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## All (Water) Politics is Local: A Proposal for Resolving Transboundary Water Disputes

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## ARTICLES

### ALL (WATER) POLITICS IS LOCAL: A PROPOSAL FOR RESOLVING TRANSBOUNDARY WATER DISPUTES

*Jeffrey S. Dornbos\**

*“The frog . . . does not drink up the pond in which he lives.”*

*Aztec Proverb<sup>1</sup>*

On April 2, 1984, representatives of the United States and Canada signed an agreement<sup>2</sup> that ended a forty-two year dispute over the construction of a dam.<sup>3</sup> The agreement provided that the United States would not raise the height of a hydroelectric dam in exchange for a long term supply of power from Canada at the price that it would have cost to build the dam.<sup>4</sup> After the protracted forty-two year dispute, both sides were pleased—the United States obtained inexpensive power, and Canada saved its pristine wilderness from flooding.<sup>5</sup> The outcome was a success. Notably, the process had been described as both “at odds with the usual evolution of international

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1. GARY HOLTHAUS, FROM THE FARM TO THE TABLE: WHAT ALL AMERICANS NEED TO KNOW ABOUT AGRICULTURE 199 (2006).

2. Treaty Between the United States of America and Canada Relating to the Skagit River and Ross Lake, and the Seven Mile Reservoir on the Pend d'Oreille River, U.S.-Can., Apr. 2, 1984, T.I.A.S. No. 11,088 [hereinafter Skagit River Treaty].

3. CANADA AMONG NATIONS: 1984: A TIME OF TRANSITION 190 (Brian W. Tomlin & Maureen Molot eds., 1985).

4. *Treaty Ends Seattle-B.C. Dam Dispute*, SPOKANE CHRONICLE, June 28, 1984, at 3.

5. *Id.*

agreements,”<sup>6</sup> and “appropriate for the problem at hand.”<sup>7</sup> The process was at odds with typical agreements because in this instance, negotiations did not occur between diplomats at the highest levels of government, but rather between representatives of British Columbia and Seattle, Washington.<sup>8</sup> It was an “unusual situation” because it involved negotiations between an American city and a Canadian province.<sup>9</sup> Canadian Intergovernmental Relations Minister Garde Gardom described the solution obtained by the unusual process as “an environmental victory [which] [made] economic sense.”<sup>10</sup> President Reagan described the process as “constructively and ingeniously settled.”<sup>11</sup>

The successful process provides a model for other transboundary negotiations. This Article argues that transnational water agreements should include a rebuttable presumption that negotiations over transboundary water disputes begin with regional committees organized at the lowest appropriate hydrological level. The argument is analyzed in two parts. First, transboundary water agreements should include the creation, or continuation, of water committees organized around hydrologic boundaries—such as a lakes, rivers, or aquifers—rather than political or jurisdictional boundaries. Second, when transboundary water disputes arise, the cooperating States should empower the most decentralized, or “lowest,” committee possible to reach a solution. For example, negotiations over a dispute surrounding the discharge of pollution into a river shared by two small border towns should begin with a regional body, comprised of representatives from both towns, tasked with managing the river. Alternatively, negotiations surrounding a dispute over the withdrawal of massive amounts of Great Lakes water should begin with a

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6. Donald K. Alper & Robert L. Monahan, *Regional Transboundary Negotiations Leading to the Skagit River Treaty: Analysis and Future Application*, 12 CANADIAN PUB. POL’Y 163, 163 (1986).

7. *Id.*

8. *Id.* at 163-64.

9. *Id.* at 163.

10. Stephen C. McCaffrey, *Water Disputes Defined: Characteristics and Trends for Resolving Them*, in RESOLUTION OF INTERNATIONAL WATER DISPUTES 49, 84 (The Int’l Bureau of the Permanent Ct. of Arb. ed., 2003).

11. *Seattle-B.C. Dam Dispute*, *supra* note 4, at 3.

“higher,” more centralized, decision-making body, such as the Great Lakes—St. Lawrence River Basin Water Resources Council.<sup>12</sup>

Part I of this Article presents three essential components for managing transboundary water resources. First, cooperation among all stakeholders is essential to managing commons resources and avoiding the problems presented by the tragedy of commons. Second, because there is often a great deal of uncertainty surrounding hydrologically connected water resources (withdrawing groundwater, for example, might have profound but little understood implications for nearby surface water) completing long-term studies of the water resource is imperative. Third, public participation is a key element in successfully managing transboundary water resources. Part I argues that successful management of transboundary resources, therefore, requires fostering long-term cooperation, gathering accurate data, and promoting public participation.

Part II of this Article presents the argument that transnational water agreements should include a rebuttable presumption that negotiations over transboundary water disputes begin with regional committees organized at the lowest appropriate hydrological level. Part II begins by comparing and contrasting two examples of approaching transboundary water disputes—the Skagit River treaty and the All-American Canal dispute—and argues that these case studies demonstrate the usefulness of negotiating transboundary water disputes at the lowest appropriate level. While the comparison has its limits, it provides a helpful starting point for considering the usefulness of decentralized decision-making. Part II goes on to highlight the International Joint Commission’s (“IJC”) creation of international water boards. These international water boards are an example of a system that fosters decentralized decision-making, organized around hydrologic units, such as lakes or rivers, rather than political or jurisdictional boundaries.

Part III of this Article analyzes the advantages and disadvantages of having negotiations over transboundary water disputes begin with regional committees organized at the lowest appropriate hydrological level. In addition to other advantages and disadvantages, Part III

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12. Great Lakes—St. Lawrence River Basin Water Resources Compact, Pub. L. No. 110-342, § 2.1, 122 Stat. 3739, 3744 (2008). The Council, created by the Great Lakes—St. Lawrence River Basin Water Resources Compact, has broad responsibilities for carrying out that Compact. *Id.*

analyzes the potential effectiveness of this approach in fostering long-term cooperation, gathering accurate data, and promoting public participation.

## I. INTRODUCTION TO TRANSBOUNDARY WATER MANAGEMENT

Access to water is essential to sustain life. It is also essential for countless other activities – from industrial processes to recreation. Today, the United Nations Children’s Fund (“UNICEF”) and the World Health Organization (“WHO”) estimate that 1.1 billion people in the world lack safe drinking water, and 2.4 billion people lack adequate sanitation facilities.<sup>13</sup> Given the need and varied distribution of supply, “continuing water shortage tends to aggravate the potential of conflicts on water allocation between various non-state actors, such as ethnic and social groups or economic stakeholders, on the local, national but also on the transboundary level and may thus destabilise societies and even regions as a whole.”<sup>14</sup> While the overall amount of freshwater is adequate, its distribution on the earth is uneven.<sup>15</sup> As a result, transboundary water resources must be managed, in order to ensure long-term sustainability of the precious resource.

In order to promote sustainable management of resources, the international community has addressed both the general need for cooperation in managing resources, and the specific need to cooperate in the management of transboundary water resources. The *Rio Declaration* and Agenda 21, approved by delegates from 178 nations at the United Nations Conference on Environment and Development in 1992, addressed the general need for cooperation in managing resources.<sup>16</sup> Both the United Nations and the International

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13. KNUT BOURQUAIN, FRESHWATER ACCESS FROM A HUMAN RIGHTS PERSPECTIVE: A CHALLENGE TO INTERNATIONAL WATER LAW AND HUMAN RIGHTS 1 (2008).

14. *Id.* at 2.

15. *Id.* at 5.

16. United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3-14, 1992, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/26/Rev.1 (Vol. I), Annex I (Aug. 12, 1992) [hereinafter *Rio Declaration*], available at <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>; See generally United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3-14, 1992, *Agenda 21*:

Law Association have addressed the specific need for cooperation in the management of transboundary water resources.<sup>17</sup> The United Nations, in 1997, adopted the Watercourses Convention, described as a “codification and progressive development of rules of international” water law.<sup>18</sup> The International Law Association, in 2004, published the *Berlin Rules on Water Resources*, touted as “a summary of the modern customary international law applicable to fresh water resources.”<sup>19</sup> All three — the Berlin Rules,<sup>20</sup> the *Rio Declaration*,<sup>21</sup> and the Watercourses Convention<sup>22</sup> — stress the importance of fostering long-term cooperation,<sup>23</sup> gathering accurate data,<sup>24</sup> and promoting public participation for successful transboundary water management.<sup>25</sup> Future model agreements should also include the creation of regional committees, organized around hydrologic units, empowered to anticipate and solve disputes over transboundary water resources.

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*The United Nations Programme of Action from Rio*, U.N. Doc A/CONF.151/26 (1992), available at <http://www.un.org/esa/dsd/agenda21/>.

17. See Int'l Law Ass'n [ILA], *Berlin Conference: Water Resources Law, Fourth Report*, at art. 4 (2004) [hereinafter *Berlin Rules*], available at <http://www.ila-hq.org/en/committees/index.cfm/cid/32>; U. N. Convention on the Law of the Non-navigational Uses of International Watercourses, G.A. Res. 51/229, U.N. Doc. A/RES/51/869 (May 21, 1997) [hereinafter *Watercourses Convention*], available at [http://untreaty.un.org/ilc/texts/instruments/english/conventions/8\\_3\\_1997.pdf](http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf); *Rio Declaration*, *supra* note 16.

18. *Watercourses Convention*, *supra* note 17, at art. 2; see also BOURQUAIN, *supra* note 13, at 18.

19. JOSEPH W. DELLAPENNA, 'INT'L LAW ASS'N WATER RES. COMM, THE INTERNATIONAL LAW ASSOCIATION'S BERLIN RULES ON WATER RESOURCES I, available at [intranet.iucn.org/webfiles/ftp/public/ForumEvents/E1121/Final%20Document/IUCN%20-%20Berlin%20Rules%20Introduction.doc](http://intranet.iucn.org/webfiles/ftp/public/ForumEvents/E1121/Final%20Document/IUCN%20-%20Berlin%20Rules%20Introduction.doc) (last visited Feb. 19, 2011).

20. *Berlin Rules*, *supra* note 17, at art. 4.

21. *Rio Declaration*, *supra* note 16, at Annex I.

22. See *Watercourses Convention*, *supra* note 17.

23. See *Berlin Rules*, *supra* note 17, at art. 11; *Watercourses Convention*, *supra* note 17, at art. 8; *Rio Declaration*, *supra* note 16, at princ. 7.

24. See *Berlin Rules*, *supra* note 17, at art. 2; *Watercourses Convention*, *supra* note 17, at art. 9; *Rio Declaration*, *supra* note 16, at princ. 9.

25. *Berlin Rules*, *supra* note 17, at art. 2; *Watercourses Convention*, *supra* note 17, at art. 32; *Rio Declaration*, *supra* note 16, at princ. 10. For a more detailed discussion of the *Watercourses Convention*, see *infra* n. 75.

### A. Long-Term Cooperation

Fostering long-term cooperation is a major theme of the Berlin Rules,<sup>26</sup> the *Rio Declaration*,<sup>27</sup> and the Watercourses Convention.<sup>28</sup> Two well-known theories—the tragedy of the commons and the prisoner's dilemma—demonstrate why mutual cooperation is beneficial over the long term.

The tragedy of the commons was first described by Garret Hardin, who illustrated his idea with the example of a rational herdsman, using a common grazing area, deciding whether to get a new cow for his herd.<sup>29</sup> Obtaining a new cow has a positive impact on the herdsman, all of the benefits of cow ownership, and a negative impact on the common grazing area, a reduction in the total amount of grass. The herdsman gets all of the positive impact, the new cow, but the negative impact, grass depletion, is shared by everyone who uses the common grazing area. Because the negative impact is shared, the rational herdsman will always add a cow, a decision that,

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26. *Berlin Rules*, *supra* note 17, art. 11. Article 11 of the Berlin Rules reads as follows: "Basin States shall cooperate in good faith in the management of waters of an international drainage basin for the mutual benefit of the participating States." *Id.*

27. *Rio Declaration*, *supra* note 16, at princ. 7. Principle 7 of the *Rio Declaration* reads as follows:

States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command. *Id.*

28. Watercourses Convention, *supra* note 17, at art. 8. Article 8 of the Watercourses Convention reads as follows:

1. Watercourse States shall cooperate on the basis of sovereign equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilization and adequate protection of an international watercourse. 2. In determining the manner of such cooperation, watercourse States may consider the establishment of joint mechanisms or commissions, as deemed necessary by them, to facilitate cooperation on relevant measures and procedures in the light of experience gained through cooperation in existing joint mechanisms and commissions in various regions. *Id.*

29. Garret Hardin, *The Tragedy of the Commons*, 162 *SCIENCE* 1243, 1244–45 (1968).

in the end, “brings ruin to all.”<sup>30</sup> When managing natural resources, there is pressure to use the resources because of “the belief that if one were to conserve the common-pool resources, others will take what was conserved, and the [common pool resource] will still degrade.”<sup>31</sup> Solving this dilemma in the international context is particularly difficult because it requires states to cooperate.<sup>32</sup>

The same principle is illustrated by the “prisoner’s dilemma.”<sup>33</sup> The prisoner’s dilemma imagines that two people are being investigated for a crime.<sup>34</sup> Under the imagined scenario, they have three options. First, if neither of them confesses, there is insufficient evidence for a conviction and they both go free.<sup>35</sup> Second, if only one of them confesses, and implicates the other, he will get a \$500 reward. His silent cohort will have to pay a \$5,000 fine.<sup>36</sup> Third, if both of them confess, each will only have to pay a \$1,000 fine. The prisoners are separated and can’t work together.<sup>37</sup>

Game theorists propose that the inevitable result of this dilemma is that both of the prisoners will talk, and pay a \$1,000 fine.<sup>38</sup> Why? Each of them, because they can’t coordinate their actions, has two incentives to talk. First, if he talks, and the other doesn’t, he receives \$500.<sup>39</sup> Second, if he doesn’t talk, and the other does, he has to pay \$5,000. In the end, both of them talk, even though it would be better for both of them to cooperatively maintain their silence.<sup>40</sup> When applied to environmental resources, “the strategy of ‘claiming innocence’ is renamed ‘sustainable use,’ and the strategy of

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30. *Id.*

31. STEVEN C. HACKETT, ENVIRONMENTAL AND NATURAL RESOURCES ECONOMICS: THEORY, POLICY, AND THE SUSTAINABLE SOCIETY 123 (M.E. Sharpe, 3d. ed. 2006).

32. For a discussion of potential solutions to this tragedy, see Lee Anne Fennell, *Commons, Anticommons, Semicommons* (U. Chi. L. Sch., John M. Olin & Econ. Working Paper No. 457 (2d Series), Pub. Law & Legal Theory Working Paper No. 261, 2009), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1348267](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1348267).

33. HACKETT, *supra* note 31, at 123.

34. *Id.* at 124.

35. *Id.*

36. *Id.*

37. *Id.*

38. *Id.*

39. *Id.*

40. *Id.*



‘confessing’ is renamed ‘resource depletion.’”<sup>41</sup> While applying the prisoner’s dilemma to the “real world” is complex, it provides a simple but compelling example of why bilateral water agreements are mutually beneficial over the long term.<sup>42</sup>

The prisoner’s dilemma and the tragedy of the commons illustrate the need for states to coordinate their actions over the long term. Given their need to coordinate, however, begs the question of how they will actually do so. Professor Andrew Guzman presents a useful theory for understanding this coordination, focusing on the “[t]hree Rs:” reputation, reciprocal non-compliance, and retaliation.<sup>43</sup> As Professor Guzman argues, a noncompliant state’s “international legal obligations may suffer because it finds it more difficult to make credible international commitments or benefit from international law in the future (reputation); because other states terminate their own compliance (reciprocity); or because other states punish it, even when doing so is costly (retaliation).”<sup>44</sup> Each of the three—reputation, reciprocal non-compliance, and retaliation—applies to transboundary water disputes.

Reputation, the first “R,” is essential to transboundary water management because there is no international enforcement agency.<sup>45</sup> States enter into agreements with the goal of “maximizing their joint payoffs.”<sup>46</sup> One of the reasons that states will comply with their agreements is because they want to maintain their reputation so they can enter into other agreements in the future.<sup>47</sup> As Professors Eric Posner and Jack Goldsmith explain, “[s]tates with good institutions comply with treaties even when it is against their immediate interest, because by complying with treaties against this interest they avoid the inference that they are unreliable and instead reveal the quality of their institutions and attract future cooperative partners.”<sup>48</sup>

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41. *Id.*

42. For a more detailed analysis of the prisoner’s dilemma and its implications for environmental law, see JACK L. GOLDSMITH & ERIC A. POSNER, *THE LIMITS OF INTERNATIONAL LAW* 23–43 (2005).

43. ANDREW T. GUZMAN, *HOW INTERNATIONAL LAW WORKS: A RATIONAL CHOICE THEORY* 211 (Oxford Univ. Press, 2008).

44. *Id.* at 211.

45. *See id.* at 35.

46. *Id.*

47. *See id.*

48. GOLDSMITH & POSNER, *supra* note 42, at 101.

Reciprocity, the second “R,” is most effective in the bilateral context and “is often sufficient to generate cooperation in the prisoner’s dilemma.”<sup>49</sup> The Boundary Waters Treaty provides a useful example of the impact of reciprocity in the context of transboundary water management. The Boundary Waters Treaty of 1909,<sup>50</sup> entered into by the United States and Canada, regulates the diversion of water.<sup>51</sup> The Treaty is a particularly good example because it has “all the features” of a prisoner’s dilemma.<sup>52</sup> Specifically, both the United States and Canada had incentive to divert water, but, because doing so would hurt their long-term interests, a decision to cooperate and not divert the water benefitted both sides.<sup>53</sup>

The well-known *Trail Smelter* arbitration provides another compelling example of the usefulness of reciprocity in resolving disputes over transboundary water resources.<sup>54</sup> This arbitration involved a claim that the United States was damaged by sulfur dioxide that crossed the border after being emitted from a smelter in Canada.<sup>55</sup> A tribunal that was setup to hear the case articulated the principle of reciprocity, noting that both countries have an interest because “while the United States’ interests may now be claimed to be injured by the operations of a Canadian corporation, it is equally possible that at some time in the future Canadian interests might be claimed to be injured by an American corporation.”<sup>56</sup>

Retaliation, the third “R,” is another useful enforcement tool. Professors Posner and Goldsmith use the example of a treaty aimed at preventing overfishing to illustrate the concept of retaliation.<sup>57</sup> Two states enter into a treaty that requires each to limit their fishing to a sustainable yield. One of the incentives for complying with the

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49. GUZMAN, *supra* note 43, at 42.

50. Treaty Between the United States and Great Britain Relating to Boundary Waters Between the United States and Canada, U.S.-U.K., Jan. 11, 1909, 36 STAT. 2448 [hereinafter Boundary Waters Treaty].

51. *Id.*

52. *See id.*

53. *See id.*

54. *Trail Smelter Arbitration* (U.S. v. Can.), 3 R.I.A.A. 1911 (1938 and 1941), reprinted in 35 AM. J. INT’L L. 684 (1941).

55. *Id.* at 1917.

56. *See id.* at 1938–39; *see also* Karin Michelson, *Rereading Trail Smelter*, 31 CAN. Y.B. INT’L L. 219, 228–29 (1993).

57. *See* GOLDSMITH & POSNER, *supra* note 42, at 100.

agreement is that, if they don't, the other state may retaliate by overfishing, "and the cooperative surplus will be dissipated."<sup>58</sup> Retaliation, then, provides a powerful incentive for compliance.

Long-term cooperation over the management of transboundary water resources is, therefore, mutually beneficial. As outlined in greater detail below, resolving transboundary water disputes at the watershed level promotes long-term cooperation by ensuring that the reciprocity, reputation, and retaliation is linked to the water resource at issue, and not to other on-going disputes, unrelated to the resource.

### B. Long-Term Studies

Gathering accurate data and improving scientific understanding is another major theme of the Berlin Rules,<sup>59</sup> the *Rio Declaration*,<sup>60</sup> and the Watercourses Convention.<sup>61</sup> Hydrologic studies are essential to

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58. *Id.*

59. *Berlin Rules*, *supra* note 17, at art. 2. Article 2 reads as follows: "States shall undertake educational and research programs as necessary to assure the technical capacity necessary for State and communal authorities to fulfill the obligations specified in this Chapter and in other Rules." *Id.* Article 39 reads as follows:

In order to comply with this Chapter, States shall take all appropriate steps to acquire the information necessary to manage groundwater and aquifers efficiently and effectively, including: a. Monitoring groundwater levels, pressures, and quality; b. Developing aquifer vulnerability maps; c. Assessing the impacts on groundwater and aquifers of industrial, agricultural, and other activities; and d. Any other measures appropriate to the circumstances of the aquifer. *Id.*

60. *Rio Declaration*, *supra* note 16, at princ. 9. Principle 9 reads as follows: "States should cooperate to strengthen endogenous capacity-building for sustainable development by improving scientific understanding through exchanges of scientific and technological knowledge, and by enhancing the development, adaptation, diffusion and transfer of technologies, including new and innovative technologies." *Id.*

61. Watercourses Convention, *supra* note 17, at art. 9. Article 9 reads as follows:

1. Pursuant to article 8, watercourse States shall on a regular basis exchange readily available data and information on the condition of the watercourse, in particular that of a hydrological, meteorological, hydrogeological and ecological nature and related to the water quality as well as related forecasts. 2. If a watercourse State is requested by another watercourse State to provide data or information that is not readily available, it shall employ its best efforts to comply with the request but may condition its compliance upon payment by the requesting State of the

managing water resources.<sup>62</sup> First, reducing uncertainty through hydrologic data gathering may assist in resolving disputes.<sup>63</sup> Second, hydrologic information is a key factor in tailoring effective water-management policy in order to ensure sustainability over the long run.<sup>64</sup> Both concepts are best illustrated with examples.

A Michigan case, *Michigan Citizens for Water Conservation v. Nestlé Waters North America*,<sup>65</sup> illustrates the importance of understanding the hydrologic connections in a watershed. In 2002, Nestlé, a bottled water company, began pumping groundwater at a rate of 400 gallons per day.<sup>66</sup> A citizens group sued to prevent the pumping, arguing that the pumping was reducing water levels in nearby bodies of water.<sup>67</sup> The trial court determined that the withdrawals were unreasonable, violating Michigan's common law as well as Michigan's Environmental Protection Act (MEPA).<sup>68</sup> The Michigan Court of Appeals affirmed the judgment, but determined that the trial court had applied the wrong standard.<sup>69</sup> Under the appropriate standard, according to the appeals court, 400 gallons per

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reasonable costs of collecting and, where appropriate, processing such data or information. 3. Watercourse States shall employ their best efforts to collect and, where appropriate, to process data and information in a manner which facilitates its utilization by the other States to which it is communicated. *Id.*

62. See, e.g., Jacob Burke, Marcus Moench, & Claude Sauveplan, *Groundwater and Society: Problems in Variability and Points of Engagement*, in WORLD BANK TECHNICAL PAPER NO. 456, GROUNDWATER: LEGAL AND POLICY PERSPECTIVES 41-42 (Salman M.A. Salman ed., 1999).

63. See, e.g., JEROME DELLI PRISCOLI & AARON T. WOLF, *MANAGING AND TRANSFORMING WATER CONFLICTS* 78 (2009).

64. See, e.g., H.M. GREGERSEN, P.F. FFOLIOTT, & KENNETH N. BROOKS, *INTEGRATED WATERSHED MANAGEMENT: CONNECTING PEOPLE TO THEIR LAND AND WATER* xii (2007).

65. 709 N.W.2d 174 (Mich. Ct. App. 2005), *rev'd in part on other grounds*, Mich. Citizens for Water Conservation v. Nestlé Waters N. Am., Inc., 737 N.W.2d 447 (Mich. 2007).

66. *Michigan Citizens*, 709 N.W.2d at 184.

67. *Nestlé Waters*, 737 N.W.2d 447.

68. *Michigan Citizens*, 709 N.W.2d at 185-86.

69. The Court of Appeals upheld the claim, but specifically noted that the trial court "applied the wrong law" in its decision. *Id.* at 209. The appropriate standard, according to the Michigan Court of Appeals, was whether the "proposed withdrawal of water from Sanctuary Springs in the amount of 400 gpm will unreasonably interfere with plaintiffs' riparian water rights in the Dead Stream." *Id.* at 207.

minute was unreasonable but a lower amount would be reasonable as long as plaintiffs had an adequate supply for their own uses.<sup>70</sup>

The difficulty for the Michigan Court of Appeals was determining what withdrawal level was reasonable.<sup>71</sup> The appeals court found that, because of the “complexity of the water system at issue” it needed to remand to the trial court the “daunting task of determining what level of water extraction” was acceptable.<sup>72</sup> On appeal, the Michigan Supreme Court added a new twist, upholding the determination with respect to some of the waters at issue,<sup>73</sup> but determining that the citizens group had no standing with respect to other waters.<sup>74</sup> Specifically, the Michigan Supreme Court held that the environmental group had standing for the bodies of water they abutted against, but not for the other water bodies.<sup>75</sup> A more recent case decided by the Michigan Supreme Court has changed the state’s standing analysis.<sup>76</sup> Regardless, in the end Nestlé and the citizens group reached a settlement, agreeing to a rate of 218 gallons per minute.<sup>77</sup>

The *Nestlé* case illustrates one reason why watershed studies are imperative for managing water resources. Specifically, in this case, it

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70. *Id.* at 209 (writing, “[b]ecause of the paucity of findings directly on point and the complexity of the water system at issue, we are unable to determine on appeal what level of pumping from Sanctuary Springs is reasonable under the circumstances. Therefore, we must remand this issue for determination by the trial court”).

71. *Id.* at 208–09.

72. *Id.*

73. *Mich. Citizens for Water Conservation v. Nestlé Waters N. Am., Inc.*, 737 N.W.2d 447, 456 (Mich. 2007).

74. *Id.*

75. *Id.*

76. *Lansing Schools Educ. Ass’ns, MEA/NEA v. Lansing Bd. of Educ.*, No. 138401, 2010 WL 3037733 (Mich. July 31, 2010). In *Lansing Board of Education*, the Michigan Supreme Court determined that its standing analysis should be “restored to a limited, prudential doctrine that is consistent with Michigan’s long-standing historical approach to standing.” *Id.* at \*8. The dissenting opinion noted that the “[i]n overruling numerous cases, the majority throws into question the analyses and results in *fewer than eight* significant, precedent-setting disputes including: *Mich. Citizens for Water Conservation v. Nestlé Waters North America Inc . . .*” *Id.* at \*15 (emphasis in original).

77. George Weeks, Op-Ed., *Op-Ed: Group claims water victory*, TRAVERSE CITY REC.-EAGLE, July 11, 2009, <http://record-eagle.com/columns/x1048593264/Op-Ed-Group-claims-water-victory>.

was difficult for the court to determine how much water Nestlé could withdraw without negatively impacting other users. One of the reasons that this determination was not easy was because there was uncertainty about the connection between groundwater and surface water. Engaging in more watershed studies might reduce that uncertainty and make it easier for the court to apply the relevant law, permitting withdrawal of the water as long as it does not unreasonably interfere with the riparian water rights of other users. The trial court, for example, noted that it is important to “look at as long a range of information as is available to ‘flatten the curve’ of short-term anomalies, such as unusually high precipitation periods.”<sup>78</sup> The appeals court also quoted one of the experts who expressed the difficulty of determining the impact of withdrawals because “no model . . . can adequately describe the complex interactions between surface water and groundwater.”<sup>79</sup>

The second need, ensuring the long-term sustainability of the resource, is illustrated by the San Pedro River Basin, a basin shared by the United States and Mexico and home to around 115,000 people.<sup>80</sup> A 1999 *New York Times* story reported that, because of excessive groundwater pumping, the San Pedro River Basin was in danger of drying up.<sup>81</sup> A little more than a decade earlier, a University of Arizona professor determined that groundwater pumping was significantly reducing the flow of the river, in contrast to earlier models that were based on the false assumption that the river could never go dry.<sup>82</sup> This determination, which led to a number of heated political disputes, has been confirmed by numerous other studies.<sup>83</sup>

The studies, identifying the threat to the ecosystem as a whole from the groundwater withdrawals, have spurred numerous efforts to

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78. Mich. Citizens for Water Conservation v. Nestlé Waters N. Am., Inc., 709 N.W.2d 174, 193 (Mich. Ct. App. 2005) (internal quotation in original).

79. *Id.* at 188 (omission in original).

80. Anne Browning-Aiken et al., *Integrating Science and Policy for Water Management: A Case Study of the Upper San Pedro River Basin*, in *Hydrology and Water Law – Bridging the Gap* 24, 27 (J. Wallace & P. Wouters eds., 2006).

81. Jon Christensen, *In Arizona Desert, a Bird Oasis in Peril*, N.Y. Times, May 4, 1999, at F5.

82. ROBERT GLENNON, *WATER FOLLIES: GROUNDWATER PUMPING AND THE FATE OF AMERICA’S FRESH WATERS* 54-55 (2002).

83. For a discussion of the political disputes, see *supra* notes 51–69 and accompanying text.

ensure the long-term sustainability of the river.<sup>84</sup> Understanding the connection is key to tailoring effective solutions that do not either under- or over-regulate the resource.<sup>85</sup> It is also necessary to identify when a problem exists in the first place. As Professor Glennon explains:

As groundwater pumping increases, we, as humans, suffer the costs. If you place a frog into a pot of cold water on the stove, then turn on the heat and increase it gradually, the frog won't know enough to jump from the pot. The heated water will eventually kill the frog. With groundwater pumping, we may not notice the changes as they slowly occur over years. Stark consequences—such as rivers that dry up—are apparent. In contrast, pumping that causes a gradual decline in the number of birds, butterflies, fish, or trees diminishes our enjoyment of the resource in imperceptible steps.<sup>86</sup>

Long-term studies are integral to ensuring sustainability of water resources. As described in greater detail below, organizing studies at the watershed level assists in developing an understanding of the system as a whole.<sup>87</sup> Likewise, addressing disputes at the local level ensures that the information, local expertise, and value judgments are part of the solution.<sup>88</sup> A recent study of the San Pedro River Basin, for example, concludes that “[c]ollaborative research based on water-stakeholders’ needs is far more effective in addressing complex management of a basin . . . than when scientists work on the same problem in different places.”<sup>89</sup> One of the advantages of empowering local cross-border cooperation is ensuring collaborative research based on the needs of water-stakeholders.<sup>90</sup>

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84. For example, a “program to reestablish beavers” has been instituted, because of their positive impact on river restoration. *See* GLENNON, *supra* note 82, at 67.

85. *See id.* at 68-69.

86. *Id.* at 10.

87. *See* discussion *infra* pp. 33, 36-37.

88. *See* discussion *infra* pp. 33, 36.

89. Browning-Aiken et al., *supra* note 80, at 52.

90. EDWARD LIEBOW et al., EVNTL. HEALTH & SOC. POL’Y CTR., PERSPECTIVES ON THE HIGH ROSS TREATY, PHASE ONE OF THE SKAGIT ORAL HISTORY PROJECT 4

### C. Public Participation

Promoting public participation at the “relevant level” is another important principle of international transboundary water law.<sup>91</sup> The *Rio Declaration*, for example, says that “[e]nvironmental issues are best handled with participation of all concerned citizens, at the relevant level.”<sup>92</sup> This has two important components: first, why is

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(2003), available at [http://skagiteec.org/skagit-research-library/sp-files/00002f9d.pdf/at\\_download/file](http://skagiteec.org/skagit-research-library/sp-files/00002f9d.pdf/at_download/file).

91. See, e.g., *Berlin Rules*, *supra* note 17, at art. 4 (mandating that “[s]tates shall take steps to assure that persons likely to be affected are able to participate in the processes whereby decisions are made concerning the management of waters.”). While it is only “slightly elaborated” by the U.N. Watercourse Convention, Professor Laurence Boisson de Chazournes, Head of the Department of International Law at the University of Geneva, suggests that it represents the “fifth pillar” of the Convention. Laurence Boisson de Chazournes, *The Role of Diplomatic Means of Solving Water Disputes: A Special Emphasis on Institutional Mechanisms*, in RESOLUTION OF INTERNATIONAL WATER DISPUTES 91, 96 (The Int’l Bureau of the Permanent Ct. of Arb. ed., 2003). He argues that the reason it is not a more formidable part of the Watercourses Convention is because the Watercourses Convention is a “state-oriented instrument.” *Id.* The slight elaboration occurs in Article 32, stating that:

[u]nless the watercourse States concerned have agreed otherwise for the protection of the interests of persons, natural or juridical, who have suffered or are under a serious threat of suffering significant transboundary harm as a result of activities related to an international watercourse, a watercourse State shall not discriminate on the basis of nationality or residence or place where the injury occurred, in granting to such persons, in accordance with its legal system, access to judicial or other procedures, or a right to claim compensation or other relief in respect of significant harm caused by such activities carried on in its territory. Watercourses Convention, *supra* note 17, at art. 32.

92. *Rio Declaration*, *supra* note 16, at princ. 10. The full text of Principle 10 reads as follows:

Environmental issues are best handled with participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided. *Id.*



public participation important, and second, what is the “relevant level?”

Public participation is justified for at least two reasons. First, public participation in water management decisions is “more democratic” than resource decisions without such participation.<sup>93</sup> Fostering public participation is more democratic because it increases the likelihood of having an informed and engaged public and enhances the accountability of decision-makers.<sup>94</sup> Second, public participation leads to better environmental decisions.<sup>95</sup> Obviously, scientific and diplomatic expertise plays a role in management of transboundary water resources. However, in addition to expertise, public participation enhances decision-making by allowing important input from non-experts.<sup>96</sup> Local residents, for example, “might be in a better position to present information about the local impacts of a decision.”<sup>97</sup> In addition, participation helps to ensure that local values are incorporated into decisions about resources.<sup>98</sup>

Determining the “relevant level” has sparked debate.<sup>99</sup> There is disagreement in the United States, for example, about whether centralized or decentralized decision-making is appropriate.<sup>100</sup> There are several arguments favoring centralized decision-making. First, centralized decision-making may avoid the potential for a “race to the bottom.” Centralized regulation avoids this pitfall by applying

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93. William Howarth, *Aspirations and Realities Under the Water Framework Directive: Proceduralisation, Participation, and Practicalities*, 21 J. ENVTL. L. 391, 399 (2009).

94. Noah D. Hall, *The Evolving Role of Citizens in the United States-Canadian International Environmental Law Compliance*, 24 PACE ENVTL. L. REV. 131, 150 (2007).

95. Howarth, *supra* note 93, at 399. *See also*, Eyal Benvenisti, *The Role of Third Parties in Promoting Collective Action Among Riparians*, in RESOLUTION OF INTERNATIONAL WATER DISPUTES 201, 226 (The Int’l Bureau of the Permanent Ct. of Arb. ed., 2003) (noting that “[p]ublic participation has been widely recognized as being crucial for responsible decision-making.”).

96. Howarth, *supra* note 93, at 399-400.

97. *Id.* at 399.

98. *Id.* The race to the bottom hypothesis theorizes that states, in their zeal to compete, are likely to under-regulate in order to increase their competitiveness. Hall, *supra* note 94, at 134 n.11.

99. Richard B. Stewart, *Introduction: Environmental Regulation in Multi-Jurisdictional Regimes*, in ENVIRONMENTAL LAW, THE ECONOMY, AND SUSTAINABLE DEVELOPMENT 1, 10-13 (Richard L. Revesz et al. eds., 2000).

100. *See id.* at 10.

regulation equally to all states. Second, centralized regulation is useful in order to deal with inter-state externalities.<sup>101</sup> For example, in order to avoid pollution costs, one state might build a huge smokestack to increase the likelihood that the smoke spews over the border to a neighboring state. Centralized regulation could avoid this problem by prohibiting states from building such tall stacks. Third, environmental interests are often underrepresented at the local level and centralized regulation may improve environmental protection by ensuring that a broad spectrum of interests is represented.<sup>102</sup>

While centralized regulation has some advantages, Professor Adler suggests that, in the United States, there are several “policy reasons to support a general [but rebuttable] presumption in favor of state and local responsibility for environmental concerns.”<sup>103</sup> First, the Constitution’s structure of reserving non-enumerated powers to the states “suggests a principle of ‘subsidiarity’ — the principle that problems should be addressed at the lowest level at which they can be practically addressed.”<sup>104</sup> Second, over-centralized approaches to environmental regulation are inflexible and do not adequately account for local environmental conditions.<sup>105</sup> Third, approaching environmental problems at the local level increases the ability of regulators to rely on local knowledge and expertise, which often is not available at the federal level.<sup>106</sup> Fourth, local and state responsibility for environmental concerns promotes innovative solutions to environmental problems.<sup>107</sup> For example, states may approach similar problems in different ways and, as such, act as “laboratories” for innovative solutions.<sup>108</sup> Fifth, a decentralized approach increases accountability and allows people to voice their “subjective value preferences which may be quite variable across the nation.”<sup>109</sup>

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101. RICHARD L. REVESZ, ET AL., ENVIRONMENTAL LAW, THE ECONOMY, AND SUSTAINABLE DEVELOPMENT 11 (Richard L. Revesz et al. eds., 2000).

102. *Id.*

103. Jonathan H. Adler, *Jurisdictional Mismatch in Environmental Federalism*, 14 N.Y.U. ENVTL. L.J. 130, 135 (2005).

104. *Id.* at 134-35.

105. *Id.* at 137.

106. *Id.*

107. *Id.*

108. *Id.*

109. *Id.* at 138.

As discussed in greater detail below, if negotiations over transboundary disputes begin at the local watershed level, those with the greatest stake in the outcome — the ones living in the watershed — have a voice in the resolution.<sup>110</sup> Not only is local expertise and scientific understanding useful in the resolution, it also necessarily involves value choices. Local watershed dispute resolution increases the likelihood that resolution of the dispute will reflect value judgments of the people whose lives are most directly impacted by the resources.<sup>111</sup> Local watershed dispute resolution, therefore, should be favored. This does not imply, however, that centralized dispute resolution is displaced entirely, rather that negotiations are often most effective at the “lowest” appropriate hydrologic level, even if the dispute is one that crosses borders.

## II. TRANSBOUNDARY WATER DISPUTES

Transboundary water agreements should include a rebuttable presumption that negotiations over transboundary water disputes begin with regional committees organized at the “lowest” appropriate hydrological level. This argument has two components. First, it requires regional committees to be organized by hydrologic units, such as watersheds. Second, it requires beginning dispute resolution with the “lowest”—or most local—hydrologic unit. For example, if the dispute is over a small border stream that feeds into Lake Michigan, negotiations would begin with a committee comprised of stakeholders, from both the United States and Canada, whose lives are impacted by the stream, as opposed to the President of the United States and the Prime Minister of Canada, who are not as directly impacted.

Two examples below illustrate both components of the argument. First, a comparison of two case studies, one between the United States and Canada, and one between the United States and Mexico, that demonstrate the advantage of approaching transboundary water disputes at the local level. Second, the experience of the United States and Canada in employing regional committees demonstrates the usefulness of such committees in resolving disputes. Together, these examples demonstrate that a rebuttable presumption that

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110. *See, infra* pp. 30–32.

111. REVESZ, *supra* note 101, at 11.

negotiations over transboundary water disputes begin with regional committees organized at the “lowest” appropriate hydrological level encourages long-term cooperation, ensures wide-spread public participation, and enables water-managers to use the best available hydrologic data to resolve their disputes.

It is important to note, at the outset, that the case studies are useful examples, but the comparison has its flaws. Mexico is less economically developed than the United States and Canada, and its democracy is not as mature.<sup>112</sup> In addition, the relationship between the United States and Canada is different from the relationship between United States and Mexico. As a result, it would not be possible to make a general conclusion that any one factor is responsible for the more successful outcome of one dispute, between the United States and Canada, than the other, between the United States and Mexico. However, the general conclusions of those analyzing each of the case studies highlight relevant differences in the approaches, which enhance the usefulness of the comparison. In addition, each dispute is analyzed independently with respect to its likely success in enhancing cooperation, scientific understanding, and public participation — the key elements of transboundary water management discussed above.

*A. Case #1: U.S.—Mexico and the Mexicali Water Dispute*

1. The 1944 Mexican Water Treaty

Three different rivers define various portions of the border between the United States and Mexico.<sup>113</sup> The Rio Grande River (also known as the Rio Bravo) defines the border for a 1,200-mile stretch between El Paso, Texas and the Gulf of Mexico.<sup>114</sup> The Colorado River defines the border for a twenty mile stretch along the southern border of Arizona.<sup>115</sup> The Tijuana River defines the border for a two mile stretch from the Mexican border town of Tijuana to the Pacific

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112. Michael E. Campana, Alyssa M. Neir, & Geoffrey T. Klise, *Dynamics of Transboundary Groundwater Management: Lessons from North America*, in GOVERNANCE AS A TRIALOGUE: GOVERNMENT-SOCIETY-SCIENCE IN TRANSITION 167, 168 (Anthony R. Turton et al. eds., 2007).

113. LEE STACY, MEXICO AND THE UNITED STATES 100 (Lee Stacy ed., 2002).

114. *Id.*

115. *Id.*

Ocean.<sup>116</sup> Together, the three rivers “drain over 430,000 square miles (692,000 sq km) of some of the earth’s most arid land.”<sup>117</sup> Disputes over water allocation have plagued relations between the United States and Mexico since Mexico’s independence from Spain in 1821.<sup>118</sup> In 1944, to help resolve these disputes, the United States and Mexico entered into the Mexican Water Treaty, a treaty that addressed how water from these three rivers should be allocated.<sup>119</sup>

The 1944 Mexican Water Treaty allocates water from each of these three rivers.<sup>120</sup> The treaty allocates water from the Colorado River by specifying that Mexico is entitled to at least 1.5 million-acre feet (“MAF”), but no more than 1.7 MAF, of water from the river each year.<sup>121</sup> The United States, alternatively, is entitled to “the amount necessary to supply [its] uses” so long as it delivers the 1.5 MAF on an annual basis.<sup>122</sup> The treaty allocates water from the Rio Grande River based on the amount of water that enters it from tributaries flowing out of each country.<sup>123</sup> The Treaty also provides for further

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116. *Id.*

117. *Id.*

118. *Id.*

119. Treaty on the Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande, U.S.-Mex., Feb. 3, 1944, 59 Stat. 1219 [hereinafter Mexican Treaty].

120. *Id.* at 1220.

121. *Id.* at art. 10; *see also* STEPHEN R. VIÑA, CONG. RESEARCH SERV., RS 22085, THE UNITED STATES — MEXICO DISPUTE OVER THE WATERS OF THE LOWER RIO GRANDE RIVER 2 (2005), <http://ncseonline.org/nle/crsreports/05mar/RS22085.pdf>.

122. Mexican Treaty, *supra* note 119, at art. 10. The 1944 Mexican Water Treaty also notes that,

[i]n the event of extraordinary drought or serious accident to the irrigation system in the United States, thereby making it difficult for the United States to deliver the guaranteed quantity of 1,500,000 acre-feet (1,850,234,000 cubic meters) a year, the water allotted to Mexico under subparagraph (a) of this Article will be reduced in the same proportion as consumptive uses in the United States are reduced. *Id.*

123. Mexican Treaty, *supra* note 119, at art. 4; *see also* VIÑA, *supra* note 121, at 2. Specifically, the treaty allocates to Mexico the amount of water in the Rio Grande equivalent to: (1) the amount that flows in from the San Juan and Alamo Rivers; (2) two-thirds of the water that flows in from the Conchos, San Diego, San Rodrigo, Escondido, and Salado Rivers and the Las Vacas Arroyo; and (3) fifty-percent of any additional water that is not allocated. Mexican Treaty, *supra* note 119, at art. 4. The treaty allocates to the United States: (1) the other one-third that flows in from Conchos, San Diego, San Rodrigo, Escondido, and Salado Rivers

study and recommendations for the best allocation of the Tijuana River.<sup>124</sup>

## 2. The International Boundary and Water Commission (“IBWC”)

The 1944 Mexican Water Treaty delegated regulation and dispute settlement responsibilities to the IBWC.<sup>125</sup> The IBWC is an international body comprised of a section from the United States, overseen by the U.S. Department of State, and a section from Mexico, overseen by the Mexico Ministry of Foreign Relations.<sup>126</sup> The IBWC has the authority to make rules and issue decisions about the Mexican Water Treaty.<sup>127</sup> These rules and decisions are in the form of Minutes, which are “legally enforceable and can essentially amend the Treaty, unless one of the countries objects within thirty days.”<sup>128</sup>

## 3. Introduction to the Mexicali Water Dispute

California has a notoriously scarce water supply.<sup>129</sup> In 1901, to meet its growing need for water, the California Development Company (“Company”) began diverting water from the Colorado River to California.<sup>130</sup> Originally, the Company transported the water to California in a canal that “began in the United States, ran for most of its length through Mexico, and then recrossed the international boundary into the Imperial Valley.”<sup>131</sup> Eventually, however, farmers in the Imperial Valley convinced the federal government to build a canal located entirely within the United States, aptly named the “All-

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and the Las Vacas Arroyo; (2) the amount of water that flows in from the Pecos and Devils Rivers, Goodenough Spring, and Alamito, Terlingua, San Felipe and Pinto Creeks; and (3) fifty-percent of any additional water that is not allocated. *Id.*

124. Mexican Treaty, *supra* note 119, at art. 16.

125. *Id.* at art. 2.

126. VIÑA, *supra* note 121, at 2; *see also* Mexican Treaty, *supra* note 119, at art. 2.

127. VIÑA, *supra* note 121, at 2; *see also* Mexican Treaty, *supra* note 119, at art. 2.

128. VIÑA, *supra* note 121, at 2; *see also* Mexican Treaty, *supra* note 119, at art. 2.

129. *See* ROBERT GLENNON, UNQUENCHABLE: AMERICA’S WATER CRISIS AND WHAT TO DO ABOUT IT 254 (2009).

130. *Id.*

131. *Id.*

American Canal.”<sup>132</sup> The All-American Canal, completed in 1942, transported approximately twenty percent of the Colorado River’s annual flow to farmers in the Imperial Valley in California.<sup>133</sup> This water was part of the obligation, pursuant to the Colorado River Compact of 1922, that states located in the Upper Basin of the Colorado River (Colorado, Utah, New Mexico, and Wyoming) were required to deliver to states in the Lower Basin (Arizona, Nevada, and California).<sup>134</sup>

The All-American Canal, when it was originally constructed, was unlined.<sup>135</sup> According to the U.S. Bureau of Reclamation, each year approximately twenty-two billion gallons of water that travels through the Colorado River in the All-American Canal never reaches the Imperial Valley because it percolates into the ground.<sup>136</sup> From the perspective of the farmers in the Imperial Valley, the water is “lost” because it leaves the Colorado River and never arrives in the Imperial Valley.<sup>137</sup> From the perspective of Mexican farmers, however, the water is not lost.<sup>138</sup> After seeping into the ground, the groundwater flows into Mexico and provides much needed water for agricultural, domestic, and environmental needs on the Mexican side of the border.<sup>139</sup>

In 1988, Congress determined that the twenty-two billion gallons percolating into the ground each year, if it was captured, could help to both meet the growing need for water in California and settle water

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132. *Id.* at 255.

133. *Id.* The United States Bureau of Reclamation began building the canal, which was authorized by the Boulder Canon Project Act of 1928, in 1934 and completed construction in 1942. See Boulder Canyon Project Act, ch. 42, 45 Stat. 1057 (1928) (codified as amended at 43 U.S.C. §§ 617-617t (2010)); see also Consejo de Desarrollo Economico de Mexicali, A.C. v. United States, 482 F.3d 1157, 1163 (9th Cir. 2007).

134. *Consejo de Desarrollo Economico de Mexicali*, 482 F.3d at 1163.

135. FERÉIDOUN GHASSEMI & IAN WHITE, INTER-BASIN WATER TRANSFER: CASE STUDIES FROM AUSTRALIA, UNITED STATES, CANADA, CHINA, AND INDIA 227 (2007).

136. See GLENNON, *supra* note 129, at 295.

137. Alyssa M. Neir & Michael E. Campana, *The Peaceful Resolution of U.S.-Mexican Transboundary Water Disputes*, 2 ECON. OF PEACE AND SEC. J. 42, 43 (2007).

138. See *id.*

139. See *id.*

rights claims brought by Native American groups.<sup>140</sup> With this in mind, Congress authorized the Secretary of the Interior to recover water percolating out of the All-American Canal by either: (1) lining the canal; (2) constructing a new canal parallel to the existing canal; or (3) constructing “seepage recovery facilities.”<sup>141</sup> In 1994, after issuing a Final Environmental Impact Statement (“FEIS”), the Secretary decided to go forward with the second option, constructing a new lined canal, parallel to the old unlined canal.<sup>142</sup>

The Secretary’s decision to build a lined canal had two diverging implications. Lining the canal benefited California water-users by reducing inefficiency in the transfer system and reducing the amount of water being “lost” in the transfer from the Colorado River to California.<sup>143</sup> However, the water that was “lost” in the transfer also helped to sustain more than 14,000 farmers in Mexicali, who depended on the water for their livelihood.<sup>144</sup> As a result of the potential harms in Mexicali, “[a]n unlikely coalition of farmers, environmentalists, and business interests in the city of Mexicali, home to maquiladoras, formed to challenge the lining of the All-American Canal.”<sup>145</sup> The coalition brought suit in United States federal court against the government of the United States, the Secretary of the Interior, and the Commissioner of the Bureau of Reclamation.<sup>146</sup> The coalition asserted that lining the canal would adversely impact Mexico through reverberating impacts that would violate the National Environmental Policy Act (“NEPA”) and the Endangered Species Act.<sup>147</sup> Specifically, the coalition claimed that in order to comply with NEPA, the United States Bureau of Reclamation was required to assess the potential impacts that would be felt in Mexico before proceeding.<sup>148</sup>

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140. *See* Consejo de Desarrollo Economico de Mexicali, A.C. v. United States, 482 F.3d 1157, 1164 (9th Cir. 2007).

141. *Id.*; *see* San Luis Rey Indian Water Rights Settlement Act, Pub.L. No. 100-675, 102 Stat. 4000, § 203 (1988).

142. *See Consejo de Desarrollo Economico de Mexicali*, 482 F.3d at 1164–65.

143. GLENNON, *supra* note 129, at 296.

144. *Id.*

145. *Id.* at 297.

146. *See id.*

147. *See id.* at 298.

148. *See id.*



*a. Lower Court (Environmental Assessment)*

With respect to the NEPA claims, the district court separated the claims into those dealing with potential impacts in Mexico and those dealing with potential impacts within the United States.<sup>149</sup> The district court held that NEPA does not apply to the environmental impacts of the lining project that are felt in Mexico, holding:

If the environmental impacts fall exclusively within a foreign jurisdiction or in an area over which the United States has no legislative control, courts have held NEPA does not apply...[b]ased on the facts here and absent a clear statutory intent to the contrary, NEPA does not apply to the All-American Canal lining project's environmental impacts in Mexico . . . Although the agency action of constructing and lining a new section of the All-American Canal will occur within the United States, the projects' effects on the Andrade Mesa Wetlands, the Mexican Yuma Clapper Rail population, the socio-economic situation in Mexico, groundwater in the Mexicali Valley, seepage flow to the New River in Mexico, and air quality in Mexico will occur outside United States territory in Mexico, a sovereign nation over which Congress lacks legislative control.<sup>150</sup>

The district court dismissed the lawsuit and denied the group's request for an injunction.<sup>151</sup>

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149. See CHARLES H. ECCLESTON, *NEPA AND ENVIRONMENTAL PLANNING: TOOLS, TECHNIQUES, AND APPROACHES FOR PRACTITIONERS* 156 (CRC Press, Taylor and Francis Group, 2008) ("The court divided the plaintiffs' allegations into ones dealing with impacts in Mexico and those with effects within the United States.").

150. Consejo de Desarrollo Economico de Mexicali, AC v. United States, 438 F. Supp. 2d 1207, 1235 (D. Nev. 2006), *vacated and remanded*, Consejo de Desarrollo Economico de Mexicali, A.C. v. United States, 482 F.3d 1157 (9th Cir. 2007).

151. See *id.*

*b. Congress and the Ninth Circuit Court of Appeals*

After the district court dismissed the lawsuit, the plaintiffs appealed to the Ninth Circuit Court of Appeals and filed for an injunction pending the outcome of the appeal.<sup>152</sup> The Ninth Circuit granted the injunction.<sup>153</sup> Professor Robert Glennon described the response by the proponents of the canal to the injunction in the following terms:

[w]ith millions of dollars on the line, 9 percent of San Diego's future water supply at stake, and a construction project halted . . . the water users decided to explore other options. None of these included settling with the plaintiffs. Instead, they went to Congress. The Tax Relief and Health Care Act of 2006, 279 pages long, contained tax relief measures and health savings account options for millions of Americans. The act had nothing to do with water until December 2006, when California senator Dianne Feinstein, Nevada senator Harry Reid, and Arizona senator Jon Kyl attached a last minute rider to the act declaring simply that "notwithstanding any other provision of law, [the government] shall, without delay, carry out the All-American Canal Lining Project." President George W. Bush signed the law three days after the U.S. court of appeals heard arguments on the plaintiffs' appeal.<sup>154</sup>

Congress passed the Tax Relief and Health Care Act of 2006,<sup>155</sup> legislating that the All-American Canal Lining Project go forward after the Ninth Circuit heard oral arguments on the merits of the appeal in December of 2006, but before they rendered their decision.<sup>156</sup>

The Tax Relief and Health Care Act of 2006 provides that the exclusive authority for "identifying, considering, analyzing, or addressing the impacts occurring outside the boundary of the United

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152. *See Consejo de Desarrollo Economico de Mexicali*, 482 F.3d at 1167.

153. *See id.*

154. GLENNON, *supra* note 129, at 298-99; *see also* Tax Relief and Health Care Act of 2006, Pub. L. No. 109-432, 120 Stat. 2922.

155. Tax Relief and Health Care Act of 2006.

156. *See Consejo de Desarrollo Economico de Mexicali*, 482 F.3d at 1167.

States” is the 1944 Mexican Water Treaty.<sup>157</sup> The Ninth Circuit determined that, “[i]n sum, the 2006 Act renders the claims based on past violations of NEPA, the Endangered Species Act, the Migratory Bird Treaty Act, and the Settlement Act moot.”<sup>158</sup>

*c. The Result*

The new canal was completed at the end of April, 2009.<sup>159</sup> On April 30, 2009, officials, including California Governor Arnold Schwarzenegger, gathered in California to celebrate the official dedication of the newly finished canal.<sup>160</sup> Mexican officials considered the topic to be a major bi-national concern, second only to immigration.<sup>161</sup>

An article published in 2009 analyzed the Mexicali dispute, including questions posed to Mexicali water users in order to understand how the legal process was perceived by Mexicali water users.<sup>162</sup> The article reached two conclusions. First, it concluded that the approach taken “removed water management discussions from the local–regional to the national, federal institutional level.”<sup>163</sup> The IBWC, although it is a federal institution, is able to enter into agreements without coordinating with national agencies.<sup>164</sup> The

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157. *Id.* at 1169.

158. *Id.* at 1174.

159. See Megan Bakker, *It's Official: Canal Lining Completed*, IMPERIAL VALLEY PRESS ONLINE, Apr. 30, 2009, [http://articles.ivpressonline.com/2009-05-01/century-old-canal\\_24165150](http://articles.ivpressonline.com/2009-05-01/century-old-canal_24165150).

160. See *id.*

161. Tony Perry, *Officials Hail \$300-million Project to Line Leaky All-American Canal*, LA TIMES BLOG, (May 1, 2009, 11:31 AM), <http://latimesblogs.latimes.com/lanow/2009/05/water-officials-hail-300-million-project-to-line-leaky-allamerican-canal.html>.

162. See Alfonso A. Cortez Lara, Megan K. Donovan, & Scott Whiteford, *The All-American Canal Lining Dispute: An American Resolution over Mexican Groundwater Rights?*, 21 FRONTERA NORTE 127, 142 (2009), available at <http://aplicaciones.colef.mx:8080/fronteranorte/articulos/FN41/6-f41.pdf>. The questions, posed in early 2008, included: (1) How did you learn about the legal decision to proceed with the lining of the All-American Canal?; (2) What is your understanding of how the legal case was resolved?; (3) Do you believe the legal justifications offered?; (4) How do you think the case would have been resolved if Congress had not intervened?; (5) How do you explain the decision to water users? *Id.*

163. *Id.* at 145.

164. *Id.*

article determined that “resolution of the All–American Canal lining issue in Federal Court not only halted contemporaneous IBWC dialogue, but also effectively removed the issue from the scope of its institutional mandate.”<sup>165</sup>

Second, the ruling by the court “forecloses official compensation claims against the United States government.”<sup>166</sup> Because of this, according to the article, the ruling might be used by institutions in the United States to “rebut arguments for compensation.”<sup>167</sup> As a result, the article concluded that the litigation not only failed to achieve its purpose, it also inadvertently reduced the likelihood of future “dialogue and cooperation.”<sup>168</sup>

While the impact on the farmers is unclear, resolution of the dispute appears to be sub-optimal with respect to cooperation, public participation, and scientific information. First, Mexican officials consider the dispute to be extremely important, second only to immigration.<sup>169</sup> The result, in addition to establishing “structural barriers to future dialogue and cooperation,” may fuel retaliation or lack of reciprocity by Mexico in the future.<sup>170</sup> Second, the dispute was ultimately settled by a Congressional rider in a tax bill and not by public participation by those with the most stake in the controversy.<sup>171</sup> In addition to a lack of public participation, it is arguable that the decision was not made at “the relevant level.” Third, the approach foreclosed any demand for an environmental impact assessment, which may have found that lining the pond would have a negligible impact and solve the controversy without the fear for reduced future cooperation. On the other hand, it might have found that there was an impact, and alternative solutions could have been sought.

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165. *Id.*

166. *Id.*

167. *Id.*

168. *Id.*

169. Tony Perry, *Officials Hail \$300-million Project to Line Leaky All-American Canal*, LA TIMES BLOG, (May 1, 2009, 11:31 AM), <http://latimesblogs.latimes.com/lanow/2009/05/water-officials-hail-300-million-project-to-line-leaky-allamerican-canal.html>.

170. Cortez Lara, Donovan, & Whiteford, *supra* note 162, at 145.

171. GLENNON, *supra* note 129, at 298-99; *see also* Tax Relief and Health Care Act of 2006, Pub. L. No. 109-432, 120 Stat. 2922.

B. Case #2: U.S.—Canada and the “High Ross Dam”<sup>172</sup>

1. The Boundary Waters Treaty and the International Joint Commission (“IJC”)

The Boundary Waters Treaty of 1909 established the International Joint Commission (“IJC”).<sup>173</sup> Under the Boundary Waters Treaty, the IJC serves judicial, investigatory, and administrative functions. The IJC may adjudicate any matter voluntarily given to it by the governments of the United States and Canada.<sup>174</sup> The IJC serves an investigatory role by carrying out studies and making recommendations.<sup>175</sup> The IJC also has administrative functions by, for example, making determinations about measuring and apportioning water from rivers.<sup>176</sup>

2. Introduction

The Skagit River flows from the Canadian province of British Columbia, across the border, into the state of Washington.<sup>177</sup> The River provides electricity for the city of Seattle, Washington.<sup>178</sup> The original efforts to harness electricity from the Skagit River were initiated by James D. Ross, who took over as superintendent of Seattle’s public electric utility in 1911.<sup>179</sup> The electric utility, Seattle

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172. The project is referred to as the “High Ross Dam” and the “High Ross Dam Controversy.” UNITED NATIONS ENV’T PROGRAMME, DAMS AND DEVELOPMENT: RELEVANT PRACTICE FOR IMPROVED DECISION MAKING 115, 121 (2007), <http://www.unep.org/dams/files/compendium/compendium.pdf>.

173. Boundary Waters Treaty, *supra* note 50, at art. III.

174. *Id.* at art. X; INTERNATIONAL WATER LAW: SELECTED WRITINGS OF PROFESSOR CHARLES B. BOURNE 318 (Patricia K. Wouters ed., 1997).

175. Boundary Waters Treaty, *supra* note 50, at art. IX; INTERNATIONAL WATER LAW: SELECTED WRITINGS OF PROFESSOR CHARLES B. BOURNE 318 (Patricia K. Wouters ed., 1997).

176. Boundary Waters Treaty, *supra* note 50, at art. VI; INTERNATIONAL WATER LAW: SELECTED WRITINGS OF PROFESSOR CHARLES B. BOURNE 318 (Patricia K. Wouters ed., 1997).

177. McCaffrey, *supra* note 10, at 83; *see also* RICHARD O. ZERBE, JR. & DWIGHT D. DIVELY, BENEFIT-COST ANALYSIS: IN THEORY AND PRACTICE 294 (1994).

178. ZERBE, JR. & DIVELY, *supra* note 177, at 294.

179. THE SKAGIT ENVTL. ENDOWMENT COMM’N, PROTECTING AN INTERNATIONAL WATERSHED 4 (2008), *available at* [http://skagiteec.org/skagit-research-library/sp-files/2008-seec-outreach-presentation/at\\_download/file](http://skagiteec.org/skagit-research-library/sp-files/2008-seec-outreach-presentation/at_download/file).

Light Company, began constructing the High Ross Dam in 1937.<sup>180</sup> Construction of the first phase of the High Ross Dam, finished in 1940, created the Ross Lake reservoir, which backs up into British Columbia.<sup>181</sup>

The “High Ross Dam Controversy” arose when the Seattle Light Company decided that it needed to raise the height of the dam in order to meet its growing need for energy.<sup>182</sup> The Seattle Light Company estimated that raising the dam sufficiently to meet its additional electricity requirements of 241 megawatts<sup>183</sup> would flood approximately 5,475 acres of recreational land in British Columbia.<sup>184</sup> Under Article IV of the Canada-U.S Boundary Waters Treaty of 1909, the United States and Canada cannot construct dams if the effect of the dam would be to “raise the natural level of waters on the other side of the boundary” without permission of the IJC.<sup>185</sup> Pursuant to the treaty, the Seattle Light Company applied to the IJC for approval to raise the dam.<sup>186</sup>

### 3. The IJC’s Approval to Raise the Dam

In 1942, the IJC issued an order permitting the city of Seattle to raise the height of the dam in stages, on the condition that Seattle would compensate British Columbia for the land that was flooded.<sup>187</sup> The High Ross Dam was raised to its present level in the early 1950s.<sup>188</sup> In 1967, Seattle and British Columbia entered into an agreement to raise the height of the dam again.<sup>189</sup> The agreement permitted Seattle to raise the dam and flood approximately 5,000 more pristine acres of land in British Columbia in exchange for an

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180. LIEBOW et al., *supra* note 90, at 3.

181. *Id.*

182. McCaffrey, *supra* note 10, at 83.

183. *Id.*

184. *Id.*

185. Boundary Waters Treaty, *supra* note 50, at art. IV.

186. LIEBOW et al., *supra* note 90, at 3.

187. McCaffrey, *supra* note 10, at 83; *see also* Alper & Monahan, *supra* note 6, at 164; LIEBOW et al., *supra* note 90, at 3. The order by the IJC also: (1) indicated that the IJC “reserved [the] right to review [the] negotiated agreement and manage water levels as needed;” and (2) “created [the] International Skagit River Board of Control to provide technical advice to the IJC.” *Id.*

188. Alper & Monahan, *supra* note 6, at 164.

189. McCaffrey, *supra* note 10, at 83; *see also* Alper & Monahan, *supra* note 6, at 164; LIEBOW et al., *supra* note 90, at 3.

annual rent payment of \$34,566.<sup>190</sup> The agreement was valid because it met the requirements of the 1942 order by the IJC.<sup>191</sup>

In the early 1970s, environmental concerns led to a shift in public opinion, which resulted in opposition on “both sides of the border.”<sup>192</sup> In 1974, British Columbia “officially proclaimed its opposition to the flooding and asked the IJC to void its 1942 order which also would have had the effect of invalidating the 1967 compensation agreement.”<sup>193</sup> The IJC refused to rescind the order but noted that it has “continuing jurisdiction.”<sup>194</sup>

#### 4. Negotiating a Settlement

Unlike typical negotiations over international water disputes, which take place between representatives from the national level of government, negotiations in this case occurred between representatives from Seattle, a city, and representatives from British Columbia, a province.<sup>195</sup> Initially, the negotiations were fruitless because both sides “defined [the issue] in zero-sum terms—if one side won, the other lost; if the dam is raised the valley is lost.”<sup>196</sup> Seattle argued that under the 1942 IJC order, it had the legal right to raise the dam.<sup>197</sup> British Columbia claimed that the 1942 IJC order was no longer relevant because it was made during World War II and the valley should be preserved.<sup>198</sup>

In the late 1970s and early 1980s, however, the negotiations began to bear fruit. At least three factors contributed to the shift.<sup>199</sup> First, the parties began to shift their focus away from a “zero-sum” analysis—raising or not raising the dam—to focusing on the needs of each party, protecting the valley and obtaining electricity.<sup>200</sup> Second,

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190. *Id.* McCaffrey, *supra* note 10, at 83; *see also* Alper & Monahan, *supra* note 6, at 164; LIEBOW et al., *supra* note 90, at 3.

191. Alper & Monahan, *supra* note 6, at 164.

192. *Id.*

193. *Id.*

194. LIEBOW et al., *supra* note 90, at 55.

195. Alper & Monahan, *supra* note 6, at 163; LIEBOW et al., *supra* note 90, at 57-58.

196. Alper & Monahan, *supra* note 6, at 165.

197. *Id.*

198. *Id.*

199. *Id.*

200. *Id.*

rising energy prices “gave new urgency to settling the High Ross Dam issue.”<sup>201</sup> Third, in 1982, the IJC appointed a Joint Consultative Group to help ensure the parties would negotiate a solution.<sup>202</sup> The Group was comprised of, “a member of the Commission from each country, representatives of the two national governments, British Columbia and Seattle, and two independent technical advisors.”<sup>203</sup> The IJC also put pressure on the parties to reach a settlement.<sup>204</sup>

On June 28, 1984, the United States and British Columbia signed the Skagit River treaty,<sup>205</sup> settling the forty-two year dispute between the two parties.<sup>206</sup> The solution required that, in exchange for not raising the dam, Seattle would get power from Canada “at a price equivalent to what the power would have cost Seattle had it sold bonds and built the higher dam.”<sup>207</sup> The treaty also established a fund to “enhance recreational trails and facilities in the Canadian and U.S. portions of the Skagit Valley.”<sup>208</sup>

## 5. The Result

Unlike the Mexicali resolution, the resolution of the High Ross Dam controversy encouraged future cooperation, involved public input from those who would be impacted by the decision, and relied on a detailed environmental impact assessment. Two studies completed after the resolution of the controversy illustrate each of these points. Professors Alper and Monahan completed a study of Skagit River treaty<sup>209</sup> in which they highlighted several “lessons learned.”<sup>210</sup> In addition to this, an Oral History Project highlighted several “key themes” learned from the controversy, based on interviews from those who were involved in the negotiations.<sup>211</sup>

First, the resolution of the High Ross Dam controversy encouraged future cooperation. Successful resolution of the controversy lessens

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201. *Id.*

202. McCaffrey, *supra* note 10, at 83.

203. *Id.*

204. Alper & Monahan, *supra* note 6, at 165–66.

205. Skagit River Treaty, *supra* note 2.

206. *B.C. Treaty Settles Seattle Dam Dispute*, *supra* note 4, at 3.

207. *Id.*

208. McCaffrey, *supra* note 10, at 84.

209. *See* Skagit River Treaty, *supra* note 2.

210. Alper & Monahan, *supra* note 6, at 170.

211. LIEBOW et al., *supra* note 90, at 4.



the likelihood of retaliation, and increases the likelihood of reciprocity, in future arrangements. One of the lessons learned was that “a significant contribution to the resolution of regional cross border conflict may be the addition of benefits which go beyond the specific issues in contention.”<sup>212</sup> In this case, for example, the negotiations led to the creation of an “Environmental Endowment Plan” which fosters future cooperation by, among other things, creating a “unique international park” in the Skagit Valley.<sup>213</sup> On the flip side, as Professors Alper and Monahan concluded, “local disputes often get caught up in a much broader process of bilateral negotiation which causes the local problem to be pushed aside so as not to threaten other objectives.”<sup>214</sup> The approach taken with the High Ross Dam controversy avoided this potential pitfall.

Second, the resolution involved public input. Another lesson learned was that “negotiators need to recognize the importance of effective communication with relevant constituencies and levels of government.”<sup>215</sup> Critical to this determination was the importance of public buy-in from a range of groups, including the press, interest groups, and governments.<sup>216</sup> Likewise, a key theme that emerged from the Oral History Project was that the “narratives [of those interviewed] demonstrate dramatically that public participation can play a constructive role in decisions made on behalf of the public interest.”<sup>217</sup>

Third, the resolution relied on studies and local technical knowledge and expertise. Another of the lessons learned was that “cross border issues should be dealt with at the local or regional level insofar as is possible.”<sup>218</sup> Critical to this determination was the finding that “the greatest amount of knowledge about regional issues are found at this level.”<sup>219</sup> Another lesson was that “the availability of

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212. Alper & Monahan, *supra* note 6, at 171.

213. *Id.*; see also Donald K. Alper, *Trans-boundary Environmental Governance in the Pacific West*, in CANADA INSTITUTE: OCCASIONAL PAPER SERIES, ENVIRONMENTAL GOVERNANCE ON THE 49TH PARALLEL: NEW CENTURY, NEW APPROACHES 133, 138-39 (2010), available at [wilsoncenter.org/topics/pubs/IJC%20FINAL.pdf](http://wilsoncenter.org/topics/pubs/IJC%20FINAL.pdf).

214. Alper & Monahan, *supra* note 6, at 170.

215. *Id.* at 171.

216. *Id.*

217. LIEBOW et al., *supra* note 90, at 4.

218. Alper & Monahan, *supra* note 6, at 170.

219. *Id.*

impartial fact finders who are mutually respected aids the negotiation process.”<sup>220</sup> The use of such fact finders increases the likelihood of “[c]reative and far-sighted solutions.”<sup>221</sup> Likewise, one of the key themes that emerged was that “abstract scientific knowledge must be complemented by an experiential knowledge of place. This experiential knowledge is not clearly distinct from scientific knowledge – the two inform and influence each other to create a more richly textured public wisdom.”<sup>222</sup> In other words, local scientific knowledge is the most powerful.

The result, as previously noted, led to a solution that President Reagan described as being “constructively and ingeniously settled”<sup>223</sup> and Canadian Intergovernmental Relations Minister Garde Gardom said was “an environmental victory [which] makes economic sense.”<sup>224</sup>

### *C. The Watershed Approach in Transboundary Water Management*

In order to ensure that negotiations begin at the appropriate level, transboundary water agreements should create regional committees, centered on the hydrologic unit. Likewise, in the absence of a formal agreement, negotiators trying to resolve transboundary disputes should take advantage of such organizations if they exist. Recent experience from the United States and Canada has found that regional committees organized around watersheds have been successful.

In recent years, there has been a renewed interest in the “watershed approach” to water management.<sup>225</sup> The watershed approach “uses hydrologically defined areas (watersheds) to coordinate the management of water resources.”<sup>226</sup> Typically, the “hydrologically defined area” is a “watershed,” and is defined as the area of land that “drains into a single body of water such as a stream, lake, wetland, or

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220. *Id.*

221. *Id.*

222. LIEBOW et al., *supra* note 90, at 3.

223. *B.C. Treaty Settles Seattle Dam Dispute*, *supra* note 4, at 3.

224. McCaffrey, *supra* note 10, at 84.

225. COMM. ON WATERSHED MGMT., NAT’L RES. COUNCIL, *NEW STRATEGIES FOR AMERICA’S WATERSHEDS* 33 (Nat’l Acad. Press, 1999).

226. OFF. OF WATER, EPA, *PROTECTING AND RESTORING AMERICA’S WATERSHEDS: STATUS, TRENDS, AND INITIATIVES IN WATERSHED MANAGEMENT* 10 (2001), <http://www.epa.gov/owow/protecting/restore725.pdf>.

estuary.”<sup>227</sup> Depending on the size of the body of water, watersheds might be large or small, and they are “nested” — meaning that smaller watersheds are contained within larger watersheds.<sup>228</sup>

The Environmental Protection Agency recognizes three “guiding principles” integral to the watershed approach.<sup>229</sup> First, the watershed approach has a “geographic focus.”<sup>230</sup> Management focuses on a geographic area, typically a watershed, rather than political or jurisdictional boundaries.<sup>231</sup> Second, the watershed approach involves “partnerships,” in which the stakeholders that use the water in the geographically defined area are involved in the decision-making.<sup>232</sup> In this way, the approach recognizes the many different needs for water – hydropower, recreation, habitat support, navigation, water supply, etc.<sup>233</sup> Third, the stakeholders within the geographically defined area employ scientific techniques to understand the watershed and base their management decisions on “strong science and data.”<sup>234</sup> The approach uses information from both social sciences and physical sciences.<sup>235</sup> The goal is for the approach to integrate, “biological, hydrological, chemical, economic, and social consideration into decision-making.”<sup>236</sup>

One of the best ways to understand the watershed approach is to focus on the fragmented approach that it replaces, which has been described as follows:

The United States has developed separate laws for clean water, clean air, fertile soils, productive fisheries, healthy forests and robust communities. It created separate agencies to administer those laws as federal, state, and local levels and on public and private lands. These agencies

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227. *Id.* at 9.

228. COMM. ON WATERSHED MGMT., *supra* note 225, at 16.

229. *Guiding Principles*, EPA.GOV, <http://www.epa.gov/owow/watershed/framework/ch3.html> (last updated Sept. 12, 2008).

230. *Id.*

231. *See* OFF. OF WATER, *supra* note 226, at 10; *see also* COMM. ON WATERSHED MGMT., *supra* note 225, at 134.

232. *Guiding Principles*, *supra* note 229.

233. OFF. OF WATER, *supra* note 226, at 10.

234. *Guiding Principles*, *supra* note 229.

235. OFF. OF WATER, *supra* note 226, at 10.

236. COMM. ON WATERSHED MGMT., *supra* note 225, at 32.

have different missions, authorities, and modes of operation. The property boundaries of landowners and the political boundaries of states, tribes, counties, and municipalities are often unrelated to watershed boundaries. As a result, when citizens or governments have tried to coordinate water resource protection or restoration efforts, they have often found it difficult to do so. Evidence suggests that the watershed approach improves collaboration and information sharing among diverse partners and leveraging of resources.<sup>237</sup>

The aim of the watershed approach is to move away from a fragmented approach.<sup>238</sup>

On April 1, 1997, the governments of the United States and Canada asked the IJC to make recommendations for how Canada and the United States could work together to meet the environmental demands of the 21st Century.<sup>239</sup> Among other things, the IJC suggested establishing “ecosystem based international watershed boards from coast to coast to prevent and resolve transboundary environmental disputes.”<sup>240</sup> The goal of the international watershed boards was to help integrate different levels of government—federal state, provincial, municipal—and “be available for monitoring, alerting, studying, advising, facilitating and reporting on a broad range of transboundary environmental and water-related issues.”<sup>241</sup> The underlying premise of the boards, according to a report by the IJC, is that “local people and institutions are often the best placed to anticipate, prevent or resolve many problems related to water

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237. OFF. OF WATER, *supra* note 226, at 10; *see also* COMM. ON WATERSHED MGMT., *supra* note 225, at 30.

238. OFF. OF WATER, *supra* note 226, at 10.

239. *See* INT’L JOINT COMM’N, THE INTERNATIONAL WATERSHEDS INITIATIVE: IMPLEMENTING A NEW PARADIGM FOR TRANSBOUNDARY BASINS § EXEC. SUMMARY (1999), <http://www.ijc.org/php/publications/pdf/ID1627.pdf>.

240. *See* INT’L JOINT COMM’N, THE IJC AND THE 21st CENTURY § EXEC. SUMMARY (1999), *available at* <http://www.ijc.org/php/publications/html/21ste.htm>.

241. *Id.* § 3, Proposal I: Establishment of International Watershed Boards.

resources and the environment, and to take shared actions towards shared sustainability objectives.”<sup>242</sup>

Ten years after the original report, IJC made a number of findings.<sup>243</sup> Among them was the conclusion that “international watershed boards can be an effective paradigm for implementing a watershed approach along the international border.”<sup>244</sup> The watershed committees provide a great beginning place for long-term cooperation, long-term studies, and public participation.

### III. ADVANTAGES & DISADVANTAGES TO EMPOWERING LOCAL WATER COMMITTEES TO RESOLVE TRANSBOUNDARY WATER DISPUTES

#### A. Advantages

Beginning negotiations over transboundary water disputes with committees organized around the lowest hydrologic unit has several advantages over negotiating only at the national level with respect to fostering cooperation, gaining and using scientific knowledge, and encouraging public participation.<sup>245</sup> Comparing the process and result of the Mexicali dispute with that of the High Ross Dam controversy demonstrates that decentralized decision-making, when appropriate, ensures that local knowledge, cooperation, and participation is essential in reaching effective solutions. In addition, the experience of the IJC, in using watershed committees, demonstrates that watershed committees, organized around hydrologic units, is a good starting place for fostering cooperation, gaining and using scientific knowledge, and encouraging public participation.<sup>246</sup>

The approach taken in the High Ross Dam controversy encouraged future cooperation, while the approach taken in the Mexicali dispute did not.<sup>247</sup> Because both sides were pleased with the result, the likelihood of retaliation is diminished and the likelihood for future

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242. INT’L JOINT COMM’N, THE INTERNATIONAL WATERSHEDS INITIATIVE: IMPLEMENTING A NEW PARADIGM FOR TRANSBOUNDARY BASINS 3 (2009), <http://www.ijc.org/php/publications/pdf/ID1627.pdf>.

243. *Id.* at 16.

244. *Id.* at 16.

245. *See supra* pp. 25–27, 31–33.

246. *Id.*

247. *Id.*

reciprocity is increased. Likewise, both sides ensured that their reputations for cooperation were enhanced, because they successfully worked together to solve the dispute. Alternatively, the Mexicali dispute, “not only failed to achieve positive results for Mexicali water uses, but also established additional structural barriers to future dialogue and cooperation.”<sup>248</sup>

The High Ross Dam negotiations, unlike the Mexicali dispute, involved public input. The studies of the negotiations of the High Ross Dam determined that public participation was a key element of the success of the negotiations.<sup>249</sup> “Buy-in” from the public, including interest groups, local governments, and the press, was also critical to the resolution.<sup>250</sup> Unlike the High Ross Dam controversy, however, decisions about the Mexicali dispute disregarded input from those on the Mexico side of the border. In addition, the decision was ultimately made in the rider of a tax bill, which reduced the ability to participate of those most directly impacted. The disadvantage of this approach is described by Professor Noah Hall in the following terms:

Transboundary pollution problems can certainly be addressed through federal legislation, but congressional action may not be an ideal solution for several reasons. First, the states involved in the dispute, like private parties in litigation, are in the best position to evaluate the strengths and weaknesses of various potential resolutions to the dispute. Second, in many cases Congress will not want to get involved in the dispute, leaving the states to craft a solution on their own. Finally, for transboundary pollution problems that only affect a regional resource, congressional representatives from other regions have no accountability to the citizens being harmed.<sup>251</sup>

Presumably, this conclusion applies both to transboundary pollution across boundaries within the United States and to

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248. Cortez, Donovan, & Whiteford, *supra* note 162, at 145.

249. Alper & Monahan, *supra* note 6, at 170; LIEBOW et al., *supra* note 90, at 3.

250. Alper & Monahan, *supra* note 6, at 171.

251. Noah D. Hall, *Toward a New Horizontal Federalism: Interstate Water Management in the Great Lakes Region*, 77 U. COLO. L. REV. 405, 450 (2006) (footnote omitted).

transnational pollution. In addition, according to Professor Hall, “relying exclusively on national governments to address international environmental problems has proved to be inadequate.”<sup>252</sup> The IJC, for example, explicitly stated that “[d]irect public participation drives the development of regulations, conduct of cleanup actions, implementation of preventive measures and changes in societal attitudes. An informed and knowledgeable citizenry exerts a powerful influence on policy and decision-makers and allows the public to participate in policy development.”<sup>253</sup>

Studies of the High Ross Dam controversy concluded that one of the most important elements of success was good information, which included experiential wisdom from those who lived in and used the resource.<sup>254</sup> More information, both scientific knowledge and local experiential knowledge, was critical to a successful resolution. In the Mexicali dispute, however, the resolution by Congress foreclosed even going forward with an environmental impact assessment to determine the potential impact.<sup>255</sup> Watershed boards would allow for ongoing studies, coupled with experiential knowledge, focused on a particular resource over the long-term.

Comparing the approach taken in solving the dispute over the High Ross Dam with the approach taken to resolving the dispute over the All-American Canal illustrates the advantages of engaging local communities in solving transnational water disputes.<sup>256</sup> Specifically, the decentralized approach taken in the High Ross Dam controversy, centered on the needs of resource users on both sides of the border, was a better approach than the approach taken in the Mexicali dispute for gathering accurate data, fostering long-term cooperation, and promoting public participation.<sup>257</sup>

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252. Hall, *supra* note 94, at 132.

253. INT’L JOINT COMM’N, *Ninth Biennial Report on Great Lakes Water Quality: Achieving the Future -- How to do it: Perspective and Orientation* (1998), available at <http://www.ijc.org/php/publications/html/9br/achievee.html>; See also Hall, *supra* note 94, at 132 (citation omitted).

254. LIEBOW et al., *supra* note 90, at 3.

255. GLENNON, *supra* note 129, at 298-99.

256. See *supra* pp. 25-27, 31-32.

257. See *supra* pp. 25-27, 30-32.

*B. Disadvantages*

Conducting negotiations at the local level “is not always possible because some border conflicts have spillover effects elsewhere which national governments cannot ignore. Moreover, sometimes local issues can only be resolved in the context of international trade-offs which may have to be complemented by domestic ones.”<sup>258</sup> Obviously, in addition to necessary trade-offs, some states do not have the resources or sufficiently strong central government to setup regional committees.<sup>259</sup> This of course, is one of the reasons that the agreements should have a “rebuttable presumption,” with local negotiations as a starting point, but not necessarily the end point.

Empowering watershed committees to engage in discussions, and solve disputes, may be particularly difficult in states that have weak governments or who are involved in conflicts with their neighbors. However, that drawback does not take away from the potential for using local watershed committees, because it would hinder transboundary water management whether it was centralized or decentralized. In fact, stressing local involvement may be particularly relevant in less economically developed economies that contain weak central governments. Water reforms have “paid little attention to community-based water laws in rural areas within developing countries” even though such community-based laws, often in oral form, “govern the use of water by large proportions, if not the majority, of the world’s citizens.”<sup>260</sup> In many developing countries, where the central government is relatively weak, local groups, such as tribal authorities will necessarily have a greater role.<sup>261</sup>

There are also, at least in the United States, constitutional concerns with empowering local units of government to negotiate disputes that cross international boundaries. Giving too much power to the states, if entering into a formal agreement, risks running afoul of the

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258. Alper & Monahan, *supra* note 6, at 170.

259. BARBARA VAN KOPPEN ET AL., COMMUNITY-BASED WATER LAW AND WATER RESOURCE MANAGEMENT REFORM IN DEVELOPING COUNTRIES 6 (Barbara Van Koppen, Mark Giordano, & John Butterworth, eds., 2007) (“The penetration of the state to the local level, in particular in rural areas, is generally weak but this varies around the world.”).

260. *Id.* at 2.

261. *Id.* at 6.



Constitution's mandate that, "[n]o State shall enter into any Treaty, Alliance, or Confederation."<sup>262</sup> Too little power, however, risks pushing the limits of the anti-commandeering principle.<sup>263</sup>

One of the reasons that the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement was a good faith, nonbinding agreement was to avoid potential constitutional limitations. While states may not enter into treaties, the Constitution also provides that "[n]o State shall, without the Consent of Congress . . . enter into any Agreement or Compact with another State, or with a foreign Power."<sup>264</sup> The implication, of course, is that States may never enter treaties, but with congressional consent, they may enter agreements or compacts. The ultimate determination, whether it is a treaty or compact, is left to Congress.<sup>265</sup>

On the other end of the spectrum, if Congress mandates that states enter into regional negotiations, they may risk violating the anti-commandeering principle.<sup>266</sup> However, there are some solutions that likely would pass both the anti-commandeering principle and not violate the Constitution's limits on states entering into treaties. The solution would be a "hybrid treaty-compact," such as the Skagit River Treaty.<sup>267</sup> Professor Swaine characterizes the Skagit River treaty as a "hybrid treaty-compact" because it "merges a treaty with a compact-like device as a means of asserting national control over a matter implicating subnational authority, with Seattle's incentive deriving from its own self-interest."<sup>268</sup>

#### IV. CONCLUSION

In 2009, the United Nations World Water Day focused on transboundary water resources.<sup>269</sup> With a theme of "shared waters, shared opportunities," the day focused on the need for continued

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262. U.S. CONST. art. I, § 10, cl. 1.

263. Hall, *supra* note 251, at 446 n.245.

264. U.S. CONST. art. I, § 10, cl. 3.

265. Hall, *supra* note 251, at 446 n.245.

266. Edward T. Swaine, *Does Federalism Constrain the Treaty Power*, 103 COLUM. L. REV. 403, 521 (2003).

267. *Id.* at 510.

268. *Id.* at 512-13. Professor Swaine's article discusses in great detail the limits of federalism as applied to the treaty power. *Id.* at 403.

269. *World Water Day 2009*, UN WATER, <http://www.unwater.org/wwd09/flashindex.html> (last visited January 3, 2010).

cooperation over the management of transboundary water resources.<sup>270</sup> Fostering long-term cooperation, gathering accurate data, and promoting public participation is necessary for managing transboundary water resources. As demonstrated by a comparison of water relations between the United States and Canada, and the United States and Mexico, decentralized decision-making, organized at the lowest appropriate hydrologic unit, is more effective in enhancing cooperation, data gathering, and public participation than rigid centralized cooperation organized around political or jurisdictional boundaries. Because of this, transnational water agreements should include a rebuttable presumption that negotiations over transboundary water disputes begin with regional committees organized at the lowest appropriate hydrological level.

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270. *Id.*

