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International Water Law, Acceptable Pollution Risk and the Tatshenshini River

ABSTRACT

The evolution of international water law over the last three decades has provided fertile ground for international lawyers and international legal scholars. One area in which the law continues to evolve is in relation to international river basins, where land use or water upstream poses uncertain environmental or health risks downstream due to impairment of water quality or quantity. Using the Tatshenshini River as an example, it is the thesis of this article that existing international water law has a great deal to offer to the resolution of international water controversies. However, efforts to provide a more workable framework for addressing acceptable risk in an international water law context also have much in common with, and could be informed by, ongoing efforts at defining acceptable risk in public policy towards domestic technological hazards.

INTRODUCTION[1]

The evolution of international water law over the last three decades has provided fertile ground for international lawyers and legal scholars.[2] One area in which the law continues to evolve is in relation to

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1. Initial drafts of this paper grew out of a panel discussion at the American Society of International Law Regional Meeting on November 21, 1992, at the University of British Columbia involving Stephen C. McCaffrey, University of the Pacific, McGeorge School of Law; Brock Evans, National Audubon Society, Washington, D.C.; Margaret Ericksson, Blake Cassels & Graydon, Vancouver; and Richard Kyle Paisley, Westwater Research Centre, Faculty of Graduate Studies, University of British Columbia. *See* Westwater Research Centre and the UBC Ocean Studies Council, Canada/United States: Managing Transboundary Waters in the Pacific Northwest: An America Society of International Law (ASIL) Regional Meeting in Cooperation with the Ocean Studies Council, UBC and the Westwater Research Centre, UBC (November 21, 1992) [hereinafter *ASIL Meeting*].

2. *See* F.J. BERBER, RIVERS IN INTERNATIONAL LAW (1959); BONAYA A. GODANA, AFRICA'S SHARED WATER RESOURCES: LEGAL AND INSTITUTIONAL ASPECTS OF THE NILE, NIGER AND SENEGAL RIVER SYSTEMS (1985); P. DHILLON, A TALE OF TWO RIVERS (1983); INTERNATIONAL ENVIRONMENTAL LAW (LUDWIK A. TECLAFF & ALBERT E. UTTON eds., 1974); G. KAECKENBECK,

international river basins, where land or water use upstream, poses uncertain environmental or health risks downstream due to impairment of water quality or quantity. In such contexts, international water law has sought to provide a workable framework for the concept of "acceptable risk."

This article argues that efforts to define acceptable risk in an international water law context have much in common with, and could be informed by, ongoing efforts to define acceptable risk in relation to domestic technological hazards.[3] Specifically, international water risk controversies are similar in structure to the siting of potentially hazardous facilities where neighbors are asked to accept uncertain hazards, often with little in terms of compensating benefits.[4]

INTERNATIONAL RIVERS: A MONOGRAPH BASED ON DIPLOMATIC DOCUMENTS (1968); JOHAN G. LAMMERS, POLLUTION OF INTERNATIONAL WATERCOURSE (1984); THE LAW OF INTERNATIONAL DRAINAGE BASINS (ALBERT H. GARRETSON ET AL. eds., 1968); LUDWIK A. TECLAFF, THE RIVER BASIN IN HISTORY AND LAW (1967); RALPH ZACKLIN & LUSIUS CAFLISCH, THE LEGAL REGIME OF INTERNATIONAL RIVERS AND LAKES (1981); C.B. Bourne, *Procedure in the Development of International Drainage Basins: The Duty to Consult and to Negotiate*, 10 CAN. Y.B. INT'L L. 212 (1972); Dante A. Caponera, *Patterns of Cooperation in International Water Law: Principles and Institutions*, 25 NAT. RESOURCES J. 563 (1985); Catherine A Cooper, *Management of International Environmental Disputes in the Context of Canada-United States Relations: A Survey and Evaluation of Techniques and Mechanisms*, 24 CAN. Y.B. INT'L L. 247 (1986); Gunther Hadl, *Balancing the Interests and International Liability for the Pollution of International Watercourses: Customary Principles of Law Revisited*, 13 CAN. Y.B. INT'L L. 156 (1975); Tim A. Kalavrouziotis, *U.S.-Canada Relations Regarding Diversions from an International Basin: An Analysis of Article II of the Boundary Waters Treaty*, 12 FORHAM INT'L L.J. 658 (1989); Stephen C. McCaffrey, *The Work of the International Law Commission Relating to the Environment*, 11 ECOLOGY L.Q. 189 (1983); Ved P. Nanda, *Emerging Trends in the Use of International Law and Institutions for the Management of International Water Resources*, 6 DENV. J. INT'L L. & POL'Y 239 (1976); Ludwik A. Teclaff, *Fiat or Custom: The Checkered Development of International Water Law*, 31 NAT. RESOURCES J. 45 (1991); Ludwik A. Teclaff & Eileen Teclaff, *Transboundary Toxic Pollution and the Drainage Basin Concept, 25 Nat. Resources J.* 589 (1985); Mary Ellen Wolfe, *The Milk River: Deferred Water Policy Transitions in an International Waterway*, 32 NAT. RESOURCES J. 55 (1992).

3. *See* W.L. Griffin, Legal Aspects of the Use of Systems of International Waters, Memorandum of the Department of State, S. Doc. No. 118, 85th Cong., 2d Sess. 146 (1958) (stating that "[t]he concept of injury in international law is very complex; and it is difficult to set an absolute limit by which injury is sufficient to provide legitimate grounds for opposing action taken by a riparian.").

4. Situations where there exists only a "risk" that pollution will occur have been exceedingly difficult to deal with in a domestic as well as an international legal context. This is because legal systems in general are less concerned with proving that there is no effect when there is than in proving that there is an effect when there is not. *See* Marcia A. Gelpe and A. Dan Tarlock, *The Uses of Scientific Information in Environmental Decision Making*, 48 S. CAL. L. REV. 371 (1974); William K. King, *TransBoundary Pollution: Canadian Jurisdiction*, 1 CAN.-AM. L.J. 1 (1982) (looked at (transboundary) pollution problems in terms of whether, even in the absence of actual injury, a high probability of injury should be sufficient to sustain an action to enjoin a would be polluter). *See generally* BARUCH FISCHHOFF, ACCEPTABLE RISK (1981); R. GREGORY ET AL., INCENTIVE POLICIES TO SITE HAZARDOUS WASTE

This article views the issue of acceptable environmental risk within the context of one specific international river basin controversy: the proposed development of a copper mine, at Windy Craggy Mountain, in the Tatshenshini River basin of British Columbia, which would create environmental risks to salmon and other aquatic resources downstream in Alaska.[5]

The proposed development of Windy Craggy has been described by its various proponents as "North America's greatest undeveloped copper prospect" and "a major development with minimal environmental impact".[6] It has been described by its opponents as "an environmental nightmare that threatens the region."[7] Various opponents to Windy Craggy have stated that the Tatshenshini watershed is "an area of tremendous biological diversity and overwhelming beauty, which should be protected and preserved for future generations."[8] Windy Craggy continues to be the subject of intense scrutiny by political leaders in Washington, Ottawa, Juneau and Victoria and raises important issues of public international law regarding how, and from whose perspective, an acceptable level of water pollution risk in an international drainage basin should be determined.[9] In addition, Windy Craggy provides an

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FACILITIES, RISK ANALYSIS (1992) (for a general discussion of the concept of "acceptable risk").

5. The Tatshenshini River is only one of a number of international rivers shared between Canada and the United States. Other notable transboundary rivers from a Canada/U.S. perspective, all of which have been the subject of significant controversy, are the Columbia, Skagit, Stikine and Flathead rivers.

6. GEDDES RESOURCES LTD., THE WINDY CRAGGY REPORT 8 (1993).

7. *Tatshenshini Wild Newsletter* (Tatshenshini Wild, Vancouver, British Columbia), March 1993 (quoting American Vice-President, Al Gore). Tatshenshini Wild is an international coalition of environmental interests that was formed to oppose the development of Windy Craggy.

8. *Id.*

9. *See Thrills and Spills on the River of Ice (Rafting the Tatshenshini River)*, EXPLORE, March 1986, at 6-13; *Wild River (Tatshenshini)*, 8 EQUINOX 6, Nov/Dec 1989, at 169; *Wilderness Treasure (Tatshenshini River) Worth More Than Mine Profits: Lobbyists*, MONTREAL GAZETTE, Feb. 25, 1990, at A7; *Last of Wild Rivers Threatened: Massive Copper Mine Targeted for BC's Tatshenshini*, CALGARY HERALD, Feb. 25, 1990. at A11; *Mine Threatens World Class River (Tatshenshini River, BC)*, 4 ALMANAC CANADIAN NATURE FEDERATION 2, Apr. 1990, at 4; *River of Conflict (Tatshenshini River): Environmental Coalition Springs to the Defense of BC's Top Wilderness Stream Before Miners get at Copper Deposit*, Vancouver Sun, Apr. 28, 1990, at B7; *Mine Plan Alarms Environmentalists: Threat to Wilderness River (Tatshenshini) Feared*, VANCOUVER SUN, Dec. 20, 1990, at B1, B3; *U.S. Senator Calls for Protection of the Tatshenshini*, 2 NATURE ALERT 3, May 1992; *Greens Don't Want Fight Mining Investors Told*, GLOBE & MAIL, May 29, 1992, at B2; *Windy Craggy Comes under Attack in US (Windy Craggy copper Mining project, BC)*, 78 NORTHERN MINER 6, Apr. 13, 1992; *Tatshenshini Gives Miners Chance to Bury Environmental Hatchet*, VANCOUVER SUN, Apr. 18, 1992, at E1; *Windy Craggy Battle May Prove Costly*, 5 FINANCIAL POST DAILY 41, Apr. 14, 1992, at 14; *US Pressure Could Kill Copper Mine: Canada Called on to Protect Tatshenshini and Alsek Rivers*, VANCOUVER SUN, Apr. 8, 1992, at B5; *Battle lines Drawn in Land of Glaciers and Grizzlies (Tatshenshini River Focus of Controversy)*,

opportunity to consider how the literature on acceptable risk can contribute to the evolution of international law, insights into the role of interest of neighboring states in such controversies and how thoughts on international law could better influence such decisions in the future.

WINDY CRAGGY PROJECT

The Tatshenshini River basin is a wilderness of high mountains, massive glaciers, and wild rivers wedged between the Yukon Territory, Canada, to the north and the Alaska panhandle to the west and south.[10] Roughly 12,000 square km in size, the area remains in a natural state, with no permanent settlements, human residents, or roads.[11]

Wilderness values associated with the area are indicated by its vast size, undeveloped state, resident populations of large, rare mammals (including grizzly bears, Dall's sheep, and mountain goats), extraordinary scenic beauty, unusual biological diversity, and increasing use for wilderness recreation.[12] The area is surrounded by three national parks, Glacier Bay and Wrangell-St. Elias in Alaska and Kluane in Canada, which have been designated World Heritage Sites by UNESCO to reflect their outstanding universal value to mankind.[13]

Prospectors first discovered copper at Windy Craggy in 1958.[14] However, substantial mineral exploration activity did not take place until Geddes Resources assumed control of the property in 1981. Since 1981, Geddes has spent close to $50 million in exploring and assessing what some experts have stated is one of the highest quality large copper and cobalt deposits ever discovered in Canada and one of the largest deposits of its kind in the world.[15] The only established commercial activity in the area, other than mining exploration, has been wilderness adventure travel in the form of river rafting trips that take place in the summer months.[16]

In early 1988, Geddes submitted its initial application for government regulatory approval to develop Windy Craggy.[17] Geddes

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TORONTO STAR, Sept. 10, 1991, at A17; *Exploring the Risks at Windy Craggy: A BC Firm Says its Mine will be a Model for the Future, but Environmentalists disagree*, GLOBE & MAIL, Jan. 19, 1991, at B1, B18.

10. *See* Michael J. Hardin, *Mining and the Environment*, *in* ENVIRONMENT, LAW AND DOING BUSINESS IN CANADA 455, 464 (GEOFFREY THOMPSON ET AL. eds., 1993).

11. *Id.* at 465.

12. *Id.*

13. *Id.* at 464.

14. *See* GEDDES RESOURCES LTD., *supra* note 6 at 6.

15. *Id.* at 5.

16. *See* Hardin, *supra* note 10 at 464.

17. *See* GEDDES RESOURCES LTD., *supra* note 6.

insisted that the development of Windy Craggy could take place in an environmentally acceptable manner.[18]

Initial government reviews of Windy Craggy were soon followed by extensive opposition to the proposed development in both Canada and the United States.[19] Two major lines of argument opposing the project were advanced. First, opponents argued that environmental hazards, including those related to high levels of seismic activity in the area, posed an unacceptable degree of risk to the environment.[20] They argued that if the project proceeded, important resources, including salmon fishery resources, would inevitably be damaged by the inadvertent release of acid drainage into the Tatshenshini River drainage.[21] In addition, they argued that the grizzly bear, sheep, and mountain goat populations would be adversely affected by project facilities and by increased hunter access.[22] Second, opponents argued that the Tatshenshini River valley was an untouched area of global environmental significance, in which the wildlife, ecological and aesthetic values which the area represented far outweighed the public benefits to be gained by development.[23] Opponents advocated the creation of the largest protected landscape in the world which would consist of a primeval wilderness park in the

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18. *See* GEDDES RESOURCES LTD., *supra* note 6, at 3-9.

> "Geddes Resources has recognized its responsibility to government regulators, to protection of all aspects of the environment, and to the interests of other users of the Alsek/Tatshenshini area."
> "It is Geddes Resources' goal to develop, in an environmentally responsible manner, a mine which will supply the world with a significant amount of its copper needs for the next twenty years or more, bring economic benefits to northern communities, their citizens and governments, and provide an acceptable rate of return to individual and institutional shareholders."
> "Geddes Resources will cooperate fully with all authorities in the examinations and studies required to assure an environmentally acceptable development and is prepared to participate in consultations with the public on issues related to development in the Alsek/Tatshenshini area."

See also Technical Resolution Wished for Windy Craggy Project (Tatshenshini Area of Northwest British Columbia), 76(12) NORTHERN MINER 4 (May 28, 1990).

19. *See* GEDDES RESOURCES LTD., *supra* note 6 at 8; *Tatshenshini Wild Newsletter, supra* note 7 at 1.

20. *See Tatshenshini Wild Newsletter, supra* note 7 at 1.

> Tatshenshini Wild said that the mine would place international fisheries worth $50 million per year at "severe, perpetual and large scale risk" from potentially "massive amounts of acid and heavy metal pollution" and that Geddes' proposed 350 foot high tailings dam would be "liable to catastrophic failure and release up to 225 million tons of acid/heavy metal generating materials, since Tatshenshini is in the highest risk earthquake zone in North America."

21. *Id.*
22. *Id.*
23. *Id.*

Tatshenshini watershed linking Kluane National Park in Canada to Wrangell-St. Elias and Glacier Bay protected areas in the United States.[24]

Opposition to Windy Craggy achieved a new level of prominence in April, 1992 when a motion addressing the Tatshenshini River and Windy Craggy was made the subject of a joint resolution in the United States Senate.[25] The resolution touched on concerns related to the potential for transboundary pollution as well as the contemplated construction of port facilities, which would be required to ship ore from the project to world markets.

In July, 1992, the provincial government of British Columbia referred the land use planning process for the entire Tatshenshini River watershed to a newly created Commission on Resources and Environment (CORE).[26] CORE was asked by the B.C. provincial government to review and report on the major options for land use in the area and on possible public processes related to the controversy surrounding Windy Craggy.[27] CORE reported to the B.C. provincial government in January, 1993 with an assessment of wilderness values, mineral values, environmental risks, and a description of the existing regulatory framework for mine approval.[28] Research sponsored by CORE indicated a very high probability that seismic activity in the Windy Craggy area could lead to the release into the Tatshenshini watershed of contaminated water and rock.[29] Such a release would lead to long term acid drainage and the

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24. *Id.*

25. S.J. Res. 290, 102d Cong., 1st Sess. (1991). The Resolution called for Congress to: find that the Alsek and Tatshenshini River systems were resources of great international significance and that development of Windy Craggy poses a "significant and long-term threat" to irreplaceable resources in the United States; negotiate with Canada to provide protection for the entire Alsek watershed for the purpose of preserving its fisheries, wildlife, water quality, and recreational and wilderness value; direct the Secretary of the Interior to report to Congress regarding the potential impacts of Windy Craggy; call on the Secretary of the Interior to seek agreement of the Government of Canada that the International Joint Commission be given a reference to examine comprehensively the potential adverse environmental and social impacts of Windy Craggy and that no permits required for the project be issued prior to completion of the study. Finally, the Resolution called on the governments of both Canada and the United States to cooperate in obtaining World Heritage Site status for the entire Alsek and Tatshenshini River watersheds.

26. The Commission on Resources and Environment (CORE) is an independent body established by the government of British Columbia to oversee and coordinate the development of a provincial wide land use framework.

27. *Tatshenshini-Alsek/Windy Craggy Mine Issue, in* Information Newsletter (Province of British Columbia), 1992.

28. COMMISSION ON RESOURCES AND ENVIRONMENT, INTERIM REPORT ON TATSHENSHINI-/ALSEK LAND USE BRITISH COLUMBIA, VOLUME ONE, REPORT AND RECOMMENDATIONS (1993); COMMISSION ON RESOURCES AND ENVIRONMENT, INTERIM REPORT ON TATSHENSHINI/ALSEK LAND USE BRITISH COLUMBIA, VOLUME TWO, APPENDICES (1993).

29. *Id.* at 6.

likelihood of major damage to both Canadian and American salmon fisheries worth $50 million a year.[30] CORE found a significant potential for activities in Canada that might harm environmental resources in Alaska by impairing the quality of water in the Tatshenshini River.[31] The CORE report did not consider the applicable principles of international water law. In June, 1993 the government of British Columbia announced that the entire Tatshenshini River region would be preserved in perpetuity. Mining would be abolished and the region would be designated a UNESCO World Heritage Site.[32] The decision was welcomed be a wide range of environmental and outdoor recreation interests. However, the decision was also strongly attacked. Opponents of the decision alleged that British Columbia would forego billions.[33] Even some pro Tatshenshini River environmentalists were unhappy. They criticized the decision as being a political decision that completely bypassed any real objective evaluation of land use.[34] They felt that if the government could bypass a review process designed for this kind of decision, then future governments might do the same thing in the name of development. The decision to have the region designated a UNESCO World Heritage Site was also attacked by aboriginal interests as being insensitive to outstanding land claims in the area.[35]

Could international water law play a substantive role in helping to resolve this controversy? Are there ways in which international law could be improved to make it more relevant to decision makers? These issues are pursued in subsequent sections beginning with a review of international water law principles.

INTERNATIONAL WATER LAW

International law in general is composed of decisions about events that have effects across national boundaries or on more than one nation, state or entity. International law provides expectations about how officials (or others) are expected to behave in particular circumstances. There are two principal means of creating international law. First, by explicit agreement, such as the express concurrence of the position of states or international bodies in international treaty obligations (interna-

30. *Id.*

31. *Id.*

32. *See NDP Tat Move Would've Taken Bite Out of the Land that Feeds Us*, VANCOUVER SUN, Oct. 29, 1993, at A4.

33. *Id.* (reporting that, "billions of dollars in revenue, tens of billions in economic development and thousands of jobs that would last several generations were at stake.").

34. *Id.*

35. *Id.*

tional treaty law).[36] Second, by custom, such as the practices of states or international bodies that are relatively uniform, generally accepted and enforced by a relevant community of states (customary international law).[37] Customary international law, in comparison to international treaty law, deals in broader concepts, is more difficult to determine and more difficult to enforce. The relatively more abstruse nature of customary international law flows, in part, from the disparate components of international custom. These include the duration of practice, uniformity of practice, consistency of practice, generality of application and, arguably, the presence of a requisite sense of legal obligation.[38] The rules of international water law have never been firmly or unambiguously established. Rather, they have continued to evolve under the realization that water resources are increasingly limited in quantity and quality.[39] Until about 1960, no principles of the law of the non-navigational uses of international water courses were generally accepted by the international community of states. According to Bourne[40] four competing theories were current:

> [T]he first was territorial sovereignty; under it a state can do as it pleases with the water in its territory, ignoring the effect of its actions on neighboring states. Upstream states favored this view of the law. The second theory was riparian rights; the waters must be allowed to flow downstream substantially unchanged in quality and undiminished in quantity. Under it a downstream state in effect has a veto over any major utilization of the waters by upstream sites. Downstream states adhered to this view. The classic case was Pakistan's invocation of this principle in its dispute with India over the Indus River in the 1940s and 1950's. The third theory was prior appropriation; the first utilization has priority in law. In other words, existing uses must not be affected by subsequent

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36. *See* IAN BROWNLIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW 2 (4th ed. 1991).

37. *Id.* at 4.

38. *Id.* at 5-7.

39. *See Report of the United Nations Conference on Environment and Development*, at ¶ 18.3, Agenda 21, U.N. Doc. A/C.151/26 (1992), *revised by* U.N. Doc. A/C.151/26/II (1992), U.N. Sales No. 93.1.8 (reporting that "The widespread scarcity, gradual destruction and aggravated pollution of freshwater resources... demand integrated water resources planning and management.").

40. Charles B. Bourne, Fresh Water as A Scarce Resource (October 1989) (paper delivered at a Panel Discussion at the Canadian Council on International Law Conference, October 1989). *See also* Xue Hanqin, *Commentary—Relativity in International Water Law*, 3 COLO. J. INT'L ENVTL. L. & POL'Y 45, 48 n.7 (1992) (identifying the four competing theories as (1) the absolute theory of territorial sovereignty; (2) the absolute principle of territorial integrity and sovereign equality; (3) restrictive theory of territorial sovereignty and integrity; and (4) international management for the common interest).

> developments. This principle seems reasonable until its implications are fully realized. Developments of an international river usually take place first near its mouth and gradually proceed upstream. Consequently when the upstream state later wishes to develop its part of the river, it is faced with substantial prior appropriations downstream. In substance this theory was used against Canada in the dispute with the United States about the development of the Columbia river.

The shortcomings of these three theories led to the rise of a fourth theory, namely the principle of equitable utilization.

The principle of equitable utilization was eventually adopted for use by the International Law Association (ILA) in its seminal 1966 Helsinki Rules On the Uses of the Waters of International Rivers (Helsinki Rules).[41] The genius of the Helsinki Rules is that they are

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41. International Law Association, Report of the Fifty-Second Conference, held at Helsinki, (1966), at 484 [hereinafter *Helsinki Rules*]. The statement of the principle of equitable utilization in the Rules is as follows:

> Article IV. Each Basin State is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin.
>
> Article V. (1) What is a reasonable and equitable share within the meaning of Article IV is to be determined in the light of all the relevant factors in each particular case.
>
> (2) Relevant factors which are to be considered include, but are not limited to:
>
> (a) the geography of the basin, including in particular the extent of the drainage area in the territory of each basin State;
>
> (b) the hydrology of the basin, including in particular the contribution of water by each basin State;
>
> (c) the climate affecting the basin;
>
> (d) the past utilization of the waters of the basin, including in particular existing utilization;
>
> (e) the economic and social needs of each basin state;
>
> (f) the population dependent on the waters of the basin in each basin State;
>
> (g) the comparative costs of alternative means of satisfying the economic and social needs of each basin State;
>
> (h) the availability of other resources;
>
> (i) the avoidance of unnecessary waste in the utilization of waters of the basin;
>
> (j) the practicability of compensation to one or more of the co-basin States as a means of adjusting conflicts among uses; and
>
> (k) the degree to which the needs of a basin State may be satisfied, without causing substantial injury to a co-basin State.
>
> Article VI. A use of category of uses is not entitled to any inherent preference over any other use or category of uses.

flexible.[42] They are flexible because they prescribe a "reasonability" test for determining what is lawful or unlawful conduct in connection with international water resources.[43] The principle of equitable utilization requires states that share an international drainage basin to act reasonably in their utilization of its waters and directs that the reasonableness of any utilization is to be determined by weighing all relevant factors and by comparing the benefit that would follow from the utilization with the injury it might do to the interests of another basin state.[44]

Until the 1970s the burden of formulating the emerging principles of international water law rested mainly with the ILA. In the 1970s the General Assembly of the United Nations recommended that the International Law Commission (ILC) place on its agenda the law on the "Non-Navigational Uses of International Water Courses." Some 22 years later, in July, 1992, the ILC adopted a set of articles entitled "Articles on the Law of the Non-Navigational Uses of International Watercourses".[45] Prior to July, 1992 four successive ILC special rapporteurs had grappled with the extent to which the principle of equitable utilization should govern the law of the non-navigational uses of international watercourses. There were two schools of thought. One school, which included the fourth ILC Special Rapporteur Stephen McCaffrey, thought that the general principle of equitable utilization should be augmented by adopting a rule of 'no appreciable pollution harm' that was not qualified by the principle of equitable and reasonable use.[46]

A second school was opposed to the proposition that "water uses that cause appreciable pollution harm to other water course States and the environment could be regarded as being *per se* inequitable and unreasonable".[47] This second school thought that a separate article

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> Article VII. A basin State may not be denied the present reasonable use of the waters of an international drainage basin to reserve for a co-basin State a future use of such waters.

42. *See* Bourne, *supra* note 40 at 6 and accompanying text.

43. *Id.*

44. *Id.*

45. *See* Robert Rosenstock, *First Report on the Law of the Non-Navigational Uses of International Watercourses*, at 3, U.N. Doc. A/CN.4/451 (1993).

46. C. Stephen McCaffrey, *Fourth Report on the Law of the Non-Navigational Uses of International Watercourses*, at 14, UN Doc. A/CN.4/412/Add.2 (1988). *See also* ASIL Meeting, *supra* note 1; C. Stephen McCaffrey, *The Law of International Watercourses: Some Recent Developments and Unanswered Questions*, 17 DENV. J. INT'L L. & POL'Y 505, 510 (1989).

47. Bourne argued that the exception suggested by McCaffrey would only have meaning in the case of pollution that is not in fact inequitable and unreasonable. Bourne asked the question:

> "Is it reasonable to outlaw categorically, as the exception does, an act that is in fact equitable and reasonable?"

See Bourne, *supra* note 40 at 13; ASIL Meeting, *supra* note 1.

directed towards preventing appreciable pollution harm was undesirable and unnecessary because causation of harm was implicitly included in the weighing and balancing of the factors inherent in the concept of equitable utilization.[48]

At the forty-fifth session of the ILC in 1993 a fifth Special Rapporteur, Robert Rosenstock, attempted to chart a middle course.[49] The intended result of the proposed revisions was to create a regime in which equitable and reasonable use was supposed to be the determining criterion, except in cases of pollution as defined in the draft articles. In pollution cases, equitable and reasonable use would be subordinated to the obligation to prevent appreciable pollution harm, subject to the subordination being rebutted by a clear showing of extraordinary circumstances. In other words, the subordination would be a rebuttable presumption.[50]

International treaty law is also important in relation to disputes involving international watercourses. Between Canada and the United States the best known of these is the Boundary Waters Treaty.[51] This treaty obliges Canada and the United States to prevent pollution of transboundary waters and provides the two governments with the authority to refer matters to an International Joint Commission (IJC). This authority has never been invoked directly. In practice the treaty has been used not so much to make binding decisions, but more to absorb and deflect attention away from contentious political issues by instructing the IJC to examine and report.[52]

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48. *See* Bourne, *supra* note 40 at 13.

49. *See* Rosenstock, *supra* note 45 at 10 (stating:

> "Watercourse states shall exercise due diligence to utilize an international watercourse in such a way as not to cause significant harm to other water course states, absent their agreement, except as may be allowable under an equitable and reasonable use of the watercourse. A use which causes significant harm in the form of pollution shall be presumed to be an inequitable and unreasonable use unless there is: (a) a clear showing of special circumstances indicating a compelling need for ad hoc adjustment; and (b) the absence of any imminent threat to human health and safety.").

50. *Id.*

51. Treaty Relating to the Boundary Waters and Questions Arising Along the Boundary, Jan. 11, 1909. The domestic legal obligations of Canada pursuant to the Treaty are pursuant to the International Boundary Waters Treaty Act, R.S.C., c. I-17 (1985).

52. For an analysis of the International Joint Commission (IJC) created by the agreement see Carol Reardon, *The International Joint Commission: A Possible Model for International Resource Management, in* INTERNATIONAL ENVIRONMENTAL TREATY MAKING, THE PROGRAM ON NEGOTIATION AT HARVARD LAW SCHOOL 129-48 (LAWRENCE E. SUSSKIND ET AL. eds. 1992). According to Reardon: "the role of the IJC has evolved over time, both in terms of the functions it performs and the scope of its jurisdiction; . . . the IJC now spends the majority of its time conducting scientific investigations, most of which involve environmental concerns; and although the commission has no decision making authority it has a good

INTERNATIONAL WATER LAW AND WINDY CRAGGY

Customary international water law principles would seem to both support and oppose the development of Windy Craggy. Both the ILC Draft Rules and the Helsinki Rules could be used to argue the view that Windy Craggy should not be allowed to proceed. Under the ILC Draft Rules the principle of equitable utilization is overridden where there is appreciable pollution harm. It follows that if the potential for pollution harm outweighs potential economic development opportunities the ILC Draft Rules could be invoked to block Windy Craggy from proceeding. The Helsinki Rules could also be invoked to block Windy Craggy on the basis of the argument that even if the "no appreciable harm" rule is subordinated to the principle of equitable utilization, the potential for pollution harm by the project is outweighed by any potential economic development.

However, both the ILC Draft Rules and the Helsinki Rules could also be used to argue the view that Windy Craggy should be allowed to proceed. The argument posited by proponents would be that a basin state is entitled to a reasonable and equitable share in the beneficial uses of transboundary rivers and that a reasonable and equitable share is determined by weighing a variety of relevant factors, where the weight to be given each factor is determined by their relative importance. It would follow that because the generation of economic activity is a significant factor it should be viewed as more important than any risk of harm to the environment. In addition, international law, at least under the Helsinki Rules, does not prohibit pollution altogether and some pollution is an unavoidable by-product of many lawful and beneficial uses of international watercourses. It follows that a complete prohibition of pollution would deprive Canada of its equitable use of an international watercourse to facilitate economic development. Even under the ILC Draft Rules, there must be appreciable harm before international law is violated, therefore it could be argued that Windy Craggy should be allowed to proceed.

Does the fact that existing international water law can be used to argue both for and against Windy Craggy diminish its value? Not at all. There are at least three roles for existing international water law in the resolution of the conflict over Windy Craggy. First, if the Windy Craggy project violates international law because of the nature or magnitude of the pollution risk involved, then both the Canadian and American governments should know that proceeding with the project would place

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track record for producing recommendations that are eventually implemented." *Id.* at 132.

Canada in violation of its international legal obligations.[53] Second, international water law would provide a useful procedural framework for Canada and the United Sates to resolve their differences and to consider potentially contentious compensation issues from an international perspective.[54] This would create an important legal and procedural precedent for future similar circumstances elsewhere in North America. Third, application of the principles of international water law to Windy Craggy would allow international basin states throughout the world to judge the efficacy of the principles of international water law.[55]

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53. *See* ASIL Meeting, *supra* note 1, where according to McCaffrey there were at least seven international law arguments that could have been advanced against Windy Craggy. First, Canada had an international legal obligation to conduct a complete environmental impact assessment of the proposed project. Second, Canada should have provided the United States with prior notification of, and full technical data and information concerning Windy Craggy. Third, Canada had an obligation under international law not to use or permit the use of its territory for activities that would result in harm (including environmental harm) in the United States. Fourth, Canada would arguably have been in violation of international law by using an international drainage basin in an unequitable and unreasonable manner if it allowed Windy Craggy to proceed. Fifth, generally accepted rules of international law relating to protection of the marine environment would have prohibited Canada from going forward with Windy Craggy. Sixth, allowing Windy Craggy to proceed notwithstanding adverse environmental implications would have been contrary to generally accepted principles of North-South equity, sustainable development, and responsibility to future generations. Seventh, Windy Craggy, according to international law, was arguably inconsistent with the idea of sustainable development.

54. There is little disagreement in the ILC or elsewhere that in the area of the law of international drainage basins it is the procedural rules that are important to promote the resolution of differences. *See* Bourne, *supra* note 40 (stating:

> "They do this by imposing on a state that wishes to undertake a project that may harm a co-basin state, the obligation to notify it of the project, to give details about it and to consult and negotiate about it.").

55. *See Where in the World Will the Water Be*, THE GLOBE AND MAIL, Nov. 26, 1993, at A19

> "Water has already been the source of armed conflict in the middle east. In the 1960s, battles occurred over an effort by Arab states to divert the headwaters of the Jordan River, thereby depriving Israel of its major water source. One of the touchiest subjects in the current Middle East peace negotiations is water supply. There have been disputes over rivers in Asia and South America. In California, water shortages have produced furious court cases and political conflicts between rural and urban dwellers.").

INTERNATIONAL WATER LAW AND ACCEPTABLE POLLUTION RISK

In the proceeding section, three potentially important roles that existing international water law could play in the ultimate resolution of Windy Craggy were noted. Are there ways in which international water law could be made even more relevant or attractive to decision makers who are faced with issues like those engendered by the controversy over Windy Craggy?

Windy Craggy brings to light three limitations in existing international water law: (1) "harm" or "injury" are undefined, (2) there is no threshold standard that would trigger international water law, (3) benefits and risks are not defined and there is no process to analyze benefits and risk.

Existing international water law has difficulty in defining what constitutes harm or injury. The terms that are currently favored to describe harm or injury are "substantial injury" (under the Helsinki Rules) and "appreciable harm" (under the ILC Draft Rules), both of which are inherently imprecise. Comment X to the Helsinki Rules implicitly acknowledges this by defining the term "substantial injury" in a circular fashion.[56] The term "appreciable harm" is open to similar criticism.[57]

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56. Comment (b), ¶ 4, of Art. X to the Helsinki Rules reads, in part, as follows:
> The rules stated in this Article place a duty upon a basin State, consistent with that State's right to an equitable utilization, to take the specified measures respecting pollution of water. Thus, the international duty stated in this Article regarding abatement or the taking of reasonable measures is not an absolute one. This duty, therefore, does not apply to a State whose use of the waters is consistent with the equitable utilization of the drainage basin. *See generally* E. JIMENEZ DE ARECHAGA, 2 CURSO DE DERECHO INTERNACIONAL PUBLICO 532-534 (1961).
>
> The principle of equitable utilization of the waters of an international drainage basin may require, in a particular case, that the several co-basin states participate jointly in the financing of pollution control measures . . .
>
> (c) *Substantial injury.* Pollution as that term is used in this Chapter may be the result of reasonable and otherwise lawful use of the waters of an international basin. For example, the normal process of irrigation for the reclamation of arid or semi-arid land usually causes an increase in the salinity of the downstream waters. Modern industrial processes of a very valuable and useful nature may result in the discharge of deleterious wastes that pollute the water. Frequently, rivers are the most efficient means of sewage disposal, thereby causing pollution of waters. Thus, as pollution may be a by-product of an otherwise beneficial use of the waters of an international drainage basin, the rule of international law stated in this Article does not prohibit pollution *per se.* Cf. JIMENZ DE ARECHAGA, 2 CURSO DE DERECHO INTERNACIONAL PUBLICO 529-530 (1961); FENWICK, INTERNATIONAL LAW 363-65 (4th ed. 1965).

A second limitation, related to the first, is that none of the preferred formulations of international water law define precisely when an environmental harm exceeds a threshold, thereby invoking the law. Both the Helsinki Rules and the ILC Draft Rules are cast in terms of harm that has already occurred, not the risk of future pollution harm. Yet, the risk of future pollution harm is extremely important for many environmental controversies. Adverse environmental effects may only become apparent or occur over time as contaminants accumulate, thresholds of adverse effects are exceeded, regenerative capabilities of environmental resources are exceeded, or catastrophic events occur.[58] Ruckelshaus has recently described the evolution of environmental policy concerns in the United States, where attention has turned from setting standards that curtail obvious pollution, to focusing largely on regulation of uncertain health and environmental threats.[59]

A third limitation arises in determining whether a risk of transboundary pollution is acceptable to the parties involved. The Helsinki Rules suggest that the reasonableness of a water use should be determined by weighing the benefits of the utilization with the potential injury to other basin states. Exactly what constitutes a benefit or an injury, how the benefits and costs are to be compared and whose perspective is to be used in making the comparison remains undefined.

The need to balance competing objectives associated with different interests is an important and difficult aspect of virtually all important environmental policy decisions.[60] This balancing process

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However, where the effect of the pollution is such that it is not consistent with the equitable utilization of the drainage basin and causes "substantial injury" in the territory of another State, the conduct causing the pollution gives rise to a duty, as stated in this Article, on the part of the State responsible for the pollution.

Not every injury is substantial. Generally, an injury is considered "substantial" if it materially interferes with or prevents a reasonable use of the water. On the other hand, to be "substantial" an injury in the territory of a State need not be connected with that State's use of the waters. For example, the pollution of water could result in "substantial injury" in the territory of another State by the transmission, through the evaporative process, of organisms that cause disease.

57. *See* Rosenstock, *supra* note 49.

58. For a discussion of uncertainty in environmental assessment, see ADAPTIVE ENVIRONMENTAL ASSESSMENT AND MANAGEMENT (C.S. HOLLING ed. 1978). For a variety of perspectives on risk analysis and risk management, see articles in READINGS IN RISK, RESOURCES FOR THE FUTURE (T.S. GLICKMAN & M. GOUGH eds. 1990).

59. W.D. Ruckelshaus, *Risk, Science and Democracy*, ISSUES FOR SCIENCE AND TECHNOLOGY 1, 3 (1985).

60. *Id.* at 3. In the words of Ruckelshaus, "we can not avoid asking 'Is it worth it?'" in environmental policy questions.

cannot be accomplished without making explicit value judgments. States involved in international water disputes are likely to have conflicting value judgments regarding the appropriate balance of harm to one state and benefit to another state. The lack of explicit guidelines for clarifying this balance suggests that such disputes are likely to become increasingly frequent and contentious. Both the Helsinki Rules and the ILC Draft Rules invoke a strong standard that reinforces the rights of neighboring states by proscribing appreciable transboundary harm. Such a standard raises difficulties for states considering resource development and raises additional difficulties for neighboring states who may be willing to possibly accept some risk of pollution harm in exchange for other kinds of benefits.[61]

ACCEPTABLE RISK AND WINDY CRAGGY

The previous section suggests that the efforts of international legal scholars to reconcile competing interests between upstream and downstream states have much in common with, and could be informed by, ongoing efforts in a domestic context to define acceptable risk in public policy relating to technological hazards.[62]

Does state A, when threatened with the consequences of state B's pollution, have the right to prohibit the pollution harm, even if it causes benefit to be foregone in state A? Does state A, seeking to develop its resources, have a right to develop if it views the harm it causes to state B as a reasonable consequence of the benefits to be received? To what extent should state A be expected to accept pollution harm to benefit state B? Should state A be entitled to compensation from state B, if state A forbears an economic development opportunity, in order to protect state B from the risk of pollution harm? These are important questions that remain largely unanswered under existing international water law.

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61. For example, under the Columbia River Treaty between Canada and the United States Relating to Cooperative Development of the Water Resources of the Columbia River Basin, 17 January 1961, Canada has agreed to accept certain losses in productive land and interference with fisheries in exchange for funding to build major dams for hydroelectric purposes elsewhere. Such an agreement, involving acceptance of environmental harm in exchange for other benefits, might have been discouraged if the ILC Draft Rules had been in operation when the Treaty was negotiated. *See* Reardon, *supra* note 52.

62. Risk is defined as the probability that a particular event will occur. The risk of any particular event occurring is the ratio of the expected frequency of that event divided by the expected frequency of all possible comparable events. *See generally* Fischhoff et al., *Defining Risk*, 17 POL'Y SCIENCES 123 (1984); R. Gregory et al., *Adopting the Government Impact Statement Process to Inform Decision Makers*, 11 J. OF POL'Y ANALYSIS & MGMT. 58 (1992); R. Gregory, *Risk Perception as Substance and Symbol, in* RISKY BUSINESS: COMMUNICATING ISSUES OF SCIENCE, RISK AND PUBLIC POLICY (L. WILKENS & P. PATTERSON eds. 1991); P. Slovic, *Perception of Risk*, 236 SCIENCE 280 (1987).

In the Windy Craggy dispute, the central international water law issue is the extent to which the downstream state, the United States, should be expected to accept the risk of environmental catastrophe in the upstream state, Canada. Over the past two decades the subject of "acceptable risk" has been a topic of considerable academic and applied interest debate, particularly in Canada, the United States and Europe.[63] The international water law controversy addressed in this article is in many ways structurally similar to one of the most contentious kinds of acceptable risk questions: the siting or expansion of a facility that imposes potential environmental or health risks to its neighbors.[64]

Several lessons drawn from the now extensive literature on acceptable risks and facility siting are listed below. These are helpful in understanding the Windy Craggy situation and in pointing to fruitful directions for the further evolution of international water law.

1. *There is no single standard of acceptable risk.* During the 1970s, researchers, engineers, policy analysts, and others devoted attention to the possibility of a universal standard of acceptable risk across many decision contexts. However, the acceptability of a risk depends on the costs and benefits of the alternatives available to manage it. If the costs of greater safety are low, it may be prudent to reduce an already low risk still further. If the costs of greater safety are high, we may be prepared to live with an existing high risk.[65]
2. *The acceptability of a risk is influenced by many characteristics other than the probability of harm.* Technical specialists tend to focus on probabilities of harm as the single measure in determining how important a risk should be to the groups affected. However, people are likely to consider a wide range of other factors in judging the characteristics that determine the risk of a hazard. Within this wide range of factors, two are prominent in most people's thinking when they judge the risk of new technology: the degree of dread or fear risks engender among people, and the degree to which the risks are known to science.[66] These two factors are correlated with many other characteristics that are relevant in judging risk. In summary, a wide variety of characteristics other than probabilities of harm are important when laypeople judge the degree of risk and risk acceptability in a given situation.

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63. *See supra* notes 2, 62.

64. *Id.*

65. S. Derby & R. Keeney, *Risk Analysis: Understanding How Safe is Safe Enough?*, 1 RISK ANALYSIS 217-24 (1981).

66. P. Slovic, *Perception of Risk*, 236 SCIENCE 280-285 (1987).

3. *Acceptable risk decisions require value tradeoffs.* A corollary to the previous two points is that one cannot focus on a single criteria, such as probability of harm, in judging acceptable risk. Tradeoffs will inevitably be required among competing objectives, such as cost and greater protection. In the words of Ruckelshaus, we cannot avoid asking "Is it worth it?" That is, we must ask whether the extra benefits of greater protection are worth the extra costs.[67] One might ask why any risk should be tolerated in such situations. This sentiment is reflected in the frequent calls in public policy for zero risk of hazards.[68] It is important to recognize that the desire to achieve zero risk is an illusion. Any technology will entail some possibility of environmental or health risk. Doing it without that technology would also involve environmental or health risks. Efforts to manage risks also entail risks of their own.[69]
4. *Different groups have different perspectives on appropriate value tradeoffs for acceptable risk.* If Group A is contemplating a project that will impose risks on Group B, the two groups are likely to have markedly different perspectives on appropriate increase in Group A's costs to reduce risks to Group B. There is no single "right" answer regarding the appropriate level of spending for risk reduction in such contexts.
5. *Risk are more acceptable if they are accompanied by compensating benefits.* In the example above, Group B is much more likely to accept risks imposed by Group A if it shares in the benefits. Work on risk perception, risk evaluation, and risk acceptance all point to the importance of compensating benefits as a major determinant of acceptable risk.[70]
6. *Siting facilities that impose risks on neighbors is best achieved through informed consent which requires negotiation.* Informed consent has become a widely supported criterion for siting facilities, in an effort to overcome the rancor and perceived injustice associated with imposition of risks without consent.[71] There is a need for negotiation focusing on the underlying interests of groups as a tool in building trust and achieving compensatory benefits

67. *See supra* note 58.

68. *Id.*

69. R. Keeney, *Mortality Risks Induced by Economic Expenditures*, 10 RISK ANALYSIS 147-59 (1990).

70. R. Gregory & R. Mendelson, *Perceived Risk, Dread and Benefits*, 13 RISK ANALYSIS 259-64 (1993).

71. *See supra* note 62.

needed to achieve informed consent.[72] This approach offers some hope for smoothing the contentious process of siting hazardous facilities, and has worked effectively in several situations.[73]

How could these six points inform the current state of international water law as it relates to the risk of transboundary water pollution?

Several of the points presented above support concepts underlying the fundamental international water law principle of equitable utilization and reasonable use identified in the Helsinki Rules. The first three points support the proposition that tradeoffs are unavoidable in making judgments about acceptable risk. Point 4 identifies possible room for improvement in the principle of equitable utilization including recognition that parties to an environmental risk conflict will likely have differing views on what is equitable. Points 5 and 6 suggest evolutionary steps in administrative practice that could clarify, strengthen and reduce conflicts in connection with the application of the principle of equitable utilization.

The six preceding points also have implications for the "no appreciable harm" principle championed by the ILC Draft Rules. The ILC Draft Rules are more supportive of the rights of downstream states and are less supportive of the notion that acceptability of risk depends on tradeoffs associated with benefit allocation alternatives. Thus the ILC Draft Rules are less in tune with points 1,2,3 and 4. At the same time the ILC Draft Rules do not strive to achieve as stringent a criterion as might be called for by advocates of "zero risk." The ILC Draft Rules also focus on appreciable risks rather than the risks associated with extremely low exposures or low consequence-low probability events. The no appreciable harm principle might seem in agreement with points 5 and 6 if it were cast more in terms no appreciable harm that is not acceptable to both parties.

INTERNATIONAL WATER LAW AND INFORMED NEGOTIATED CONSENT

The six points that have been discussed suggest that there may be a useful extension to existing international water law that would assist melding the principle of equitable utilization and the principle of no appreciable harm. This extension might be termed the principle of

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72. *See* M. O'HARE ET AL., FACILITY SITING AND PUBLIC OPPOSITION (1983); L. SUSSKIND & J. CRUIKSHANK, BREAKING THE IMPASSE (1987).

73. H. Kiunreuther et al., *Siting Noxious Facilities: a Test of the Facility Siting Credo*, 13 RISK ANALYSIS 301-15 (1993).

"informed negotiated consent". This principle would require that water utilization in an upstream state that holds appreciable environmental risk to a downstream state be disfavored unless both states agreed that the proposed utilization comported with the principle of equitable utilization and reasonable use.

In practice, the advantage of the application of such a principle is that it would create further incentives for a state creating an environmental risk to negotiate with a state risking harm in order to mitigate the risks and share benefits in an acceptable manner. Such a principle would strongly protect the rights of states against transboundary environmental harm, as is called for by the ILC Draft Rules, yet allow water utilization that is seen by both states as reasonable and equitable, in keeping with the Helsinki Rules. The principle would also further clarify and provide greater certainty to the Helsinki Rules by requiring that all affected states agree that a proposed water utilization is equitable and reasonable.

The informed negotiated consent principle is not new. It compares favorably with the findings of the IJC regarding the Flathead River in Montana.[74] The IJC ruling in the Flathead situation reinforced the mutual obligations of both upstream and downstream states to protect a shared migratory fishery resource unless it was agreed that an adverse impact or the risk of it occurring was acceptable to both parties.[75]

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74. INTERNATIONAL JOINT COMMISSION, IMPACTS OF A PROPOSED COAL MINE IN THE FLATHEAD RIVER BASIN (1968).

75. *Id.* The IJC stated as follows:

> In such cases, there is a mutual obligation to protect a fishery that migrates between the United States and Canada by a range of management practices in both countries which will ensure that the provisions of the Treaty will be honored jointly. This principle should apply, even though the degree of risk cannot be measured with certainty, unless and until it is agreed that such impact . . . or the risk of it occurring is acceptable to both parties.

This principle is further reinforced by principle 21 of The Stockholm Declaration, adopted by the U.N. Conference on the Human Environment at Stockholm, Sweden, June 16, 1972. Report of the U.N. Conference, U.N. Doc. A/Conf. 48-14 (1972), *reprinted in* 11 I.L.M. 1416 (1972) which said that states have: "responsibility to ensure that activities within their jurisdictions or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction."

See also The Rio Declaration on Environment and Development, reprinted in 31 I.L.M. 874; *The Charter of Economics Rights and Duties of States,* G.A. Res. 3281, U.N. GAOR, 29th Sess., Supp. No. 31, U.N. Doc. A/9631 (1975), *reprinted in* 14 I.L.M. 251 (1975); *The Draft Principles of Conduct in the Field of Environment for the Guidance of States in the Conservation and Harmonious Utilization of Natural Resources shared by Two or More States, Report on the Work of the Fifth Session of the UNEP Intergovernmental Working Group of Experts on Natural Resources Shared by Two or More States, reprinted in* 17 I.L.M. 1098 (1978); OECD *Recommendations on Principles Concerning Transfrontier Pollution,* OECD Doc. c(74) (1974), *reprinted in* 14 I.L.M. 242 (1975). The OECD Recommendations, in part, recommend that States concerned with transboundary pollution should solve their problems on the basis of a fair balance of rights and

An informed negotiated consent principle would help to further meld the equitable utilization principle in the Helsinki Rules with the no appreciable harm principle in the ILC Draft Rules. The principle of informed negotiated consent also grows directly out of extensive experience regarding acceptable risks in the siting of hazardous or ecologically sensitive projects in a domestic context.[76]

Implementation of a principle of informed negotiated consent would require the explicit sharing of technical information about the potential for environmental harm and about the characteristics of alternatives available to control the harm. It would also focus more attention on the values and interests of the states involved. A process based more on building mutual trust and the equitable sharing of benefits, as developed in domestic facility siting controversies, would likely be the most effective approach to facilitating the negotiations envisioned by the application of the principle of equitable utilization and reasonable use. Analyzing water use decisions with international ramifications from the perspective of participant states, while encouraging them to explicitly represent uncertainties and value tradeoffs, would enhance communication and trust between the parties to those negotiations.

CONCLUSION

The controversy over Windy Craggy illustrates the potential value of applying the principles of international water law to resolving international water controversies. The Windy Craggy controversy also suggests that there are ways in which international water law could be made more useful to decision makers. Among the limitations to existing international water law is its inability to deal with situations where risk of international water pollution is the issue. A partial solution might be to extend international water law to include a principle of informed negotiated consent that would build on the foundation set by the principle of equitable utilization and reasonable use in the Helsinki Rules and help to meld the Helsinki Rules to the ILC Draft Rules.

Establishment and implementation of a principle of informed consent would strengthen the interests of neighboring states and extend existing principles of customary international law. A principle of

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obligations, *see id.* at Annex, Title A, and the situation, prospective use and development of the [polluted] zones concerned from a socio-economic standpoint. *Id.* at Annex, Title B. *See also The Convention on the Protection and Use of Transboundary Watercourses and International Lakes* (1992); *The Convention on Environmental Impact Assessment in a Transboundary Context* (1991).

76. *See supra* note 72 and accompanying text.

informed negotiated consent would also be a natural evolution of administrative practice in the realm of international water law. In addition, an informed negotiated consent principle would place greater emphasis on care in selecting water uses, negotiating benefits and mitigating impacts. These steps would help facilitate the long term and lasting resolution of disputes such as those engendered by Windy Craggy.[77]

77. *See supra* note 55 and accompanying text.