THE COLUMBIA RIVER TREATY: RESPONDING TO CHANGING NORMS

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Table of Contents

1. Introduction 275
2. Some general observations on the relationship between treaty and custom 278
3. The Danube Dams Case 281
   3.1 The facts 282
   3.2 Some of the terms of the 1977 treaty 282
   3.3 Submission to the ICJ 283
   3.4 The reasoning of the court 285
      3.4.1 The *ius cogens* argument 286
      3.4.2 Changes in customary environmental law as a defence 286
      3.4.3 The interpretive approach 290
      3.4.4 The problem of the applicable law 294
   3.5 Conclusions 297
4. The Columbia River Basin and regime prior to the Columbia River Treaty…….. 299
   4.1 Introduction 299
   4.2 The geography of the Basin 300
   4.3 The pre-existing legal regime: the Boundary Waters Treaty 302
      4.3.1 The substantive rules 302
      4.3.2 The establishment and jurisdiction of the IJC 306
   4.4 The BWT and the accommodation of changing values 309
5. The Columbia River Treaty 311
   5.1 The Elements of the treaty 311
      5.1.1 The Canadian storage 313
      5.1.2 Treaty operation of storage 314
      5.1.3 The US Operating Commitment 314
      5.1.4 US Payments to Canada 315
      5.1.5 Libby 318
      5.1.6 Diversions 318
      5.1.7 Designated Entities 318
      5.1.8 The PEB 319
   5.2 Some conclusions and some comments on the Relationship to the BWT and the treatment of non-treaty storage 320
6. Responding to change 322
   6.1 The conflict between fish and power and flood control values 323
   6.2 Domestic Legal Responses 325
      6.2.1 The US domestic response to Columbia fish issues 325
      6.2.2 The Canadian domestic response to Columbia fish issues 328
   6.3 The Challenge to the Treaty Regime 329
      6.3.1 Techniques for accommodating change 330
      6.3.2 Operation of treaty dams and storage to meet US fish flow requirements 331
      6.3.3 Libby 333
      6.3.4 Canadian fish flow requirements 335

7. The Relationship Between the CRT and the Watercourses Convention 336
7.1 Relevance of the Convention 336
7.2 Some key substantive differences between the Convention and the CRT 337
8. Conclusions 338
8.1 The Problem of the Applicable Rules 339
8.2 The Problem of Interpretation 348

1. Introduction

When I was first approached last fall to participate in this course of lectures on international law and energy and the environment I believed that I was obliged to come up with a topic for my lectures that in some way reflected the relationship between energy and the environment. Not being willing to assume the challenge of talking about the link between energy consumption, climate change and the Kyoto Protocol, or the transboundary air pollution issues associated with the thermal generation of electricity, I elected to talk on something that I thought that I did know something about, namely the Columbia River Treaty (CRT).[1]

In a nutshell, that treaty, which entered into force in 1964, provided for the co-operative development of the Columbia River, primarily in order to provide flood control and energy benefits to the two countries that share the Columbia River Basin, Canada and the United States.

Our view of river basins has changed since the 1960s. Instead of thinking of the water basin as the source of commodities like hydropower, we think of river basins as complex, dynamic, functioning ecosystems which may be able to serve a variety of functions. Those functions certainly include consumptive uses but also non-consumptive uses such as fisheries habitat, aesthetic functions and the recreational value of the river system. We now recognize that in order to preserve these non-consumptive uses or services there are limits to the extent to which we should contemplate changes to the natural hydrograph.

Our views about the appropriate legal rules to govern international watercourses have also changed since the 1960s. Modern watercourse agreements as well as relevant framework conventions take a more holistic view of basin state obligations and thus deal with ecosystem values as well as flood control and power.

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[1] 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*); (3) *The Columbia River Treaty, Protocol and Related Documents*, External Affairs and Northern Affairs and Natural Resources (Canada), 1964 (hereafter *Related Documents*) and (4) (1965), 59 AJIL 989 also reproducing the related documents. I have examined the treaty in detail in Bankes, *The Columbia Basin and the Columbia River Treaty: Canadian Perspectives in the 1990s*, Northwest Water Law and Policy Project Research Publication PO95-4 (1996).

I want to look at how and to what extent the Columbia River Treaty has evolved over the course of time to accommodate these other values such as fish values, environmental values and recreational values. The concerns addressed in these lectures are not of course confined to the Columbia Basin and the CRT. Dan Tarlock[2], for example, raises similar questions in the context of the Colorado which is the subject of a US-Mexico agreement of 1944.[3] Tarlock notes that this treaty, like most international water allocation agreements, lacks the ability to adapt and to deal with changed conditions.

While hydroelectric power is usually considered to be a clean and renewable source of energy we also know that there are serious social, environmental and ecological impacts associated with developing a river system for hydroelectric purposes. The recent report of the World Commission on Dams[4] has focussed international attention on these problems[5] and the decision of the International Court of Justice in the *Case Concerning the Gabcíkovo-Nagymoros Project*[6] (hereafter the *Danube Dams Case*) several years earlier had focussed the attention of the international legal community on the legal issues associated with the co-operative development of an international watercourse and on the relationship between international environmental law and international watercourse law. This was a matter that had already engaged the attention of the legal community during the long gestation of the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses[7] through the work of the International Law Commission.[8]

While my election to talk about the Columbia River Treaty did bring me within the scope of these sessions it did, I think, pose another challenge for me. That challenge is the responsibility of demonstrating how such a regionally based

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2 Tarlock, "Safeguarding International River Systems in Times of Scarcity" (2000), 3 U Denv. Water L. Rev. 231.

3 Treaty respecting Utilization of the Waters of the Colorado and Tijuana Rivers and of the Rio Grande, 1944, 59 Stat. 1219.

4 *Dams and Development: A New Framework for Decision-Making, The Report of the World Commission on Dams*, 2000.

5 See Secretariat Report to Council under Article 13 of the North American Agreement on Environmental Cooperation, *Environmental Challenges and Opportunities of the Evolving North American Electricity Market*, June 2002 at 6 offering this synopsis "Large-scale hydroelectric facilities can displace communities, destroy or degrade critical habitat such as streams or rivers and harm wildlife and native fish populations." This is the only real discussion of hydro issues in the report which focuses on air pollution problems associated with the thermal generation of electricity.

6 Hungary/Slovakia, [1997] ICJ Rep. 7.

7 Adopted by the General Assembly, December 1997, reprinted in (1997), 36 ILM 700.

8 See in particular Tanzi and Arcani, *The United Nations Convention on the Law of International Watercourses,* 2001 who provide an exhaustive review of the text, the ILC's background work and the relevant academic commentary.

treaty might be of interest to, and significant for, a broader international audience such as this.

So, let me begin with that challenge, and I have three responses. My first response is a *methodological* response. As a lawyer trained in the common law legal tradition I am accustomed to emphasising the inductive methodology of the common law with its focus on the particular and its emphasis on the importance of distilling general rules from concrete particulars. I do not think that adoption of the Watercourse Convention has relieved us from this responsibility or diminished the importance of this exercise.

A second and related response, an *implementation* response, is to ally myself with those who would emphasise the importance not only of the negotiation of international agreements, but also their implementation. While writers who make this point generally emphasise the implementation of multilateral environmental agreements (MEAs),[9] I contend that the point is equally valid in the context of significant bilateral instruments. There is in fact very little published literature on the implementation of the Columbia River Treaty. Most of the literature deals with the terms of the agreement when it was first ratified.

My third response, which I shall call my *normative relationships* response, is more general and perhaps of greater juridical significance. I want to try and use the CRT to talk about change (and therefore time) and about the interrelationship of norms. Thus I am interested in: (1) the interrelationships between customary international law and treaty law,[10] (2) the interrelationships between different "bodies" of law, one body of law which we might label "environmental law" and other bodies of law which we might label variously "development law", "energy law", "trade law" or perhaps "international watercourse law"[11], and (3) the evolution of these interrelationships over time. I shall also have cause to refer to

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9 See, for example,

10 See, in particular, Sands, "Sustainable Development: Treaty, Custom and Cross-fertilization of International Law" in Boyle and Freestone (eds), *International Law and Sustainable Development*, Oxford at 39 - 60.

11 Vice President Weeramantry put it this way in *Danube Dams* at 89; "there is always the need [in a project such as this] to weigh considerations of development against environmental considerations, as their underlying juristic bases - the right to development and the right to environmental protection - are important principles of current international law". He goes on to say that these competing considerations must be balanced by the normative principle of sustainable development for without such a principle there would be "normative anarchy" (at 90). On the interrelationship between different bodies of norms see Inter-American Commission on Human Rights (IACHR), *Decision on Request for Precautionary Measures (Detainees at Guantanamo Bay* Cuba), (2002), 41 ILM 532. At 533 the IACHR notes that while human rights law applies in both peacetime and at times of conflict humanitarian norms applies during hostilities and conflict. While the two may complement and reinforce one another international humanitarian law may trump in situations of armed conflict as the applicable *lex specialis*.

the relationship between different treaty norms, although that is an area where I think that the basic rules are clearer[12] although their implementation in any particular case may be fraught with difficulty.

I propose to proceed as follows. In this first lecture I want to set the scene for that third "normative relationships" response and so I shall begin with some general and no-doubt trite observations on two sources of international law, treaties and custom and the relationship between them. I shall then turn to consider how the relationship between treaty and custom was examined by the International Court of Justice in its 1997 decision in the *Danube Dams Case*. In my second lecture I propose to describe the Columbia River Basin as well as the relevant legal rules of both the Boundary Waters Treaty and the CRT. I shall also consider the pressures to adapt that have been brought to bear on that regime. In the final lecture I hope to describe the way in which the CRT regime has been able to adapt. In addition I provide a brief comparison between the CRT regime and the regime of the Watercourses Convention and I conclude with some general and specific observations about the relationship between customary rules and bilateral treaties in times of change.

2. Some general observations on the relationship between treaty and custom

For present purposes I think it is adequate for me to frame my general observations on the interrelationship between the sources of international law (and especially as between treaty and custom[13]) in the form of a set of propositions.

1. Notwithstanding the serial formulation of Article 38 of the Court's statute, there is no hierarchy as between customary law and treaty law.[14]

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[12] The Vienna Convention on the Law of Treaties, (hereafter VCLT), Vienna, May 23, 1969, Articles 30, 58 and 59 and for some of the complexities see Mus, "Conflicts Between Treaties in International Law" (1998), 45 Neth. Int'l L. Rev. 208.

[13] There is a large literature on this subject. Particularly helpful are: Baxter, "Treaties and Custom" (1970), 129 Recueil de Cours 25, Kontou, *The Termination and Revision of Treaties in the Light of New Customary International Law*, Oxford, 1994

[14] Akehurst, "The Hierarchy of the Sources of International Law" (1976) 47 BYIL 273 suggesting no hierarchy between custom and treaty but noting that most accept that general principles are not of the same status (not based on consent) and that Article 38 itself acknowledges that judicial decisions and the writings of learned jurists are of a lesser status (s.38(1)(d)). Bin Cheng, "On the Nature and Sources of International Law" in Cheng (ed), *International Law Teaching and Practice*, 1982 at 203 - 233 esp. at 231 - 233 while accepting that Article 38 contains no formal hierarchy notes that it is a system of custom (general international law) that provides the law common to all members of international society while treaties are merely a source of specific legal obligations. Czaplinski and Danilenko, "Conflicts of Norms in International Law" (1990) 21 Neth. Yb Int'l Law 3 at 5 noting that while hierarchy is the usual way of resolving competing norms in domestic law, "such a hierarchy of legislation does not exist in the international community". However, this article does concur in viewing principles and teachings as

2. Such hierarchy of rules as exists in international law is based upon: (a) the relative importance of the content of the rules and not the source of the rules (i.e. the rules of *ius cogens)*[15] or (b) as a result of the terms of specific treaties (i.e. Article 103 of the UN Charter[16]).

3. The generally recognized rules for resolving conflicts between competing rules include the rule that the *lex specialis* prevails over *lex generalis*[17] and the rules in the Vienna Convention on the Law of Treaties dealing with successive treaties relating to the same subject matter.[18] The latter applies by its terms only to treaties but a similar rule presumably applies to custom; the former rule applies equally to treaties and custom even though it is not mentioned in the VCLT.

4. Customary law and changes in customary law will influence the interpretation of treaties.[19] This follows from Article 31(3)(c) of the VCLT:

> There shall be taken into account, together with the context: (c) any relevant rules of international law applicable in the relations between the parties.The customary rules in force at the time the treaty was negotiated will be relevant but so also may be the customary rules in force at the time the treaty falls to be interpreted. This may be because the parties can be taken to have intended to incorporate changes in customary rules, because, for example, of the way that they incorporate general concepts such as territory, jurisdiction or environmental protection.[20] (By the same token, the reverse must be true. The

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subsidiary to treaty and custom.

15 VCLT, Articles 64 and 71.

16 Article 103 of the Charter provides that "In the event of a conflict between the obligations of the Members of the United Nations under the present Charter and their obligations under any other international agreement, their obligations under the present Charter shall prevail." See Lauterpacht, "The Covenant as the Higher Law" BYIL referring to the earlier Article 20 of the League of Nations, also discussed in Czaplinski *supra* note at 14 - 17 and in Jenks, "The Conflict of Law Making Treaties" BYIL at 436 - 440 (as the title of this article suggests Jenks is concerned with conflicts between (multilateral) treaties and not conflicts between customary rules and treaty rules); see also Article 30(1) of the VCLT and Article 59 ILC Articles on State Responsibility, Second Reading.

17 *Legality of the Threat or Use of Nuclear Weapons*, [1996] ICJ Rep. 1, at para 25; ILC, Law of State Responsibility, Article 55, Second Reading.

18 Supra, note, 12.

19 Uibopu, "Interpretation of Treaties in the Light of International Law - Article 31, paragraph 3 (c) of the Vienna Convention on the Law of Treaties"; Law of State Responsibility, Article 12, para. 4 of the Commentary, Second Reading; Sands, *supra* note .

20 See *Aegean Sea Case* [1978] ICJ Rep ?? where the Court had to decide whether a Greek acceptance of jurisdiction pertaining to "the territorial status of Greece" extended to a dispute over the Continental Shelf. The Court stated as follows at para. 77:

> Once it is established that the expression "the territorial status of Greece" was used in Greece's instrument of accession as a generic term denoting any matters comprised within the concept of territorial status under general international

parties may reveal an intention that terms should be accorded a fixed rather than an evolutionary meaning.[21]) Or, it may be because the treaty falls into a recognized category of treaties, the subject matter of which deals with important ethical or humanitarian norms, the content of which has been evolving quickly.[22]

5. While the Vienna Convention on the Law of Treaties addresses some aspects of the relationship the law of treaties and custom,[23] there are important

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law, the presumption necessarily arises that its meaning was intended to follow the evolution of the law and to correspond with the meaning attached to the expression by the law in force at any given time.

La Bretagne Arbitration (Canada/France), discussing the term "Canadian fishery regulations" in a bilateral treaty at 619 (para. 37) "as this expression was embodied in an agreement concluded for an unlimited duration, it is hardly conceivable that the Parties would have sought to give it an invariable content." But the tribunal also went on to emphasise (at para. 43) that the primary duty was to interpret the treaty as it stood at the time of its conclusion and that any evolutionary interpretation must be consistent with the interests of both parties.

[21] The subject matter and executory nature of the treaty may be important to this question; see *Aegean Sea Case id.*, at para. 77 drawing a distinction between agreements conveying title and agreements according jurisdiction to a court over disputes.

[22] Most formulations of this proposition refer to global or regional international human rights instruments but I have framed the proposition somewhat more broadly here by focusing on the underlying rationale of the original formulation in Judge Tanaka's judgement in the *SW Africa Case*, 1966 ICJ Rep at 294, *Namibia Advisory Opinion* [1971] ICJ Rep. at 31. For commentary on this application or modification of the so-called intertemporal rule as formulated by Judge Huber in an acquisition of territory case, *Island of Palmas* see Higgins, "Time and the Law: International Perspectives on an Old Problem (1997), 46 ICLQ 501 and esp. at 515 - 519 and Higgins, "Some Observations on the Inter-temporal Rule in International Law" in Kakarczyk (ed), *Theory of International Law at the Threshold of the 21st Century, Essays in Honour of Krzysztof Skubiszewski*, Kluwer, 1996 at 173 - 181; ILC, Law of State Responsibility, Article 13, Commentary paragraph 9, Second Reading, "But the intertemporal principle does not entail that treaty provisions are to be interpreted as if frozen in time. The evolutionary interpretation of treaty provisions is permissible in certain cases."

[23] See Articles 38 "Nothing in articles 34 to 37 precludes a rule set forth in a treaty from becoming binding upon a third State as a customary rule of international law, recognized as such." and 43 "The invalidity, termination or denunciation of a treaty ... shall not in any way impair the duty of any State to fulfil any obligation embodied in the treaty to which it would be subject under international law independently of the treaty." Baxter, "Treaties and Custom" (1970), 129 Recueil des Cours 25. Baxter's focus is the use of treaties as evidence of the existence of a customary norm. Thus he is not concerned with the use of custom to supplement treaty arrangements and this is particularly true of his discussion of bilateral water law treaties, id., at 82 and 84 - 87. Perhaps most relevant to the current lectures is Baxter's discussion at 92 et seq of the problems of codification exercises which, he suggests (at 96 - 97) will necessarily freeze the development of custom. This premise is questionable and Baxter himself seems to resile from his original propositions at 98 - 99.

aspects of that relationship that it does not address and it certainly cannot be thought of as a complete code on the subject.[24]

6. Treaties may modify custom at least as between the parties to the treaty, and custom may also modify treaties.[25]

7. Customary rules and treaty rules may cover the same ground but the norms retain a separate existence and may be subject to different rules of interpretation and application.[26]

8. Upon the termination of a treaty, the rights and obligations of the parties will be governed by the general matrix of treaty and customary law.[27]

3. The Danube Dams Case

We are now in a position to consider the *Danube Dams* decision of the International Court[28]. In doing so I want to pay particular attention to the manner

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[24] See Akehurst; VCLT, final clause of the Preamble; ILC Articles on State Responsibility, Article 56, the commentary noting that it is designed to serve a similar purpose to that fulfilled by the preamble to the VCLT and that it is not the intention of the ILC to freeze the law of state responsibility. Villiger, *Customary International Law and Treaties*.

[25] *La Bretagne Arbitration* (Canada\France) at 629 (para. 51) contemplating that a bilateral treaty might be modified by developments in the law of the sea provided that such developments "reflected generally accepted rules ... applicable between the Parties". Akehurst *supra* note at 275 "A treaty can override pre-existing custom, but subsequent custom can override a treaty"; Churchill and Foster, "European Community Law and Prior Treaty Obligations of Member States: The Spanish Fishermen's Cases" (1987), 36 ICLQ 504 at 516 - 517; Schacter, "Entangled Treaty and Custom" in Essays in Honour of Rosenne, at 717 - 738 and at 718 referring to "a tendency to consider treaty provisions as altered or superseded by State practice outside of the treaty itself". For a summary of the opposing views see Czaplinski at 35 - 36: accepting the possibility may (1) violate *pacta sunt servanda*, (2) may create problems in domestic law, (3) cause difficulty because of the lack of clarity of custom.

[26] *Military and Paramilitary Activities in and Against Nicaragua*, [1986] ICJ Rep. 14 at 95, (para. 187); VCLT, Article 38.

[27] *Gabcikovo*, per Herczegh (diss) at 201; Fleischhauer (diss) at 215. The majority of course did not need to address this issue since they held that the 1977 treaty remained in force. The proposition however would not seem to be very contentious.

[28] There is an extensive commentary on the case including a set of symposium articles in (1997), 8 Yb of IEL, Bourne, "An Important Milestone in International Water Law" at 6 - 12, Boyle, "New Law in Old Bottles" at 13 - 20, de Castro, "Positive Signs for the Evolution of International Water Law" at 21 - 31, Klabbers, "The Substances of Form ... Environmental Law and the Law of Treaties" at 32 - 40 and Stek and Eckstein, "Of Solemn Oaths and Obligations: The Environmental Impact of the ICJ's decision in the Case Concerning the Gabcíkovo-Nagymoros Project" at 41 - 50, A-Khavari and Rothwell, "The ICJ and the Danube Dam Case: A Missed Opportunity for International Environmental Law" (1998), 22 Melb. U. L. R. 507, Becker "Note" (1998), 92 AJIL 273, Fuyane and Madai, "The Hungary-Slovakia Danube River Dispute: implications for sustainable development and equitable utilization of natural resources in international

in which the parties used changes in environmental norms, and the background customary rules pertaining to shared resources, to help them frame their arguments, and, in the case of the Court, its decision.

3.1 The facts

The basic facts of the *Danube Dams Case* are well-known. In 1977, Hungary and the then Czechoslovakia entered into a treaty for the joint development of the Danube River. The primary intended benefits of the development were improved navigation and flood protection and the production of electricity through two hydroelectric power plants with an installed capacity of respectively 720 MW (Gabcíkovo in Czechoslovakia) and 158 MW (Nagymoros in Hungarian territory). The Gabcíkovo facility was designed to operate to meet peak load rather than base load, the implication of this being that the projected Dunakiliti reservoir above the Gabcikovo generating facility would fill and be drawn down on at least a daily basis. Water would be diverted to the Gabcíkovo facility through a canal by a dam at Dunakiliti. One of the functions of the Nagymoros facility was to smooth out the flow surges that would result from operating Gabcíkovo for peaking purposes.

Work began on the project in 1978. In May 1989 the Hungarian government suspended work on the Nagymoros part of the project pending completion of various studies and in July 1989 it extended the suspension to the works at Dunakiliti. Finally, in October 1989 the Hungarian Government decided to abandon the works at Nagymoros and to maintain the *status quo* at Dunakiliti. Hungary's position was that the project could no longer be justified in light of the ecological damage that it would bring about. In response, the Slovak government began to construct the so-called Variant C. The key difference between the project as originally conceived and Variant C was that Variant C involved the construction of a dam, the Cunovo dam, solely on Slovakian territory and upstream of the Dunakiliti diversion dam. The Cunovo dam would have essentially the same function as the Dunakiliti dam namely to divert Danube waters into a headrace canal for the Gabcíkovo generating facility but it would be an all-Slovak solution. Hungary purported to terminate the treaty in May 1992.

3.2 Some of the terms of the 1977 treaty

The treaty recited that the parties had a mutual interest in the broad utilization of the natural resources of the Danube for a number of listed purposes: development of water resources, energy, transport and agriculture (preamble). The locks project was conceive of as a "joint investment" and a "single and indivisible

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law" (2001) Int. J. Global Environmental Issues 329 (particularly good on the background to the dispute), Tarlock, "Safeguarding International River Systems in Times of Scarcity" (2000), 3 U Denv. Water L. Rev. 231, esp. at 242 - 246, Bostian, "Flushing the Danube: The World Court's Decision Concerning the Gabcíkovo Dam" Col

operational system" (Article 1). Much of the treaty is taken up with the details of realizing the project and the sharing of costs and expenses but Chapter V of the treaty laid out a number of water resource management functions, while Chapter VII deal with the protection of the environment. These parts of the treaty are written at a higher level of generality than the balance of the treaty and they also, as the court stated, incorporated obligations of result. Some of these articles proved to be of central significance in the reasoning of the court and I reproduce them here.

> Article 15. Protection of Water Quality
>
> 1. The Contracting Parties shall ensure, by the means specified in the joint contractual plan, that the quality of the water in the Danube is not impaired as a result of the construction and operation of the System of Locks.
> 2. The monitoring of water quality in connection with the construction and operation of the System of Locks shall be carried out on the basis of the agreements on frontier waters in force between the Governments of the Contracting Parties.
>
> Article 19. Protection of Nature
>
> The Contracting Parties shall, through the means specified in the joint contractual plan, ensure compliance with the obligations for the protection of nature arising in connection with the construction and operation of the System of Locks.
>
> Article 20. Fishing Interests.
>
> The contracting parties, within the framework of national investment, shall take appropriate measures for the protection of fishing interests in conformity with the Convention concerning Fishing in the Waters of the Danube, signed at Bucharest on 29 January 1958.

In focussing attention on these provisions I do not want to suggest that they were a centre-piece of the 1977 Agreement. Indeed, the bulk of the treaty is taken up with detailed provision (to be further elaborated by a joint plan) dealing with construction of the lock system.

3.3 Submission to the ICJ

When the dispute was submitted to the ICJ the parties agreed to pose three main questions with one additional consequential question. The court was asked to decide these questions on the basis of the 1977 Treaty, such other treaties as the Court might find applicable, and the "rules and principles of general international law". The three main questions related to: (1) Hungary's actions in the suspension and subsequent abandonment of the Nagymoros project and that part of the

Gabcíkovo for which it had responsibility, (2) the Slovak implementation of Variant C, and (3) the purported termination of the treaty by Hungary. The consequential question related to determining the legal consequences arising from the court's findings in relation to the three main questions. The parties reserved to themselves the right to determine the modalities for executing the court's judgement.

The Court held that Hungary had breached the 1977 treaty and that it could not rely upon arguments of necessity to relieve it from its responsibility for that breach. The court also held that the Slovak implementation of Variant C was unlawful. More specifically, the Court held that while Slovakia might have been entitled to embark upon the construction of Variant C, it was not entitled to put it into operation.[29] Finally, the Court found that Hungary's notification that the 1977 treaty was terminated did not have that effect. The Court went on to find that both Parties had an obligation to negotiate in good faith to ensure achievement of the objectives of the 1977 treaty, taking into account the actual construction activities to date, and to develop a joint operational regime for these facilities that reflected all of their responsibilities under international law.

So much for the bare facts and the actual decision. What I want to do now is to examine the Court's judgement (and indeed the separate and dissenting opinions) to see what it tells us about change (and therefore time) and what it tells us about the relationship between customary norms and treaty norms and between different bodies of law.

There is no doubt that much of this complex dispute between the parties revolved around the precise terms of the 1977 treaty. I think that it is also fair to characterize the Slovak position as being that the core rights and obligations of the two states in relation to the Danube had to be grounded in the 1977 treaty and other treaties binding the parties. Hungary took a broader view of the scope of the legal relationships between the parties. But even Slovakia had to recognize that there were limits to its line of argument. For example, the very agreement between the parties that authorized the submission of the dispute to the Court asked the Court to consider not just the 1977 treaty but also other relevant treaties and applicable rules and principles of international law. "Other relevant treaties" included, at a minimum, certain other agreements referred to in the 1977 treaty[30]; and, even from the Slovak perspective, "other applicable rules" included of course

[29] Several members of the Court contested this distinction arguing that if operation of Variant C was illegal then so was construction of the variant: see

[30] These agreements were: (1) the multilateral Convention concerning the regime of navigation on the Danube, Belgrade, 18 August 1948, 33 UNTS 181, (2) the Danube Fisheries Agreement, Bucharest, 29 January 1958, 339 UNTS 23, and (3) Agreement Concerning the Regulation of water-Management Questions Relating to Frontier Waters, Budapest, May 31, 1976. 1698 UNTS 42.

the rules derived from the law of state responsibility[31] and the law of treaties.[32] In this sense both parties clearly acknowledged that the 1977 treaty was nested within a broader system of primary and secondary rules. The more contentious issue related to the question of how, and the extent to which it was possible to argue that, the rules of the treaty could be modified by developments in customary international environmental law. Or, if the treaty could not be interpreted as having been modified, then the extent to which these developments might modify traditional rules on state responsibility so as to preclude a finding of wrongfulness.

3.4 The reasoning of the court

I suggest that the discussions of these issues by the Court and in the separate and dissenting opinions fall under four main headings or propositions: (1) If there were developments in customary law that had obtained the status of *ius cogens*, then the provisions of the 1977 treaty might be overridden to the extent of that conflict ("the *ius cogens* argument"). (2) Developments in customary law might serve to preclude the wrongfulness of what would otherwise be a breach of the treaty that would engage the responsibility of the state, or, alternatively, justify termination of the treaty. In general we can think of this as customary environmental law being used to shape defences to a charge of state responsibility ("changes in customary environmental law as a defence"). (3) Developments in customary law might serve to modify the interpretation of the treaty that might otherwise prevail (the "interpretive approach"). (4) Developments in customary law might serve to add to or modify existing treaty obligations (the problem of the "applicable law").[33] A word of caution is in order. I am using these categories because I think that they are analytically useful but in some cases, especially in relation to the third and fourth categories of interpretation and application, the lines may be difficult to draw.

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[31] At para. 46. The law of treaties governs whether or not a treaty is in force and had been properly terminated or denounced. The law of state responsibility governs the consequences of breach.

[32] The relevant law of treaties was, for the most part, the customary law of treaties as codified by the Vienna Convention on the Law of Treaties since the 1977 treaty pre-dated the entry into force of the VCLT. The VCLT did apply directly and as a treaty to certain protocols amending the 1977 treaty. Nothing turned on this distinction because the Court found that in all respects the clauses of the VCLT invoked by the parties represented a codification of customary law.

[33] See Bedjaoui at 124 at para 16: "The new law might, in principle, be relevant in two ways: as an element of the *interpretation* of the content of the 1977 Treaty and as an element of the *modification* of that content." Emphasis in original.

3.4.1 The ius cogens argument

The Court dealt with the *ius cogens* argument summarily[34] noting that "Neither of the Parties contended that new peremptory norms of environmental law had emerged since the conclusion of the 1977 Treaty, and the Court will consequently not be required to examine the scope of Article 64 of the Vienna Convention on the Law of Treaties." In effect, the Court simply used the *ius cogens* argument as an entry to what I have termed the problem of the applicable law and Hungary's argument to the effect that the 1977 treaty must be set aside because Hungary's could not fulfil its obligations under both the treaty and under norms of customary environmental law. I shall return to this point later.

3.4.2 Changes in customary environmental law as a defence

The judgements in the *Danube Dams* case illustrate at least a couple of ways in which customary rules shaped the availability of defences for both Hungary and Slovakia. In Hungary's case we can see this most clearly in its necessity defence and then again in its fundamental change of circumstances argument which was one of the arguments designed to justify, and therefore make lawful, its purported termination of the 1977 treaty.[35] Both agreements relied in some way upon changes in customary rules of international environmental law. In the case of Slovakia we can see how the background rules of customary law (in this case international watercourse law, and not really changes in this case) influenced the availability of the countermeasures defence to the charge that Slovakia had breached the 1977 treaty by adopting Variant C. In each case we need to ask how customary law and perhaps changes in customary law were doctrinally relevant.

Hungary's necessity defence

Hungary argued that a finding of wrongfulness in relation to its suspension and then abandonment of work on the joint project was precluded by reason of ecological necessity. The Court[36] responded to this claim by asking whether

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[34] At 67, para. 112. See also Bedjaoui at 121 at para. 6. See Uhlmann, "State Community Interests, Ius Cogens and Protection of the Global Environment" (1998), 11 Geo. Int'l Envtl. L. Rev. 101 esp. at 125 - 127.

[35] Hungary also argued that changes in customary law justified termination of the treaty. One can view this as a defence precluding wrongfulness, and indeed this is the way in which the argument seems to have been treated by the court, but I prefer to see it as a problem of the applicable law.

[36] At para. 49. See also Judge Herczegh (diss.). Judge Herczegh was prepared to go further than did the court. He found that Hungary had made out all the elements of the necessity defence (at 182 - 185) and found as well (at 186) that the ecological changes wrought by the project were so extensive as to justify termination of the treaty under Article 62 of the VCLT. Herczegh does not explicitly rely on changing norms of customary environmental law for these conclusions although they do inform his overall approach (his judgement begins by referring to the majority's reliance on *Legality of the*

Hungary's actions fell within the criteria articulated by the ILC in its first reading Draft Articles on State Responsibility: (1) the matter must engage an essential interest of the State, (2) the interest must be threatened by a grave and imminent peril, (3) the action taken must have been the only means of safeguarding the interest, (4) the action should not have seriously impaired an essential interest of the other State, and (5) the state taking the action must not have contributed to the occurrence of the state of necessity.

But how were changes in customary environmental law relevant to these tests? In practice it turns out that the changes are relevant because the open-textured nature of these tests allowed the values of modern international environmental law to influence the content of these tests. In effect, this is an example of the interpretive usage of changing rules; or at least, if we were dealing with a treaty text rather than a draft codification of customary law, that is how we would describe the exercise.

But let's see how this works in practice. Take the first criterion "essential interest of the state"[37] It is quite clear that this is a value-laden term into which the Court could breath some content. And in finding that this content potentially included concerns as to the natural environment, the court was clearly influenced by changes in the content of customary international environmental law. Here the Court relied in part on the ILC's commentary but also on its own well known *dictum* in its Advisory Opinion on the *Legality of the Threat or Use of Nuclear Weapons.*[38] There was also the potential for emerging ideas in international environmental law to influence the formulation of the second criterion (grave and immediate peril) and many authors[39] have remarked on a potential intersection

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Threat or Use of Nuclear Weapons at 176).

[37] The point is even more obvious in the context of the second reading version of what is now Article 25 which drops the possessive "of the state" characterization of the grave and imminent peril and when considering the balancing impairment that may result considers not only the interest of the State to which the obligation may be owed but also "the international community as a whole".

[38] At para. 53 and referring to ICJ Rep 1996 241 - 242 at para. 29. The environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn. The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment.

The Commentary to the Second Reading (Article 25) contains a number of additional references confirming that environmental or ecological concerns will qualify as an essential interest. The examples include: oil pollution from a stranded tanker, straddling stocks threatened with extinction, and overharvesting of fur seals. The ILC was at some pains to confirm that the interest in question might be an essential interest of all states and need not be a specific essential interest of the state taking the measure.

[39] See Stec and Eckstein *supra* note at and A-Khavari and Rothwell, *supra* note at 515 noting that "From the point of view of environmental protection, the very high threshold

with the precautionary principle.[40] However, the Court took a more conservative approach and insisted that "the mere apprehension of a possible peril could not suffice."[41] It is noticeable that the court completely failed to mention the precautionary approach or principle at this point in its judgement.[42]

Hungary's fundamental change of circumstances argument

As part of its *rebus sic stantibus* argument Hungary put forward a basket of changes which, taken together, were alleged to justify termination of the 1977 treaty under Article 62 of the VCLT.[43] One element of the basket was said to be "the progress of environmental knowledge and the development of new norms and prescriptions of international environmental law".[44] In the course of rejecting

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required to establish a state of necessity will, in some instances, defeat the precautionary principle, especially where there is scientific uncertainty regarding the extent of environmental impact." There is further discussion of the precautionary principle at 529 - 530 generally expressing disappointment that the court had not seen fit to mention the precautionary principle. The discussion concludes that: "Finally, if the precautionary principle was accepted as a principle of international environmental law, it could also have formed the justification of Hungary's termination of the 19977 treaty in 1992". No explanation is offered for this conclusion.

[40] One formulation of the precautionary principle is provided by Rio Principle 15: "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

[41] And see also the comment in the same paragraph (54) to the effect that the necessity argument "could not convince the Court unless it was at least proven that a real "grave" and "imminent" "peril" existed in 1989 ...".

[42] Concepts of international environmental law were also potentially relevant in other ways. Just as international environmental law might influence the content of the first threshold criteria so it should influence the first disqualifying criteria (i.e. that the action taken should not seriously impair the interest of another state or of all states). Judge Weeramantry is perhaps alluding to this form of potential influence when he notes at 117 - 118 of his separate opinion that rules developed in an *inter partes* situation are inadequate where important *erga omnes* issues are at stake but the particular target he seems to have in mind is estoppel. See also Oda (diss) at 160 at para 13 and 33. Note that the only reference to precaution in the judgement occurs at para. 97 where the Court is summarizing Hungary's termination argument.

[43] 1. A fundamental change of circumstances which has occurred with regard to those existing at the time of the conclusion of a treaty, and which was not foreseen by the parties, may not be invoked as a ground for terminating or withdrawing from the treaty unless:
(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 still to be performed under the treaty.

[44] At para. 104.

the entire argument and emphasising the exceptional nature of the *rebus sic stantibus* claim the Court dealt specifically with the evolving norms argument:[45]

> The Court does not consider that new developments in the state of environmental knowledge and of environmental law can be said to have been completely unforeseen. What is more, the formulation of Articles 15, 19 and 20, designed to accommodate change, made it possible for the parties to take account of such developments and to apply them when implementing those treaty provisions.

Slovakia's Counter Measures Argument

Slovakia mounted an alternative and defensive argument in support of its implementation of Variant C. Slovakia argued that if the court rejected its primary claim that Variant C was lawful on the basis of the principle of approximate application, the court should still rule that its action was justified as a lawful countermeasure. In order to be justifiable a countermeasure must meet certain conditions including that[46] "the effects of a countermeasure must be commensurate with the injury suffered, *taking account of the rights in question*."[47] But how were "the rights in question" to be ascertained? It is clear that the Court found the source of these rights not solely in the 1977 treaty but in some broader understanding of the rights and obligations of watercourse states as reflected in customary law. The Court referred to the concept of "community of interest" as articulated in the *River Oder* decision of the Permanent Court and found this principle to have been strengthened by modern developments as evidenced by the adoption of the International Watercourses Convention by the General Assembly.

> The Court considers that Czechoslovakia, by unilaterally assuming control of a shared resource, and thereby depriving Hungary of its right to an equitable and reasonable share of the natural resources of the Danube — with the continuing effects of the diversion of these waters on the ecology of the riparian area of the Szigetköz - failed to respect the proportionality which is required by international law.[48]

This led the Court to conclude that Variant C was not a lawful countermeasure.

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45 At para. 104.

46 The other three conditions were that: (1) the measure must be taken in response to a previous international wrongful act of another Sate and must be directed at that State; and (2) there must have been a call to discontinue the wrongful conduct or make reparation for it, and (3) its purpose must be to induce the wrongdoing state to comply with its obligations. The court found the first of these two conditions to have been met and did not deal with the third condition (at para. 87).

47 At para. 85, emphasis supplied.

48 At para. 85.

In conclusion, on these issues while the judgement offers some support for the view that developments in customary environmental law may influence the availability of defences which might serve to preclude a finding of wrongfulness, it seems that such developments operate at the margins. Certainly there is no free-standing resort to "justification under international environmental law" to preclude a finding of wrongfulness. Rather, counsel must be careful to couch their arguments in traditional terms, and indeed to frame them as interpretive and contextual arguments in the absence of a *ius cogens* argument that permits a frontal assault.

But the support offered by the judgement is limited because it seems to lack methodological rigour and consistency. What do I mean by that? Take, for example, the necessity argument. While the court takes account of changing perceptions as to the importance of the natural environment in considering what amounts to an essential interest it fails to even consider whether formulations of the precautionary principle should affect the formulation of the grave and imminent peril test. At the same time the Court acknowledges that the lawfulness of Slovakia's counter measures must be evaluated in light of broader customary norms finding expression in the Watercourses Convention.

3.4.3 The interpretive approach

To this point I have been considering the influence of environmental law on the availability of defences to state responsibility. We can turn to look at the relevance of changes in environmental law for the primary rules of obligation contained in the treaty. To what extent did rules of customary law, and, in particular rules of environmental law, influence the *interpretation* of the relevant treaties in the *Danube Dams Case*? More specifically, to what extent does the case adopt the view that these treaties should be interpreted in light of the customary rules prevailing at time of interpretation rather than simply the law prevailing at the time the treaties were ratified? In general, the actual decision supports an evolutionary interpretation of the relevant treaties, but it is somewhat more difficult to pin-point the grounds for the court's reasoning. Did it adopt this approach because that was what the parties had agreed in 1977 or did it adopt this approach because, as a matter of principle, that is how an interpreter should approach the interpretation of long-term resource management treaties that have an impact on the environment unless the parties indicate a contrary intention? While the point is not entirely clear it seems as if the reasoning is based on the former approach.

In thinking through the scope of the interpretive approach I want, once again, to focus on just how the issue arose for decision. Here I think that it is important to emphasise that, for the majority, the issue arose most concretely[49] in the context

[49] Prior to this the court had, on various occasions, already alluded both to changes in customary rules related to the environment and to the ambulatory nature of the

of the final part of the Court's judgement. By this time the court had decided that the 1977 was still in effect and the court therefore had to "determine the legal consequences including the rights and obligations for the Parties"[50] arising out of its judgement while recognizing that the parties had reserved to themselves the "modalities of execution" of the judgement.

In doing so the Court placed great emphasis on the actual provisions of the 1977 treaty and did not rely either on Article 31(3)(c) of the VCLT (the majority never mentions this clause) or upon the line of cases beginning with Judge Tanaka's judgement in the *SW Africa Cases* to support an evolutionary interpretation. But simply by relying on the treaty the Court was able to say that the treaty itself (Articles 15 and 19) contemplated that the environmental obligations of the parties were "evolving" that "current standards must be taken into consideration" that "new norms have to be taken into consideration" and "new standards given proper weight".[51] In going forward the parties would need to be cognizant of the multiple objectives of the 1977 treaty[52] and the need "to reconcile economic development with protection of the environment" as "aptly expressed in the concept of sustainable development".[53]

Accordingly, it was left to the separate and dissenting opinions to frame the evolutionary interpretive approach in terms that were less clearly tied to the ambulatory terms of the 1977 treaty. The leading exponents of this view were Vice-President Weeramantry and Judge Herczegh. As one might have anticipated from his earlier opinions in *Nuclear Weapons* and *Nuclear Tests* Weeramantry came down heavily in favour of an evolutionary interpretation which he characterized as "the principle of contemporaneity in the application of environmental norms". Weeramantry uses the majority's judgement referred to above as the springboard for his discussion. He endorses the majority's approach and then continues:[54]

> If the Treaty was to operate for decades into the future, it could not operate on the basis of environmental norms as though they were frozen in time when the Treaty was entered into.
>
> This inter-temporal aspect of the present case is *of importance to all treaties dealing with projects impacting on the environment*. Unfortunately, the Vienna Convention offers very little guidance regarding this matter which is of such importance in the environmental

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commitments made by the parties under Articles of the 1977 treaty. See for example at.

50 Compromis, article 2(2).

51 At para. 140. And on the distinction between norms and standards see de Castro, *supra*, note at 24 - 25.

52 At para 135.

53 At para. 140.

54 At 114.

> field. The provision in Article 31, paragraph 3 (c), providing that "any relevant rules of international law applicable in the relations between the parties" shall be taken into account, scarcely covers this aspect with the degree of clarity requisite to so important a matter. (Emphasis supplied).

In support of this proposition Weeramantry does refer to the well known line of human rights cases beginning with Judge Tanaka's separate opinion in the *SW Africa Case* and the court's *Namibia Advisory Opinion*.[55] He then went on to say that "Environmental rights are human rights" before concluding: "In the application of an environmental treaty, it is vitally important that the standards in force at the time of application would be the governing standards."[56]

But what are the implications of this approach? What did it mean given the way that the parties had framed the issue? In Weeramantry's view the implications would be far reaching. Take, for example, the principle of continuing environmental impact assessment. Judge Weeramantry takes this to be, if not a principle of customary law then at least a principle *of which the Court should take notice*.[57] But what did that mean? It meant that:[58]

> Environmental law in its current state of development would read into treaties which may reasonably be considered to have a significant impact upon the environment, a duty of environmental impact assessment and this means also, *whether the treaty expressly so provides or not*, a duty of monitoring the environmental impacts of any substantial project during the operation of the scheme (emphasis supplied).

The status of the current law provides "the standard by which the continuing assessment is to be made." While certainly progressive, these passages are not free of doctrinal difficulty. For example, how does Weeramantry move from the idea of a principle of which a court should take notice to an obligation that must be read into a treaty? Does not Article 31(3)(c) (if this what Weeramantry is relying upon) require that the principle be accepted as a legal rule or principle? And indeed, is Weeramantry dealing with a problem of interpretation here (he seems to be, viz "read into treaties") or a problem of the applicable law, i.e. the relationship between Slovakia and Hungary is to be governed by the terms of the 1977 treaty *and* any applicable rules of customary environmental law including the duty of continuing assessment. If it is the latter, then what did this duty entail? Weeramantry suggests a continuing obligation of "watchfulness and anticipation" a "specific application of the larger general principle of caution", but are there as

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[55] [1971] ICJ Rep 31; Judge Herczegh at 78 relies on the same line of cases: "[w]hat held good for the Mandate system of the League of Nations also holds good for the duty to safeguard the natural environment."

[56] At 115.

[57] At 111 and referring to his own separate opinion in *Nuclear Weapons*, supra.

[58] At 112.

well duties to adapt or even abandon the project or parts of the project depending upon the outcome of these activities?

The distinction between the applicable law and the interpretation of that law was basic to Judge Bedjaoui's separate opinion and it was Judge Bedjaoui who offered the most scholarly and careful treatment of the problem of intertemporal law in the course of his separate opinion. For him the basic rule was that of *pacta sunt servanda* and a "traditional" interpretation based on Article 31 of the VCLT.[59] In Bedjaoui's mind that meant the "fixed reference" to international law at the time of its conclusion. A "mobile reference" to subsequent developments in international law was only appropriate in his view in "exceptional cases" such as the proper interpretation of the concept of the sacred trust in the *Namibia* case. In the present case the concept of "environment" was not evolutionary and furthermore the objective of this treaty (joint investment to build a number of structures) had not evolved at all. One might have thought that all this would lead Bedjaoui to reject an evolutionary interpretation, but, in the end not so, for Judge Bedjaoui thought that in this case the "extremely vague terms" of the environmental protection clauses of the treaty implied that "respecting the autonomy of the will" of the parties "implies precisely" that these provisions should be interpreted in an evolutionary manner. That meant that the interpreter should apply the "new law" of both the environment and that of international watercourses."[60] These passages make it clear that Judge Bedjaoui at least thought that he was dealing with an easy case, a case in which the parties had agreed in advance to take account of changes in the law in their ongoing treaty relations.

In conclusion, the court construes the continuing obligations assumed under the 1977 treaty to protect the environment and the fishery of the Danube as incorporating *current* norms and standards of environmental law. For the majority this conclusion seems to be[61] grounded in the terms of the treaty and thus it is hard to read the judgement as articulating a more general approach. Those standards should influence the parties as they negotiate in good faith to implement the terms of the judgement. Insofar as those standards incorporate obligations of result, the

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[59] At 121 - 122. At no point does Bedjaoui refer explicitly to Article 31(3)(c) of the VCLT although he does suggest (at para. 13) that the classical rules of interpretation did not require that a treaty be interpreted in the context of the entire legal system prevailing at the time of interpretation.

[60] At 124, para. 17.

[61] Although I think that this is the dominant view the point is not entirely clear because the court also talks about the duties of the Parties being based not only on the treaty but also on other sources of obligation (at para. 132.)

> That relationship is also determined by the rules of other relevant conventions to which the two States are party, by the rules of general international law and, in this particular case, by the rules of State responsibility; but it is governed, above all, by the applicable rules of the 1977 Treaty as a *lex specialis*.

implications of this approach may be far-reaching. It seems entirely possible, for example, that the duty to preserve the environment might require that substantial flows be released into the bed of the former channel of the Danube, or it might require, as the parties themselves contemplated, that generating capacity be used for base load rather than peaking purposes. But the court makes these observations in the course of looking to the future. It is less clear what the result would have been if the facilities had been constructed as planned and the result were to create, at least in the mind of one party, unacceptable environmental damage. Judge Weeramantry speaks to that issue but he does not fully analyse the consequences of his reasoning.

3.4.4 The problem of the applicable law

To the extent that we can separate out the problem of identifying the applicable law from the problem of interpreting the scope of a treaty obligation I think that the judgements offer us some additional guidance on a couple of problems. The first relates to the consequences of arguing that the relations between the parties are governed by general rules of international environmental law as well as the 1977 treaty. The second problem relates to the interaction between the bilateral treaty regime and general watercourse law. We have already alluded to this latter question in the context of our discussion of "defences" or the circumstances excusing wrongfulness, but why was this body of law available at all? Why had its application not been pre-empted by the 1977 bilateral treaty?

The application of customary environmental law

In seeking to justify (i.e. make lawful and effective) its purported termination of the 1977 treaty, one of Hungary's arguments was,[62] in the words of the court:[63] "that subsequently imposed requirements of international law in relation to the protection of the environment *precluded performance of the Treaty*." But what would be the juridical basis of such a claim? One possibility would of course be the development of a rule of *ius cogens* which would trump the treaty, at least to the extent of the inconsistency.[64] But that argument (and it is at this point in the Court's judgement that it did so) was, as we have already seen, rapidly disposed of by the court on the basis that neither party argued *ius cogens*. But if that was not the basis of the argument for Hungary on this point, what was its basis?

A moment's reflection suggests that the argument must have been three-fold: (1) that a new norm had emerged that demanded protection of the environment and which applied to these facts, (2) that the new norm was inconsistent with

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[62] The other arguments were: (1) necessity, (2) impossibility of performance of the treaty (Article 61, VCLT), (3) fundamental change of circumstances (see *supra*), and (4) material breach.

[63] At para. 97.

[64] See Commentary to the ILC Second Reading Articles on State Responsibility.

fulfilling the terms of the treaty (i.e. it would not be possible to fulfill both sets of obligations), and (3) that this new norm should, to the extent of the conflict, prevail over the treaty norm, not on the basis of the importance of the subject matter of the norm (for that would be a *ius cogens* argument), but on some other basis such as *lex specialis* or on the basis of the priority to be accorded to a more recent norm.[65] I think that all three of the steps to the argument are essential, for without the second and third steps how can the termination of the treaty be legally justified? But the point is not so clearly taken by the Court which, in its summary of Hungary's argument, continues as follows: "The previously existing obligation not to cause substantive damage to the territory of another State had, Hungary claimed, evolved into an *erga omnes* obligation of prevention of damage pursuant to the "precautionary principle". On this basis, Hungary argued, its termination was "forced by the other party's refusal to suspend work on Variant C".

In my view this summation of the argument is nothing more than steps one and two of a complete argument. Perhaps because of the way in which the court perceived the argument the judgement is not responsive to it. Indeed, the court, having summarized the argument and having disposed of the *ius cogens* issue, simply leaves the question of termination altogether and begins to anticipate its conclusions on the third question that was put to it. This third question, it will be recalled pertained to the way forward and the future implementation of the 1977 treaty. For that purpose the newly developed norms of environmental law were indeed relevant as we have just discussed under the heading of "the interpretive approach."

The application of international watercourse law

It will be recalled that the Court found that the Slovak implementation of Variant C was unlawful and that the Court rejected Slovakia's argument that Variant C was a justifiable countermeasure. In part at least that conclusion turned on what the Court believed to be the background rules of customary international law pursuant to which each watercourse state was entitled to an equitable and reasonable share of the natural resources of the watercourse.[66] Variant C was unlawful not so much because it was inconsistent with the 1977 treaty[67] but

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[65] Czaplinski and Danilenko, *supra*, note at 21 - 22 discuss a similar issue coincidentally (or perhaps not) also involving Hungary. After becoming party to the Covenant on Civil and Political Rights Hungary unilaterally terminated an earlier (1969) immigration agreement with the GDR on the grounds that it conflicted with Article 12(2) of the Covenant. The authors briefly discuss ideas of a presumption in favour of multilateral over bilateral agreements and the concept of *relative* ius cogens finding neither especially convincing.

[66] At 56, para. 85 - 87. To the same effect, but even stronger, is Fleischhauer (diss) at 212.

[67] This was Herczegh's position (diss.) at 193.

because it was inconsistent with the general rules pertaining to the equitable utilization of international watercourses.[68]

But this conclusion proved to be contentious with other members of the court because, at the very least, the court had failed to articulate how the 1977 agreement related to the background rules. Judge Koroma, for example, noted[69] that this conclusion "is not free from doubt" because the principle of equitable utilization "applies where a treaty is absent". In the present case, the 1977 treaty not having been abrogated, continued in force and it contemplated what might happen were one party to take more than its share of the water:[70]

> Accordingly, it would appear that the normal entitlement of the Parties to an equitable and reasonable share of the water of the Danube under general international law was duly modified by the 1977 Treaty which considered the Project as a *lex specialis*. Slovakia was thus entitled to divert enough water to operate Variant C, and more especially so if, without such diversion, Variant C could not have been put into

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[68] Skubiszewski (diss) makes this point very well at 234 - 235: But Slovakia has also referred, though in a somewhat subsidiary manner, to general law. Under that law, as applied by the Court, Slovakia bears responsibility for withholding from Hungary that part of the Danube's waters to which the latter was entitled. By saying that Hungary did not forfeit "its basic right to an equitable and reasonable sharing of the resources of an international watercourse" the Court applies general law (Judgment, para. 78). The Court likewise applies general law (cf. para. 85) when, in particular, it refers to the concept of the "community of interest in a navigable river", as explained by the Permanent Court in the case relating to the *Territorial Jurisdiction of the International Commission of the River Oder*, (1929, P.C.I.J., Series A, No. 23, p. 27). The canon of an equitable and reasonable utilization figures prominently in the recent United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, especially in its general principles (Arts. 5-10).
Skubiszewski then goes on to state that the applicable general law is stated by the *Lake Lanoux* case which made it clear that a watercourse state does not have a veto and if that is the rule that applies during the negotiation of a treaty it applies with even more force to the revision of an existing treaty. From this Skubiszewski drew the more nuanced conclusion (at 239) that the Slovak implementation of Variant C was not unlawful but at the same time "Hungary's right under general international law to an equitable and reasonable sharing of the waters of the Danube had to be preserved notwithstanding its repudiation of the Project and the Treaty." See also Stec and Eckstein at 44 noting that to find that the Slovak implementation of Variant C was illegal, the Court had "to look beyond the four corners of the treaty to international legal principles concerning shared resources ...".

[69] At 149. See also the concluding paragraph of Judge Koroma's opinion (at 152) in which he asserted (without detailed supporting reasoning) that the 1977 treaty "would seem to have incorporated most of the environmental imperatives of today. Including the precautionary principle, the principle of equitable and reasonable utilization and the no-harm rule."

[70] At 149 - 150.

> productive use. It is difficult to appreciate the Court's finding that this action was unlawful in the absence of an explanation as to how Variant C should have been put into operation. On the contrary, the Court would appear to be saying by implication that, if Variant C had been operated on the basis of a 50-50 sharing of the waters of the Danube, it would have been lawful. However, the Court has not established that a 50-50 ratio of use would have been sufficient to operate Variant C optimally. Nor could the Court say that the obligations of the Parties under the Treaty had been infringed or that the achievement of the objectives of the Treaty had been defeated by the diversion. In the case concerning the *Diversion of Water from the Meuse*, the Court found that, in the absence of a provision requiring the consent of Belgium, "the Netherlands are entitled, ..., to dispose of waters of the Meuse at Maastricht" provided that the treaty obligations incumbent on it were not ignored" (Judgment, 1937, P.C.I.J., Series A/B, No. 70, p. 30). Applying this test in the circumstances which arose, Variant C can be said to have been permitted by the 1977 Treaty as a reasonable method of implementing it. Consequently Variant C did not violate the rights of Hungary and was consonant with the objectives of the Treaty regime.[71]

These considerations lead Judge Koroma to conclude that the Slovak response was not unlawful but a genuine attempt to achieve the objective of the 1977 treaty which was itself an attempt to apply the principle of equitable and reasonable utilization to the factors and circumstances of this particular international watercourse.[72]

In summary, I think that we can see that the Court took the easy way out in its judgement by focussing on the way forward and by drawing attention to the dynamic possibilities associated with the consequential question asked of it by the parties. As a result I think that the Court failed to deal with the applicable law problem in a satisfactory way. In the case of Hungary's argument the court completely side-stepped the issue that was raised. And in the case of Hungary's argument the Court failed to articulate why the Court treated customary rules of watercourse law as being applicable. This would be understandable if the 1977 treaty were no longer in force but the premise of the Court's judgement is that the treaty is in force and as the lex specialis. I do not think that the court explains how treaty and custom fit together.

3.5 Conclusions

In this section of my lectures I have tried to focus attention on how the parties and the court itself viewed the relationships, (1) between custom and treaty, (2) between general rules of international environmental law and watercourse law,

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71 At 64 at para. 112.

72 To the same effect see Vereshchetin at 226 and Parra-Aranguren at 230 at para. 19.

and (3) between general watercourse law and the specific terms of the 1977 agreement between the parties. The review demonstrates the multifaceted nature and complexity of those relationships. I have dealt with four aspects of those relationships: (1) the *ius cogens* argument, (2) the preclusion of wrongfulness issues, (3) the interpretive issues, and (4) the problems of application. The theme of *pacta sunt servanda* is the golden thread that runs throughout the judgement and exercises a dominant influence on the way in which the court views these relationships. Thus the court rejects the "big" arguments that would have allowed Hungary to terminate the 1977 relationship or to escape responsibility for breaching the treaty. Yet at the same time the court refused to view the 1977 treaty in isolation from other developments in both watercourse law and environmental law. In doing so it largely saw itself as fulfilling an interpretive function.

Other commentators on the case have also drawn attention to these issues and have tried to anticipate how they might apply to other watercourse agreements. The views of two commentators, Boyle[73] and Bourne[74] are particularly pertinent. Boyle emphasised that while the Court found that the relationship between the parties is governed by the 1977 treaty "it does not do so in static isolation" but in "dynamic conjunction" with other rules "as they evolve". However, he correctly (in my view) points to the ambiguous basis on which the court reaches this conclusion. Is it on the basis that the treaty itself expressly incorporates these norms or is it on the basis that such norms are to be incorporated without the need for express mention? Boyle goes on to argue that:[75]

> The latter view has much to commend it. A *watercourse treaty governs what it governs* - if it makes no provision for environmental impact assessment (EIA) or monitoring for future projects, there is no evident reason why the general law on EIA and monitoring should not apply, *unless of course the treaty expressly or impliedly excludes it*. Problems remain in determining the precise relationship between such treaties and general law, but the Court's conclusion that the law governing a complex and ongoing project of this kind cannot be viewed in static terms is surely correct. [Emphasis supplied.]

Earlier in the same paragraph Boyle referred to the possible implications of this decision for other watercourses contemplating that "possibly those treaties governing the Nile or the Indus, are neither *self-contained regimes* nor do they freeze the applicable law at the date of the conclusion of the relevant treaty." Here it seems Boyle is addressing himself both to the problem of the applicable law and to the problem of interpretation.

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73 *Supra* note.
74 *Supra* note.
75 Boyle, *supra*, note at 15.

The thrust of Charles Bourne's article is somewhat different. While Bourne is largely concerned to document how the judgement supports an equitable utilization approach to the law of international watercourses rather than a no significant harm rule, he also raises the following question: "whether the terms of an agreement concerning a utilization of an international watercourse are subject to renegotiation if their application results in significant harmful effects of an unreasonable and inequitable nature, especially in harm to the environment." In responding to this question Bourne noted that in this particular case the duty to do so arose out of terms of the 1977 treaty itself and the *compromis,* but what if the treaty were silent? Then says Bourne, the importance of maintaining the sanctity of treaties suggests that the conclusion should turn on whether or not the harmful effects were "reasonably foreseeable" at the time the treaty was executed. If they were then there should be no duty to renegotiate. If they were not then:[76]

> ... the parties would be obliged to consult and negotiate to adapt the terms of the agreement in the light of the unforeseen circumstances. The principle of equitable utilization, which requires the reasonable and equitable sharing of the beneficial uses of an international watercourse, would support this conclusion. The issue ... does not concern the right of a party to a treaty to terminate it because of changed circumstances ... it concerns the question of adapting the terms of the agreement to the new circumstances.

These comments on the application of the *Danube Dams Case* to other watercourse regimes offers a suitable jumping-off point for considering the Columbia River Treaty and the pre-existing legal regime on which it was superimposed. We can then revisit these more general questions raised by Bourne and Boyle in the final lecture.

4 The Columbia River Basin and regime prior to the Columbia River Treaty

4.1 Introduction

The CRT entered into force in 1964 although the basic text was settled in 1961. Two main objectives were uppermost in the minds of the negotiators: flood control and power. Cooperative development of the basin was necessary to achieve these objectives in the most optimal and cost-effective way since the primary storage sites were all located in the upper basin, largely in Canada. The treaty was not negotiated in a legal vacuum. In particular, water relations between Canada and the United States were (and still are) governed by the *Boundary Waters Treaty* (BWT) of 1909.[77] However, the CRT was acknowledged to be

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[76] Bourne, *supra*, note at 11.

[77] 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 best source on

necessary for a couple of reasons. First, the BWT did not offer a complete framework for dealing with bilateral water relations, especially with respect to waters which crossed the international boundary. Second, to the extent that the BWT did deal with transboundary water relations, it was understood to have adopted a modified version of the Harmon Doctrine. That doctrine had been understood to accord the upstream state substantial discretion in the way that it appropriated or otherwise used the waters of an international watercourse and thus did not provide an appropriate framework for the equitable utilization of the Columbia.

The following sections provide the necessary introduction for talking about the CRT. I shall begin by talking about the geography and ecology of the basin and refer to the hydro developments that had already occurred on the Columbia River by the time that the treaty was under negotiation.

4.2 The geography of the Basin

The Columbia River, with a length of nearly 2000 kms, is one of the great rivers of the North American continent exceeded in volume by only the St. Lawrence, the Mississippi and the Mackenzie. 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 Canada (solely in British Columbia),[78] but this area supplies a disproportionate share of the flows, contributing about 30% of the runoff for the entire basin.[79] Average annual flow is 173 MAF (213 billion cubic metres) but there is considerable seasonal and year-to-year variability in flow. In its natural hydrograph the river discharged 73% of its flow in the summer months and only 27% in the fall and winter months when power demand was highest. The three major tributaries of the Columbia are the Kootenay, the Pend d'Oreille and the Snake. The first two are international streams while the Snake River is located wholly within the United States. The only other international tributary of significance is the Okanagan River.

The Columbia River basin is primarily a snow-fed system. Snow accumulates in the mountains from November to March or later and then melts to produce run-

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practice under the treaty is Bloomfield and Fitzgerald (hereafter B & F).

[78] *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.

[79] *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*).

off in spring and summer. Streamflows normally peak in June. Flood control objectives are best attained by emptying storage in time to catch peak spring and early summer flows. The reservoirs can then be allowed to fill with the balance of the snow melt during the summer. Extensive storage makes it possible to make the maximum use of installed generating capacity. Water storage also represents one of the few available techniques for storing energy and dam operators like to take advantage of storage by timing releases to meet periods of high demand. In an increasingly interconnected system this allows generators in BC to sell low cost power into a peaking California market. The overall effect of harnessing a river system like the Columbia for power generation and flood control is to tame the river and level or reverse the natural hydrograph.

Irrigation was not a principal reason for the CRT. There is about 3 million hectares of land under irrigation in the basin, the vast bulk being in the US. The treaty dams are not directly associated with irrigation although other mainstem dams, principally the Grand Coulee dam in the US, are multi-purpose dams providing water for irrigation as well as power and flood control capacity.

Historically the Columbia River Basin supported a large anadromous fish population including the west coast's main species of salmon and sea-run trout. Fish were able to migrate through the entire system and spawn in the headwaters of the mainstream of Columbia in Canada and supported traditional Indian fisheries throughout the Basin. Estimates of the size of the populations vary but suggest that between 11 and 16 million salmon and steelhead returned annually to the Columbia River.[80]

Prior to the negotiation of the Columbia River Treaty there had already been significant development of the mainstream of the Columbia, Pend d'Oreille and Snake Rivers in the United States and of the Kootenay River in Canada. The main US dams on the mainstream were Bonneville, (1938) Grand Coulee (1944), McNary (1957) (all government projects) as well as five other dams operated by local utility companies (Wells, Rocky Reach, Rock Island, Wanapum and Priest Rapids). The main US projects on the Pend d'Oreille were Hungry Horse (1953) and Albeni Falls (1955). Canada had not developed the mainstream of the Columbia at all but had developed the Kootenay River below Kootenay Lake and above the junction with the Columbia.[81] Canada also had one dam on the Pend d'Oreille at Waneta.

Most of this early development occurred independently in the two countries although in some limited cases, as we shall see, the developments engaged the Boundary Waters Treaty and required the approval of the International Joint

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[80] See Appendix C, of the SOR Review, supra, note *Anadromous Fish and Juvenile Fish Transportation* at 1-3.

[81] There is a series of dams on this section of stream: Corra Linn, Upper and Lower Bonnington, South Slocan and Brilliant.

Commission but even then there was no common planning framework in place. While the developments in the United States had gone a long way to harnessing the hydro potential of the mainstream, more efficient use of installed capacity could only be achieved through headwater storage and the best sites to construct that storage were mainly in Canada.

4.3 The pre-existing legal regime: the Boundary Waters Treaty

The keystone of the pre-CRT legal regime was the Boundary Waters Treaty of 1909.[82] The BWT did three main things. First, the treaty established some basic substantive rules to govern the water relations between the United States and Canada. Second, it established the International Joint Commission (IJC) and prescribed the limits to its jurisdiction. Finally, specific articles of the treaty settle, or set the terms for settling, particular disputes that then engaged Canada and the United States. The following sections describe the first two aspects of the treaty. The third is not relevant for present purposes. Although I believe that the breakdown is useful for analytical purposes these are not watertight compartments. In particular, to the extent that the substantive rules are administered by the IJC, there is some degree of overlap between the substantive rules and the IJC's jurisdiction. Where appropriate I shall provide examples of the operation of these rules and the IJC's jurisdiction from within the Columbia basin.

4.3.1 The substantive rules

The treaty draws a fundamental distinction boundary waters and transboundary waters. Boundary waters are those waters along which the international boundary runs.[83] The treaty does not itself use the term "transboundary waters" but we shall use that term here to refer to those provisions of the BWT that pertain to waters that flow across the international boundary.[84] In general, the treaty has far more to say about boundary waters than it has to say about transboundary waters. The reasons for this are possibly two-fold. First, a dominant concern or value at the time of the treaty was navigation and particularly the navigability of boundary waters like the Great Lakes and the St. Lawrence. Second, the United States in particular still adhered to some form of the Harmon Doctrine (see discussion below) which of course suggests that the uses to which watercourse states put transboundary waters rather than boundary

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[82] A complete analysis would include the Treaty of Oregon of 1846. Article II of that treaty provided the mainstem of the Columbia would be free and open to the Hudson Bay Company and all British Subjects trading with the HBC, the freedom to extend to "all the usual portages". Clearly, navigation was the main value that informed the negotiation of early watercourse agreements.

[83] The preliminary article of the treaty.

[84] This is the usage adopted in Article II of the BWT but without using the term transboundary waters. The treaty also has a further category included here that of waters that flow into boundary waters.

waters is fundamentally a matter of national and not international concern. Given these premises it is hardly surprising that the treaty should have less to say on the subject of transboundary waters than boundary waters.

Rules governing boundary waters

First, the Parties agreed that navigable boundary waters shall continue to be free and open on a non-discriminatory basis for commerce to both Parties and their vessels and inhabitants.[85] Second, the Parties commit not to make any uses, obstructions or diversions, whether temporary or permanent of boundary waters without the approval of the IJC.[86] Third, each Party shall have "equal and similar rights" in the use of boundary waters.[87] Fourth, uses of boundary waters are to be subject to an order of precedence: (1) domestic and sanitary uses, (2) navigation, and (3) power and irrigation. Fifth, the equal division of boundary waters may be suspended by the IJC in its decisions in the cases of temporary diversions, where an equal division cannot be made advantageously and where such diversions does diminish elsewhere the amount available of use on the other side.[88] Sixth, neither Party shall pollute boundary waters on its side "to the injury of health or property on the other" (Article IV). There are no examples of boundary waters within the Columbia Basin.

Rules governing transboundary waters

The main rule governing transboundary rivers is found in Article II the first part of which is said to affirm the Harmon Doctrine.[89] Thus each Party:

> ... reserves to itself or to the several State Governments on the one side and the Dominion or Provincial Governments on the other as the case may be ...the exclusive jurisdiction and control over the use and diversion, whether temporary or permanent, of all waters on its own side of the line.

The commentators agree that this clause was included at the insistence of the United States.[90] The second part of the clause suggests that it does not necessarily

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85 Article I.

86 Article III.

87 Article VIII.

88 It appears that these conditions are cumulative and not alternative conditions. See B & F referring at 32 - 33 to the St. Croix, Docket # 94 and noting that the IJC had not defined the term "temporary".

89 So-called after Attorney-General Harmon of the United States who, when Mexico questioned US diversions of the Rio Grande, took the view that there were no limits on the right of an upstream state to divert water on its territory. See B & F at 43.

90 See, for example, Scott, "The Canadian-American Boundary Waters Treaty: Why Article II" (1958), 36 Can. Bar Rev. 511, Gibbons, "Sir George Gibbons and the

follow that the freedom of the upstream state to appropriate upstream waters allows it to do so without incurring liability. Indeed, Article II goes on to provide:

> any interference with or diversion from their natural channel of such waters on either side of the boundary resulting in any injury on the other side of the boundary, shall 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.

In sum, this provision seems to modify the Harmon Doctrine by contemplating the possibility of liability. Harmon thought that no duty was owed,[91] and thus for him the relevant rule was a no-liability rule much like the rule of capture developed in common law in relation to groundwater. However, the liability that is contemplated is not state liability or responsibility but rather the affirmation of the possibility of a claim for damages by private citizens in the courts of the upstream state on a non-discriminatory basis. In other words, this provision to Article II is simply saying that if a private party in the upstream state would have a right of action against an upstream develop who causes injury, then the courts of the upstream state cannot discriminate against a downstream owner simply on the basis that they happen to live on the other side of the boundary. State responsibility will only be triggered if such access is denied. This suggests that the extent of liability and the availability of any defenses will be governed by the law of the upstream state and not by international law or the law of the downstream state. The literature on the BWT considers several possible interpretations of this clause many of them developed at the time that the Columbia River Treaty was under negotiation.[92] Remarkably enough there are no

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Boundary Waters Treaty of 1909" (1953), 34 Can. Hist. Rev. 124.

91 "... in my opinion, the rules, principles, and precedents of international law impose *no liability* on the United States" (emphasis supplied).

92 See Scott, *supra*, note . This is a particularly well researched and argued analysis which is highly critical of some extreme interpretations which would deny the downstream user an effective remedy on the grounds that it lacked a license from the upstream jurisdiction which would be essential to commence a water rights action in that jurisdiction. These days one would have little hesitation in characterizing such an approach as a bad faith interpretation of the treaty. But see Griffin, "A History of the Canadian United-States Boundary Waters Treaty of 1909" (1959) U. Detroit L. J. 76. Griffin in discussing the proviso to Article II notes that a summary of the treaty prepared by Chandler Anderson (special counsel of Secretary Root) for the Committee on Foreign Relations prior to ratification (at 91) "expressly raised the possibility that there might not be any local damage remedy under the law of some places" and goes on to say that it seems unlikely that either side had actually examined the laws of the relevant jurisdictions to determine what legal remedies existed. Borden, the leader of the opposition raised the same issue in the House of Commons in 1910 (after ratification) during the debate on the federal implementation legislation (at 93). The more recent literature includes McCaffrey, "The Harmon Doctrine One Hundred Years Later: Buried, Not Praised" (1996), 36 Nat.

reported cases in Canadian or American courts in which private parties have attempted to make a claim for compensation.

It is the nature of Article II that it creates or recognizes a freedom to alter the flow regime of a transboundary stream without the need for any prior approval. Consequently, one looks in vain for a series of Article II approvals. Perhaps the best illustration of this negative proposition within the Columbia Basin is offered by upstream developments in the US on the Pend d'Oreille. 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.[93] Neither of these facilities is required to have (or has) approval from the IJC although both projects are clearly capable of affecting downstream flows in Canada and, depending upon their operation, may adversely or positively affect generation at two Canadian downstream plants at Seven Mile and Waneta on the Pend d'Oreille in Canada before it joins the Columbia.

The levels rule and the no pollution rule

In addition to the freedom preserved by the Harmon Rule of Article II, Article IV[94] prescribes a rule for developments in the downstream state of transboundary waters where those developments affect water levels in the upstream state. The Article stipulates that the downstream Party will not permit "any remedial or protective works or any dams or other obstructions" in waters flowing from boundary waters or in transboundary waters, the effect of which is to raise the natural level of waters on the other side of the boundary, without the approval of the IJC.[95] The foundation for this rule is presumably the duty of any sovereign state not to take any action that results in a physical incursion upon the territory of

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Res. Jnl 549 - 590 who argues that the doctrine is dead and buried but McCaffrey does not deal with the question of whether or not this means that Article II is no longer good law; Kalavrouziotis, "US Canada Relations Regarding Diversions from an International Basin: An Analysis of Article II of the Boundary Waters Treaty" (1989), 12 Ford. Int'l L. J. 659.

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

94 The High Contracting Parties agree that, except in cases provided for by special agreement between them, they will not permit the construction of maintenance on their respective sides of the boundary of any remedial or protective works or any dams or other obstructions in waters flowing from boundary waters or 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 there of is approved by the aforesaid International Joint Commission. It is further agreed that the waters herein defined as boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other.

95 Note that the only value protected here is levels. The article does not deal with the effect of a downstream dam on migratory or anadromous fish populations.

another. So, just as a private citizen cannot flood the land of another, one state cannot flood the land of another without consent. However, in this case. the power to permit such a downstream dam or other facility is accorded to the IJC.

Finally, the second paragraph of Article IV, applies equally to boundary waters and transboundary waters and provides that such waters shall not be polluted on either side to the injury of health or property on the other.[96]

There have been several applications of the levels rule of Article IV in the Columbia Basin. One example is the Corra Linn Dam on the Kootenay River in Canada which affected the level of the Kootenay River at the point where it crosses back from Idaho into Canada.[97] A second example is the Libby Dam (5 MAF, 605 MW) ultimately constructed pursuant to the terms of the CRT. Libby was originally proposed by the United States as an Article IV application under the BWT. The reservoir behind Libby (Lake Koocanusa) floods several kilometers back into Canada. The US mainstem dam, Grand Coulee (5.2 MAF, 7,141 MW) provides a third example. At full pool Lake Roosevelt floods a portion of Canadian territory and therefore the facility required IJC approval.[98]

4.3.2 The establishment and jurisdiction of the IJC

Establishment

In addition to stipulating the above rules the BWT also created the International Joint Commission. The IJC is composed of 6 members, 3 appointed by the US and 3 appointed by Canada (Article VII). The IJC is organized into two sections (see Article XII, i.e. it is binational rather than a bilateral institution)

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[96] While it is the upstream state that is primarily targeted by this obligation one can imagine situations where activities in the downstream state did harm the upstream state: e.g. pollution discharges in the downstream state that affected a migratory or anadromous fish population.

[97] The IJC Order of Approval for this facility takes account of a number of values. In addition to providing storage for Canadian downstream facilities, levels at the Corra Linn Dam are manipulated to provide flood control protection for Idaho but levels are then maintained in a way that benefits agricultural interests in Idaho. The regime created is, in many respects an agricultural "rule curve" or an integrated rule curve rather than a power-based rule curve. For further detail, see Bankes *supra* note 1 at 11 - 13.

[98] Grand Coulee, completed in 1942, provided 5.2 MAF of storage. As one moves upstream on the Columbia, it is the first major storage project that one comes to, the facilities below all being run of the river facilities. It was built without fish passage facilities and hence cuts off escapement of anadromous fish to the entire upper Columbia system. For further discussion see Bankes, *supra*, note 1 at 30 - 35. Note as well that the World Commission on Dams conducted a retrospective case analysis of the Grand Coulee Project. See Ortolano et al, *Grand Coulee Dam and the Columbia Basin Project, USA, a case study report prepared as an input to the World Commission on Dams*, Cape Town, 2000, available at www.dams.org.

which maintain separate offices in Washington and Ottawa. Appointments to the IJC occur at the highest political level. US appointments change upon changes at the White House. 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.[99]

The IJC's compulsory jurisdiction in relation to boundary and transboundary waters

While Articles III and IV of the BWT create the basic norms of the treaty it is Article VIII which instructs the IJC as to how it "shall pass upon all cases involving the use or obstruction or diversion" of these waters. We have already referred to the priority list of uses that applies to boundary waters and the only other matter to note is that Article VIII authorizes and in some cases requires that appropriate arrangements be made to indemnify "all interests" that may be affected by the proposed project.[100] It is important to emphasise that the IJC has no compulsory or standing jurisdiction with respect to the "no pollution" rule of Article IV as that rule relates to either boundary or transboundary waters.

The ad hoc conferral of jurisdiction: the reference power

It follows from the rules stated above with respect to transboundary waters that the IJC has no general jurisdiction for the allocation of transboundary waters and thus that this jurisdiction can only be conferred on an *ad hoc* basis by using the reference jurisdiction under Article IX. Article IX contemplates that either the United States or Canada might, from time to time, refer to the IJC "any other questions or matters of difference arising between them". Although the Article contemplates unilateral references by either Party, the commentary on the IJC is at pains to emphasise that in all cases to date there has been agreement on the text of the references.

In the case of a Reference, the IJC is authorized to examine into and report on the question and matters referred "together with such conclusions and recommendations as may be appropriate" subject only to any restrictions or

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99 The current Canadian chair, Herb Gray is the former Deputy Prime Minister and the previous chair was Len Legault the former Legal Adviser to the Department of Foreign Affairs and International Trade.

100 "In cases involving the elevation of the natural level of waters on either side of the line as a result of the construction or maintenance on the other side of remedial or protective works or dams or other obstructions in boundary waters or in waters flowing therefrom or in waters below the boundary in rivers flowing across the boundary, the Commission shall require, as a condition of its approval thereof, 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.] Cohen offers an expansive interpretation of the italicized term. See Cohen.

exceptions which may be imposed by the terms of the reference. The ultimate report takes the form of recommendations and is not in any way to be regarded as a decision. Thus, unlike IJC decisions under Articles III, IV and VIII, the two Parties must agree to implement the recommendations. As a matter of practice, the Reference jurisdiction has been used to confer upon the IJC the jurisdiction to make apportionment recommendations in a number of water basins including the Souris and Poplar basins as well as the Columbia itself.

There have been three references specifically related to the Columbia Basin. 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.[101]

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.

A second reference followed shortly thereafter when the governments 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.[102] The Commission reported, later that same year in its *Report on Principles for Determining and Apportioning Benefits from Cooperative Use of Storage of Waters and Electrical Interconnection within the Columbia System*, that "it approached the problem of formulating principles within the context and

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[101] The text of the reference is reproduced in *Related Documents supra* note , at 17 and in the *ICREB Report supra* note at 1.

[102] *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 , at 39-55.

intent of the Boundary Waters Treaty of 1909."[103] 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.[104]

Since the CRT was ratified in 1964 the IJC has received only one other Reference for an activity within the Columbia Basin. That reference related to a proposed coal mine on Cabin Creek, a tributary of the Flathead, in British Columbia.[105] In recommending that the mine not be constructed the IJC relied upon the no-pollution rule of Article IV of the treaty. While apparently far removed from the subject matter of the current lectures, the Flathead Reference is still useful for two propositions. First, it illustrates the point that while BWT does not itself confer a pollution jurisdiction on the IJC, the Article IV no-pollution rule may be relevant once the IJC is seized with a reference. Second, it confirms that the CRT is not a complete code with respect to activities within the Basin. Clearly, some provisions of the BWT continue to apply subject only to the specific provisions of the CRT.

4.4 The BWT and the accommodation of changing values

Before moving to consider the provisions of the CRT, and given one of the themes that runs through these lectures (i.e. change and the capacity of treaty regimes to respond to changing values), it is appropriate to review briefly how the BWT and the IJC have fared in terms of capacity to respond to change and available techniques. It bears emphasizing that the BWT is very much a framework agreement. More highly prescriptive and detailed rules are delivered through the IJC's Order of Approval for Article III and IV applications.

The first technique is that of supplementing the basic BWT regime through the conclusion of additional agreements. While the parties to the treaty have never concluded a comprehensive new treaty they have elected to create specific new regimes to deal with particular issues in particular watersheds. Examples include, the Great Lakes Water Quality Agreements,[106] the Souris Basin Agreement,[107] and

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[103] *Id*., at 39.

[104] The principles are well discussed in Krutilla *supra* note 3, chapter 4.

[105] 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.

[106] Ottawa, November 22, 1978 as amended by Protocol November 18, 1987

[107] Agreement for Water Supply and Flood Control in the Souris River Basin, Washington, October 26, 1989; [1989] CTS 36. Despite the name the treaty also deals with water quality issues. The treaty supplements and does not replace the BWT. See Article VI(1): "The Parties shall ensure that all activities pursued under the terms of this

the Columbia River Treaty itself. The more recent of these agreements have tended to emphasise water quality issues and ecosystem based approaches to water basin management. Second, the reference technique itself allows governments to confer additional advisory jurisdiction on the IJC as a way of supplementing the treaty. For example, past references have encouraged the IJC to propose equitable allocations of the waters of transboundary rivers and this has allowed the IJC to rely upon its understanding of the developing customary rules of international watercourse law rather than the strict terms of Article II of the Treaty.[108] In some cases the IJC itself will actively solicit references. This is the case for example with the IJC's recent proposal that it be invited to establish a series of watershed boards.[109] Many of the more recent references emphasise environmental concerns.[110] Third, where the IJC has jurisdiction over a project due to its levels jurisdiction under either Article III or Article IV, the IJC may be able to review and revise its Orders of Approval to take account of changing values.[111]

Fourth, the IJC has itself noted that the treaty text is expressed in general terms which allows the Commission "to take account of new values and activities in the management of transboundary waterways, such as the environment and recreational boating, which were not viewed the same way in 1909."[112] In addition to these *ad hoc* measures for responding to change, the IJC has also proposed the establishment of a series of international watershed boards for the major boundary watersheds including the Columbia. The proposal was put to government as part of a 1997 report responding to a general Reference from the two governments in which the governments asked the IJC to advise "on how the Commission itself might best assist the parties to meet the environmental challenges of the 21st Century within the framework of their treaty responsibilities." As sketched out by the IJC, one of the key advantages of the proposal would be to create Boards with responsibilities for taking an ecosystem approach that holds promise of treating transboundary water issues "in an

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Agreement are consistent with applicable provisions of the [BWT], particularly those of Article IV, paragraph 2. Article VII affirms and modifies an earlier interim order of the IJC in relation to the Souris.

108 Examples include *Cooperative Development of the Pembina River Basin*, IJC, 1967, *Coordinated Water Use and Control in the Roseau River Basin*, IJC, 1976, *Report on the Souris River Investigation*, IJC, 1940, *Water Apportionment in the Poplar River Basin*, IJC, 1978. The Poplar Basin Report refers to Article II at 58 and discusses the Helsinki Rules and the doctrine of equitable utilization at 68. See generally Wouters, "Allocation of the Non-Navigational Uses of International Watercourses: Efforts at Codification and the Experience of Canada and the United States" (1992), CYIL 43.

109 See, *The IJC and the 21st Century*, 1997

110 See, for example, *Final Report on Protection of the Waters of the Great Lakes*, 2000 (the water removal issue)

111 See for example the IJC's continuing work on revising its Great Lakes levels orders and for the St. Croix.

112 The *IJC and the 21st Century, 1997*, at 8

integrative manner, including both biophysical and human aspects."[113] The IJC contrasted this with the project-by-project jurisdiction conferred by the BWT. Some jurisdictions (for example British Columbia) reacted negatively to this proposal, and, accordingly the United States and Canada elected to proceed cautiously.[114] British Columbia's reluctance to endorse this proposal largely relates to concerns over the Columbia River Treaty.

5. The Columbia River Treaty[115]

5.1 The Elements of the treaty

As indicated above, the IJC's Reference jurisdiction was instrumental in laying the groundwork for the CRT. The Reports prepared for the IJC focused on the twin issues of power generation and flood control[116] 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.[117]

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[113] *Id.*, at 27.

[114] The two governments gave the IJC an additional reference in November 1998 inviting the IJC to further define the framework and to recommend a first location for such a watershed board. The IJC reported in December 2000, *Transboundary Waters: First report to the governments ... with respect to international watershed boards*. The report details provincial and state opposition to the scheme and recommended the Red River as the trial location.

[115] There was considerable contemporary commentary on the treaty at the time of its ratification see 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 and Charles E. Martin, "International Water Problems in the West: The Columbia Basin Treaty Between Canada and the United States" in Denner et al, *Canada - United States Treaty Relations*, Duke University Press, 1963 at 51 - 71 (a good analysis of the background as well as the main provisions). The most comprehensive account of the negotiations for the treaty, albeit written from a Canadian domestic perspective, is Swainson, *Conflict over the Columbia*, 1979.

[116] *ICREB Report*, *id*. For discussion see Swainson *supra* note and for penetrating analyses of the alternatives considered by the report see Krutilla *supra* note .

[117] *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 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

The emphasis on the twin values of power and flood control is reflected in the actual text of the treaty beginning with the four clauses of the Preamble. The first and second clauses respectively recite the cooperation that has characterized US-Canada relations and the important role that the shared water resources of the basin might play in achieving the economic growth and welfare of the two nations. The third and fourth clauses amply illustrate both the economic basis of the treaty and power and flood control values that underlay the treaty.

> 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 their peoples of which those resources [the water resources of the Basin] 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.

The balance of the treaty consists of 21 operative articles and two technical annexes supplemented by a Protocol designed to address some concerns raised by the Province of British Columbia.

The basic scheme of the treaty may be stated as follows: (1) Canada obliged itself to provide 15.5 MAF of storage in the upper Columbia and Kootenay systems; (2) Canada obliged itself to operate that storage not in accordance with its own appreciation of its national interests but in accordance with the rules stipulated by the treaty, which rules are informed by power and flood control values, (3) the United States agreed to operate its downstream facilities in a manner designed to optimize power production, (4) the United States agreed to pay Canada a series of lump sum payments to reflect flood control benefits conferred by the Canadian storage, and, in addition 50% of the incremental downstream power benefits generated by US mainstem dams as a result of the Canadian storage, (5) Canada agreed to allow the US to construct and operate Libby and to flood Canadian territory for that purpose, (6) Canada agreed to defer implementing either a Kootenay - Columbia diversion or a Columbia - Fraser diversion, (7) actual implementation of the treaty was to be effected by "designated entities" of the parties through a set of assured and detailed operating plans, and (8) the performance of the Entities was to be supervised by a Permanent Engineering Board with disputes to be resolved by arbitration before the IJC.

The Entities have turned out to be the key players in the implementation of the treaty. At the outset the United States nominated the administrator of the Bonneville Power Administration (BPA) and the Army Corps of Engineers. The

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consider the development of water uses other than for power and flood control, and for water requirements for irrigation."

Army Corps is responsible for a number of dams on the Columbia system including Libby. BPA is a federal agency headquartered in Portland, Oregon, that markets wholesale electricity and transmission from federally owned facilities to the Pacific Northwest's public and private utilities as well as to some large industries. BPA provides about half the electricity used in the Northwest and operates over three-fourths of the region's high-voltage transmission. BPA is part of the Department of Energy. Canada designated BC Hydro (BCH) as the Canadian entity. BCH is a provincial Crown corporation which owns almost all the generating and transmission facilities in British Columbia. The CRT will continue in force indefinitely except that either Party may terminate the treaty at any time after it has been in force[118] for sixty years and provided that at least ten years notice of termination has been given.[119]

5.1.1 The Canadian storage

Article II of the CRT obliges Canada to provide storage at three locations: (1) on the mainstem at Mica, (2) on the mainstem at Arrow, and (3) on a tributary of the Kootenay at Duncan above Kootenay Lake. It is important to emphasise what the treaty did not require. First, this is a list of storage. Canada was to be free to install generating capacity at these sites provided that the overall operating regime for the sites would be subordinate to the overall rules of the treaty.[120] For example, if flood control operations required evacuation of a reservoir then a reservoir would have to be evacuated or drawn down notwithstanding Canada's wish to optimize the power potential of the storage. Second, the treaty did not preclude the construction and operation of additional storage and/or generating capacity at other sites provided that there was no diversion from the natural channel.[121] Third, the treaty stipulated the *minimum* storage capacity that was to be made available at the three sites. In fact, BC Hydro has additional active storage available at two of the sites, a massive 5 MAF at Mica and about 0.5 MAF at Arrow. It is hard to underestimate the significance of this non-treaty storage as it affords the parties a degree of flexibility in the operation of the Columbia system that would otherwise be lacking. I shall return to this point later.

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[118] The treaty entered into force on September 16, 1964.

[119] There are some exceptions relating to the diversion article (Article XIII) and some continuing obligations with respect to Libby and Canadian treaty dams to the extent that they still have useful lives.

[120] See Annex A at paras 6 - 8. As it happens generating capacity was installed at Mica (1,763 MW) and has only recently been installed at Arrow (Keenleyside). No generating capacity has ever been installed at Duncan.

[121] Thus Canada constructed and operated a major generating facility at Revelstoke (1,843 MW) on the main stem as well as an additional facility on the Kootenay. The latter, the Canal Plant, was designed to take advantage of the additional regulation and storage provided by Libby. Some of the background to the Canal Plant Agreement is discussed in *British Columbia Hydro and Power Authority v. Cominco Ltd.,* [1989] BCJ 39 (BCCA).

5.1.2 Treaty operation of storage

Article IV of the CRT obliges to Canada to operate the treaty storage in accordance with agreed operating plans. These plans are to be prepared by the two entities in accordance with Annex A of the Treaty. That Annex, entitled "Principles of Operation", provides that the treaty storage is to be operated for two purposes and for two purposes only, flood control and to optimize power generation.[122] The entities prepare two forms of operating plans so called assured operating plans (AOPs) and detailed operating plans (DOPs). AOPs are prepared six years in advance and DOPs are prepared at the start of each year. The AOP represents the default method of operating the dams premised upon the lowest flow conditions on record. It represents the worst case scenario. The DOPs are prepared as actual data (e.g. snow pack data) starts to become available. The DOPs may be further amended during the year to realize additional mutual benefits and as the parties acquire additional actual data about re-fill and flow conditions. The key part of the AOP\DOP procedure is the creation of a set of rule curves that prescribe how the various reservoirs are to be operated to realize flood control and power benefits. Rule curves provide upper and lower limits for evacuation and refill requirements. 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 of water from the Canadian storage.

It is important to emphasise that the DOPs and AOPs for Canadian treaty storage are not prepared in isolation but in fact their preparation is co-ordinated with similar plans for all other facilities on the Columbia in order to optimize power and flood control benefits as well as to meet other needs. Within the US this occurs pursuant to the terms of the Pacific Northwest Coordination Agreement. This is an agreement amongst all the region's utilities as well as the Corps of Engineers and the Bonneville Power Administration (which is responsible for marketing power from federal dams). The agreement recognizes that all the facilities on the Columbia are hydraulically linked and electrically interconnected and the goal is to operate these facilities as if there were a single owner.

5.1.3 The US Operating Commitment

On the face of it, Article III of the CRT obliges the US to operate mainstem hydro electric facilities in order to make most effective use of Canadian storage.[123]

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[122] Note that the scope of the obligation differs as between the two purposes. It is broader for power generation (all the Canadian treaty storage) (Article IV(1)) than it is for flood control purposes (the primary obligation pertains to only 8.45 MAF, see Article IV(2)).

[123] 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

This is indeed the basic idea but it is modified somewhat by the second paragraph of that article which indicates that it is enough if the US calculates Canadian downstream benefits on the assumption that mainstem facilities will be operated in this mode. This is an important clarification because it offers the US some operational flexibility to, for example, operate facilities to meet fish flow needs rather than to maximize power, while at the same time keeping Canada whole by insisting that the US cannot reduce Canadian benefits by deciding to operate its facilities for other purposes.

5.1.4 US Payments to Canada

The CRT called upon the US to make two types of payments to Canada in return for Canadian construction and operating commitments. One type of payment is straightforward, the Article VI lump sum payments for flood control.[124] The second type of "payment", the downstream power benefits[125] (DPBs) are somewhat more complex. The downstream benefits problem represents in many respects the core of the treaty. The issue of DPBs had first arisen in Columbia in the case of the original Libby proposal. The US had originally proposed construction of Libby as a unilateral initiative i.e. not as part of a coordinated plan of development for the international waters of the Columbia. As such, the Libby proposal came before the IJC under its Article IV levels jurisdiction since for the project to make any economic sense it needed a storage reservoir behind the dam that would flood back into Canadian territory. The Canadian section of the IJC declined to approve the project absent some consideration of downstream benefits. Essentially the Canadian argument was that if Canadian lands were being flooded for necessary storage, Canada should be compensated, not just the value of the lands on a fair market acquisition basis, but on the basis of a share of the incremental benefits conferred by the storage. This argument assumed even

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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 Canada 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".

[124] Article VI contemplated total payments of $64.4 million as the storage facilities came on stream with the possibility of further payments to the extent that additional storage is operated for flood control purposes.

[125] Bourne, "Canada and the Law of International Drainage Basins" in Macdonald *et al*, *Canadian Perspectives on International Law and Organization*, Toronto, 1974, at 468 - 499 refers to the principle of downstream benefits as "perhaps the greatest contribution that Canada and the United States have made to doctrine in the field of international water resources law" (at 489).

greater significance if the dams in question were to be constructed in Canadian territory at Canadian expense.[126]

The IJC recommended adoption of this concept in its Principles for Determining and Apportioning Benefits Reference report and Article V of the CRT therefore accords Canada 50% of the downstream power benefits (DPBs) calculated in accordance with Article VII and Annex B of the Treaty. The details of the calculation are extremely complicated but the basic ideas are clear. First, the DPBs are based upon the incremental benefits conferred by the additional storage. Thus Canada was not to receive any share of current generation at US facilities but the availability of additional storage would mean that these existing facilities could be run, and could be guaranteed to run, at higher rates of utilization. In other words storage could firm up the capacity of existing generating facilities. This represents the incremental benefit. Second, the incremental benefit could be determined as a theoretical calculation on the basis of the historic flow records for the Columbia basin and based upon an assured plan of operation determined six years in advance (the AOP referred to above). In lay terms the goal here was to agree upon an incremental benefit that would be conferred no matter how poor the snowpack and precipitation (and therefore ultimate streamflow) for that particular year. Third, the calculations were to be performed on a first-added basis. The point here is simply that in any hydroelectric system there is a diminishing value to be attributed to each incremental unit of storage for which it will firm up an increasingly small amount of available capacity. The first-added storage therefore has greater value than later-added storage.[127]

Article V contemplated that Canada would take delivery of the downstream power benefits (DPBs) "in kind" in the form of energy and capacity. In fact, and this was a major reason for the delay in ratification of the CRT between the text as finalized and its subsequent adoption with the Protocol in 1964, British Columbia wanted to be able to "pre-sell" the DPBs largely because it did not need the power but also because it wanted to use the monies to finance other hydro developments elsewhere in the province. B.C wanted assurance that it would be able to effect this pre-sale in the US before the treaty was ratified. The assurance was eventually forthcoming in the form of an agreement with the operators of all downstream main stem dams for a period of 30 years from the in-service date of each of the three Canadian treaty dams. Those terms expired for Duncan in 1998, for Keenleyside/ Arrow in 1999, and will expire for Mica, in 2003.[128] This so-called "return of the Canadian entitlement" occasioned some dispute between the entities as to how Canada was to take delivery of the power. The dispute was ultimately resolved by the entities who agreed that the US obligations might be satisfied in one of three ways: (1) by agreement between BC and a US generator

[126] The original Libby application is discussed in Bloomfield and Fitzgerald at

[127] See generally, Krutilla, *supra* note .

[128] Duncan provides 9% of the Canadian entitlement, Keenleyside 46% and Mica 45%.

to buy-out the obligation, (2) by BC taking delivery of the power in the United States, or (3) by taking delivery at a point or points on the border.[129]

The value of BC's ability to take power in kind is, to some extent, dependent upon BC Hydro's access to US markets including non-discriminatory access to US transmission facilities. This had long been a contentious issue for BC Hydro,[130] not so much in the context of downstream benefits power (because of the pre-sale), but more generally. It was therefore a priority for Canada in the original Free Trade Agreement negotiations with the United States. Annex 905.2 of that agreement[131] required the US to cause BPA to modify its Intertie Access Policy "so as to afford [BCH] treatment no less favourable than the most favourable treatment afforded to utilities located outside the Pacific Northwest". These obligations are grandparented by the terms of the North American Free Trade Agreement (NAFTA).[132] I mention this largely because it illustrates how the CRT is nested within a series of other bilateral and multilateral agreements but also because it illustrates other types of legal developments that have occurred over the life of the treaty which may dramatically change the operating environment for any major commercial project.

Although less obvious from the text of the treaty, Canada was also the direct recipient of downstream benefits from the other dam contemplated by the treaty, namely Libby. The effect of Libby was to firm up existing capacity on the Kootenay River below Kootenay Lake and also to make possible, and economic, the construction of further generating plant on the lower Kootenay.[133] These benefits were not quantified in the same way as the DPBs conferred by Canadian treaty storage. Instead, Article XII simply provides that "all benefits which occur in either country from the construction and operation of the storage accrue to the country in which the benefits occur." The Article goes on to provide that where Canada perceived an advantage to itself from a variation in the operation of Libby storage the US was obliged to consult and if the US "determines that the variation would not be to its disadvantage it shall vary the operation accordingly."

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[129] The settlement is actually effected through three agreements: (1) An Entity Agreement on Disposals of the Entitlement within the United States, March 1999, (2) An Entity Agreement on Aspects of the Delivery of the Canadian Entitlement, March 1999 and (3) an Exchange of Notes between the two governments, March 4, 1999.

[130] See *Department of Water and Power (Los Angeles) v. Bonneville Power Administration* (1985), 795 F.2d 684 (9th Cir).

[131] Canada-United Sates Free Trade Agreement, reproduced at (1988), 27 ILM 281. The Exchange of Notes (*id*.,) approving the entity arrangements for the sale of the entitlements is expressed to be without prejudice to any rights or obligations of the parties under NAFTA and the FTA.

[132] North American Free Trade Agreement, 1992. Annex 608.2(1) provides that "Canada and the United State shall act in accordance with the terms of Annexes 902.5 and 905.2 of the [FTA] which are hereby incorporated into and made a part of this Agreement."

[133] See reference to the Canal Plant, *supra*, note .

5.1.5 Libby

Article XII of the Treaty and titled "Kootenai River Development" authorized the construction of Libby and required Canada to provide land for the reservoir at no cost to the US. The project offered flood control protection for both the Idaho area immediately downstream as well as for Canadian and American communities further downstream on the Kootenay and the Columbia mainstem. As indicated in the previous section, to the extent that Libby is coordinated with downstream projects, Libby, like the Canadian treaty dams, also made possible downstream power benefits. The Protocol further clarified the duty of coordination.[134] The operation of Libby has since proved contentious. I shall return to this issue below.

5.1.6 Diversions

In the negotiations leading up to the CRT, Canada made much of possible diversion options. One option envisaged diverting a portion of the Kootenay into the Columbia which would have ruined the economics of the Libby project and another option contemplated a diversion of Columbia water into the Fraser River to augment streamflow for future Fraser River dams. The Fraser mainstem is located entirely within Canada. Canada had argued that it was within its rights under Article II of the BWT to effect such a diversion, subject only to US interests having possible claims to compensation in Canadian courts. Article XIII of the CRT prohibits a possible Fraser diversion and successively postpones and then limits any possible Kootenay diversion. The US regarded this as one of the major benefits of the treaty insofar as it offered some protection against the damming of the Fraser which provided an important salmon fishery for US fishers.[135]

5.1.7 Designated Entities

The CRT and its annexes provided a framework within which the treaty projects were to be constructed and subsequently operated but it could not provide all the details. The treaty contemplated that much of this would be left to the designated "entities" of the parties and Article XIV headed "Arrangements for Implementation" contains a long list of duties and responsibilities conferred on the entities. These include:

> (a) coordination of plans and exchange of information relating to facilities to be used in producing and obtaining the benefits contemplated by the Treaty,

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[134] At para. 5.

[135] 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. The issue did receive some discussion in the US in the Hearing before the Committee on Foreign Relations United States Senate, 87th Congress, First Session, 1961.

> (h) preparation of the hydroelectric operating plans [the AOPs] and the flood control operating plans for the Canadian storage together with determination of the downstream power benefits to which Canada is entitled,
> (k) preparation and implementation of detailed operating plans [DOPs] 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.

As stated above, the US has long designated the Bonneville Power Administration and the Army Corps of Engineers as the US entity and Canada designated the provincial Crown utility corporation BC Hydro as the Canadian entity . More recently, the province itself has been designated to serve some limited entity functions in relation to the disposal of the downstream power entitlements. In practice there is necessarily a high degree of coordination between the entities on a day-by-day and week-by-week basis for the entities are linked not only by the Columbia River and the treaty but also by an interconnected electricity grid. The entities have established a number of committees to facilitate their work of which the most important is the Operating Committee. The Operating Committee is the vehicle for agreeing to the AOPs and DOPs and for scheduling releases from the treaty dams. The Committee meets bi-monthly.

5.1.8 The PEB

In addition to the joint committees established by the entities, the CRT itself established a Permanent Engineering Board (PEB, Article XV) to oversee implementation of the Treaty.[136] The PEB reports annually to the two governments and comments *inter alia* on whether or not the objectives of the treaty are being met. While the PEB does not have an arbitral function (this is reserved by the treaty to the IJC) it does have the responsibility to assist the entities "in reconciling differences concerning technical or operational matters that may arise between the entities."

I appreciate that the previous paragraphs offer a fairly detailed account of the main treaty obligations.[137] One reason for doing so is to provide some flavour for the detail and complexity of the agreement but also to provide a reader with some flavour of the commercial nature of the arrangements that were being put in place.

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[136] 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.

[137] For a more detailed account see Bankes, *supra* note 1.

5.2 Some conclusions and some comments on the Relationship to the BWT and the treatment of non-treaty storage

One of the themes of these lectures is the relationship between different norms. What then is the relationship between the BWT and the CRT? Article XVII is the main provision dealing with this issue but Article XII (the Libby\Kootenay article) is also relevant. It is perhaps best to put the relationship in the form of a series of propositions.

First, it is clear that the CRT did not displace the continued operation of the BWT within the Columbia River Basin. Article XII offers direct support for this proposition because it provides that the operation of Libby is to be "consistent with any order of approval which may be in force from time to time relating to the levels of Kootenay Lake made by the International Joint Commission".[138] In addition it would have been understood (although the CRT is silent on the point) both that other existing orders of approval would remain in force (e.g. for the Grand Coulee and for Waneta) and that the IJC's jurisdiction might also be triggered in the future for other projects within the basin that did not conflict with the CRT. This leads directly to the next proposition.

Second, if the CRT did not displace the general operation of the BWT within the basin it was clearly intended to trump the BWT to the extent of any actual conflict (other than the specific potential conflict referred to above for Libby). Thus it is quite clear that the parties did not contemplate that the US would need to apply for an order from the IJC approving the construction of Libby.[139] The CRT is therefore both the *lex specialis* as well as the more recent of the two treaties.

Third, the Parties explicitly contemplated the restoration of the pre-CRT legal *status quo* after the termination of the CRT.[140] They also contemplated that the CRT would not operate as a precedent for other water basin issues.[141]

In thinking about the effect of the CRT as *lex specialis*, it is important to reflect on what the CRT does *not* provide for. I have two main comments here.

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[138] Note that this clause was not only grand parenting the IJC Order but the terms of the Order as it stands from time to time.

[139] One can reach this conclusion on the basis of the inconsistency between the two agreements and the presumed intended trumping of the BWT by the CRT but perhaps the better starting point is the opening language of Article IV of the BWT which stipulates that the Article shall apply "except in cases provided for by special agreement" between the parties.

[140] The parties addressed two possibilities here: (1) the BWT still in force, (2) the BWT no longer in force in which case Article II of the BWT shall continue to apply to the Columbia River Basin but subject to its application being terminated on one year's notice.

[141] Protocol, para. 12.

Thus far I have repeatedly called attention to the CRT's emphasis on power and flood control values. But of course there are many other values associated with a major a major river and ecosystem like the Columbia. These other values include the values the river has for the tribes and First Nations, recreation values, aesthetic values, fishery values as well as other ecosystem functions. The CRT is completely silent on all of these issues. It has nothing to say about the Columbia Basin as an ecosystem or the importance of taking an ecosystem approach to the management of the basin. Similarly, the treaty has nothing to say about water quality issues. Other non-power, non-flood consumptive uses of water receive only passing mention.[142] I shall consider the implications of these omissions in the next section of the paper.

The second comment however is to draw attention to the fact that the CRT did not even provide a comprehensive regime for the flood and power issues on the Columbia. This is reflected in several ways. First, the CRT does not make provision for the regulation of any US upstream storage other than the provisions for Libby. The treaty is therefore silent with respect to major upstream storage projects on the Pend d'Oreille which have the potential to impact downstream Canadian generation. Second, even with respect to the Canadian treaty dams, the CRT only regulates these to the extent to which a specified amount of storage is dedicated to the treaty. The balance is referred to as non-treaty storage. In principle, Canada and British Columbia are free to operate this storage as they see fit provided that they do not prejudice treaty operations. But in fact BC Hydro has entered into an agreement with the Bonneville Power administration to cover the bulk of this non-treaty storage (4.5 MAF of the available 5 MAF behind Mica).[143] For BC Hydro, the principal benefit of the agreement is that it settled a potential dispute with the US over the filling of the Revelstoke reservoir.[144] It also allows BCH to claim a share of downstream benefits when it actually uses non-treaty storage. There were similar benefits for Bonneville. In addition, the NTSA offers BPA much greater flexibility in its ability to call on Canadian storage to meet not only power and flood control values but also, potentially, other values such as fish values.[145] While the fish flow issue was most important for BPA it is not an insignificant matter for BCH as well as it allows BCH some flexibility in meeting requirement imposed by the Department of Fisheries and Oceans.

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[142] Article XIII prohibits all diversions for any use "other than consumptive use". The latter is a defined term: "use of water for domestic, municipal, stock-water, irrigation, mining or industrial purposes but does not include use for the generation of hydroelectric power."

[143] The non-treaty storage agreement (NTSA), July 9, 1990. The agreement will terminate in 2003.

[144] There is some 5 million MAF of dead storage in Revelstoke. This is water that will never pass through US turbines and hence prompted the US to make a claim for that foregone generation. There were similar issues for the filling of the Seven Mile Reservoir and also for the filling of the NTS at Mica.

[145] The availability of NTSA storage for fish flows led to litigation in the United States

This last comment prompts one further conclusion that pertains to the role of the entities. The entities play a critical role in making the CRT work. They have the necessary expertise and they will be responsible for generating potential solutions to any problems that are encountered. Once solutions are reached it is normal practice to record the resulting agreement in the form of "entity agreements" rather than through an Exchange of Notes or an amendment to the treaty. This has been the practice followed for disputes surrounding: (1) the return of the downstream power benefits, (2) non-treaty storage, and (3) as we shall see, the most recent dispute over Libby.

It is hard to overestimate the significance and extent of entity co-operation in the implementation of the treaty. It allows problems to be solved at a regional level (rather than referring them to capitals) and in a particular expert context that values co-operation and needs co-operation to deal with the problems of an interconnected electrical transmission system. We should note however that this is not an especially friendly setting in which to take account of environmental concerns for the operating committee representatives will be engineers with backgrounds in dam construction and operation. They will not be ecological scientists. Entity representatives will therefore often share a common philosophy and approach. However, their domestic regulators and political masters, especially in the case of the US, may require them to take a more balanced approach.

6. Responding to change

We are now in a position to address the central question. How has the treaty regime responded to the changing values over the last 40 years? In particular how has the treaty been able to accommodate the values for which it made no explicit provision? I propose to consider these questions in light of demands that the treaty accommodate fish values. I proceed as follows. First, what has been the nature of the demand? This requires that we refer briefly to the impact that power and flood operations have had on fish and fish habitat within the Columbia. We also need to consider the domestic legal responses to the fish/power/flood control conflict within both the US and Canada because it is these legal responses that have largely fueled demands for accommodation. Second, we need to consider the

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in the 1990s when a number of non-governmental organizations sought to argue that BPA should be restrained from operating under the terms of NTSA because it had made inadequate provision for fish flows. *Northwest Environmental Defense Center et al v. Bonneville Power Administration* 117 F.3d 1520 (1997, 9th Cir). The petitioners had argued that the Pacific Northwest Electric Power Planning and Conservation Act which required BPA to provide equitable treatment for fish and wildlife required BPA to dedicate a portion of NTSA flows to fish needs. The court rejected that argument ruling that it was premature. BPA had not allocated its share of NTSA storage. However, BPA would be required to demonstrate in its actual allocation of storage that it had in fact treated "fish and wildlife equitably" as required by NWPA.

formal mechanisms available under the treaty to accommodate change and then we can look at how change has actually been accommodated.

6.1 The conflict between fish and power and flood control values

I mentioned in the introduction that the Columbia\Snake system was historically one of the most important habitats for salmon on the west coast of North America supporting an annual escapement of between 11 and 16 million fish. There has been a dramatic decline in salmon runs within the basin. For example, it is thought that the Snake Basin historically produced about 1.4 million chinook. By the mid 1950s this number was reduced by 95% and "another ten-fold decrease has occurred in the last 30 - 40 years."[146] Overall, the Northwest Power Planning Council estimates current returns of about 1 million fish.[147] There are many reasons for these declines and not all relate to flood control and power operations. Other reasons include over-fishing beginning with the development of canneries, irrigation related issues, and the loss and degradation of habitat due to commercial logging and settlement practices (land clearing and urbanization). But nobody can deny the dramatic consequences of dam construction and operation for anadromous and other fish stocks.[148] Here is a partial catalogue of the implications for anadromous fish.

- In some cases dams, particularly large storage dams, completely cut off escapement to upper portions of river basins resulting in a total loss of spawning habitat. A case in point is the Grand Coulee dam which cut off the escapement of all anadromous fish to the upper Columbia.

Even when equipped with fish ladders the mainstem dams present significant obstacles both to upstream migration for spawning purposes and to the downstream migration of juvenile fish.

Juvenile and adult fish may be entrained in turbines and killed.

- Fish that successfully pass through turbines or over dam spillways, or which occupy the waters below dams, may suffer fatality as a result of total dissolved gas (TDG) levels in the water causing gas bubble disease trauma.
- Downstream migration takes longer through reservoirs than through the uncontrolled river exposing juvenile fish to increased predation. Increased predation may also occur as a result of relatively clearer water in reservoirs as a result of slower flows causing sediment to deposit out of the water.
- Fish that spawn in gravel beds below hydro facilities are vulnerable to the dewatering of spawning areas as a result of variations in flow levels to

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146 Columbia SOR at 2-11.

147 NWPPC, *2000 Columbia River Basin Fish and Wildlife Program*, at 4.

148 *Id.*, at estimates that hydro developments are responsible for the loss of between 5 and 11 million fish. See generally, Independent Scientific Group, *Return to the River, Restoration of Salmonid Fishes in the Columbia River Ecosystem*, 1996, emphasising the importance of overall ecosystem function and the full life cycle requirements of salmonids.

meet power demand. In other areas gravel beds may be silted over because there are no longer scouring spring flows.

- Spawning areas in tributary creeks may be compromised by fluctuating reservoir levels.
- Reservoir impoundment may increase water temperature levels of downstream waters to the point of causing mortality.

There exist a number of solutions to these concerns which may be more or less expensive and more or less feasible in any particular case. In some cases the solution to one problem may exacerbate another.[149] Many of the above concerns may also be relevant to resident fish species but there may be additional concerns as well.

- The introduction of sport fish into reservoirs to create new or replacement recreation opportunities may create competition for native resident fish and compromise biodiversity values.
- Reservoirs may trap necessary nutrient flows to natural lakes and other bodies of water thereby reducing natural productivity.
- A succession of dams and slow moving waters necessarily will reduce the variability of natural habitats for a variety of species.

Other related concerns

Other non-fishery concerns have also arisen as a result of dam operations[150] for treaty purposes. Many of these concerns relate to fluctuating reservoir levels which will be far greater than the fluctuations to which a natural body of water may be subject. For example, the variations in the Kinbasket reservoir behind the Mica dam are truly massive. The difference in level between full pool and drawdown for flood control purposes is over 100 feet. Depending upon topographic conditions that may translate into distances of many kilometers from full pool shoreline to water under drawdown conditions. More specifically, the concerns include:

- Aesthetic concerns. While reservoirs at full stage may be aesthetically attractive or at least inoffensive, drawn down reservoirs are generally considered unattractive. The exposed land is also not biologically productive because of the seasonal nature of the flooding and subsequent exposure. There may also be localized dust storms.

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[149] For example, spilling water may facilitate downstream migration but exacerbate TDG problems.

[150] The focus is on operation rather than construction. Dam construction also involves relocating people and the compulsory acquisition of property. The World Commission on Dams has drawn attention to this issue internationally. In the context of the Columbia see Wilson, *People in the Way*.

- Recreational concerns. Reservoir fluctuations may wreak havoc with efforts to use the reservoirs for fishery and recreational boating purposes. Docks at water's edge one day may be stranded many kilometers from water the next.
- Transportation concerns. The construction of dams and resulting reservoirs inevitably creates direct transportation difficulties involving road re-location etc. These impacts were of course foreseen. Perhaps less foreseen are the difficulties attendant upon using storage reservoirs for commercial transportation purposes (e.g. log booming).

6.2 Domestic Legal Responses

Legal systems reflect the values of societies. This is a truism for both domestic and international systems and there is a healthy interaction between the two.[151] Sometimes, and in some jurisdictions, the domestic will take the lead whereas in other cases, the relevant international instruments will serve as aspirational standard setting exercises for domestic jurisdictions. Changing values may be reflected in domestic legal systems through legislative changes and through judicial decisions.[152] While it is trite law that a state may never rely upon its domestic law to justify its failure to perform a treaty[153] or to preclude a finding of wrongfulness[154] one must also acknowledge that changes in domestic law may be just as important in creating instability for a treaty regime as may changes in our understanding of ecosystem function.

6.2.1 The US domestic response to Columbia fish issues

At the risk of oversimplifying I suggest that there are two main responses to Columbia fish issues evident in US domestic law: (1) the *Northwest Power Planning Act*, and (2) *Endangered Species Act* listings for a number of anadromous and non-anadromous fish species.[155]

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[151] The nature of this interaction is the subject of much recent academic attention. See, for example, Anne-Marie Slaughter, "A Typology of Transjudicial Communication" reprinted in Franck and Fox, (eds), *International Law Decisions in National Courts*, 1996 at 37 - 69. While Slaughter's focus is transjudicial communication she is also concerned to break down the barriers between domestic law and international law.

[152] This is not to say that issues of change are not complex in domestic environmental regulation. For example a standard problem in regulating, say, gas processing plans or thermal generating plants is the extent to which existing generation should be grandparented when new and more stringent environmental rules are introduced. See, NAAEC Report, *supra* note 5 at 21.

[153] VCLT, Article 27.

[154] ILC State Responsibility, Second Reading, Article 3.

[155] To some extent I am following Volkman, *A River in Common: The Columbia River, the Salmon Ecosystem and Water Policy*, A Report to the Western Water Policy Review Commission, June 1997.In addition to the two measures listed here Volkman also refers to steps taken to regulate harvesting, to negotiate the Pacific Salmon Treaty with Canada,

The Northwest Power Planning Act

Congress passed the *Pacific Northwest Electric Power Planning and Conservation Act*[156] in 1980 thereby creating the Northwest Power Planning Council (NWPPC). The NWPPC was accorded the jurisdiction to develop a program to "protect, mitigate, and enhance fish and wildlife, including related spawning grounds and habitat, on the Columbia River and its tributaries." The Plan must deal with the river as a system. BPA has two responsibilities under the *Act*. First, the *Act* directs BPA to exercise its responsibilities under the Act "in manner that provides equitable treatment" for fish and wildlife along with the other values for which the Columbia system is operated. Second, once adopted by Council, BPA must take account of the program to "the fullest extent practicable". BPA is expected to fund such parts of the Program that it adopts.

A key element of the Program adopted by Council was the concept of a "water budget". The idea of the water budget is to use a volume of water to mimic the spring freshet to assist juvenile salmon migrating to the ocean. A related idea was to spill the water through a spillway rather than through the dams turbines. BPA adopted both ideas as well as other elements of the Council's Program. The Council's work is based on an ecosystem approach to the Columbia and the explicit adoption of adaptive management concepts.

Endangered Species Act Listings

Congress passed the *Endangered Species Act* in 1973. Once a species is listed as threatened or endangered certain consequences follow. In particular, under s.7, federal agencies (such as Bonneville and the Army Corps of Engineers) must consult with the US Fish and Wildlife Service and National Marine Fisheries Service, as appropriate, to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or modify or destroy designated critical habitats. Where jeopardy is identified, the federal agencies concerned must, through a Biological Opinion (BiOp), identify prudent and reasonable alternatives (RPA) for continued operations. The RPA must reduce the mortality associated with the proposed action to a level that does not constitute jeopardy and must maintain and restore essential habitat. The RPA will then act as a restraint on federal agency activities.

Within the Columbia River Basin there are at least 12 listed species of salmonids that are affected by operation of federal dams, and, in addition, listings

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to accommodate habitat-based claims of US tribes relying upon tribal\US treaties and the "system operation review" of the Columbia River system undertaken by the three main US federal entities, the BPA, the Army Corps and the Bureau of Reclamation.

[156] 94 Stat. 2708. 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.

for several non-salmonids including bull trout and a population of white sturgeon downstream of Libby Dam. The resulting BiOps have caused the adoption of numerous measures to protect listed species many of which affect power operations of federal dams. The measures include: installation and operation of fish passage systems, providing spawning and emergence flows, transporting fish instead of allowing in-stream migration, providing spring spill to aid in-stream migration and summer spill to reduce water temperatures. In effect, the result is that rule curves for dam operations are no longer exclusively informed by power and flood control values but are increasingly informed by biological values as well - they are biological or integrated rule curves.

Collectively, these measures have a serious financial cost for Bonneville. In most years these costs largely take the form of foregone revenues (i.e. revenues that BPA would have been able to secure had it operated to optimize power) but in very low flow years BPA may be forced to purchase power in order to comply with these various requirements.[157] For the last two years the figures for BPA are as follows: for 2000, foregone revenues of $193.1 million and power purchases of $64.8 million. For the low flow year 2001 (when California suffered brown outs and black outs) the figure are, foregone revenues $115.9 million and power purchases of $1,389.6 million or nearly $1.4 billion. These latter figures would have been higher but for the fact that BPA declared a power emergency on a number of occasions.[158]

The treaty issues are perhaps brought most clearly into focus by considering the effect of *ESA* on the operation of the Libby dam.[159] After Libby was constructed a serious problem was identified with respect to a population of sturgeon located downstream of the Libby Dam between Libby and Kootenay Lake. The problem could hardly be more serious - essentially no new recruitment was occurring to the sturgeon population. Spawning was either not occurring or was unsuccessful. As a result of actions taken in the United States this subspecies was listed under the *ESA* and under the terms of the recovery plan the operator of Libby, the Army Corps of Engineers, came under a domestic obligation to operate Libby in a manner that was designed to mimic the spring flows of the natural hydrograph with a view to re-establishing successful spawning. One result of this was that instead of storing spring flows these flows were being passed through the dam. Storage downstream in Kootenay lake was inadequate to store these flows and as a result spilling occurred at downstream Canadian plants. Even where downstream spilling was not occurring Canadian plants were having to use the water to generate power at a time of year when prices are generally low rather

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[157] The following figures were given to me by John Harrison of the NWPPC, July 19, 2002.

[158] Endangered Species Act 2001 Progress Report for the Federal Columbia River Power System, May 2002 and especially Appendix B, In-Focus Supplement: 2001 Drought and Emergency Developments by Season

[159] For more details see Bankes, supra, note at 82 - 90.

than storing the water to generate when prices are high. Canadian losses were not of the same order as BPA's losses discussed above and would vary from year to year depending upon overall flow conditions but Canada did present claims to the US in the order of several million dollars. The claims were based upon alleged breach of the CRT.

6.2.2 The Canadian domestic response to Columbia fish issues

The Canadian response to Columbia fish issues has been far less dramatic for a number of reasons. First, the Grand Coulee Dam cut off the escapement of anadromous fish to the entire upper Columbia. The only salmonids in the Columbia system in Canada is a small population of sockeye in the Okanagan system. Second, until this year, Canada had no equivalent of the US *Endangered Species Act*.[160] Third, there is no direct equivalent in Canada to the Northwest Power Planning Council.[161] Consequently, for these last two reasons, the legal measures[162] that have been taken in Canada to protect salmon have been taken pursuant to the federal *Fisheries Act*. The relevant regulator, the Department of Fisheries and Oceans has, in recent years, taken a more proactive stance to the regulation of hydro facilities. Interestingly, petitioners' use of the citizen complaint procedure under the North American Agreement on Environmental Co-operation may well encourage DFO to maintain its vigilance.[163] Other activities that are relevant include an ongoing water use planning process that is being conducted by the province for all licensed hydro facilities. Each water use plan, once authorized under BC's Water Act, will set operational limits for each licensed facility that will, inter alia, take account of instream flow needs. Planning procedures for the three treaty facilities are currently in progress.[164]

The Federal Fisheries Act and the CEC Procedure

Operation of Canadian treaty dams may have adverse effects on downstream resident fish populations and their habitat. In this context operation of the Keenleyside Dam has been especially contentious because of its effects on downstream spawning habitat for both trout and whitefish. At least two sections of the *Fisheries Act* have proven to be relevant. First s.22(3) provides that:

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160 The *Species at Risk Act* was

161 The closest is the Columbia Basin Trust established by the *Columbia Basin Trust Act* SBC 1995 c.49 but the primary purpose of the CBT was to return some of the DPBs to the affected region. The CBT does not have the same authority to develop a fish and wildlife plan that must be considered by BC Hydro as does the NWPPC.

162 Other measures have been taken as a matter of policy or as a result of the terms and conditions of BC Hydro's water licences. These schemes include habitat improvement measures and fertilizing of Kootenay Lake to make up for some of the nutrient inflow losses caused by the Duncan and Libby dams.

163 See Final Factual Record for Submission SEM-97-001, June 2000.

164 http://www.bchydro.com/wup/progress.html; visited July 19, 2002.

> 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.

DFO has occasionally used this authority to issue orders or to threaten to issues orders with respect to Keenleyside.[165] Second, 35(1) of the *Act* deals with the protection of fish habitat and provides that:

> No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat.

It was this latter provision that was the focus of a citizen complaint to the Commission for Environmental Cooperation under the North American Agreement on Environmental Cooperation. Under Article 13 of that trilateral agreement the CEC "may consider a submission from any non-governmental organization or person asserting that a Party is failing to effectively enforce its environmental law." Consideration of the petition may, if warranted, include the development of a factual record which may draw upon the reports of experts retained by the Commission for the purpose. The Factual Record may be made public by the CEC. The Report of the Expert Group retained by the CEC in this case was critical of Canada's enforcement activities with respect to Keenleyside.[166]

6.3 The Challenge to the Treaty Regime

Not all of the fisheries concerns summarized above lead to accommodation demands being made of the treaty regime because some of these concerns can clearly be dealt with without there being any impact on treaty operations. For example, the installation of spillway modifications at mainstem dams will not

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[165] For example, DFO issued a s. 22 order to Hydro on February 9, 1995. See also *BC Hydro and Power Authority v. Canada (AG)* (1998), 27 CELR (NS) 232 (FCTD) successful judicial review of a s.22 order issued in respect of a non-Columbia River facility.

[166] *Supra* note 157 at 42. There is no direct nexus between the citizen complaint procedure and the Party dispute settlement procedure under Part Five of the Agreement. Under that part a Party may request consultations with another Party "regarding whether there has been a persistent failure by that other Party to effectively enforce its environmental law." Further steps include a special session of Council to consider the matter and, in some cases, resort to arbitration. No such action has yet been taken by any Party under Part Five.

have an impact on treaty operations. But the concerns outlined above have led to three different types of claim being made on the treaty regime.[167]

First, what happens if BPA or the Army Corps of Engineers, seeking to comply with ESA BiOps or the NWPPC's fish budget, calls upon the Canadian entity to operate storage to provide fish flows or purports to require it to store water to provide for fish flows later in the season? To put the issue in treaty terms the question may be posed as follows: does Canada have the obligation to operate treaty facilities and treaty storage to provide minimum or any flows for fisheries purposes when required by the United States?

Second, there are the concerns relating to the operation of Libby. Again the treaty questions might be posed as follows: did the CRT allow the US to operate Libby for fish flow purposes. Even if the CRT did not directly allow for this would the argument of ecological necessity be available to the US to preclude a finding of wrongfulness?

Third, there is a set of concerns with respect to resident fish population downstream of the Keenleyside dam in Canada. Many of the issues here relate to maintaining minimum flows below Keenleyside once spawning has occurred. Again the treaty question might be put as follows: does Canada have the right to insist that minimum fish flows serve as a constraint on treaty operations for flood control and power?

6.3.1 Techniques for accommodating change

The treaty itself had little to say about how to accommodate change. Indeed, quite the contrary, the premise of the treaty was to create a stable environment in which the parties could contemplate massive investments in the significant facilities on both sides of the boundary. Thus there are no provisions for triggering amendments to the treaty but only the provisions on duration affording the treaty a minimum 60 year term. In several specific cases the treaty contemplated that there might be minor adjustments to the regime that could be recognized by an exchange of notes. These included: (1) XIV(4) the opportunity

[167] It is important to draw attention here to the inconsistency/savings clause of the Convention on Biological Diversity, Article 22(1) which provides as follows: "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." The United States has signed the CBD but is not a party. Canada is a party. This clause, which is quite different from the inconsistency clauses contained in most recent MEAs (which tend to emphasises that MEAs and trade rules are mutually supportive, (e.g. PIC, POPs and Biosafety) serves to emphasise the *erga omnes* nature of biological diversity as a common concern of humankind. It also raises interesting questions as to the obligations of signatory pursuant to Article 18 of the VCLT.

to charge the entities with additional responsibilities, (2) XV(4) the duty of the PEB to comply with instructions given it by the parties, (3) IX modification of DSP benefits in the event of a new US project, and (4) IV, approval of the first operating plans and substantial changes to the model of operating plans.

The treaty prescribes a *lex specialis* for issues of responsibility and liability. To some extent the parties tried to provide for contingencies in advance. For example, the treaty foresaw that Canada would install generation at the treaty sites and at other places and indicated how this should change the calculation of DPBs and the treaty contains a version of a *force majeure* clause (Article XVIII(1)). The treaty dealt with the possibility of the Libby dam and possible future diversions.

Similarly, and for the most part, the language of the treaty is precise and the drafters have avoided language that is couched in general terms and concepts. This is not uniformly the case. The Libby\Kootenay article (Article XII) for example talks about operations that are to the "advantage" or "disadvantage" of one party or the other as does Article XIII (diversions). However, what we can say is that the treaty does not speak in the general language of the Gabcikovo Treaty and eschews its obligations of result. One of the few articles that does have a dynamic aspect is Article XIV which deals with the duties of the entities and, as we have seen, the treaty contemplated that the process of moving from AOPs to DOPs would need to be responsive to actual conditions. By institutionalizing the need for ongoing cooperation between the entities the treaty created a setting in which the implications of change could be discussed. But a more formal role was either contemplated for the PEB.[168] The PEB has tended to view its role as one of protecting the legitimate commercial expectations of the parties rather than one of facilitating the evolution of the regime.

How then has the treaty regime responded to these three challenges?

6.3.2 Operation of treaty dams and storage to meet US fish flow requirements

This issue was confronted most concretely by the treaty regime in the early 1980s when the Northwest Power Planning Council introduced and then adopted its first Fish and Wildlife Program. In that document the NWPPC asserted that treaty storage in Canada could and should be used for a water budget for fish. The NWPPC evidently envisaged a scenario in which the US entity could call for releases of water to facilitate fish migration downstream or for other fisheries purposes. BC Hydro, the Canadian entity, was opposed to this approach and brought the matter to the attention of the PEB upon the introduction of the Northwest Power Planning Council's (NWPPC) draft Fish and Wildlife Report. The PEB noted as follows:

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[168] This was either the expectations of the parties or the PEB simply evolved this way. It is not clear which is the more accurate claim.

> The Board has become aware of the [NWPPC'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 without adequate consultation with the Board. The Board is currently reviewing these concerns.

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.

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". The key point of this approach 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.

In practice, and notwithstanding the PEB's reference to DOPs, the entities have been able to accommodate fish flow needs by negotiating a series of annual fish flow agreements.[169] These agreements are supplements to the DOPs. I have commented on these agreements in detail elsewhere but they have the following characteristics. First, they are designed to achieve multiple fisheries and even non-fisheries objectives and they are designed to achieve the different fisheries objectives of both Canada and the US.[170] Second, the agreements rely on the

[169] The most recent agreement is Columbia River Treaty Operating Committee, Agreement on Operation of Treaty Storage for Nonpower Uses For 1 January through 31 July 2002.

[170] The current agreements lists the following objectives: (1) to provide 1 MAF of flow augmentation from Arrow to meet the 2000 NFMS BiOp to provide target flows for

availability of both treaty storage and non-treaty storage.[171] Third, the status of the agreements is lower than not only the treaty but also lower than that of the AOPs\DOPs. Hence, in the event of conflict between a fish flow agreement objective and flood control or power control objective sanctioned by the DOP\AOP, it is the latter that will prevail.[172]

In sum, the treaty regime has been able to accommodate US fish flow needs but it has done so indirectly rather than directly. By this I mean that the treaty has not been reinterpreted to require that treaty reservoirs be operated in accordance with fish flow requirements. In fact, quite the contrary. The PEB has effectively offered the opinion that Canada cannot be *required* to operate *treaty* storage to meet fish flow requirements. Instead, the entities have agreed to use additional available flexibility within the hydropower system. They were able to do this because the treaty did not commit all available Canadian storage to meet power and flood control values. In effect, the availability of non-treaty storage allows the US entity, as part of a mutually beneficial deal with BCH, to use additional storage to meet fish flow needs in situations where it cannot simultaneously fulfil both power operations and fish needs. The treaty provides a framework of entitlements as well as a procedural framework within which the entities are able to bargain or negotiate for mutual benefits. This will work for so long as there is perceived to be a mutual advantage in such operations. The difficult case would seem to be where there is a true conflict. The Libby problem originally presented as precisely this type of hard case.

6.3.3 Libby

The Libby issue is analytically quite distinct from the US fish flow issue discussed in the previous section for a number of reasons. First, in the US fish flow case, Canada controls the relevant storage and the question is does Canada have a treaty obligation to operate treaty storage on demand for fish flow purposes. In the Libby case the shoe is on the other foot so to speak. Does Canada

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McNary to aid in the downstream migration of salmon, (2) trout spawning objectives downstream of Keenleyside (maintain Keenleyside outflows between April and June), (3) avoiding drawing down Arrow once it has begun to refill (to protect grass seeding designed to avoid dust storms), (4) to help provide minimum stream flow objectives for Vernita Bar to protect salmon redds, and (5) a minimum discharge at Keenleyside to protect mountain whitefish eggs.

[171] The current agreement, notwithstanding its title, recognizes its connection to the NTSA.

[172] The current agreement contains two provisos. (1) "The Canadian Section of the Operating Committee agrees to the operations described in this Agreement, but does not by this Agreement acknowledge any obligation, domestic or international, to meet the objectives contemplated by such operations". (2) "The Operating Committee agrees that these principles and procedures contained herein do not set a precedent concerning any current or future dispute over Treaty rights and obligations, nor do they set a precedent for nonpower purposes, objectives or target objectives and contents."

have to accept that the US may operate its own dam for fish flow purposes or does the CRT restrict that ability? The conclusion to the fish flow question does not dictate the conclusion to the Libby problem.[173] Second, the treaty regime for Libby differs from the regime prescribed for Canadian treaty dams. Whereas the CRT and its annexes prescribe an operating regime for the Canadian treaty dams, when it comes to Libby the CRT authorizes construction of Libby and contemplates its coordination with Canadian operations and downstream facilities. In sum the treaty is notably less prescriptive in relation to Libby than it is in relation to Canadian treaty dams. Third, the particular fishery stock at issue in Libby was a shared population just as the river was shared. This perhaps raised more directly a problem of competing norms. Could not the US argue that it had a duty under customary law to take (precautionary) action to preserve the shared population?[174] Fourth, because of the less prescriptive nature of Libby arrangements there were interpretive arguments available to the US that would simply not be available in the case of Canadian treaty dams. Fifth, necessity operates as a defence or as a shield and not as a sword.

For a long time the Libby issue looked as if it was headed for arbitration before the IJC. The Canadian government presented diplomatic notes to Washington documenting the losses occurring at downstream power plants. The US responded by referring to the particular clauses of Article XII[175] of the CRT which allowed Canada to trigger a formal consultation process but seemed to offer the US significant discretion as to whether or not to allow Canada's concerns to influence operations. By contrast, Canada sought to rely upon the more general duty of the two countries and the entities to co-ordinate the operation of treaty storage (but note the ambiguous status of Libby) for the purposes of optimizing power production.[176] As a result of continuing

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[173] Note that there may well be other arguments available to the US that would allow it to claim that there was no breach. For example, it might claim that the BiOps constitute base operating conditions for the dam just like any other terms of a dams operating licence.

[174] The US is not a party to the CBD and neither Canada nor the US are party to the Migratory Species Convention. As to the CBD, see note, 161 *supra*.

[175] (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.

[176] Canadian arguments relied upon the purpose and objectives of the treaty, Article XIV(2)(a) and para. 5(a) of the Protocol. 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."

disagreements the entities were unable to agree on future AOPs and the PEB began reporting to the Parties that the objectives of the treaty were not being met.

Ultimately, the entities[177] and, as a result, the parties, were able to settle the Libby dispute before it proceeded to arbitration. The basis of the settlement was that the Corp of Engineers was to be allowed to operate Libby to provide sturgeon fish flows while the US entity agreed to allow BC Hydro additional flexibility in moving storage out of the Arrow reservoir. In the result, BC Hydro calculated that, over the life of the agreement, it would be made whole both in terms of the future operation of Libby and in terms of its past alleged losses. Neither side conceded the validity of the other's basic legal position and the solution settled on was a win-win solution based on the ability of the parties to make the pie bigger rather than the zero-sum possible solutions offered by arbitration.

Thus, once again, the Treaty regime was able to accommodate indirectly rather than directly, fish flow needs. It was able to do so not because fishery needs trumped power needs in the treaty hierarchy but because the ingenuity of the entities' engineers was able to demonstrate that there was sufficient flexibility in the system to accommodate both. Once again, the solution emphasises the process aspects of the treaty and the importance of the practice of continued cooperation of the entities.

6.3.4 Canadian fish flow requirements

To this point and for, I think, quite obvious reasons, the Canadian entity has not sought to claim that it is entitled to operate treaty facilities to meet its own non-power non-flood objectives. Such a claim would contradict the express language of Article IV of the treaty and compromise the Canadian claim that it has no obligations to operate storage for fish flow purposes. It has not had to do so because the requirements of Canadian regulators have not been expressed in such firm terms as the requirements of US regulators under ESA, but also because it has been able to achieve its goals through the annual operating committee agreements to meet the non power objectives of both entities and discussed above. For BCH these operational flexibilities have been adequate to allow it to meet its domestic regulatory requirements.

[177] The results of the agreement are recorded in Columbia River Treaty Entity Agreement Coordinating the Operation of Libby with the Operation of Hydroelectric Plants on the Kootenay River and Elsewhere in Canada, February 16, 2000. The current agreement provides for: (1) sturgeon and bull trout flows in the spring, and (2) July and August flows to help meet McNary salmon flow objectives.

7. The Relationship Between the CRT and the Watercourses Convention

7.1 Relevance of the Convention

It is hard to write and talk about a watercourse treaty these days without considering the potential application of the UN Watercourses Convention. On the face of it there are good reasons, for thinking that any discussion might be relatively short. (1) The Convention has yet to enter into force and some doubt that it ever will.[178] (2) Neither the United States nor Canada have ratified the Convention and at this stage it seems unlikely that either (and even less likely both) will ever be parties. (3) The Convention, as adopted, contains two clauses which are designed to severely curtail its application to existing watercourse agreements. Thus Article 3(1) and (2) provide as follows:[179]

> 1. In the absence of an agreement to the contrary, nothing in the present Convention shall affect the rights or obligations of a watercourse State arising from agreements in force for it on the date on which it became a party to the present Convention.
> 2. Notwithstanding the provisions of paragraph 1, parties to agreements referred to in paragraph 1 may, where necessary, consider harmonizing such agreements with the basic principles of the present Convention.

But the commentators are not so dismissive. In his overview of the Convention, Professor McCaffrey[180] one of the most significant rapporteurs for the ILC in its development of the draft Convention argues that even if the Convention never enters into force it will likely prove of significant value for three reasons: (1) much of the convention codifies customary law, (2) there were only three negative votes cast against the Convention on its adoption which suggests broad agreement with its terms, and (3) the Convention has already influenced the drafting of several important watercourse agreements (e.g. the Mekong Agreement). To this one might add that the IJC placed great reliance on the Convention in the *Gabcikovo* decision[181] even though it had just been adopted at

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[178] The threshold for e.i.f. is set at 35, Article 36(1).

[179] These provisions were not in the original ILC draft. See also the "statement of understanding" as regards article 3 that the "present Convention will serve as a guideline for future watercourse agreements and, once such agreements are concluded, it will not alter the rights and obligations provided therein, unless such agreements provide otherwise." Presumably, they speak to the use of the treaty as treaty and not the treaty as the codification of custom. The text is not completely clear on the point but had it been intended to preclude the use of the treaty as custom one would have expected the drafters to express the point more precisely.

[180] McCaffrey, "An Overview of the UN Convention on the Law of Non-Navigational Uses of International Watercourses" (2000), 20 J. Land Resources & Envtl. L. 57 and to the same effect McCaffrey and Sinjela, "the 1997 United Nations Watercourses Convention (1998), 92 AJIL 97 at 106.

[181] See on this point Tanzi and Arcani, *The United Nations Convention on the Law of*

the time. Furthermore, the Court relied upon the Convention despite the existence of a number of relevant agreements pertaining to the Danube. This lends credence to McCaffrey's claim that:[182]

> These considerations [adoption by a weighty majority] also mean that if it does enter into force, the Convention will have significant bearing on controversies between states one or more of which is not a party to it. In addition, the Convention may be helpful in interpreting other general or specific watercourse agreements that are binding on the parties to the controversy, whether or not the Convention is itself binding on those parties.

Other commentators take similar positions. Tarlock, for example, takes the view that the Convention "may influence: (1) the interpretation of existing treaties and (2) the substances and structure of supplemental agreements to adjust to new uses."[183] Other commentators such as Boyle quoted earlier[184] surely go further when they suggest, as Boyle does, that a watercourse agreement governs what it provides for and nothing else, thereby admitting that customary law may serve to supplement the treaty provisions in appropriate cases. To the extent that the Convention represents customary law it may serve this function.

What then are the key substantive differences between the Convention and the CRT?

7.2 Some key substantive differences between the Convention and the CRT

In addition to the obvious point that the one is a framework agreement and the other a detailed prescriptive regime for a single water basin, which by its own terms was not to establish "any general principle or precedent"[185] I would like to suggest that the key substantive differences between the Convention and the CRT for present purposes are twofold.

First, while both agreements are firmly grounded in the basic *grundnorm* of international water law,[186] equitable and reasonable utilization (the Convention expressly, the CRT implicitly and by its substantive provisions), the CRT's version of reasonable and equitable utilization is a very crabbed version by contrast with that espoused by the Convention. The Convention insists that

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International Watercourses, 2001 at 27.

[182] *Id.*, AJIL at 106 and the footnote reference is to the *Namibia* advisory opinion of the ICJ.

[183] Tarlock, *supra* note at 232.

[184] *Supra*, text to note .

[185] Protocol para. 12.

[186] I borrow here from Tarlock, supra, note at .

ecological factors are relevant[187] and requires states to attain not only optimal utilization but also the "adequate protection"[188] of an international watercourse. While some have criticized the Convention for its failure to take a fully developed ecosystem approach to international watercourses,[189] and for the apparent priority accorded to equitable utilization over "no significant harm", the general framework of the Convention is certainly more catholic and holistic than that of the CRT. In sum the Convention recognizes that international watercourse are and should be functioning ecosystems, the CRT does not.

The second point is related. In addition to addressing the issue of environmental protection in the context of equitable and reasonable utilization, Part IV of the Watercourse Convention devoted five substantive articles to the protection, preservation and management of international watercourses. Article 21 expressly addresses the issue of pollution while article 22 focuses on states taking necessary measures to prevent the introduction of alien species. Article 24 complements these provisions by requiring watercourse states to enter into consultations with respect to the management of the watercourse. While that may seem to mirror the actual practice in the Columbia basin, it is important to emphasise that "management" is a defined term for the purposes of the article and "refers in particular to:

> a) Planning the *sustainable development* of an international watercourse and providing for the implementation of any plans adopted; and
> (b) Otherwise promoting the rational and optimal utilization, protection and control of the watercourse.

In sum, the Convention is concerned with a far broader range of values than is the CRT with its focus on power and flood control.

8. Conclusions

Throughout these three lectures I have been concerned with the issue of change and way in which bilateral treaty regimes can or cannot accommodate changing values. It is now time to try and pull together some conclusions. Some

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[187] See the references to "ecological and other factors of a natural character" (Article 6(1)) and to the exchange of information including ecological information (Article 9(1)) and the duty to "protect and preserve the ecosystems of international watercourses" (Article 20) as well as the subsequent and related specific obligations.

[188] Article 8(1).

[189] See for example Tarlock pointing out that "the protection of a river system's ecological integrity remains secondary to the promotion of development", that international law "does not provide a natural flow rule" and that while the Convention adopts an ecosystem approach it fails fully to recognize the links between the watercourse and the surrounding land and ocean environment.

of these conclusions are general in nature while others are rather specific to the Columbia River Treaty.

In doing so we must distinguish, to the extent that we can, between, (1) the application of a customary law norm to an issue between two parties, which issue may also involve the application of a bilateral treaty norm, and (2) the use of the customary law norm to inform the correct interpretation of the treaty obligation. I say "to the extent that we can" because we cannot escape the fact that the question of application is itself an interpretive act. Relevant presumptions may be particularly useful in resolving interpretive questions of this nature. The *Danube Dams Case* as well as references to the Columbia River Treaty suggests that these questions may be relevant in relation to both primary rules of obligation and secondary rules of responsibility.

8.1 The Problem of the Applicable Rules

The ILC's discussion of the *lex specialis* issue in its State Responsibility articles may be a useful starting point in considering the problem of the applicable or relevant rules. The relevant Article is Article 55 which is the ILC's response to the argument that states, by their treaty regimes, may modify or render inapplicable the general secondary norms of responsibility. What should be the relationship between the general and the particular? The *lex specialis* provision, Article 55 stipulates as follows:

> These articles do not apply where and to the extent that the conditions for the existence of an internationally wrongful act, or the content or implementation of the international responsibility of a State are governed by special rules of international law.

The commentary makes several points. First, there is a threshold question as to the application of this article. The issue only arises for the law of state responsibility if states make special provision for the legal consequences of breach. If the treaty passes this threshold and provides a *lex specialis*, the question is whether those rules are exclusive. The treaty may provide guidance on that point but may not do so. Second, the ILC recognizes that in addition to *lex specialis* other conflict rules may govern (e.g. the *lex posterior* rule or the *ius cogens* rule). Third, the *lex specialis* may not be all or nothing. It may modify some aspects of the general law and leave other aspects applicable. For example, a treaty might exclude a State from relying on force majeure or necessity. Fourth, the existence of several rules relating to the same matter should not in and of itself force the conclusion that only one set of rules can apply.

For the *lex specialis* principle to apply it is not enough that the same subject matter is dealt with by two provision; there must be some actual inconsistency between them, or else a discernible intention that one provision is to exclude the other. *Thus the question is essentially one of interpretation.* [Emphasis supplied.]

While the ILC is not explicit on the question of a presumption, the entire premise underlying the drafting here suggests that it is informed by the idea that the general rules of state responsibility should apply unless rebutted. Indirectly therefore the proposed article rests on the presumption that the treaty was not intended to create a complete code or a self-contained regime. The burden of proof should therefore lie with those who make the claim.[190] But if the question is ultimately one of interpretation which it must be, then what guidance if any can we gain from judicial consideration of these types of issues in other situations?

A brief excursus to discuss some relevant cases seems justified.[191]

The SS Wimbledon[192]

In the *SS Wimbledon* decision of the Permanent Court it will be recalled that the German authorities had denied access to a British registered vessel on the grounds that it was destined to ship armaments to Danzig (Poland). Poland was then at war with Russia. Four states parties to the Treaty of Peace of Versailles alleged that denial of access was a breach of Article 380 which provided "in peremptory character" that "The Kiel Canal and its approaches shall be maintained free and open to the vessels of commerce and war of all nations at peace with Germany on terms of entire equality." Germany sought to argue that there was no breach by alleging that, notwithstanding the failure of the treaty to address the issue of access for belligerents during a war to which Germany itself was not a party, such an additional rule could be adduced by reference to the Versailles rules applicable to other German internal waterways.

The court rejected that argument and for the following reasons. First, the drafting was clear, categorical and peremptory and provided for only one exception. Second, the drafters of the treaty had looked to the future but had identified only one scenario that would justify denying access. If the drafters had contemplated other reasons they would have listed them. Third, the drafters could easily have chosen to assimilate the status of the Kiel Canal to other German waterways but elected not to do so and drafted a special set of sections for that purpose. Fourth, the regimes of the other waterways were not directly comparable because they only provided access to Allied and Associated powers. It was therefore difficult to draw upon those rules to supplement the Versailles Kiel Rule. The conclusion was expressed in the following manner:[193]

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[190] See Bruno Simma, "Self-Contained Regimes" Neth YB of Int'l Law 111 at 135 who supports this view.

[191] The ILC also referred to the *Neumeister case* in which the ECJ refused to find that Article 5(5) of the European Convention on Human Rights ousted the application of the more general Article. Such a result would have been incompatible with the aim and object of the treaty.

[192] 1923 PCIJ Series A, No. 1.

[193] At 23 - 24. Note that there was a further argument to the effect that the treaty rule

The provisions relating to the Kiel Canal in the Treaty of Versailles are therefore self-contained; if they had to be supplemented and interpreted by the aid of those referring to the inland navigable waterways of Germany in the previous sections of Part XII, *they would lose their "raison d'etre"*, such repetitions as are found in them would be superfluous and there would be every justification for surprise at the fact that, in certain cases, when the provisions of Article 321 - 327 might be applicable to the canal, the authors of the Treaty should have taken the trouble to repeat their terms or re-produce their substance.

The dissenters[194] took a different approach arguing that the treaty was designed to speak to normal peace conditions. Where such did not prevail, Germany must be taken to be able to exercise her rights as a neutral and preserve her neutrality. Such a right could only be taken away by express language which was lacking in this case. In effect, the minority argued that the peremptory obligation of the treaty should only apply so far as compatible with the rights and duties of Germany as a neutral or belligerent in time of war. The decision offers us the "raison d'etre" test as well as a list of relevant factors to consider. Notwithstanding the ILC's usage of the case in the contest of the law of state responsibility the case deals with rules of primary obligation. The case shows how difficult it is to separate question of applicable law from questions of interpretation.

Mavrommatis Concessions[195]

In *Mavrommatis* the *lex specialis* issue arose as a threshold jurisdictional point. The Greek Republic argued that the British government was in breach of its obligations as mandatary for Palestine by failing to recognize a concession granted by the prior Ottoman government to M. Mavrommatis. Britain argued that the Court had no jurisdiction to hear the case. The Greek Government relied on provisions of Protocol XII of the Treaty of Lausanne and in particular Articles 11 and 26 of the Mandate. The Court held that Greece had established a *prima facie* case under the terms of the Mandate and then turned[196] to Britain's argument that jurisdiction was in fact limited by other applicable international instruments, specifically Protocol XII, which might overrule the provisions of the Mandate that afforded the Court its jurisdiction.

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conflicted with an alleged rule that a state could not forego its right to prevent the use of its territory by belligerents also failed but on the ground that the existence of such a rule had not been established. Similarly, Germany was not entitled to rely upon her duties as a neutral since Germany's neutrality was not compromised precisely because of Article 380 of Versailles.

194 Anizlotti and Huber with a further opinion rendered by Schucking.

195 1924 PCIJ, Series A, No. 2 at pp. 29 - 33.

196 At 29.

Protocol XII was entitled "Protocol relating to certain concessions granted in the Ottoman Empire" and the argument was put that the Protocol dealt explicitly with the subject of concessions and was the more recent instrument and therefore should prevail. The Court was prepared to accept the general proposition but only if the two instruments were incompatible and that required an examination of the terms of the two instruments in the context of the specific dispute. That examination justified the following conclusions. (1) The silence of Protocol XII concerning the Mandate and the jurisdiction of the Court "does not justify the conclusion that the Parties intended to exclude such jurisdiction." (2) The substantive provisions of the Protocol dealing with the tests according to which the mandatory must recognize concessions etc., was substantive law and was not incompatible with Court jurisdiction under the Mandate. (3) Some of the procedural provisions of Protocol might be incompatible with Court jurisdiction insofar as the Protocol provided domestic remedies that would need to be exhausted before resort might be had to the Court but that could not touch the more general argument being made in this case.

Thus, the argument failed. The jurisdiction of the Court was not ousted by the Protocol. The specific did not defeat the general merely because it was more specific. The case supports the idea that there must be a careful analysis of the particular issues raised and that we should be careful of blanket, all-or-nothing conclusions.

Diplomatic and Consular Staff in Tehran[197]

In this case, the Court having concluded that there had been serious breaches by Iran of its obligations under the Vienna Conventions of 1961 and 1963 on Diplomatic and Consular relations moved to consider, of its own motion, whether it might be permissible for Iran to argue that these breaches were in some manner justified by "illicit activities by members of diplomatic or consular missions."[198] The Court summarily rejected this argument holding that "diplomatic law provides the necessary means of defence against and sanction for" such activities. These remedies included the decision to declare a member of the diplomatic mission "*persona non grata*" or "not acceptable", or, ultimately "to break off diplomatic relations with a sending State and to call for the immediate closure of the offending mission".

The rules of diplomatic law, in short, constitute a self-contained regime which, on the one hand, lays down the receiving State's obligations regarding the facilities, privileges, and immunities to be accorded to diplomatic missions, and,

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197 [1980] ICJ Rep. 3.

198 It will be recalled that Iran, in its communications with the Court had actually framed the issue even more broadly and in the context of a generation of alleged crimes by the United States and interference with the internal affairs of Iran. The Court seems to frame the point in this more limited way at 83.

on the other, foresees their possible abuse by members of the mission and specifies the means at the disposal of the receiving state to counter any such abuse. These means are, by their nature entirely efficacious.

The following seem to be the rationales adduced for this conclusion. The remedies in this case were designed to be responsive to the nature of the primary obligations and the difficulty of proving abuses. The drafters took care to foresee the types of difficulties inherent in the administration of the regime and to make provision for them.

Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons

The ILC did not refer to the *Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons* but it too is surely relevant. In that case, the first substantive issue framed by the Court "after consideration of the great corpus of international law norms available to it" was this "what might be the relevant applicable law"? Should international human rights instruments including those protecting the right to life be relevant? Generally the Court answered yes noting that the International Covenant on Civil and Political Rights "does not cease in times of war" except as derogated from pursuant to Article 4. But even rights from which there could be no derogation had to be contextualized and interpreted in that context:

> In principle, the right not arbitrarily to be deprived of one's life applies also in hostilities. The test of what is an arbitrary deprivation of life, however, then falls to be determined by the applicable lex specialis, namely, the law applicable in armed conflict which is designed to regulate the conduct of hostilities. Thus whether a particular loss of life, through the use of a certain weapon in warfare, is to be considered an arbitrary deprivation of life contrary to Article 6 of the Covenant, can only be decided by reference to the law applicable in armed conflict and not deduced from the terms of the Covenant itself.

The Court applied a similar approach to environmental norms:[199]

> ...the Court is of the view that the issue is not whether the treaties relating to the protection of the environment are or not applicable during an armed conflict, but rather whether the obligations stemming from these treaties were intended to be obligations of total restraint during military conflict.
>
> The Court does not consider that the treaties in question could have intended to deprive a State of the exercise of its right of self-defence under international law because of its obligations to protect the environment.

[199] At para. 30

> Nonetheless, States must take environmental considerations into account when assessing what is necessary and proportionate in the pursuit of legitimate military objectives. Respect for the environment is one of the elements that go to assessing whether an action is in conformity with the principles of necessity and proportionality.
> 33. The Court thus finds that while the existing international law relating to the protection and safeguarding of the environment does not specifically prohibit the use of nuclear weapons, it indicates important environmental factors that are properly to be taken into account in the context of the implementation of the principles and rules of the law applicable in armed conflict.[200]

The court's conclusion is therefore that while human rights rules and environmental rules are relevant, the most directly relevant rules are the rules relating to the use of force, the rules relating to armed conflict and specific treaties on nuclear weapons. What did that mean? It meant that environmental norms could prove to be a "powerful constraint" on state action and could flavour open textured terms such proportionality and necessity. One can see this reasoning as anticipating much of the decision in *Gabcíkovo*.

It is important to note what propositions the court must have rejected in order to reach this conclusion. It rejected the argument that to the extent that environmental norms conflicted with the use of nuclear weapons that the use of such weapons should be *ipso facto* illegal on account of the "importance" of the norms in question. Equally the court must have rejected the claim that environmental treaties were premised on the protection of the environment in times of peace and could not apply in times of war and certainly could not apply to the use of nuclear weapons because they failed to mention such weapons.

The Court reached similar conclusion with respect to the principles and rules of humanitarian law and to the principle of neutrality. Both were clearly applicable[201] but here the implications were somewhat harder to draw. In the end the majority of the court found itself unable to reach the conclusion that all uses of nuclear weapons would be illegal given the fundamental right of self defence.[202]

Can we deduce from these decisions and the ILC's commentary a more general set of questions to pose to help us with problems of the *applicability* of customary law norms within a binding treaty context where these customary norms have developed since the treaty was negotiated?[203] The intention is that these questions should be applied cumulatively.

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200 At para. 33.
201 At paras 85 - 90.
202 At paras 96 and 97.
203 Jenks, *supra*, note poses a more ambitious set of questions (at 436) for resolving conflicts between treaties: (1) the hierarchic principle(UNC, Article 103), (2) the lex prior

1. Does the treaty purport to create an exhaustive regime with respect to the matter to which it is also sought to apply a customary rule? There should be a presumption against the blanket exclusion (i.e. the self-contained regime approach) of general rules.

2. Is it possible to apply the two rules together or will observance of the general rule necessarily entail a breach of an obligation under the specific treaty rule? If so, the specific treaty rule should apply unless the general norm protects a *ius cogens* value or an *erga omnes* obligation.

3. Even if there is no direct conflict as above, would the application of the general norm, in addition to the specific norm, be incompatible with the purpose and object of the treaty? If the answer is yes the general norm should not apply.

Can I illuminate these approaches with some examples drawn from the Columbia issues that we have been looking at?

In relation to the first question we have already seen that the CRT did not claim to be an exhaustive regime. It certainly intended to vary the application of the BWT in some respects but it did not intend to render it inapplicable throughout the basin. The parties did create a specific liability regime with a *force majeure* clause. This is therefore perhaps a case (especially given the risk allocation function of *force majeure* clauses) in which it would be difficult to argue the applicability of an additional necessity defence.

In relation to the second and third questions we obviously need to posit some general norms to make the question real. Let us take a few examples from the Watercourses Convention and simply make the assumption that these examples represent customary international law. We can start with what I think is an easy example. Article 22 of the Watercourses Convention provides that:

> Watercourse States shall take all measures necessary to prevent the introduction of species, alien or new, into an international watercourse which may have effects detrimental to the ecosystem of the watercourse resulting in significant harm to other watercourse States.

There is really no reason for thinking that this provision should not apply as between Canada and the United States within the Columbia River Basin. The rule does not create a necessary conflict between itself and any specific provision of

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principle, (3) the lex posterior principle, (4) the lex specialis principle, (5) the autonomous operation principle (similar to the principle of specialty discussed in WHO Advisory Opinion), (6) the pith and substance principle, and (7) the overarching legislative intention principle. Some of these principles may be suggestive in the present context while others are clearly confined to conflicting treaty issues.

the CRT. This really is a case in which, as Boyle says, "a watercourse treaty governs what it governs" leaving customary law to supplement the treaty obligation.[204] Somewhat more difficult might be the application of some of the procedural rules of the CRT. Take, for example, the series of articles dealing with the exchange of information, notification, consultation and negotiation with respect to "planned measures" (Articles 11 - 19) or the more general obligation under Article 9 to provide for the regular exchange of data and information. Here I think it may be possible to think of situations where there will be an operational conflict and situations where there will not be. Articles IV(5) and XIII of the CRT provide possible examples of conflict insofar as they both provide substantive limits on Canada's ability to undertake specific classes of planned measures. Examples the other way might include the scope of the obligation to exchange information. The CRT requires sharing of information on hydrological and meteorological information but is silent on the exchange of ecological information. There is really no reason to limit the generality of the customary obligation and of course such exchanges of information do occur. Similarly, why should not the duties in relation to planned measures apply to other proposed facilities in the basin? It is clear that there is no conflict and surely such applications of customary rules would not undermine the object and purpose of the treaty.

In still other cases there can be no conflict precisely because the customary rules are expressed generally or are simply designed to provide a framework within which particular basin states might reach an agreement. I think that this must be the case for the core principles of the Convention, those dealing with reasonable and equitable utilization. The Convention provisions (Article 6) mandate consultation and cooperation on these matters and the CRT can be seen as an outcome of such a procedure.[205] But surely one cannot use the current articulation of relevant factors to argue that the reasonable and equitable utilization agreed upon in the CRT must be set aside to take account of additional factors for to do so would undermine the object and purpose of the treaty. For example, I think that it would be untenable to argue that Canada's downstream benefits entitlements should be reduced by the extent to which the United States spills water to protect non-power, non-flood values. This would be untenable either because it undermines the raison d'être of the agreement or because an actual conflict.

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[204] Actual practice in the basin varies; see Enloe Dam see also myriad hatcheries; consider application of PST.

[205] Baxter, supra note, at 82, points out that one of the functions of a bilateral treaty is to "spell out the details of a general principle, to provide for its application in a particular case, or to give content to an imperfect rule of international law." The particular example that he gives is a bilateral treaty seeking to implement the general principle of "equitable utilization" by specifying "such details as how many acre-feet each riparian is to have for irrigation purposes, at what time the water is to be delivered, and how the delivery of the right quantity of water is to be verified."

Yet even here there is room to consider the incremental application of customary rules in ways that do not undermine the fundamental bargain that was struck. For example, *while taking existing entitlements as givens*, one can conceive of there being continuing procedural and substantive obligations pertaining to shared fish species as well as in relation to other water resources not explicitly, or implicitly,[206] dealt with by the CRT. The procedural duties would include the duties to provide information, notify, assess, consult and negotiate in good faith with respect to those values not subject to the treaty regime. Such obligations might be fulfilled by the parties themselves or through the institutions created by the treaty or some combination thereof. The record shows that, in the case of the entities, many of these functions have been assumed by the entities although they have attempted to couch their efforts in terms of comity rather than in terms of legal obligation. This approach might be similar to the duty of continuing assessment mentioned by Weeramantry but it would generally respect existing entitlements (at least unless significant *erga omnes* values were involved).

I think that Dan Tarlock had something similar in mind in his discussion of safeguarding international river ecosystems. The second part of Tarlock's article notes that water managers in different parts of the world are increasingly thinking about trying to restore river ecosystems through the application of adaptive management approaches. Tarlock's first examples are domestic examples. His first is the management of the Glen Canyon Dam on the Colorado so as to restore ecosystem function in the Grand Canyon. A second example is the Murray-Darling Basin in Australia which is shared by four states (Queensland, Victoria, New South Wales and South Australia) where the Commission responsible for the basin has adopted a base flow regime for the basin. But can such an approach be taken to an internationally shared water basin? Tarlock acknowledges the difficulties:[207]

> Integration of adaptive management into existing and future international water regimes will be extremely difficult, but not impossible. The root of the difficulty is that water management has been traditionally conceived as part of the process of protecting vested entitlements by ensuring that they will be satisfied in times of scarcity. Firm allocation treaties build up strong expectations that existing entitlements will continue in perpetuity and create strong and, and partially legitimate, fears among all participants that any change would make tem worse, not better off. The continued protection of vested and potential entitlements in international watercourses must be an

[206] There are difficult problems here. The CRT did not deal with anticipated future developments of the Columbia system by BCH at Seven Mile and Revelstoke. Yet in another sense it recognized BCH's freedom to go ahead provided that it did not damage the US's *treaty interests*. Was Canada obliged to consult on non-treaty values in relation to these "planned measures"?

[207] At 262.

> essential element of any environmental management strategy, but protection duties under the [UN Watercourses] Convention, treaties, and domestic and customary international law should not operate to preclude the consideration and adoption of innovation management strategies. Innovation is not necessarily incompatible with the protection of vested entitlements.

The example of the Glen Canyon effort prompted Tarlock to consider how a similar approach might be taken with respect to restoring the Colorado River Delta severely compromised but not completely destroyed by the filling and operation of the Hoover and Glen Canyon Dams as well as other appropriations by water users in the United States and in Mexico. Sketching out what might be required Tarlock notes that[208] "the existing treaty [the 1944 treaty] is as rigid as any risk allocation system as exists in the world and contains no provision for any permanent dedication of water to the Delta." One possibility would be the amendment of the 1944 treaty and renegotiation of the inter-state compacts of 1922 and 1948. Another possibility contemplated by Tarlock is voluntary market transfers of existing entitlements as a way of introducing the necessary flexibility into the system. Tarlock notes that "Water marketing has been proposed as a restoration strategy because transfers in treaty states may not require a compact or treaty amendment." While this proposal too would face opposition because of conceptual or physiological (nationalistic) objection to international transfers even in those jurisdictions that permit *intra* state water transfers, Tarlock maintains that it is one way to provide the necessary flexibility to meet a "new focus on the protection of aquatic water quality and ecosystem integrity".[209]

It does seem to me that actual practice under the CRT is reflective of what Tarlock is discussing here. In particular, I think that the arrangements between the entities with respect to non-treaty storage can be seen, in part, as methods of trading non-treaty designated waters to help meet "aquatic water quality and ecosystem integrity concerns."

8.2 The Problem of Interpretation

Our discussion to this points serves to emphasise that customary law serves many different interpretive functions. The problem of application is itself an interpretive function. Similarly, the *Gabcíkovo* case suggests that developments in

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[208] At 269. Tarlock does however acknowledge that the treaty has in fact been effectively amended by decision of the International Boundary and Water Commission. The famous Minute 242 (1973), 12 ILM 1105 incorporates salinity standards into the water that flows down to Mexico. See Szekely, "How to Accommodate an Uncertain Future into Institutional Responsiveness and Planning: The Case of Mexico and the United States" (1993), 33 Nat. Res. Jnl 397 questioning the adequacy of the IBWC for the task. Mumme, "The Background and Significance of Minute 262 of the IBWC" (1981), 1 Cal. W. Int'l L. Rev. 223.

[209] At 271.

customary environmental law will and should inform the availability of circumstances precluding wrongfulness. Background rules from the customary law of international watercourses will serve a similar function. Strictly speaking these functions are not *treaty* interpretive functions for the rules of state responsibility that the court is applying, while codified by the ILC, are not treaty rules. Nevertheless, the approach is similar.

When we turn to treaties the starting point is Article 31(3)(c) of the VCLT which instructs us to apply as part of the context for a good faith and ordinary meaning interpretation of a treaty provision, "any relevant rules of international law applicable in the relations between the parties." These rules include other treaties binding the parties but also rules of customary law. The contentious issue has always been the rules of customary law as of *when* - the time the treaty was finalized or the time the treaty is interpreted. The correct answer seems to be that "it all depends" and it depends primarily upon the presumed intentions of the parties.

But how do we ascertain such an intention? In some cases the answer will be easy. It is, for example fairly obvious that the relevant rules for determining what is a valid treaty will be those in force at the time the treaty was negotiated. Other cases will be more difficult. What guidance can we give?

1. If treaty terms are framed in general conceptual terms that, absent contrary indicators, will be seen as evidence of an intention that the parties intended to adopt an evolutionary understanding of that concept as it might vary from time to time.

2. If treaty obligations are framed in terms of obligations of result rather than specific obligations of performance, then that too will be evidence that the result contemplated, at least if expressed as a general concept, was intended to evolve over time.

3. Where a treaty imposes particular and detailed obligations of performance then that will be taken as an indication that those terms of the treaty are to be read as the parties would have understood them in light of the relevant law at the time of negotiation.

Is it helpful to provide some examples from the CRT? Perhaps. As suggested above, many aspects of the treaty read more like a commercial contract than they do a compact between high contracting parties. This makes it difficult to take an ambulatory approach to many of the key obligations. This is particularly true of Canada's one-time construction obligations for treaty dams. It is, I think, equally true for Canada's continued obligations of operation under Article IV, further specified in Annex A. Similarly, the determination of downstream power benefits was a core part of the bargain and the parties were at pains to make this calculation as precise as possible.

An ambulatory approach is more credible with respect to some of the other treaty obligations. Here we might point to the continued obligations of the entities to coordinate plans and exchange information, to prepare plans that will be "mutually advantageous" to both countries and to some of the Article XII obligations in relation to Libby (the determination of what is to the advantage of the US).

Given the difficulties inherent in these sorts of interpretive problems can we posit a useful and tenable presumption? Certainly Weeramantry would argue that there is a presumption and that it is a presumption in favour of assuming that the rights and obligations assumed by a party to a treaty that may have an impact on the environment are to be construed in light of norms contemporaneous with the time of interpretation. Support for that claim would draw upon the importance of the values at stake (as recognized in the *Nuclear Weapons Advisory Opinion*), the *erga omnes* nature of many environmental obligations and the claims of environmental rights as third generation human rights. The opinion of the majority of the Court is less clear. But in any event, in any particular case, much will turn on the facts and the way the treaty obligation is framed. Is state A making a demand of state B that state B do something contrary to a static interpretation of the treaty (the US fish flow case), or is it a scenario in which state A has unilaterally reinterpreted its treaty obligations to take account of an erga omnes obligation sourced in custom and state B seeks compensation? (The Libby case.) I hope that I have said enough to indicate these differences may be important - they are important to courts as Gabcíkovo demonstrates, and we should therefore be beware of blanket all-encompassing rules. If intention is important as it seems to then there will be no short cuts to discerning that intention in any particular case.