built, local people, especially those living in the Arrow Lakes area realized that they were simply "people in the way".[434] Their way of life was at stake. They knew that they would suffer the negative impacts of Canadian implementation of the Treaty, and that others would take the benefit, either in the form of employment, cheaper power, or other financial benefits. All told, the flooding that ensued from the treaty dams, including Libby, submerged 60,000 hectares[435] of valley bottom land in an area in which such land is at a premium. More than 2,300 people lost their homes, their farms and a way of life.[436] In addition to the personal losses of the individuals concerned, and the loss of community, the agricultural, mining, forestry and fishery sectors of the economy all suffered serious and permanent setbacks. Ongoing fluctuations of the reservoirs; as much as 60 feet on Arrow and Duncan and 140 feet on Kinbasket and Koocanusa, make it difficult to develop lake-oriented tourism. Boat launches may find themselves miles from water overnight.[437] Indigenous fisheries are damaged, and their characteristics fundamentally changed, by altered flow regimes and loss of nutrients.

For many years, the Treaty and the Treaty projects have been a source of tremendous resentment among the peoples of the region. But in recent years there has been a remarkable institutional development in the region, with the formal creation in 1995 of the Columbia Basin Trust (CBT) pursuant to a provincial statute.[438] The Trust is an innovative vehicle designed to allow the residents of the Columbia Basin to share, somewhat belatedly, in the benefits accruing to the Province from the Treaty projects. This is the first time in Canada that a region has explicitly been designated as a significant beneficiary of resource developments, on the basis that the region that assumes the human, social and environmental costs, should also get a share of the benefits. By contrast, the dominant philosophy to date, has been that resource rights, and the revenues flowing from the alienation and development of those resources, constitute a public resource to be shared on a province-wide basis.

3.5.1.2 Background to the Trust

The CBT resulted from a regional and community process led by the Columbia River Treaty Committee (CRTC). The CRTC was comprised of representatives of five regional districts (Central Kootenay, East Kootenay, Kootenay Boundary, Columbia Shuswap and Fraser-Fort George), and the First Nations represented by Ktunaxa-Kinbasket Tribal Council. The mandate of the CRTC was to "work cohesively to address the environmental, social, economic

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434 See generally, J.W. Wilson, *People in the Way: The Human Aspects of the Columbia River Project*, Toronto, University of Toronto Press, 1973; Waterfield *supra* note 13.

435 "It's Our Turn Now", Ministry of Employment and Investment, British Columbia, n.d.; the content suggests a publication date in the Fall of 1995.

436 *Id.*

437 *Id.*, and "Community Involvement in the Columbia", The Columbia River Treaty Committee, n.d. but from the content probably late 1993.

438 *Columbia Basin Trust Act*, SBC 1995, c.49, assented to July 6, 1995.

and cultural impacts affecting [the] region as a result of the Columbia River Treaty"[439] and, to that end, to explore options with the province for acquiring a share of the DPBs.[440] In order to obtain public involvement, the CRTC and the province held a series of three "Columbia-Kootenay" symposiums. The first was held in August 1993 in Castlegar, the second in Cranbrook in the fall of 1994 and the third in Golden in October 1995, after the creation of the CBT.[441]

a. Castlegar Symposium

The Castlegar Symposium was attended by two Ministers of the Crown, the local MLAs and delegates. The meeting was not designed to achieve a consensus, but several themes emerged including: a sense of emotional attachment to the region and to the land; the need for redress, empowerment and information; sharing the benefits of DPBs and a wealth of ideas on how to apply DPBs; reservoir management issues; overall sustainability; and regional co-ordination but with an emphasis on community based projects.[442] The symposium concluded with two sets of formal resolutions both speaking to the need to establish some institutional continuity for the process that had begun at this symposium. The most specific proposal was to establish a steering committee to investigate the idea of creating a Columbia River Basin Authority. This authority was to have a broad composition and a mandate "to receive information, advise, consult, and make recommendations to government and related agencies on the past, present, and future issues arising from the generation of energy and the storage of water in the Columbia River Basin."[443]

b. The Cranbrook Symposium, November 4-6, 1994

By the time of the Cranbrook Symposium, significant progress had already been made towards the idea of a regional benefits package. The Province and the CRTC had negotiated a letter of intent to accord the region a share of DPBs. Thus, in addition to a consideration of the recommendations arising from Castlegar Symposium, this symposium had two concrete goals:[444]

1. to present, discuss and take public input on the options for the scope, mandate and membership of a basin authority; and

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439 Columbia River Treaty Committee, “Community Involvement in the Columbia” n.p, n.d.

440 *Id*.

441 Summary Reports for each of the Symposia were prepared by Salasan Associates; the reports are available from the offices of the CBT.

442 Summary Report, *id.*, August 17, 1993. The Ministers were Anne Edwards, Energy, Mines and Petroleum Resources, and Dave Zirnhelt, Minister of Economic Development, Small Business and Trade.

443 *Id.*, at 16.

444 Salasan and Associates, 1994 Columbia-Kootenay Symposium, Summary Report, at 1.

2. to present, discuss and take public input on options for the form of the Columbia-Kootenay share of the Downstream Benefits arising from the Columbia River Treaty.

Once again, the meeting was attended by Ministers of the Crown, First Nations, local and regional governments and other interested parties. Those present agreed that the future authority should be established by provincial legislation in order to provide for stability and security, but the bulk of the comments favoured the use of the term "trust" rather than "authority" with all the top-down connotations of the latter term. That idea obviously took hold. Other themes that emerged included: accountability, the need for short and long term investments that took into account social and environmental costs and benefits as well as economic, and a basin-wide approach.[445]

3.5.1.3 The Columbia Basin Accord, the Creation of the Trust and the Formal Agreement

Negotiations proceeded on a fast-track from the time of the Cranbrook Meeting. The Province and the CRTC finalized the Columbia Basin Accord (the "Accord"[446]) by March 1995. A formal agreement[447] between the Province and the Trust followed, once the Trust had been established by provincial statute.

a. Powers of the Trust

The powers and objectives of the Trust are best stated by reference to the language of the statute. Section 4 of the *Columbia Basin Trust Act*[448] provides that the basic job of the Trust is to invest assets transferred to it "…. for the ongoing economic, environmental and social benefit of the region including".[449] Most of the rest of the Act is given over to procedural matters, but s.15 of the *Act* endows the Trust with the responsibility for developing both a long-term Columbia Basin Management Plan as well as short-term planning responsibilities. The *Act* gives little further direction of the content or authority of the plan except for a consequential amendment to

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445 *Id*.

446 The Columbia Basin Accord, Castlegar, March 19, 1995. The Accord is signed by the Premier (Harcourt) and by the Chair of the CRTC. It was also witnessed by the six MLAs from the Columbia Basin and by the members of the CRTC including the representative of the First Nations, Gary Merkel.

447 Agreement of 27 July 1995 between the Province and the Columbia Basin Trust.

448 *Supra* note 438.

449 *Id*. Section 4 further provides that these purposes include:
(a) the social well being of the residents of the region,
(b) the preservation, protection and enhancement of the environment of the region,
(c) the economic development of the region....

the *Water Act* which requires the relevant authority to "consider" the plan when considering an application under the *Water Act* within the Basin.[450]

Further flesh is put on these bare bones by the Accord and the Formal Agreement.[451] Sections 6.7 and 6.10 of the Formal Agreement are exceptionally far-reaching. Section 6.7 calls for a process to ensure that development in the region is sustainable, and to provide for *inter alia* "rebuilding of salmon stocks in the Region".[452] Section 6.10 deals with future agenda items for discussions between the CBT and the province, including CBT representation on the board of directors of BCH, and on the PEB.[453]

b. The Assets Transferred and Trust Projects

The Province agreed to transfer significant sums of money and assets to the CBT. These are not identified in the Act, but they are detailed in both the Accord and the Formal Agreement. The Accord provides that Province will pay the Trust three sums of money. First, the Province will pay the Trust $25 million a year for ten years, as the regional share of the DPBs. These monies are to be invested in regional "power projects".[454] Second, the Province will pay the trust $2 million a year for 16 years for operating expenses and to develop programs.[455] Third, during fiscal year 1995/96 there was to be a one time payment of $45 million "for projects and programs for the benefit of the Region."[456]

In addition, the province agreed to invest a further $250 million dollars on its own account[457] and to guarantee loans of a further $500 million, all to be invested in three regional power projects.[458] The three projects are:[459] (a) the installation of generating turbines on the Keenleyside storage dam; (b) expansion of Waneta, and (c) expansion of Brilliant.[460] In effect, therefore, the Province transferred additional assets to the Trust in the form of the expansion

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450 *Id*., s. 32 amending RSBC 1979, c.429.

451 *Supra* note 447.

452 *Id*., s.6.7(d).

453 *Id*., s.6.10 (c) and (d).

454 Accord *supra* note 446, s.8.

455 Accord, *id*., 12.

456 Accord *id*., s.11.

457 Accord *id*., s.9.

458 Accord *id*., s.10.

459 Accord *id*., s.15.

460 These projects are all described in Part I of this paper *supra*.

rights to these facilities. The overall goal is to provide staged and sequential development of these projects so as to allow the local capture of construction and employment opportunities as well as significant long-term stream of earnings.

The investments in the three projects will be effected through a series of partnerships between the Trust and the Columbia Power Corporation (CPC).[461] In early 1996, the Province, the CPC and the Trust, announced plans to proceed with two of the three projects. The Keenleyside Project, initially the number one priority, was placed on the back burner because of the poor market outlook.[462] The Waneta upgrades began in 1995 and, when completed, will add 103 MW of capacity.[463] The Trust and the CPC have also agreed to purchase the Brilliant Dam from Cominco for $130 million. In addition, the partnership will carry out an upgrade of existing turbines at Brilliant to add 18 MW of capacity as well as an expansion of the power plant to add 100 MW of capacity. The Brilliant upgrades will commence in 1998.[464] Both projects represent low cost sources of incremental power, and both investments are backed by long term sales contracts with WKP, the regional utility.[465]

3.5.2 The Aboriginal Fishery and Institutional Developments

3.5.2.1 The Aboriginal Fishery

The Kootenay, Okanagan and Columbia fisheries were an enormously important food source for the First Nations of the region in Canada, as well as in the United States.[466] Most estimates suggest that at least half of the annual protein requirements of the people were provided by fish, fresh or dried.[467] The main tribe in the eastern part of the basin was the Kootenai Tribe, but members of the Stoney Tribe routinely crossed the Rockies from a location west of present-day Calgary to fish the Columbia, and the fishery was also used by the Shuswap and Kinbasket people. The Okanagan fishery was important to the Okanagan Tribe.

3.5.2.2 Political Organization Around the Fishery Issues

Beginning several years ago, the First Nations of the Columbia Basin in Canada, the Ktunaxa (Kootenay), Shuswap and Okanagan people, following the example of the Columbia

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461 Ministry of Employment and Investment, News Release 004, January 23, 1996. CPC is a provincial government agent.

462 *Id.*

463 Columbia Basin Power Projects, Information Office, Info Sheet No.2, n.d., presumably 1995.

464 Brilliant Power Plan Upgrade and Expansion, Columbia Basin Power Projects Information Office, Info Sheet No. 4.

465 Columbia Basin Trust, Update, February 5, 1996.

466 See Scholz *supra* note 9, passim.

467 *Id*., at 62.

Tribes in the United States, organized themselves politically with a view to considering their options in relation to the loss of the traditional anadromous fishery, as well as the significant damage inflicted on the resident fishery by power operations. Although some of the discussion has focused on compensation, the long-term goal is restoration, a point that emerges vividly from the following comments of Sophie Pierre of the Ktunaxa/Kinbasket Tribal Council:

> From the First Nation perspective everything in life comes in full circle ... and the destruction of the Columbia is now coming back to the restoration of the Columbia - particularly with respect to the fish ... a far better and broader concept [than compensation] is 'restoration' of which compensation is but one element. What is restoration? Given that the river can never be exactly the same as it was before, the two questions to ask are:
>
> * what is in it for the river?, and
>
> * what is in it for the fish?
>
> By keeping these two questions in mind together we can create a win/win situation for the river and its fish, water quality and quantity, the people and all levels of US and Canadian governments. This is the challenge.[468]

In 1993 the three First Nations formed the Canadian Columbia River Inter-Tribal Fisheries Commission (CCRIFC)[469] to address these issues. The Commission held its first workshop in October 1993. The Commission is currently engaged in detailed archival work and a further consideration of its legal options and overall strategic plan.[470]

3.5.3 Conclusions

In conclusion, both the CBT and the CCRIFC are consistent with a move towards regional empowerment and sustainability. Both organizations are committed to regional development that is sustainable in environmental and social terms, as well as economic. However, given that the CBT is also dependent upon the DPBs as well as the Treaty structures already in place, one cannot expect the CBT to support any proposals that will result in any diminution of the DPBs. Certainly, the literature of the CBT has confined its area of concern to the Canadian portion of the Basin. There is no suggestion yet that the CBT wishes to expand its circle of concern to include the American portions of the Basin, or downstream fish. On the other hand, the CCRIFC is committed to the broader goals of fisheries restoration and the overall ecosystem health of the Basin. The CCRIFC is far less likely than the CBT to take a nationalistic

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468 Opening remarks reproduced in CCRIFC, Restoration Paper *supra* note 11, at 5-6.

469 CCRIFC, Restoration Paper, *id.,* at 1. The formal agreement establishing the Commission was executed by all the bands except the Upper and Lower Similkameen in 1995: CCRIFC Memorandum of Understanding, 27 March 1995, Invermere BC, mimeo.

470 Pers. comm. A.R. Thompson, 27 February 1996.

perspective on Basin issues, and it may prove to be a useful catalyst for true transboundary co-operation within the Basin.

Part IV: Linkages between the CRT and the Pacific Salmon Treaty [471]

4.1 The Pacific Salmon Treaty

The Pacific Salmon Treaty (PST) between Canada and the United States was signed in 1985. It had two main objectives. First, it was designed to address the long-term health of Pacific salmon stocks, to prevent over fishing and to provide for optimum production.[472] Second, it recognized that each party was to receive "benefits equivalent to the production of salmon originating in its waters."[473] This is the so-called equity principle.[474] To achieve these goals, the parties are to cooperate on research management and enhancement.[475] The parties are also to take into account "the desirability in most cases" of reducing interceptions, avoiding disruptions to existing fisheries, all in light of annual variations in stock abundance.[476]

In his 1986 article on the PST, Jensen provided a partial list of intercept fisheries between the United States and Canada and Alaska and the Lower 48. Three of his examples pertain directly to the Columbia:

(1) Chinook spawned on the northern Oregon coast, the upper Columbia and Snake rivers, and Washington coast are harvested by Canadian and Alaskan fishermen operating off northern British Columbia and Alaska.

(2) Sockeye spawned in Canadian tributaries [Okanagan] of the Columbia River are harvested by United States fishermen operating in US stretches of the river.

(3) Chinook salmon produced in the lower Columbia River hatcheries and coho salmon from the Washington coast and Puget Sound are harvested

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471 Pacific Salmon Treaty, January 28, 1985, 99 Stat. 7; the Annexes to the Treaty have been amended from time to time since 1985, most recently in 1995 with the addition of an Accord on the Yukon River fishery. The Accords are reproduced in the Annual Reports of the Pacific Salmon Commission. The Yukon Agreement is reproduced in the Tenth Annual Report for 1994/95. See generally Jensen, "The United States-Canada Pacific Salmon Interception Treaty: An Historical and Legal Overview" (1986), 16 Envt'l Law 363; Yanagida, "The Pacific Salmon Treaty" (1987), 81 AJIL 577; McDorman, "The West Coast Salmon Dispute: A Canadian View of the Breakdown of the 1985 Treaty and the Transit License Measure" (1995), 17 Loyola of Los Angeles Int'l & Comp. L.J. 477.

472 PST *id*., Article III(1).

473 *Id*.

474 For further discussion see Yanagida *supra* note 471 at 588-592.

475 PST*, supra* note 471, Article III(3).

476 *Id*., Article III(3).

> by Canadian fishermen operating off the west coast of Vancouver Island.[477]

The terms of reference for this paper required me to investigate "any linkages ... between Columbia River treaty negotiations and ongoing negotiations to resolve salmon harvest disputes under the Pacific Salmon Treaty." The short answer is that I have been unable to detect any evidence of linkages between the two issues.[478] In looking for evidence of linkages, I looked for some indication that governments, or non-government actors, drew an explicit connection between the two issues, perhaps by actively contemplating tradeoffs (e.g. a Canadian share of restored Snake fisheries in return for fish flows from the upper Columbia; or additional benefits for the Canadian Entity, in return for a complete cessation of the Canadian intercept fishery of Columbia-Snake stocks; or a equitable sharing arrangement for Similkameen River stocks, if salmon were reintroduced to the Similkameen upon removal of the Enloe Dam[479]).

I found no evidence of any linkages and no evidence that any of the actors were considering developing linkages. This shouldn't be too surprising. In many respects, one of the problems with Pacific Salmon Treaty (PST) discussions is that there are already too many linkages, and too many parties. For example, Canada takes the view that there can be no progress on specific fishery regimes in the absence of progress on "the equity" issue.[480] Similarly, historically, a US intercept fishery of Fraser sockeye[481] was balanced to some degree by a Canadian intercept fishery for Columbia chinook. In light of dramatic declines in Columbia chinook, the value of the Canadian interception fishery has declined. While Canada recognizes the threatened and endangered status of these stocks, it also wishes to see progress on the Fraser fishery before completely abandoning this bargaining chip.[482] Finally, PST negotiations are further complicated because any solution needs to satisfy a multiplicity of parties.[483] Clearly in

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477 Jensen *supra* note 471, at 370.

478 Don Kowal, Mel Farquhar and Sandy Argue, all of DFO indicated that Canadian spawning Columbia salmon were not an issue and had not been an issue in PST negotiations: telephone notes, February 1996.

479 The SOR proposal tabled by the Confederated Tribes of the Umatilla Reservation, SOS 9d, called for managing 9 dams including Mica (but not Arrow for some reason) to meet fish flows in the lower Columbia in conjunction with a comprehensive proposal to drawdown John Day and the lower Snake reservoirs to natural river elevations: SOR Review, Final EIS, *supra* note 3, Main Report Exhibits and commentary at Main Report, 4-27 to 4-43. The proposal did not propose linkage with PST discussions. The last example (Enloe Dam) would not be a true case of linkage because, in reality it only raises PST issues. It is hard to see a connection with the CRT.

480 McDorman *supra* note 471, at 492 to 495.

481 Sanctioned by the Convention for the Protection, Preservation and Extension of the Sockeye Salmon Fishery in the Fraser River System, May 26, 1930, 8 UST 1058.

482 McDorman supra note 471, at 492 to 495.

483 See in particular Yanagida *supra* note 471 at 586 -587. Yanagida notes that the US section of the Pacific Salmon Commission is required to proceed by consensus. The three commissioners represent different constituencies. One is appointed on the nomination of the Governor of Alaska, one on nominations from the

the context of the PST, it is already difficult to make progress on some issues without making progress on all, and it seems to be impossible to separate out one area (e.g. the Columbia fisheries) without dealing with all interlinkages.[484] Nobody is looking for additional issues to add to those that are already the subject of negotiations between the parties. Nobody is looking to add to the number of parties that must be dealt-in to a solution.

The following section deals with two matters. First I offer a brief explanation of Canada's position in the *Baldridge* litigation commenced by the northwest tribes to enforce their Treaty rights through the Baldridge stipulation and order against Alaska. In the second section I explain how the United States and Canada dealt with Canadian-origin Columbia fish in the PST.

4.2 Canadian Intervention in the Baldridge Litigation

In the summer of 1995, Canada filed an amicus brief in the continuing *Baldridge* litigation.[485] Canada, along with the tribes, objected to the unilateral implementation by Alaska of its "abundance-based" management regime for southeast Alaskan chinook salmon fisheries in place of a model developed by the Chinook Technical Committee of the Pacific Salmon Commission, both of which were established by the PST. Canada argued that Alaska's unilateral action was inconsistent with the PST requirement for cooperative fisheries management.[486] The brief noted that approximately 60% of the fish harvested in the southeast Alaska chinook fishery were of Canadian origin, 30% from Washington and Oregon and only 10% from Alaska. Canada argued that it was committed to a cooperative process of rebuilding chinook stocks and had itself undertaken an extensive salmon conservation program since the inception of the PST.[487] Alaska's unilateral action would preclude attainment of the shared goal of rebuilding chinook stocks. By contrast with a reduction in Canadian harvest levels of 50%, the Alaskan model projected a reduction in the Alaskan catch of only 4%. Consequently, Canada argued that its investment in restoring chinook stocks could be wiped out by the Alaskan catch.

The US federal district court for western district of Washington accepted that the arguments of the plaintiffs would likely succeed on the merits, and granted the injunction. Specifically, the court noted that Alaska had likely breached one of the *Baldridge* stipulations insofar as it had not acted in a manner which "promote[s] ... effective implementation" of the

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Governors of Washington and Oregon, and the third from nominations from the treaty tribes of Washington, Oregon and Idaho.

484 Similarly, one cannot deal with one section of an intercept fishery (e.g. Canadian Columbia chinook intercept off Alaska) without dealing with all aspects of the intercept (e.g. the Alaskan intercept of that same fishery).

485 *Confederated Tribes and Bands of the Yakima Indian Nation et al. v. Baldridge et al*, Amicus Brief. The judgement of Rothstein J., is reported at 899 F.Supp.1477 (W.D.Wash. 1995) (hereafter, *Baldridge 1995*). For background on *Baldridge* see Yanagida *supra* note 471.

486 *Id.*, Amicus brief, at 8.

487 *Id.*, at 6; the steps taken included: (a) forbearance of hydropower development, (b) watershed restoration, (c) salmonid enhancement, (d) forestry practices improvements, and (e) harvest restrictions.

PST.[488] The court also found that there would be both direct and indirect harm suffered by Oregon and Washington Columbia chinook stocks, if the Alaska fishery were allowed to proceed. The indirect harm to the tribes would result from the proportionately greater effect of a constant Canadian catch in the event of an excessive Alaskan catch.[489]

4.3 The Treatment of The Columbia as a Transboundary River in the PST

The PST defines a transboundary river as a river that rises in Canada and flows to the sea through the United States.[490] On the face of it, this definition includes the Columbia, the Kootenay and other major tributaries of both rivers, such as the Okanagan. The basic rights and obligations of the parties with respect to transboundary rivers are specified in Article VII of the Treaty and Annex IV.

Article VII provides that, whereas it is usually the responsibility of the state of origin to submit preliminary information to the Commission and the other Party on escapement levels for the ensuing year, in the case of transboundary rivers, either section of the panel may request that the appropriate panel[491] present its views to the Commission. The Commission shall then recommend spawning escapements to the Parties. The Article goes on to provide that whenever salmon originate in the Canadian portion of a transboundary river, or could do so as a result of enhancement, then enhancement projects on such rivers "shall be undertaken co-operatively"[492] provided that separate projects may be undertaken with the consent of the Commission.

Article VIII qualifies the general regime of Article VII in relation to the Yukon River, but there is no similar provision in the main body of the PST for the Canadian portion of the rivers of the Columbia Basin. Instead, the Columbia is addressed in Annex IV, Chapter 1 dealing with transboundary rivers. Most of the Chapter is given over to northern rivers including the Stikine, the Taku and the Alsek, but paragraph 7 deals with the Canadian portion of the Columbia.

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488 *Baldridge 1995 supra* note 485, at 1489.

489 *Id.*, at 1490:

> ... the testimony indicated that if Alaska fisheries catch an excessive number of fish relative to the actual abundance in a given year, fewer of those fish will migrate south from Alaska through Canadian waters. Thus, Canada's catch, even if it remains constant with the previous year, deletes a greater percentage of the available pool of fish and cuts into the share of chinook salmon which would otherwise have been left to Washington and Oregon fisheries. Thus, a showing has been made that Alaska's fishing regimes impact Canadian regimes, which in turn affect those in Washington and Oregon.

490 PST *supra* note 471, Article 1(7).

491 The panels are established by PST *id*., Article II(18) and Annex I. They include a Fraser River panel, a southern panel and a northern panel.

492 *Id*., Article VII(4) does not distinguish between projects within Canada or the US.

> 7. Recognizing that stocks of salmon originating in Canadian sections of the Columbia River constitute a small portion of the total populations of the Columbia River salmon, and that the arrangements for consultation and recommendations of escapement targets and approval of enhancement activities set out in Article VII are not appropriate to the Columbia River system as a whole, the Parties consider it important to ensure effective conservation of upriver stocks which extend into Canada and to explore the development of mutually beneficial enhancement activities.[493]

The paragraph goes on to indicate that notwithstanding paras 2, 3, and 4 of Article VII, the parties would consult during 1985 with a view to developing more practicable arrangements than those specified in paragraphs 2 and 3 (but not 4[494])which new arrangements should:

> (a) ensure effective conservation of the stocks;
>
> (b) facilitate future enhancement of the stocks on an agreed basis;
>
> (c) avoid interference with United States management programs on the salmon stocks existing in the non-transboundary tributaries and the main stem of the Columbia River.[495]

The general intent of these provisions seems plain; they were designed to ensure that the United States had maximum freedom of action in relation to Columbia stocks.[496] If the general regime of transboundary rivers applied, Canada would have significant influence on the management of *all* Columbia River stocks. For example, under the terms of Article VII, the Canadian section of the relevant panel would be entitled to require the Panel to provide its view to the Commission on appropriate escapement "for all the salmon stocks of the river"[497] and, on the basis of the views provided by the panel, the Commission would be required to recommend spawning escapements.[498] Similarly, Article VII(4) ordinarily requires all salmon enhancement projects on a transboundary river to be carried out co-operatively unless the Commission permits

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493 PST *id*., Annex IV, Chapter 1, para.7.

494 It is not clear why para. 4 is omitted. Canada has a legitimate interest in all enhancement activities on the Columbia that threaten Okanagan sockeye, either by the introduction of disease, by providing competition for natural stocks or by increasing the risk of over harvesting as part of an incidental take of hatchery runs.

495 PST *id.,* Annex IV, chap. 1, para.7.

496 Accord, Jensen *supra* note 471 at 408.

497 PST supra note 471, Article VII(2).

498 *Id*., Article VII(3).

separate projects.[499] It seems fairly evident that both of these provisions would give Canada a disproportionate say in the management of Columbia stocks, all on the basis of sockeye salmon spawning in the Okanagan.[500]

Canadian officials[501] make it clear that Canadian Columbia salmon are not high on the list of priorities for Canadian fisheries managers. Canada, has no intention of carrying out enhancements on the Okanagan, but would entertain proposals from tribal organizations in Canada and the US if there were expressions of interest. There is little concern about an interception fishery of Canadian bound Okanagan sockeye since there is no evidence of a directed fishery in relation to this stock.

4.4 Conclusions

In conclusion, it is evident that Canadian fisheries managers do not attach much importance to the Okanagan sockeye fishery. Similarly, both hydro and fisheries managers either reject, or have simply not considered, the possibility of developing linkages between PST issues and CRT issues. This lack of enthusiasm seems entirely justified given the complexity of the separate issues. There seems little reason to believe that linkages would facilitate resolution of these complex issues rather than further obfuscate them. Finally, as the *Baldridge* litigation indicates, there is common ground between Canada, the tribes and the northwestern states vis à vis the Alaskan interception fishery of chinook originating in both BC and northwestern states, but there is no linkage between this issue and the CRT.

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499 *Id*., Article VII(4):

> 4. Whenever salmon originate in the Canadian portions of transboundary rivers, or would originate there as a result of enhancement projects, salmon enhancement projects on the transboundary rivers shall be undertaken co-operatively, provided, however, that either Party, with the consent of the Commission, may separately undertake salmon enhancement projects on the transboundary rivers.

500 No agreement seems to have resulted from the discussion called for in 1985. In the absence of such an agreement, the fall-back position is Article VII.

501 This paragraph is based on brief discussions with DFO officials *supra* note 478.

Part V: Conclusions

The Columbia Basin is a large, natural ecosystem. In the pre-dam era, migrating salmon provided a link between Columbia Lake at the source of the Columbia River, and the Pacific Ocean. The Grand Coulee Dam severed that link. Since then, dam construction on both sides of the international boundary has further segmented the natural ecosystem, isolating fish populations, and dramatically changing the natural hydrograph.

The Governments of Canada and the United States have not yet developed international regimes that recognize the ecological realities of the Columbia Basin. The regimes that they have created, the Columbia River Treaty and the Permanent Engineering Board, and the Boundary Waters Treaty and the International Joint Commission, have contributed to the segmentation of the Basin. We have seen several examples of this in the paper. In the case of the IJC, the narrow scope of the IJC's review of the Grand Coulee project, led it to ignore the destructive effect of that dam on salmon migration. Similarly, the IJC levels order for Kootenay Lake recognizes agricultural concerns, but not a broader suite of ecological concerns. The IJC's reports on the two Columbia references in the 1950s took an equally narrow view of the benefits of cooperative development of the Columbia, and as a result, failed to address broad ecological concerns. The Columbia River Treaty further institutionalized this narrow vision of the Basin, by recognizing the values of power and flood control, and ignoring other values. The PEB has been a diligent guardian of the Treaty values of power and flood control.

This paper also illustrates the narrow geographical focus of these two regimes. With the exception of the two Columbia references, neither regime has come to grips with the Basin as a geographical whole. Boundary waters, and water levels at the international boundary engage the IJC, but this focus ignores huge sections of the international watercourses of the Basin, upstream and downstream of the international boundary. Similarly, the PEB's jurisdiction under the CRT is confined to Treaty projects. These geographical limitations confine our vision of the Basin, and influence the way in which we think about the Basin.

Both of these regimes, and the decisions that they produced, like the Grand Coulee decision of the IJC, were products of their times. It is easy to be critical of their limitations. It is more useful to ask whether either regime can accommodate a broader range of values. This paper concludes that each regime is capable of accommodating those broader values, but only to a limited extent.

The Columbia River Treaty offers only limited opportunities to manage the Basin for ecological values. The conclusion in this paper is that the CRT prohibits the Entities and the PEB from taking ecological values into consideration when they develop assured operating plans for Treaty storage. However, the Treaty does permit the Entities to agree to operate storage to meet ecological values in several ways. First, the US Entity can require the Canadian Entity to store and release water within the constraints of power and flood control rules curves. To the extent that these values are complementary, the US Entity may develop a schedule for storage and release that meets fish needs, and at the same time optimize power generation. To the extent that power and flood control curves are at odds with ecological requirements, the US Entity has no further Treaty right to compel storage and releases at Treaty dams to meet fish flows. To meet

these further requirements, the US Entity can only obtain Treaty flows with the consent of the Canadian Entity. We can assume that the Canadian Entity will not give that consent unless the operation also benefits the Canadian Entity. Beyond the Treaty regime, the Non Treaty Storage Agreement[502] provides some additional flexibility to accommodate ecological values, but operational constraints may limit the availability of this storage to the US Entity at the required times. Finally, the CRT does not constrain the operation of US mainstem dams. The US Entity may operate mainstem dams to provide fish flows, but it will have to account to the Canadian Entity on the assumption that it actually operated those facilities to maximize power generation.

The Boundary Waters Treaty may prove more accommodating of ecological values, but only to the limited extent that the IJC has jurisdiction. The IJC has no standing jurisdiction over the Columbia Basin. In order for it to return to the unfinished business of its 1944 Columbia Basin Reference, the IJC requires a new mandate from the governments. Such a reference would allow a single international institution to look at the full range of problems within the Basin. For example, the IJC could consider the interrelationship between the operation of the two Treaty dams, Libby and Duncan, and the IJC levels order for Kootenay Lake, and the effect of both on Kootenay sturgeon. Similarly, the IJC might consider enhancement measures for Okanagan-run sockeye and other shared fish populations, as well as the possibility of reintroducing salmon to the Similkameen system. But is there the political will in Canada and the United States to provide the IJC with a new reference for the Columbia?

On the Canadian side, I predict that the Canadian government would not lend its support, if the terms of the reference undermined the Columbia River Treaty, or required renegotiation of the Treaty. Canada made a significant commitment of resources, and flooded valuable land in the Interior of BC in the 1960s and 1970s. It incurred those costs in return for benefits guaranteed under a long-term agreement. Canada will not give the IJC a mandate that would allow it to make recommendations that may dilute those benefits. However, it may be possible to address these concerns through careful drafting of the terms of reference.

Within the United States, the Northwest Power Planning Council already has a mandate to take an ecological approach to the Columbia Basin.[503] Although the NPPC has expressed some interest in looking at fisheries enhancements in the Canadian portion of the Basin and developing a true system-wide perspective, it is clearly constrained in doing so by the international boundary. The IJC is the obvious existing bilateral institution to internationalize the work of the NPPC.

In the absence of a reference, the IJC's capacity to introduce a broader range of values into the management of the Columbia Basin depends upon the extent to which it may, either of its own motion, or upon the request of an interested party, re-open old Orders of Approval in the Basin. This is untested ground. It is not clear that there is any party with standing that would

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502 *Supra* note 300.

503 NPPC Fish and Wildlife Program *supra* note, 75 at 2-1, Lee, *Compass and Gyroscope: Integrating Science and Politics for the Environment*, 1993.

have an interest in seeking re-consideration of one of the old orders for the Kootenay or the Columbia. Nor is it clear that the IJC would rise to the challenge.

Many of the issues canvassed in this paper deal with the interrelationship between domestic laws and international treaties. Over the last decade, there have been dramatic changes in domestic environmental laws. New global environmental regimes like the Biodiversity Convention[504] reflect some of these changes at an international level. This paper suggests that it is difficult to accommodate these changes within existing bilateral arrangements, especially where those arrangements incorporate long-term commercial bargains. There are no obvious solutions to this problem in the present case. In each country, dam operators may be forced to choose between complying with the domestic law or the international regime. The more imminent threat of prosecution will lead the operator to favour domestic law, but it is clear that this will entail the international responsibility of the State. Parties cannot simply avoid that responsibility, but the tensions to which it will give rise may help create a political climate in which the Parties will look for a political solution, or a climate in which they may be willing to seek the advice of an entity like the International Joint Commission.

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504 *Supra* note 221.