

# [***2002 YEARBOOK: PERSPECTIVE:The Recovery of the Colorado River Delta Ecosystem: A Role for International Law?***](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:4903-3600-00CV-H06X-00000-00&context=1516831)

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**Text**

**[\*9]**

[*I*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8T9R-T2X2-D6RV-H374-00000-00&context=1516831). The ***Colorado*** ***River*** Delta: A New Water Claimant

Under United States law, the ***Colorado*** ***River*** legally ends at the Mexico-United States border between Arizona and California. [[1]](#footnote-2)1 The United States is obligated to deliver annually 1,500,000 acre feet of water that meets bi-national salinity standards to Mexico. [[2]](#footnote-3)2 The United States has long taken the position that compliance with the Treaty obligation and subsequent salinity standards exhaust its water delivery duties to Mexico. [[3]](#footnote-4)3 However, watercourses seldom follow political boundaries and the ***river*** actually ends at the ***Colorado*** Delta in Mexico, a highly stressed but rich aquatic ecosystem. [[4]](#footnote-5)4 Both United States and Mexican consumptive uses have contributed to the degradation. [[5]](#footnote-6)5 The allocation of the ***river*** to consumptive use and hydropower, and the consequent construction of carryover storage reservoirs and diversion **[\*10]** facilities drastically shrank the Delta. [[6]](#footnote-7)6 After Lake Powell filled, often almost no flow reached the Delta and the Sea of Cortez, but nature intervened to give the Delta a second chance. [[7]](#footnote-8)7 High water years during El Nino cycles in the mid-1980s and 1990s allowed enough water to reach the Delta and the ecosystem recovered vestiges of its former richness. [[8]](#footnote-9)8

As a result, the ecosystem has developed a constituency. Environmental non-governmental organizations (NGOs) such as the Environmental Defense Fund and the Sonoran Institute in Tucson, Arizona have prepared excellent scientific surveys of the ecosystem and proposed remediation strategies. [[9]](#footnote-10)9 The plight of the Delta has now been added to the long list of modern challenges that the law and administration of the ***Colorado*** ***River*** must face. The struggle over the Delta is symptomatic of the legal problems of reviving degraded aquatic ecosystems both in the United States [[10]](#footnote-11)10 and worldwide. Furthermore, the conflict illustrates some emerging water management paradigms and legal principles. [[11]](#footnote-12)11 Aquatic ecosystems decline because the upstream reaches have been dammed and/or diverted. [[12]](#footnote-13)12 Dams and diversions alter a ***river***'s historic hydrographic, which is crucial to supporting its ecosystem. [[13]](#footnote-14)13 Changes in seasonable flood patterns, generally the loss of flood flows, or absolute declines in the amount of water available at critical times of the year, combined with channel alterations, cause the degradation. [[14]](#footnote-15)14 Remediation generally requires that we try to restore enough of the former flow to recover lost ecosystem functions. Scientifically, this is a major challenge, which is best approached by **[\*11]** conducting a series of adaptive management experiments. [[15]](#footnote-16)15 Legally, recovery efforts are almost always resisted by existing entitlement holders, who argue that the ***river*** is fully allocated and thus ecosystem degradation is regrettable damnum absque injuria. [[16]](#footnote-17)16

The marginal legal status of environmental flows is a reflection of the fact that the primary objective of both domestic and international water law has been to fully allocate ***rivers*** for consumptive use and hydropower production. [[17]](#footnote-18)17 The legal regimes in place are often characterized by full consumptive or hydropower allocation, the existence of a complex of interrelated reservoirs, and no formal mechanisms to adapt to changed conditions. [[18]](#footnote-19)18 The degradation of the ***Colorado*** ***River*** Delta is the product of these forces, but NGOs are proposing market-government water transfers to promote ecosystem recovery. [[19]](#footnote-20)19 The current proposals raise two interesting international water law questions. First, what is the role of NGOs in international ***river*** governance? Second, do general principles of international water law have anything to contribute to the modification of mature binational legal regime? I suggest that NGOs will play an increasingly important role in international water management, and that international water law adds legitimacy to the proposed recovery efforts by creating a presumption that existing allocation institutions can promote aquatic ecosystem recovery absent a clear showing of conflict with prior beneficial uses.

**[\*12]**

[*II*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8T9R-T352-D6RV-H379-00000-00&context=1516831). The Rise of NGOs in Water Governance

One of the most important developments in international environmental law has been the growing influence of non-state actors. There are many reasons for this, but the basic one is that international institutions generally do not cope well with the complex problems of environmental quality maintenance. NGOs have some comparative advantage in spotlighting issues that state actors prefer to avoid, suggesting a wider range of alternatives than state actors are willing to propose, and overcoming the rigidities and political inertia of domestic and international legal systems. [[20]](#footnote-21)20 In the Delta, the most promising recovery strategy appears to be the purchase and retirement of consumptive entitlements in the United States. [[21]](#footnote-22)21

Existing ***Colorado*** Delta recovery efforts are trying to accomplish the objective within the confines of the baroque - if not ossified - "Law of ***River***," [[22]](#footnote-23)22 which has governed the ***Colorado*** since the 1922 Compact. [[23]](#footnote-24)23 There is still surplus water in the Upper Basin that could be used for the Delta, [[24]](#footnote-25)24 but, in addition to the obvious complete political rejection of the idea, [[25]](#footnote-26)25 NGOs are confronted by the problem that the Compact prevents a state from transferring part of its share to instream uses, because such uses are not beneficial. [[26]](#footnote-27)26 NGOs argue, however, that the Compact does not bar the transfer of state-created water rights consistent with a state's treaty allocation. [[27]](#footnote-28)27 Thus, it is possible that a U.S. NGO could acquire U.S. water rights for use in the Delta, since no state is denied its allocation and they remain free to limit uses to those specified in the **[\*13]** Compact and subsequent legislation.

NGOs' focus on the existing binational legal regime is an entirely appropriate focus, but it is an incomplete one. The ***Colorado*** is one of the United States' major international ***rivers*** and has been a model - both negative and positive - for the development of international water law principles. [[28]](#footnote-29)28 However, the influence is not reciprocal. Because there is such a well-developed Mexico-United States transboundary regime for the allocation of the ***river***, [[29]](#footnote-30)29 there has been no need or effort to consider whether international water law might inform the recovery efforts. The next section examines the influence of the ***Colorado*** ***River*** on international water law, and suggests how international water law could influence the "Law of the ***River***."

[*III*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8T9R-T372-8T6X-731R-00000-00&context=1516831). The ***Colorado***'s Influence on International Water Law: Time for Reciprocity?

International water law's chief function is to develop fair sharing rules to permit riparian states to dam and divert ***rivers***. [[30]](#footnote-31)30 The ***Colorado*** initially served as a primary example of an unfair rule that had to be supplanted. Until the 1944 Mexico-United States treaty, the United States asserted the Harmon Doctrine - that "higherority" is priority. [[31]](#footnote-32)31 As the upstream sovereign, the United States asserted that it had a right to all water originating in its territory - the entire flow of the ***river***. [[32]](#footnote-33)32 The 1922 ***Colorado*** Compact between the Upper and Lower Basins effectively undermined this claim. [[33]](#footnote-34)33 At the turn of the century, the United States **[\*14]** Supreme Court applied the international law of equality among sovereigns to posit that all riparian states had a right to an equitable share of the ***river***. [[34]](#footnote-35)34 The Compact departed from the Supreme Court's nascent equitable apportionment jurisprudence, which seemed to equate equitable with prior use, by reserving a share of the ***river*** for slower growing states. [[35]](#footnote-36)35 Article III apportions 7.5 million acre feet of used and used water to the Upper Basin in perpetuity. [[36]](#footnote-37)36

The latest formulation of international water law, the 1997 United Nations (UN) Convention on the Law of the Non-Navigable Uses of International Watercourses, [[37]](#footnote-38)37 rejects the Harmon Doctrine and establishes the right to an equitable apportionment of an international watersource as the fundamental principle of the law. [[38]](#footnote-39)38 The Convention is unlikely to enter into force, but it represents a codification of widely accepted customary law and state practice and can be treated as authoritative. [[39]](#footnote-40)39 This is a major achievement because it establishes the right of each riparian state to a fair share of the ***river*** and thus encourages states to cooperate in the development of ***river*** basins rather than taking unilateral actions to the detriment of ***co***-riparians. [[40]](#footnote-41)40 However, the Convention reflects the subordination of environmental flows to more traditional uses, while also imposing several environmental protection duties. [[41]](#footnote-42)41 More positively, international water law reflects that the principle that international watercourses are a shared resource and should be managed and used cooperatively among basin states for a wide range of uses rather than simply apportioned or allocated. [[42]](#footnote-43)42 There is no formal recognition of the potential role of NGOs in the Convention or other law, **[\*15]** but the Delta experience suggests that the need to incorporate NGOs, as well as the major non-government stakeholders, in emerging management regimes. Otherwise, it will be more difficult for new uses to be accommodated.

Modern water management increasingly reflects the ecological ideal that ***river*** systems should be managed to maximize historic ecological functions. [[43]](#footnote-44)43 The newer ecological integrity vision is less clearly articulated than the historic multiple use vision, which has driven international water law and management, because it rests on a more complex view of the human role in the functioning of natural systems, including floods. [[44]](#footnote-45)44 This newer vision starts from the premise that we must try to integrate human uses of a ***river*** system with the maintenance of its natural environmental sustainability. [[45]](#footnote-46)45 Thus, all ***river*** systems - modified and "natural" - must be seen as dynamic, ever-changing functioning ecosystems that serve a variety of functions, from the maintenance of consumptive uses to the provision of valuable ecosystem services. [[46]](#footnote-47)46

This new vision, which proponents of Delta recovery are trying to promote, suggests that we must recognize the need for sharing duties to be supplemented by the principle that the waters of an international basin are a shared resource to be managed and used cooperatively by all basin states. The other option, equitable apportionment, has been characterized as a theory of restrictive sovereignty because it imposes minimum limitations on exclusive territorial sovereignty claims. [[47]](#footnote-48)47 The new broader cooperative management vision promoted by proponents of Delta recovery is more consistent with principles of international environmental law and sustainable development. [[48]](#footnote-49)48 It posits that international watercourses are both commodities and heritage resources which support a variety of human consumptive and non-consumptive uses, and that both purposes must be equally respected in decisions about the use and management of these resources. [[49]](#footnote-50)49 It also posits that the **[\*16]** cooperation, consultation, and notification duties that the Convention recognizes [[50]](#footnote-51)50 must be seen as of equal importance to the Convention's equitable utilization rules [[51]](#footnote-52)51 and expanded to include more comprehensive affirmative management and planning duties.

[*IV*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8T9R-T3H2-D6RV-H37G-00000-00&context=1516831). Conclusion

The pioneering efforts to promote the recovery of the ***Colorado*** ***River*** Delta within the strictures of the rigid "Law of the ***River***" are an example of both the use of stakeholder-driven processes to overcome the infirmity of existing domestic and binational legal regimes, and as an example of the emergence of a new paradigm in domestic and international water law management. Technically, the Convention does not displace preexisting allocation regimes, [[52]](#footnote-53)52 but it can inform their evolution. Emerging principles of international water law legitimate the efforts to create a modest environmental flow regime for the Delta and should create a presumption that such use is legitimate unless it clearly displaces existing entitles.

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1. 1 See Treaty Relating to the Utilization of Waters of the ***Colorado*** and Tijuana ***Rivers*** and of the Rio Grande, Feb. 3, 1944, U.S.-Mex., [*59 Stat. 1219,*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:5CBP-FY70-01XN-S099-00000-00&context=1516831) available at [*http://www.internationalwaterlaw.org/RegionalDocs/****Co****<\_>Tj<\_>RioG.htm*](http://www.internationalwaterlaw.org/RegionalDocs/Co<_>Tj<_>RioG.htm) [hereinafter U.S.-Mexico Treaty]. [↑](#footnote-ref-2)
2. 2 Id. at art. 10(a). [↑](#footnote-ref-3)
3. 3 Robert Jerome Glennon & Peter W. Culp, The Last Green Lagoon: How and Why the Bush Administration Should Save the ***Colorado*** ***River*** Delta, [*28 Ecology L. Q. 903, 932, 955-56 (2002).*](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:463N-WHW0-00CV-J2DJ-00000-00&context=1516831) [↑](#footnote-ref-4)
4. 4 Daniel F. Luecke et al., A Delta Once More: Restoring Riparian and Wetland Habitat in the ***Colorado*** ***River*** Delta iv (Envtl. Defense Fund 1999), at [*http://www.environmentaldefense.org/documents/425<\_>Delta.pdf*](http://www.environmentaldefense.org/documents/425<_>Delta.pdf). [↑](#footnote-ref-5)
5. 5 Id. at 1. [↑](#footnote-ref-6)
6. 6 Id. [↑](#footnote-ref-7)
7. 7 Id. at 2; Glennon & Culp, supra note 4, at 907. [↑](#footnote-ref-8)
8. 8 Luecke et al., supra note 5, at 13 -14; Glennnon & Culp, supra note 4, at 907. [↑](#footnote-ref-9)
9. 9 Luecke et al., supra note 5; Conservation Priorities Workshop for the ***Colorado*** ***River*** Delta, Mapping Conservation Priorities in the ***Colorado*** ***River*** Delta (Sonoran Institute et al. Nov. 22, 2002), at [*http://www.sonoran.org/pdf/delta.pdf*](http://www.sonoran.org/pdf/delta.pdf). [↑](#footnote-ref-10)
10. 10 For a comprehensive discussion of the remediation strategies and the problems that the "Law of the ***River***" poses to implement them, see Glennon & Culp, supra note 4. [↑](#footnote-ref-11)
11. 11 David H. Getches, The Metamorphosis of Western Water Policy: Have Federal Laws and Local Decisions Eclipsed the States' Role?, [*20 Stan. Envtl. L.J. 3, 262-63 (2000).*](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:4293-04G0-00CT-V0TW-00000-00&context=1516831) [↑](#footnote-ref-12)
12. 12 For a recent analysis of the effect of a comprehensive system of mainstem dams on aquatic and riparian ecosystems, see National Research Counsel et al., The Missouri ***River***: Exploring Prospects for Recovery (2002), at [*http://bob.nap.edu/books/0309083141/html*](http://bob.nap.edu/books/0309083141/html). [↑](#footnote-ref-13)
13. 13 Id. [↑](#footnote-ref-14)
14. 14 [*Id. at 62-68.*](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:4293-04G0-00CT-V0TW-00000-00&context=1516831) [↑](#footnote-ref-15)
15. 15 See generally A. Dan Tarlock, Slouching Toward Eden: The Pragmatic Challenges of Ecosystem Revival, [*87 Minn. L. Rev. 1162 (2003)*](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:48HR-53F0-00CW-80F9-00000-00&context=1516831) (articulating this position in more detail) [↑](#footnote-ref-16)
16. 16 Damnum absque injuria means damage without wrongful act. The Great Lakes provide an interesting counter-example where there is a high consensus among all major stakeholders that the lakes are presently fully allocated to non-consumptive uses, including the maintenance of ecosystem services, and thus that all future diversions should be limited in quantity and carefully assessed. International Joint Commission, Protection of Waters of the Great Lakes: Final Report to the Governments of Canada and the United States (2000), at [*http://www.ijc.org/ijcweb-e.html*](http://www.ijc.org/ijcweb-e.html). [↑](#footnote-ref-17)
17. 17 See Stephen C. McCaffrey, Water Disputes Defined: Characteristics and Trends for Resolving Them, in The Permanent Court of Arbitration Peace Papers, Resolution of International Water Disputes 49 (Int'l Bureau of the Permanent Court of Arbitration ed., 2003) (illustrating that dams and diversion proposals or projects trigger international disputes). [↑](#footnote-ref-18)
18. 18 See A. Dan Tarlock, How Well Can International Water Allocation Regimes Adapt to Global Climate Change?, 15 J. Land Use & Envtl. L. 423, 425 (2000). [↑](#footnote-ref-19)
19. 19 Glennon & Culp, supra note 4, at 971-77. [↑](#footnote-ref-20)
20. 20 Attila Tanzi and Cesare Pitea, Emerging Trends in the Role of Non-State Actors in International Water Disputes, in Permanent Court of Arbitration Peace Papers, Resolution of International Water Disputes, supra note 18, at 259. [↑](#footnote-ref-21)
21. 21 Glennon & Culp, supra note 4, at 963-66. [↑](#footnote-ref-22)
22. 22 For an excellent discussion on this issue, see id. at 912-51. [↑](#footnote-ref-23)
23. 23 Charles Meyers, The ***Colorado*** ***River***, 17 Stan. L. Rev. 1 (1966); Charles J. Meyers & Richard Noble, The ***Colorado*** ***River***: The Treaty With Mexico 17 Stan. L. Rev. 367 (1967). The 1922 Compact, allocated the flow between the two United States basins, and later gave Mexico a small percentage to insure her loyalty during World War II. ***Colorado*** ***River*** Compact, art. II, 70 Cong. Rec. 324 (1928), available at [***Colo.*** *Rev. Stat. 37-61-101*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:61P5-WY01-DYDC-J33S-00000-00&context=1516831). [↑](#footnote-ref-24)
24. 24 David H. Getches, Competing Demands for the ***Colorado*** ***River***, 56 U. ***Colo.*** L. Rev. 413 (1985) [↑](#footnote-ref-25)
25. 25 The Upper Basin states have consistently taken the position that any transfer of surplus water (water not necessary to meet its obligation to the Lower Basin) might "rob them of water needed fore future development." Glennon & Culp, supra note 4, at 922. [↑](#footnote-ref-26)
26. 26 Id. [↑](#footnote-ref-27)
27. 27 Id. at 977-86. [↑](#footnote-ref-28)
28. 28 Patricia Wouters, Allocation of Non-Navigational Uses of International Waters: Efforts at Codification and the Experience of Canada and the United States, 30 Can. Y.B. Int'l L. 43, 46 (1992) (explaining that the international law of equitable apportionment is based on U.S. Supreme Court precedents). [↑](#footnote-ref-29)
29. 29 Glennon & Culp, supra note 4, at 912-51. [↑](#footnote-ref-30)
30. 30 For a more robust articulation of this argument, see A. Dan Tarlock, What the Report of the World Commission on Dams Might Mean for the United States Water Community, [*5 U. Denv. Water L. Rev. 225 (2001).*](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:459P-SCW0-00SW-5054-00000-00&context=1516831) [↑](#footnote-ref-31)
31. 31 U.S. Attorney General Judson Harmon adopted the position that the state of origin had the right to use all the water that originated in it. Attila Tanzi & Maurizio Arcari, The United Nations Convention on the Law of International Watercourses: A Framework for Sharing 12-13 (2001). However, the international community has rejected the principle that upstream states have superior rights and thus "higherority" is not priority as ***Colorado*** water lawyers once liked to assert. States, of course, continue to assert the principle and practice it by building a dam first and then seeing if a downstream state challenges them. [↑](#footnote-ref-32)
32. 32 Id. [↑](#footnote-ref-33)
33. 33 See ***Colorado*** ***River*** Compact, supra note 24, at arts. I. VII. [↑](#footnote-ref-34)
34. 34 Wouters, supra note 29, at 46. [↑](#footnote-ref-35)
35. 35 ***Colorado*** ***River*** Compact, supra note 24, at art. IV [↑](#footnote-ref-36)
36. 36 Id. at art. III. [↑](#footnote-ref-37)
37. 37 Convention on the Law of the Non-Navigational Uses of International Watercourses, May 21, 1997, U.N. Doc. A/51/869, reprinted in [*36 I.L.M. 700 (1997)*](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:3SGP-MRC0-0041-41CP-00000-00&context=1516831) [hereinafter Convention]. For a more extended discussion of the role of international water law in promoting aquatic ecosystem maintenance and recovery, see A. Dan Tarlock, Safeguarding International ***River*** Systems in Times of Scarcity, [*3 U. Denv. Water L. Rev. 231 (2000).*](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:42FS-2W20-00C3-W0XP-00000-00&context=1516831) [↑](#footnote-ref-38)
38. 38 Convention, supra note 38, at art. 5 (providing that states shall use and develop international watercourses "in an equitable and reasonable manner"). [↑](#footnote-ref-39)
39. 39 Tanzi & Arcari, supra note 32, at 2-5. [↑](#footnote-ref-40)
40. 40 Id. at 96. [↑](#footnote-ref-41)
41. 41 Convention, supra note 38, at art. 8 (general obligation to cooperate), art. 20 (protection and preservation of ecosystems). [↑](#footnote-ref-42)
42. 42 Joesph W. Dellapenna, Treaties as Instruments for Managing Internationally-Shared Water Resources: Restricted Sovereignty vs. Community of Property, [*26 Case W. Res. J. Int'l L. 27, 51-53 (1994).*](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:3WNT-JNT0-00CV-B07B-00000-00&context=1516831) [↑](#footnote-ref-43)
43. 43 Tanzi & Arcari, supra note 32, at 225-78. [↑](#footnote-ref-44)
44. 44 Tarlock, supra note 38, at 235-36 (articulating this position more thoroughly). [↑](#footnote-ref-45)
45. 45 Id. at 236. [↑](#footnote-ref-46)
46. 46 Id.; see James A. Salzman & J.B. Ruhl, Currencies and Commodification of Environmental Law, [*53 Stan. L. Rev. 607 (2000)*](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:42SY-7340-00CW-81GG-00000-00&context=1516831) for an analysis of the shift from viewing ecosystems as things of intrinsic value to functioning systems that provide economically valuable services to human and non-humans. [↑](#footnote-ref-47)
47. 47 Tanzi & Arcari, supra note 32, at 14-15. [↑](#footnote-ref-48)
48. 48 Tarlock, supra note 38, at 236; Stephen C. McCaffrey, A Human Right to Water: Domestic and International Implications, 5 Geo. Int'l Envtl. L. Rev. 1, 12 (1993). [↑](#footnote-ref-49)
49. 49 Tarlock, supra note 38, at 236. [↑](#footnote-ref-50)
50. 50 Convention, supra note , at arts. 11, 12, 17. [↑](#footnote-ref-51)
51. 51 Id. at art. 5. [↑](#footnote-ref-52)
52. 52 Id. at art. 3. [↑](#footnote-ref-53)