
GLOBALIZATION AND WATER RESOURCES MANAGEMENT: THE CHANGING VALUE OF WATER

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OPERATIONALISING EQUITABLE AND REASONABLE UTILISATION: PRACTICE ON THE COLUMBIA RIVER

Patricia Jones*

ABSTRACT: In 1999, the U.S. and Canada agreed to an extension of the sale of Canada's downstream power benefits in the U.S., just preceding the electrical energy crisis brought about by de-regulation in California and the drought in the Pacific Northwest. The Columbia River Treaty regime is a unique model of the co-operative development of an international watercourse, one that incorporates the international water law rule known as "reasonable and equitable utilisation." The rule determines entitlement and is at the same time a method for allocating the use of an international watercourse. The needs of populations dependent on the resource, the climatic conditions, and economically viable alternatives for meeting human needs, are elements of the analysis. This paper reviews the Columbia River Treaty regime, and compares the regime to U.S. domestic jurisprudence and interstate compact practice, as well as recent international developments.

KEY TERMS: Reasonable and equitable utilisation of international waters

INTRODUCTION

The International Law Commission of the United Nations (ILC), suggests that a State must determine its entitlement to the beneficial uses of an international watercourse in its territory:

"This process of assessment is to be performed, in the first instance at least, by each watercourse State, in order to assure compliance with the rule of equitable and reasonable utilisation laid down in Article 5...this provision means that, in order to assure that their conduct is in conformity with the obligations of equitable utilisation contained in article 5, watercourse States must take into account, in an ongoing manner, all factors that are relevant to ensuring that the equal and correlative rights of other watercourse States are respected." (1994 UN ILC Report).

A legal scholar, cited in the reports of the Special Rapportuer's to the ILC, whose analysis of the rule is instructive of the difficulties encountered in applying the rule: "it could be argued that the rule is more a guideline – possibly due to a complex area in which engineers and economists play so large a role" (Lipper, 1967). The interaction of science, economics and law is at the heart of the equitable utilisation rule. Balancing the needs of populations dependent on the resource, the climatic conditions, and economically viable alternatives for meeting human needs, are elements of the analysis. The rule determines entitlement and is at the same time a method for allocation - it can be used by States to identify what the extent and limitations are of their transboundary water resources, from which States can set national policy for meeting the needs of their populations (and manage the international watercourse that flow in their territories).

The international treaty regime between the U.S. and Canada, which regulates the co-operative use of the Columbia River, settled the mid-twentieth century controversy (1961 Treaty relating to the Co-operative development of the Columbia River Basin, and Protocols). In 1999, the U.S. and Canada agreed to an extension of the sale of Canada's downstream power benefits in the U.S., just preceding the electrical energy crisis brought about by de-regulation in California and the drought in the region. The Columbia River Treaty regime is a unique model of

* J.D., LL.M., PhD Candidate, Research Associate, International Water Law Research Institute, Department of Law, University of Dundee, Dundee, DD1 4HN, Scotland, UK, Phone: +44 (0) 1382 344451, Fax: +44 (0) 1382 226 905, E-mail: p.a.jones@dundee.ac.uk.

the co-operative development of an international watercourse, one that incorporates the international water law rule known as “reasonable and equitable utilisation” (1997 UN Watercourses Convention, Article 5). Science, economics, and law combine in the interdisciplinary application of this legal rule, which allocates the beneficial uses of an international watercourse among States. Reasonable and equitable utilisation is considered to be a statement of customary international law evolved from the practice of sharing international watercourses (Bourne, 1992; Wouters, 1996), taken in part from the jurisprudence of federal States (1994 UN ILC Report, Commentary to Draft Articles). One of the first instances of the application of the reasonable and equitable use rule at the domestic level is the United States’ Supreme Court jurisprudence on the equitable apportionment of interstate waters (Kansas v. Colorado, 1907). This study will compare the domestic jurisprudence and interstate compact practice within the United States, the Columbia River Treaty regime, and recent international developments, discussing the application of the reasonable and equitable use rule.

U.S. PRACTICE

The legal, economic and scientific factors applied by the U.S. Supreme Court are interrelated, and together form part of the doctrine of equitable apportionment. Precedent, applicable laws, standards and burdens of proof, evidentiary requirements, procedural elements, substantive principles such as equity, all combine to create the necessary legal framework for a doctrine that must be flexible enough to adapt to different circumstances across the U.S. In the application of the equitable apportionment rule, economics and science provide more than technical tools that establish the factual elements for the Court. The substantive rule itself is comprised of economic and scientific factors. The economic considerations used by the Court to apportion water were generally: a) the degree of dependence of the population on the water (Kansas v. Colorado, 1907); b) the benefits for the diverter compared to the harm of the injured State; and c) financially practicable conservation measures (Wyoming v. Colorado, 1922; Colorado v. New Mexico, 1982). Hydrology and engineering determine the available supply and the impacts that conservation measures have on the demand (Colorado v. New Mexico, 1982; Colorado v. New Mexico, 1984). Wyoming v. Colorado (1922) and Nebraska v. Wyoming (1945), illustrate the extent to which the physical characteristics of a water resource will determine the outcome of an equitable apportionment action. The scientific factors utilised in Nebraska v. Wyoming (1945) include: a) the physical and climatic conditions; b) consumptive uses by section of the watercourse; c) character and rate of return flows; and d) availability of storage water. The Court’s practice has maintained the difficult balance of abiding by legal precedent in changing economic and physical circumstances, and originating analytical tools which preserve the unchangeable equality of right between the states.

Interstate compacts are the most common mechanism used to allocate interstate water in the U.S. (Grant, 1996; Sherk, 2000; Beck, 1996). The apportionment of interstate waters by compact is subject to the rule of equitable apportionment, regulating pollution, flood control and planning, and the management of interstate waters (Sherk, 2000). The compacts reviewed incorporated equitable apportionment expressly in the substantive provisions, and thus incorporates the elements of the rule: i.e., an equitable right to the beneficial use of the waters as determined by a weighing of the relevant factors. It is clear that the investigation and negotiation over data and information on the physical characteristics of the basin (i.e., the scientific factors) took place first in the overall process of negotiating interstate compacts. Data collection and exchange procedures are further elaborated in each of the compacts. The Delaware Compact actually enumerates the types of information that the Commission is to collect and report to the Parties, among which is economic and scientific data that could be utilised in an equitable apportionment action (Delaware Compact). The important distinction under the Delaware Compact is that *the Commission* is responsible for the data, rather than the Parties. It is not easy to estimate what impact this distinction has on the quality of the information. What is clear is that data collection and reaching agreement on data (especially scientific data) is the obvious first and essential step in the process of co-operatively managing a river basin.

THE COLUMBIA RIVER BASIN

The Columbia River drainage area is 259,000 square miles (1959 Engineers Report), nearly three times the land mass of England, Scotland and Wales combined. The U.S. portion of the drainage area, 219,500 sq. miles, includes most of Idaho, Oregon and Washington, western Montana, and small portions of Nevada, Utah and Wyoming. After flowing 480 miles in Canada from its source at Columbia Lake, the river continues for 1,225 miles before reaching the Pacific Ocean. The primary international tributaries are the Kootenay River, the Clark Fork and the Okanogan

River; the main U.S. national tributary is the Snake River. The Columbia drops 2,655 feet in elevation, and in 1950 had an average volume of runoff of 180 million-acre feet, making hydropower generation one of the optimum uses of the system. The U.S. Geological Survey, of the U.S. Department of the Interior, estimated that the total off-stream fresh surface and groundwater use in the Pacific Northwest region of the U.S. in 1995, was 3,220 gallons per day, per capita (USGS Water Use Report, 1998). Irrigation was the largest use of surface water withdrawals in Washington State by water use category. The instantaneous maximum discharge at the U.S.-Canada international boundary in 1998 was 40% below the mean annual flood for the period of record (International Columbia River Board of Control, 1998). In-stream system flows were 6.8% below the average of the previous 85 years.

Pre-Treaty Developments

The evolution of the equitable apportionment rule in the domestic arena within the U.S. may have influenced the negotiations with Canada on the Columbia Basin. One U.S. policy analyst, during the Columbia River negotiations, wrote that equitable apportionment was the guiding rule for international waters, based on the U.S.-Canadian practice under the 1909 Boundary Waters Treaty (Johnson, 1967; Bourne, 1958/1997).

The international legal regime governing the use of the Columbia River consists of the boundary agreements and those treaties specifically entered into for the purpose of allocating the beneficial uses of the waters. The 1909 Boundary Waters Treaty settled and prevents disputes between the U.S. and Canada regarding the use of boundary waters (1909 Boundary Waters Treaty). Article II, grants exclusive jurisdiction for the use and diversion of tributary waters to the Parties, so long as resulting injuries give rise to equal rights to legal remedies under the diverter's municipal law. Articles III and IV allow other uses, diversions and obstructions (dams) upon the agreement of the International Joint Commission (IJC). Article VII establishes the IJC, which has the power to authorise changes in use and diversions of boundary waters. Article IX and X embody the U.S. and Canadian agreement to utilise the IJC for dispute avoidance and settlement on any other questions arising in relation to the common frontier. The relevant substantive treaty provisions are Articles III and VIII. Article III sets "ordinary use for domestic and sanitary purposes" outside the treaty, meaning that such uses are allowed without the consent of the IJC. There is no guidance given for what "domestic" purposes include. Article VIII establishes the principles that govern the decisions of the IJC: the Parties have "equal and similar rights" to use boundary waters; gives a prioritised, preferential list of uses; and provision for indemnity.

Under Article IX, the U.S. and Canadian governments agreed to request the IJC to study the Columbia River system to determine if it could be put to a "greater use" in 1944 (Exchange of Notes, 1944). The referral asks the IJC to determine the feasibility of further development in light of an enumerated list of uses (domestic water supply and sanitation; navigation; water power; flood control; irrigation; reclamation of wet lands; conservation of fish and wildlife; and other beneficial public uses), existing projects, estimated costs of works, the benefits and adverse affects on each side of the boundary, and exchange of technicians and data. The principle of reasonable and equitable use is not explicitly cited in the referral to the IJC, however scientific, economic data, and the balancing of benefits and adverse effects are. These are a part of the balancing test in an equitable apportionment actions used domestically in the U.S. The IJC study resulted in two documents, the 1959 Engineers Report in April and the 1959 IJC Report in December.

The International Columbia River Engineering Board presented alternative plans, with the primary objective to produce the maximum feasible hydro-electric power (1959 Engineers Report). The comprehensive summary provides a geographic and hydrologic description of the Columbia River Basin, its economic development, and present and prospective uses. The Report studied the optimum use which required storage of runoff to improve irrigation, power generation, navigation, industrial and municipal water supplies, pollution abatement, and recreation. The Report concluded that the largest and most valuable attainable use was hydro-electric power production, which thus became the primary development goal. The Report further stated that "some measure of general agreement between the two countries should be reached with respect to principles for sharing benefits and costs," and that "there are no serious physical obstacles to co-co-operative development, nor many problems of conflicting interests of the two countries."

The Secretary of State for the U.S. and the Secretary of State for External Affairs for Canada, requested their respective Sections of the IJC to report on recommendations concerning the principles to be applied in apportioning the benefits of joint development between the two countries. The IJC conducted its work within the context of the 1909 Boundary Waters Treaty and "was guided by the basic concept that the principles recommended should result in an equitable sharing of the benefits attributable to their co-operative undertakings, and that these should result in an advantage to each country as compared with alternatives available to that country." The IJC utilised the work of the International Columbia River Engineering Board, and data from national agencies, determining that the primary

downstream benefits were hydroelectric power production and flood control. The IJC set out specific recommendations for principles of sharing the down-stream benefits of development in three areas: general principles, power and flood control. The downstream benefits principle is an application of the reasonable and equitable utilisation principle. In the words of noted legal scholar, Professor Charles Bourne, "the essence of the principle is that, when a basin state does or refrains from doing an act and thus confers a benefit on a co-basin state, the latter state is obligated to share this benefit with the former." (Bourne, 1997). The work of the IJC did not prevent a controversy, it assisted in the peaceful avoidance of a dispute, and resulted in large part in the Columbia River Treaty.

The 1961 Columbia River Treaty

The Columbia River Treaty is a series of agreements between the U.S. and Canada, entered into in 1961 and 1964, under the umbrella 1909 Boundary Waters Treaty (1961 Columbia River Treaty). Canada agreed to develop storage facilities to enhance the development of hydroelectric power and flood control in the U.S. In turn, the U.S. agreed to pay Canada for the Canadian share of the entitlement of the beneficial uses of the Columbia. The factors employed to arrive at the equitable use of the Columbia are instructive. Canada is entitled to one half the power benefits resulting from its storage projects (Art. V) and a lump sum payment for the flood control (Art. VI). The power benefits were calculated on the difference between hydroelectric power generation in the U.S. before and after commencement of Canadian storage projects (Art. VII). The power benefit is to be delivered in power or as otherwise agreed (Art. VII.3, IX, X). The Parties agreed to allow Canada to dispose of its power benefits within the U.S. (Art. VIII). The flood control benefits are based on the estimated prevented damage from flooding (Art. VI). The calculations needed to determine downstream benefits fall under the authority of an institutional mechanism (Art. XIV).

The Columbia River Treaty regime is a model of the practical application of an equitable use regime. The Parties agreed, under the 1909 Boundary Waters Treaty, that each had the right to the use of the water resources of the Columbia River. The Parties undertook to study the basin's physical and economic conditions as evidenced by the 1959 Engineers Report, and developed principles to share the identified beneficial uses. In 1999, Canada and the U.S. entered into an agreement to extend the sale and disposal of Canada's entitlement to downstream power benefits within the U.S. (1999 Sale Protocol). The agreement extends the sale and disposal embodied in the 1964 Protocols to 2024 and permits Canada to dispose of its downstream power benefits in the U.S. "from time to time", in whole or in part, a more flexible approach.

The factors utilised by the technical commissions and the IJC, and agreed to by the Parties, that determine the entitlement to the beneficial uses of the Columbia, are derived from the development plans for flood control and hydroelectric power generation. The scientific factors used were the hydrological and hydraulic properties of the basin studied over an 80-year period with estimated projections, and an engineering assessment of the increased capacity of the alternative development plans. The economic factors related to the level of development, the basin economies, costs for development, and existing and the future needs of the population in the basin in the two countries. Economic factors were identified in the 1959 Engineers Report (1959 Engineers Report). The economic and scientific factors adopted by the United Nations in the 1997 UN Watercourses Convention are similar.

DEVELOPMENTS IN INTERNATIONAL LAW

At the time of the Columbia River controversy important declarations by non-governmental organisations, made up of international legal experts, had identified reasonable and equitable utilisation as the legal rule governing the uses of international drainage basins (1961 Salzburg Resolution, 1966 Helsinki Rules). The International Law Association's (ILA) 1966 Helsinki Rules also provide a list of factors used to determine the reasonable and equitable share of an international watercourse (Art. IV-V, 1966 Helsinki Rules).

The 1997 UN Watercourses Convention, adopted as a resolution by the United Nations General Assembly, contains provisions for the reasonable and equitable utilisation of an international watercourse (Art. 5). This Convention reflects the customary international law rule for the entitlement and allocation of an international watercourse: reasonable and equitable use (1994 UN ILC Report). The UN General Assembly adopted the resolution containing the 1997 UN Watercourses Convention on a recorded vote of 103 in favour, 3 against, with 27 abstentions (UN GA Res. 51/229, 21 May 1997). The U.S. voted in favour of the project. The U.S. did not sign the Convention within the permitted time (by 21 May 2000) and to date has not become a Party. As of 2000, Finland, Hungary, Jordan, Lebanon, Norway, South Africa, Sweden, Syria Arab Republic are Parties to the 1997 UN Convention. Côte d'Ivoire, Germany, Luxembourg,

Namibia, Netherlands, Paraguay, Portugal, Tunisia, Venezuela, and Yemen have signed the convention.

The substantive rules of the Convention are found in Part II. Articles 5 and 6 set out the governing rule: equitable and reasonable utilisation (Art. 5), taking into account all relevant factors (Art. 6). Article 7 requires States to take appropriate measures not to cause significant harm. For the Parties to the 1997 UN Watercourses Convention, the duty to co-operate embodied in Article 8, includes the obligation to co-operate to “attain optimal utilisation and adequate protection of the watercourse.”

The International Law Commission (ILC) proposed the draft articles contained in the 1997 UN Watercourses Convention, with commentary, to the General Assembly in 1994 (1994 UN ILC Report). The commentary forwarded to the General Assembly provides guidance for the interpretation of the Convention’s provisions, but has no legal weight since it was never formally adopted. The commentary to draft Article 5, reasonable and equitable use “implies attaining maximum possible benefits for all watercourse States and achieving the greatest possible satisfaction of all their needs, while minimising the detriment to, or unmet needs, of each.” The commentary goes on to say that this principle embodies an “equality of right”, not an entitlement to an equal share; it is an entitlement “to the use and benefit from the watercourse in an equitable manner.” Where there are conflicts of use, the rights of each State are dependent on the facts and circumstances of each case, weighing the factors set out in draft Article 6 (1994 UN ILC Report). Draft article 6 became Article 6 of the 1997 UN Convention.

Article 6 presents a non-exhaustive list of factors that assist States to determine what is a reasonable and equitable use of an international watercourse, based broadly on two general categories: scientific (hydrographic, hydrological, climatic, ecological, factors of a natural character; effects of use on other Watercourse States, existing and potential uses, conservation measures, and availability of alternatives) and economic (social and economic needs, population dependent on watercourse). Watercourse States are to perform the assessment of factors themselves in the first instance and continue in an ongoing manner, to be in compliance with Articles 5 and 6, unless the States agree that these duties are to be undertaken by a technical commission, joint body, or a third party. The 1997 UN Convention reads:

“Article 6 Factors relevant to equitable and reasonable utilisation

1. Utilisation of an international watercourse in an equitable and reasonable manner within the meaning of article 5 requires taking into account all relevant factors and circumstances, including:

- (a) Geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character;
- (b) The social and economic needs of the watercourse States concerned;
- (c) The population dependent on the watercourse in each watercourse State;
- (d) The effects of the use or uses of the watercourses in one watercourse State on other watercourse States;
- (e) Existing and potential uses of the watercourse;
- (f) Conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect;
- (g) The availability of alternatives, of comparable value, to a particular planned or existing use.

2. In the application of article 5 or paragraph 1 of this article, watercourse States concerned shall, when the need arises, enter into consultations in a spirit of co-operation.

3. The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is a reasonable and equitable use, all relevant factors are to be considered together and a conclusion reached on the basis of the whole.”

The 1997 UN Watercourses Convention list of factors and approach is similar to those of the U.S. domestic practice. The factors considered in the 1959 Engineers Report and the 1959 IJC Report, are also comparable to those of the 1997 UN Watercourses Convention. In analysing the Columbia River Treaty regime through the prism of the 1997 UN Watercourses Convention, there are no apparent conflicts.

The most recent reference to the rule of reasonable and equitable use in the decision of international tribunal came in 1997, the Case concerning the Gabčíkovo-Nagymaros Project (Case Concerning the Gabčíkovo-Nagymaros Project Hungary-Slovakia, 1997). The case involved a dispute between Hungary and the Slovak Republic over a 1977 Treaty regulating the development of a series of installations for improving hydro-power generation, the environment, navigation, and flood and ice control on the Danube River. The similarities to the Columbia River basin are striking. The main feature of the 1977 Hungary-Czechoslovakia Treaty was the development of hydroelectric power and navigation, with projects to be carried out in each country at the expense of each. The dispute arose when Hungary unilaterally suspended work on its portion causing Czechoslovakia/Slovakia in turn to unilaterally implement “Variant C,” one of the Czech/Slovak alternatives for developing the relevant section of the Danube. Variant C created a major decrease in the flow of the Danube River downstream in Hungary before returning the waters to the channel. Hungary then attempted to unilaterally terminate the 1977 Treaty. Both

countries, having undergone dramatic political changes, had determined that the original project was environmentally unsound. The International Court of Justice (ICJ) deliberated for four years, deciding in 1997 that both Hungary and Czechoslovakia/Slovakia had committed internationally wrongful acts, and required the Parties to negotiate a settlement; the controversy is still unresolved. The ICJ decided the case on general international treaty law, but referred to reasonable and equitable utilisation and the 1997 UN Watercourses Convention in obiter dicta. The Court concluded that Hungary had a “basic right to an equitable and reasonable sharing of the resources of an international watercourse,” which was violated by Czechoslovakia/Slovakia’s implementation of Variant C. The *Gabcikovo-Nagymaros* case indicates the ICJ’s view of the reasonable and equitable utilisation. The ICJ referred to the 1997 UN Watercourses Convention as authority. The *Gabcikovo-Nagymaros* case presents an example of a joint development regime gone awry.

CONCLUSION

The Columbia River Treaty regime is a model of the application of the principle of equitable utilisation of the uses of an international watercourse. The agreement between Canada and the U.S. included an innovative provision related to “downstream benefits.” Under the scheme, the U.S. agreed to pay Canada for the use of Canadian entitlement to downstream benefits the U.S. receives under the joint development plan.

The 1997 UN Watercourses Convention is the first global instrument containing the rule of reasonable and equitable use, notably referred to by the International Court of Justice in its recent Danube case decision. The 1997 UN Watercourses Convention sets forth a non-exhaustive list of scientific and economic factors to be applied to determine the legal entitlement of a watercourse State. An analysis of the applicability of the 1997 UN Watercourses Convention factors to the Columbia River Treaty regime indicates a high degree of complementarity. This is not surprising, in that the Columbia River Treaty regime has been cited widely as an example of State practice for the acceptance of the rule of equitable utilisation, in the UN documents and work of the ILC. Would States be advised to use the equitable use allocation framework embodied in the Columbia River Treaty regime and the 1997 UN Watercourses Convention, to ascertain their entitlement to an international watercourse?

The Columbia River Treaty regime is a bi-lateral agreement. The equal division (50/50) of the downstream benefits was a compromise that would not be available in a multi-lateral context. However in the case of U.S. domestic interstate treaty compacts between more than one state, the framework for allocation was equitable apportionment, in essence the same legal rule as is embodied in Articles 5, 6 and 7 of the 1997 UN Watercourses Convention and the Columbia River Treaty regime. The relative economic parity between Canada and the U.S., and the regional capacity to finance major projects, is another element that can not be underestimated. In all cases, the Columbia River Treaty regime, and the U.S. domestic interstate compacts, data and information collection and exchange, in particular on the scientific factors, was essential to the development of an agreement. Johnson indicates that the Columbia River dispute was characterised by conflicting data and teams of technical experts, until this same expertise was marshalled in a co-operative effort under the auspices of the IJC, subsequently resulting in the 1959 Engineers Report and the 1959 IJC Report on the principles for apportionment (Johnson, 1967). It would be difficult to imagine States entering into co-operative agreements without being armed with the necessary technical information. Yet, it was the adoption of the guiding legal rule, equitable utilisation, that provided the framework to arrive at a solution to the Columbia River controversy. States would be best served by clearly defining and adopting an allocation formula, to guide the collection and exchange of information, preliminary to negotiation of an agreement to use the waters of an international watercourse.

One key challenge for the future, demonstrated by the Hungarian-Slovak dispute, is how to accommodate changed information in a major economic development project on an international watercourse. This problem currently arises on the Columbia River basin in relation to the Pacific salmon. Conservation and protection of the Pacific salmon is largely a U.S. problem as it relates to the Columbia: the Grande Coulee Dam is too high for any salmon to reach Canada on the Columbia. The issue is creating serious policy problems for the U.S. entity, the BPA, and the federal agencies, state and local governments who depend on the Columbia River basin hydroelectric power and the fishing industry.

The Pacific Salmon agreements between the U.S. and Canada regulate an important competing “use” of the Columbia River, one which in itself has been very controversial internationally and nationally in both countries in relation to the Columbia River basin in the U.S. (and other rivers in Canada). Canada and the U.S. are embroiled in a confrontation over the Pacific salmon. There are efforts, funded in part by BPA sale of energy, to protect the Pacific salmon. One analyst reports that the watershed restoration project on the Columbia River was the largest in the world (McGinnis, 1995). The Endangered Species Act of 1973 (Pub. L. No. 93-205, 87 Stat. 884, 16 U.S.C. Sec. 1531-1544 (1988)), comes too late for the 106 extinct populations of salmonids (salmon, char, trout, steelhead), and

maybe too late for the 214 at risk of extinction. McGinnis states that this diversity loss and habitat degradation is among the most significant in the world. The potential economic loss due to a potential loss of the fishery is USD \$ 1 billion per year in personal income. The listed endangered species are the Snake River Sockeye salmon, and the Chinook. The U.S. Supreme Court has decided that ESA listed species have priority over other uses on a watercourse (*Tennessee Valley Authority v. Hill*, (1978)).

Balancing water for power and water for fish has become a major expense in the U.S. Expenditures in the Columbia River Basin for fish conservation were USD \$3.4 billion from 1978-1999, and an estimated USD \$ 800 million will be spent in 2000-2001 (NWPPC Reports, 2000). The economic value of the fishing expenditure returned USD \$ 97 million to the local economy since 1992, the initial year of fish conservation enhancements. The Northwest Power Planning Council (NWPPC), the federally empowered policy oversight body, administers the funds set aside from BPA revenues to address the salmon and power generation needs of Washington, Oregon, Idaho and Montana, and thirteen treaty tribes. As the crisis intensifies, the impacts will be felt along the West Coast of the U.S. and Canada.

What and how the impacts of the salmon fishery crisis are manifested, and mitigated, are being discussed with increasing intensity. Canada and the U.S. negotiated the 1999 Agreement pertaining to the sale of downstream benefits, a part of the Columbia River international legal regime. This suggests that the international treaty regime on the Columbia will not be disturbed in the foreseeable future. At the end of the term of the new agreement in 2025, or when the dams on the Columbia River in the U.S. come up for re-licensing before the federal regulatory bodies, the regime may be amended to reflect environmental protection concerns.

The California power industry and the drought will influence electrical power generation policies in the Pacific Northwest, and the use of international waters. An increasing possibility of power scarcity has been forecasted by planning agencies (24% possibility of scarcity in 2003). The average price of power reached \$700/per megawatt hour of power, ten times over the previous high, another sign of scarcity (Northwest Power Planning Council, March 2000).

Critics of the 1997 UN Watercourses Convention and the reasonable and equitable utilisation rule point out the limitations the rule has for environmental protection (Nollkaemper, 1996; Brown Weiss, 1997; Brunnée, and Toope, 1997). The 1997 Watercourses Convention in fact does contain provisions for the protection of the watercourse and the environment (Art. 5). The factors enumerated in Article 6 of the Convention take into account environmental concerns. The criticism is short-sighted. There is no evidence that the 1997 UN Watercourses Convention, or the equitable and reasonable utilisation rule, will not adequately protect the environment where Parties identify this factor as a primary consideration in their agreement to allocate the beneficial uses of an international watercourse.

Equitable utilisation is the governing rule for the allocation of the beneficial uses of an international watercourse for the U.S., and for the international community. The rule is flexible, robust and can be complemented with environmental provisions where the States agree that it is necessary, given the specific economic and scientific factors of the shared international basin. The U.S. interstate practice and the Columbia River Treaty regime demonstrate how equitable and reasonable utilisation can be operationalised through the identification of scientific, economic and other factors that balance the equities on a transboundary watercourse. There is no reason why the Columbia River Treaty regime can not serve as an appropriate model for the application of the reasonable and equitable utilisation rule under international water law.

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