

# [***ARTICLE:Short Term Solutions, Interim Surplus Guidelines, and the Future of the Colorado River Delta***](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:48TC-VKJ0-00CV-H064-00000-00&context=1516831)

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**Reporter**

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**Author:** Rudy E. Verner\*

\* Rudy Verner, J.D. 2002, University of ***Colorado*** School of Law, is law clerk to the Honorable Sandra I. Rothenberg, ***Colorado*** Court of Appeals. He wishes to thank the Natural Resources Law Center at the University of ***Colorado*** School of Law, Professor David H. Getches, and Paul L. Noto for their helpful comments and encouragement.

**Highlight**

**[\*241]**

The greatest threat to the health of the delta may be the absence of any formal provisions between Mexico and the United States recognizing the ecological values in the delta and providing water to support them as part of the overall apportionment of ***Colorado*** water. [[1]](#footnote-2)1

**Text**

[*I*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8T9R-T2X2-D6RV-H374-00000-00&context=1516831). Introduction

Interest in the ***Colorado*** ***River*** delta has risen dramatically over the past decade. [[2]](#footnote-3)2 A vast number of conservation organizations are working to protect the delta's ecosystems by funding scientific studies, conferences, and symposiums related to the plight of the ***Colorado*** ***River*** **[\*242]** in Mexico. [[3]](#footnote-4)3 In addition, two university-based research centers, one at the University of Arizona and the other at the Instituto Technolgico y de Estudios Superiores de Monterrey, are conducting studies to document current delta conditions and define the future ecological needs of this unique region.

Evidently, this interest has translated into greater scientific understanding and appreciation of the threat facing delta ecosystems. [[4]](#footnote-5)4 As the ecological significance and fragility of the delta is made apparent, political interest on both sides of the border has expanded. In 1993, Mexico declared over two million acres in the Upper Gulf of California and ***Colorado*** ***River*** delta a Biosphere Reserve, a governmental designation that protects unique ecosystems and promotes sustainable economic activity. More recently, in the United States, Patricia Mulroy of the Southern Nevada Water Authority, an organization that represents Las Vegas' growing consumptive interests, told other western water users that they no longer can ignore the delta. [[5]](#footnote-6)5

This increased attention coincides with a partial recovery in the delta. In the last two decades, floodwater releases from reservoirs in the United States and agricultural return flows from both sides of the border **[\*243]** have contributed to improvement on about 150,000 acres. [[6]](#footnote-7)6 Maintaining the delta at its current state, however, will require some assurance that these unscheduled flows will continue to reach targeted restoration areas. Environmentalists have therefore concentrated their efforts on short term solutions aimed at deliberate management of water that now flows into the delta. Ensuring the effectiveness of these solutions requires adding a minute to the 1944 Treaty between U.S. and Mexico that will expressly dedicate water to delta conservation. [[7]](#footnote-8)7

Domestic policies in both the United States and Mexico present potential barriers to adoption of an ecological minute. Mexico's uncertainty with regard to conservation, especially in the delta and Upper Gulf of California, is apparent in the divergent policies concerning that region. In the United States, increased competition for ***Colorado*** ***River*** water and California's dependence on surplus flows over and above its legal entitlement has tightened the noose around the ***River***'s neck. The newly implemented Interim Surplus Guidelines put in place to deal with California's overuse of mainstream water will likely impact the amount of flood flows currently reaching the delta. Therefore, the viability of short term solutions to delta water supply are, to a certain degree, dependent on California's ability to reduce consumptive use over a fifteen year period. Moreover, the willingness of states and western water users to work toward a new minute to the 1944 Treaty depends on effective resolution of the California problem. Therefore, this paper will show how the ecological minute necessary for effective implementation and enforcement of short term solutions hangs in the balance along with delta ecosystem health.

Part II of the paper details the history of agreements between the United States and Mexico relating to the ***Colorado*** ***River*** and discusses relevant aspects of the Law of the ***River***. Part III describes several proposals for securing delta water in the near-term, and explains why enforcement of these solutions requires a minute to the Treaty. Finally, Part IV shows how domestic policies in both countries affect the viability of a minute, and examines the new Interim Surplus Guidelines and California's use of ***Colorado*** ***River*** water in excess of its entitlement.

**[\*244]**

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

The ***Colorado*** ***River*** is one of the most intensely managed and over-allocated ***rivers*** in North America. [[8]](#footnote-9)8 Because of many dams and diversions along its course, most of the ***Colorado***'s water never reaches its delta in the Gulf of California. In fact, freshwater flows into the delta have been reduced nearly seventy-five percent in the twentieth century, resulting in a concomitant reduction of delta wetlands to about five percent of their original extent. [[9]](#footnote-10)9 Without a doubt, upstream use and development has determined the delta's current ecological state, a condition characterized by dried mudflats, vegetation loss, and species endangerment. [[10]](#footnote-11)10

Extensive development of ***Colorado*** ***River*** water has occurred on both sides of the U.S.-Mexico border. Construction of Hoover and Glen Canyon Dams, and the subsequent creation of Lakes Mead and Powell, has allowed the U.S. to better regulate flow, apportion water among rights holders, and store water for inevitable drought years. [[11]](#footnote-12)11 These engineering feats also marked the beginning of the delta's decline: as the reservoirs behind the dams filled, virtually no freshwater reached the delta.

In Mexico, the ***Colorado*** is contained by a levee system and, along with its Rio Hardy tributary, irrigates nearly 500,000 acres in the agricultural valleys of Mexicali and San Luis Rio ***Colorado***. [[12]](#footnote-13)12 Nearly every drop of the ***River***'s water is dedicated to either agricultural or municipal use within the basin. As a consequence, there is little water left in the system to fulfill delta ecosystem needs.

The ***Colorado*** ***River*** is controlled by political as well as physical constructs. The Law of the ***River*** is a body of statutes, interstate compacts and judicial decisions that apportions use of the Lower ***Colorado*** among entities with a claim to the ***River***'s water. [[13]](#footnote-14)13 The two main agreements defining U.S. obligations to Mexico: the 1944 Water Treaty and Minute 242 of the International Boundary and Water Commission ("IBWC"), [[14]](#footnote-15)14 both parts of the Law of the ***River***, determine, to a large extent, the United States' management of the Lower ***Colorado*** **[\*245]** in terms of Mexico. An ecological minute to the 1944 Water Treaty must therefore take into account the history of U.S.-Mexican agreements relating to the ***Colorado*** ***River*** and border environmental issues as well as the domestic Law of the ***River***.

A. History of Agreements between United States and Mexico

Currently, there is no provision dedicating water to the delta for ecosystem purposes. The agreements that govern delivery of water to Mexico provide for a specified amount of water to be delivered yearly, at certain agreed upon intervals, and at an acceptable level of salinity. Formal declarations signed by both countries acknowledge that the delta is a significant environmental concern and call for further studies of the region. These declarations also outline methods of binational cooperation for finding acceptable solutions to the delta water supply problem. A survey of the agreements and formal declarations between the U.S and Mexico reveals the possibilities for, and limits to, an environmental minute. [[15]](#footnote-16)15

1. Treaty Respecting the Utilization of Waters of the ***Colorado*** and Tijuana ***Rivers*** and of the Rio Grande ("1944 Water Treaty"). [[16]](#footnote-17)16

**[\*246]** Although negotiations took place intermittently in the first two decades of the twentieth century, the first formal dealings between the U.S. and Mexico regarding utilization of Rio Grande and ***Colorado*** ***River*** waters began in 1929 with an offer from then chairman of the International Water Commission, Dr. Elwood Mead. [[17]](#footnote-18)17 Serious talks that eventually led to a signed treaty did not begin until 1940, however, and over the next few years Mexico and the United States made a series of counter-offers for delivery volumes based on calculations of estimated present and future uses. [[18]](#footnote-19)18 When the dust had settled, the advantages each side had won were apparent. The U.S. gained the benefit of having the Rio Grande allocation settled, allowing for development of the border region in Texas, while Mexico procured the water necessary to ensure continued prosperity in the fertile ***Colorado*** delta region. [[19]](#footnote-20)19 Mexico's fear of having their water supply choked off due to upstream development in the U.S. was also alleviated, one example of how the pact was, at least nominally, based on considerations of "cordiality and friendly cooperation." [[20]](#footnote-21)20

Under article 10 of the 1944 Water Treaty, the United States must deliver a guaranteed quantity of 1.5 million acre-feet of water ("maf") annually to Mexico. [[21]](#footnote-22)21 In addition to this minimum, the U.S. undertakes **[\*247]** to deliver up to 200,000 additional acre-feet per year when a "surplus" is determined to exist by the United States Section of the IBWC. [[22]](#footnote-23)22 The language of article 10 is clear, however, that Mexico does not acquire a right to water beyond the baseline 1.5 maf by virtue of such deliveries.

The 1944 Water Treaty accounts for the possibility that the U.S. will be unable to deliver Mexico's annual entitlement. Article 10 provides that:

In 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 … a year, the water allocated to Mexico under subparagraph (a) of this Article will be reduced in the same proportion as consumptive uses in the United States are reduced. [[23]](#footnote-24)23

The fact that the term "extraordinary drought" is not defined in the treaty, and the absence of a provision identifying who will determine when difficulty in delivering Mexico's allotment is present, has caused some concern. [[24]](#footnote-25)24 The upshot is that there is still no clear standard for determining when deliveries to Mexico can be reduced. [[25]](#footnote-26)25

This agreement also put in place mechanisms for delivery of water to Mexico. [[26]](#footnote-27)26 Article 12 requires construction of diversion structures in Mexico and the United States for regulation of deliveries made at various **[\*248]** points along the international boundary. [[27]](#footnote-28)27 Pursuant to this article, Mexico constructed Morelos Dam just south of the Northern International Boundary (NIB), the main storage and diversion point for irrigation in Baja California's Mexicali Valley.

2. Minute No. 242

Between 1960 and 1961, the salinity of water delivered to Mexico increased dramatically. [[28]](#footnote-29)28 As a consequence, crop yields suffered and highly saline soils precluded the growing of certain salt-sensitive crops. [[29]](#footnote-30)29 There were two primary reasons for this increase. First, Arizona's Wellton-Mohawk Irrigation and Drainage District began operation of a drainage system that returned brackish water measuring about 6,000 parts per million (ppm) to the ***Colorado*** ***River***. Second, as the reservoir behind Glen Canyon Dam filled, flows in the Lower ***Colorado*** were reduced. [[30]](#footnote-31)30

The U.S. and Mexico solved the salinity problem by signing Minute 242 of the IBWC in 1973. [[31]](#footnote-32)31 Minute 242 requires the U.S. to maintain an annual average salinity at Morelos Dam of no more than 115 ppm +/-30 ppm over the annual average salinity of the ***Colorado*** ***River*** at Imperial Dam, the last U.S. diversion point before the NIB. [[32]](#footnote-33)32 To implement Minute 242, Congress passed the ***Colorado*** ***River*** Basin Salinity Control Act of 1974. [[33]](#footnote-34)33 The Act authorized construction of the $ 250 million Yuma Desalting Plant to treat agricultural drainage from the Yuma area and construction of the Wellton-Mohawk bypass drain to discharge **[\*249]** saline agricultural runoff into the Cienaga de Santa Clara in Mexico. [[34]](#footnote-35)34 All costs in terms of money or water to satisfy Minute 242's objectives are borne by the United States at a cost of several hundred million dollars annually. [[35]](#footnote-36)35

3. La Paz Agreement

While the 1944 Water Treaty and Minute 242 established legal rights and obligations between the United States and Mexico, the Agreement on Cooperation for the Protection and Improvement of the Environment in the Border Area, signed at La Paz, Mexico, in August 1983, provided a formal foundation for future environmental efforts. [[36]](#footnote-37)36 Broad in scope, the agreement's stated objectives are "to establish the basis for cooperation between the Parties for the protection, improvement and conservation of the environment and the problems which affect it, as well as to agree on necessary measures to prevent and control pollution in the border area." [[37]](#footnote-38)37 The border area is defined in article 4 as the area situated 100 kilometers on either side of the inland and maritime boundaries between Mexico and the United States. [[38]](#footnote-39)38

Article 6 obligates the Parties to consider and, if appropriate, pursue legal, institutional, and technical measures for protecting the quality of the environment. [[39]](#footnote-40)39 Forms of cooperation may include: "coordination of national programs; scientific and educational exchanges; environmental monitoring; environmental impact assessment; and periodic exchanges of information." [[40]](#footnote-41)40 Perhaps most significantly, the agreement calls for the **[\*250]** designation of a national coordinator to monitor the implementation of the agreement and attend annual high level meetings. [[41]](#footnote-42)41

4. Integrated Environmental Plan for the Mexican-U.S. Border Area ("IBEP")

Released in 1992, IBEP worked through 6 workgroups identified within La Paz. IBEP included workgroups on Air, Water, Hazardous and Solid Wastes, Pollution Prevention, Contingency Planning and Emergency Response, and Enforcement. [[42]](#footnote-43)42 Criticized for its lack of public participation and insufficient attention to environmental health and natural resource issues, IBEP soon gave way to the next phase of binational environmental planning. [[43]](#footnote-44)43

5. Border XXI

Initiated in 1996, the Border XXI program attempts to bring together multiple U.S. and Mexican federal agencies responsible for the border environment. [[44]](#footnote-45)44 Its mission is to "achieve a clean environment, protect public health and natural resources, and encourage sustainable development." [[45]](#footnote-46)45 To achieve these objectives, Border XXI emphasizes public involvement, decentralizing environmental management in order to include state and local institutions, and interagency cooperation to avoid duplicative efforts. [[46]](#footnote-47)46

The program will be implemented through nine binational workgroups. In addition to those identified in the La Paz Agreement, Border XXI establishes workgroups in Environmental Information Resources, Natural Resources, and Environmental Health. The Natural Resources group was formed to address several environmental problems bearing on the delta, including habitat loss; while the Water group's objectives include developing long-term binational priorities and **[\*251]** programs for watershed planning. [[47]](#footnote-48)47 As with La Paz and IBEP before it, Border XXI does not directly identify or deal with delta water supply issues.

6. 1997 Letter of Intent between Department of Interior ("DOI") of the United States and Secretariat of Environment, Natural Resources and Fisheries ("SEMARNAP") for Joint Work in Natural Protected Areas on the United States - Mexico Border

Intended to expand existing conservation efforts, the DOI-SEMARNAP Letter of Intent initiates further cooperation between the Department of the Interior and the Secretariat of Environment, Natural Resources and Fisheries. [[48]](#footnote-49)48 By the letter, the two agencies "plan to expand existing cooperative activities in the conservation of contiguous natural protected areas in the border zone, and to consider new opportunities for cooperation." [[49]](#footnote-50)49 Actions are to be undertaken within the framework existing between the two countries [[50]](#footnote-51)50 and activities stemming from such action are to be reported to the recently created Natural Resources Workgroup. [[51]](#footnote-52)51 The Joint Letter also initiates cooperation on two pilot projects, including one calling for cooperation in protecting the Biosphere Reserves of the Alto Golfo de California y Delta Del Rio ***Colorado***. [[52]](#footnote-53)52 It also describes other opportunities for cooperation, including:

harmonization and coordination of policies[;] … exchange of experience among personnel[;] … implementation of environmental education and training programs [for border communities; and] expansion of the body of scientific knowledge about protected natural **[\*252]** areas . . through . . research projects [and] mutually-accessible information systems. [[53]](#footnote-54)53

7. 2000 Joint Declaration Between DOI and SEMARNAP to Enhance Cooperation in the ***Colorado*** ***River*** Delta

This declaration marks the first formal binational statement on the subject of delta conservation. The 2000 Joint Declaration recognizes "the need to develop strategies that are respectful of national sovereignty and each nation's right to utilize the resources of the ***Colorado*** ***River***." [[54]](#footnote-55)54 In the other direction, it recognizes the obligations both Parties have under article 5 of the Ramsar Convention on Wetlands [[55]](#footnote-56)55 regarding international cooperation on the management of shared wetlands and ***river*** basins, and the increasing efforts of non-governmental organizations ("NGO's") in both U.S. and Mexico in preserving the ***Colorado*** ***River*** delta. [[56]](#footnote-57)56

Similar to the 1997 Letter of Intent between DOI and SEMARNAP, the 2000 Joint Declaration seeks to strengthen cooperation on delta issues, undertake research on the biologic conditions, and exchange information. [[57]](#footnote-58)57 More specific than past agreements, the 2000 Joint Declaration identifies the "***river*** and its associated wetland habitats" as an object of concern. [[58]](#footnote-59)58 It also recognizes the need for scientific data by lending support to IBWC's ***Colorado*** ***River*** Delta Task Force's efforts to identify physical and hydrological conditions of the delta. [[59]](#footnote-60)59

**[\*253]**

8. Minute No. 306

An important step in delta conservation efforts was taken in December of 2000, when the IBWC passed Minute No. 306 to the 1944 Water Treaty. [[60]](#footnote-61)60 This historic minute establishes a conceptual framework for pursuing binational studies of the delta's ecosystems. [[61]](#footnote-62)61 The IBWC recognized that studies have already been performed describing the impact of decreased flows to the delta, that both U.S. and Mexico have laws in place protecting riparian and estuarine system habitat, and that collaboration is growing between these authorities and other groups interested in delta preservation. [[62]](#footnote-63)62 Section 1 provides:

that in recognition of their respective governments' interest in the preservation of the riparian and estuarine ecology of the ***Colorado*** ***River*** in its limitrophe section and associated delta, the Commission shall establish a framework for cooperation by the United States and Mexico through the development of joint studies that include possible approaches to ensure use of water for ecological purposes … . [[63]](#footnote-64)63

The strongest binational statement to date concerning dedication of water to the delta is supplemented by Section 2, which states that "the Commission...shall examine the effect of flows [to the delta]...with a focus on defining the habitat needs of fish, and marine and wildlife species of concern to each country." [[64]](#footnote-65)64 These provisions have prompted at least one commentator to suggest that Minute No. 306 "may be the best chance for the delta's survival." [[65]](#footnote-66)65

Considered together, the above agreements reveal the gap that exists between good intentioned policy and legally binding obligation. The **[\*254]** Border XXI program and the 2000 Joint Declaration between DOI and SEMARNAP identify environmental issues within the delta and provide for further research, but do not force either country to take specific, substantive measures. Only recently, with the passage of Minute 306, has an agreement been adopted which requires the United States and Mexico to take specific action to address the impact of decreased flows to the delta. Even then, one could argue the symposiums and studies mandated by this minute are insufficient to address the delta's true needs. Nonetheless, the obvious trend is toward further documentation of the costs that the current operating regime is imposing on delta habitats, and such knowledge could prove critical in gaining passage of a binding agreement that secures water for delta conservation.

B. The Law of the ***River***

The body of agreements that allocates water among the seven basin states and between the United States and Mexico is known as the Law of the ***Colorado*** ***River***. [[66]](#footnote-67)66 In the main, the Law of the ***River*** is comprised of two interstate compacts, [[67]](#footnote-68)67 federal statutes, [[68]](#footnote-69)68 a United States Supreme **[\*255]** Court decision and accompanying decree, [[69]](#footnote-70)69 and an international treaty. [[70]](#footnote-71)70 Collectively, these agreements have settled the conflicts that have erupted over ***Colorado*** ***River*** water and provide an institutional framework for the ***river***'s management. Unresolved issues still loom, however. For example, unsettled Indian water rights claims have the potential to greatly impact allocation in the Lower Basins. [[71]](#footnote-72)71 For purposes of this paper, it is important to recognize the constraints the Law of the ***River*** places on possible delivery of water to the delta.

Although its right was not legally quantified until 1944, Mexico's claim to ***Colorado*** ***River*** water had been the subject of diplomatic talks for many years. [[72]](#footnote-73)72 For example, article III(c) of the 1922 ***Colorado*** ***River*** Compact provided that, if the United States and Mexico reached an agreement on Mexico's use of the ***Colorado***, the water would be supplied from equal contributions by the Upper and Lower Basins. [[73]](#footnote-74)73 The interstate compact that eventually recognized Mexico's right to 1.5 maf annually was a congressionally approved treaty; therefore, this delivery obligation became the senior priority on the ***Colorado*** ***River***. [[74]](#footnote-75)74

The Law of the ***River*** ranks the remaining claims to water as follows: second priority is given to "present perfected rights," or water rights exercised prior to 1922. [[75]](#footnote-76)75 Third, water is delivered to the Lower **[\*256]** Basin for consumptive uses according to the 1922 Compact. [[76]](#footnote-77)76 Fourth priority is Upper Basin consumptive uses. [[77]](#footnote-78)77 Non-consumptive economic uses such as power generation receive water next. And finally, non-consumptive, non-economic uses such as environmental protection receive lowest priority. [[78]](#footnote-79)78

Despite the constraints posed by the Law of the ***River***, instream flows have been secured for ecological purposes in both basins. The Recovery Implementation Plan for the Upper ***Colorado*** ***River*** Basin (RIP) and the Lower ***Colorado*** ***River*** Multi-Species Conservation Program (MSCP) are cooperative efforts between water users and government entities to mitigate the impact of water development on threatened or endangered species and their habitat. [[79]](#footnote-80)79 Further, the Bureau of Reclamation released floodwaters from Glenn Canyon Dam in 1996 in an effort to replicate natural flows and reestablish eroded beaches. [[80]](#footnote-81)80 These examples illustrate how domestic water management practices have been reformed to benefit the ***river***'s ecological health, despite the Law of the ***River***'s requirement that water be put to "beneficial consumptive use." [[81]](#footnote-82)81

Obtaining international instream flow protection will be more difficult. The 1944 Water Treaty contains no provision allocating water to the delta for ecological purposes. [[82]](#footnote-83)82 Moreover, under the Law of the ***River***, unless the lower ***river*** is being operated under flood control criteria, water cannot be released unless it is for a valid beneficial use. [[83]](#footnote-84)83 Short term solutions for delta protection must therefore be assessed within the confines of 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). Short Term Solutions

The ***Colorado*** ***River*** Compact of 1922 protects Lower Basin states from shortage by requiring the Upper Basin deliver 7.5 maf annually at **[\*257]** Lee's Ferry. To ensure fulfillment of this obligation, lakes Mead and Powell are kept near full capacity, which means in wet years water must be spilled to create space for spring floods. These spills are the flood releases responsible for the delta's partial recovery. In the event of non-flood years, however, these "operational over-deliveries" will occur less frequently, or may cease altogether. [[84]](#footnote-85)84 Further, implementation of new guidelines for lower ***river*** management, discussed below, could severely curtail the amount of water that reaches the delta. [[85]](#footnote-86)85 Therefore, solutions that secure current flows have been suggested in hopes of maintaining the delta at its present state.

The practical justification for short term protection lies in the relative scarcity of water in the ***Colorado*** ***River*** basin. Currently, California is using more than its legal entitlement and Arizona and Nevada are close to full utilization. Struggles for unallocated or "surplus" water will be the norm in years to come; therefore, solutions that protect water currently supporting the delta are necessary. As one commentator states, "a single-focused effort to gain additional water for the delta could lead to conflicts with U.S. water users and a breakdown of cooperation, as competition for ***Colorado*** ***River*** water is already high in this fast-growing region." [[86]](#footnote-87)86

Legally, both state and federal laws recognize some concept of instream flow rights for conservation purposes. [[87]](#footnote-88)87 Extending instream flow rights internationally to the ***Colorado*** ***River*** is a proposal that has gained ground in recent years, [[88]](#footnote-89)88 but still faces staunch opposition by state and federal water authorities. If implementation of the solutions discussed below reveals that the delta's requirements can be met with **[\*258]** relatively little amounts of dedicated water, proposals for an international instream flow provision might be given more serious consideration.

Finally, conceptual justification can be found in the ascendant principle of shared resource management. Applied to international ***river*** basins, this principle argues for the environmentally sustainable management of the total ***river*** system. [[89]](#footnote-90)89 Governments on both sides of the border would undertake to re-engineer existing facilities and reform operations in order to provide "more stringent flow maintenance [, better monitor ***river***] conditions … [and] respond more flexibly to environmental problems." [[90]](#footnote-91)90

Incorporating adaptive management principles has also been suggested as a means by which environmental sustainability can be achieved. [[91]](#footnote-92)91 This approach allows for operational adjustments as natural conditions change and the data upon which decisions are based improves. [[92]](#footnote-93)92 Adoption of some of the short term solutions considered below would be a first step in transforming water agencies in both the United States and Mexico into sustainable water management regimes.

A. Proposed Solutions

Environmental organizations have proposed several solutions to help the delta in the near term. As opposed to strategies aimed at obtaining more water for the region, these solutions utilize various mechanisms for ensuring that the same amount of water will reach the delta in the coming years. [[93]](#footnote-94)93 The goal: maintain the status quo through deliberate management of existing flows.

Current hydrologic conditions and projected water use in the basin suggest that excess water will continue to be available in the near future. [[94]](#footnote-95)94 Moreover, the quantity of water required to support a core area of 150,000 acres is relatively modest. By most estimates, perennial flows of 32,000 acre-feet supplemented by flood, or "pulse," flows every four years are sufficient to maintain riparian habitat in the delta. [[95]](#footnote-96)95 Together, these dedicated flows represent an average of less than one **[\*259]** percent of the annual base flow of the ***Colorado*** ***River***. [[96]](#footnote-97)96 The proposals discussed below are mechanisms to provide and protect these baseline flows. [[97]](#footnote-98)97

1. Purchase Marginal Agricultural Land with Water Rights in Mexico, and Dedicate that Water to the Delta

This option depends on finding willing sellers of about 5,000 acres of marginally productive farmland west of Mexicali or south of the Compaction Zone and retiring the land from production. [[98]](#footnote-99)98 Water not used for irrigation would be dedicated to maintaining and restoring delta habitat. This would provide approximately 15,000 acre-feet of fresh water per year that Mexico's National Water Commission (CNA) [[99]](#footnote-100)99 would be requested to deliver to targeted riparian areas between Morelos Dam and the confluence with the Rio Hardy.

This option raises several issues. First, there are potential legal barriers to such a transfer and the transaction costs are unknown. [[100]](#footnote-101)100 Second, a mechanism must be put in place to ensure CNA maintains control over the water and does not allow its diversion to other agricultural lands. Third, the social and economic ramifications of taking agricultural land out of production must be assessed. [[101]](#footnote-102)101

2. Construct Facilities to Divert Yuma Brackish Flows Directly into Targeted Ecological Areas in Mexico

This solution would utilize the Wellton-Mohawk Bypass Drain and divert brackish runoff from agricultural fields around Yuma, Arizona to areas south of the Compaction Zone and west of the Cienega de Santa Clara. [[102]](#footnote-103)102 It would require construction of a connector canal to deliver the water from the Bypass Drain. Moreover, as Yuma brackish water is currently counted against Mexico's 1.5 maf per year Treaty entitlement, **[\*260]** an agreement would have to be forged that exempts the diverted water (about 38,000 acre-feet annually) from this accounting and dedicates it to delta restoration.

Again, this option raises several difficulties. First, because the water previously counted toward the 1.5 maf owed Mexico, its equivalent will have to be "made up" by the U.S. in order to fulfill its treaty obligation. [[103]](#footnote-104)103 Because the ***Colorado*** is fully allocated in the U.S., this option requires U.S. water users to forgo using the diverted amount. Moreover, Mexico would have to agree that this is the best way to put the water to use. In effect, this alternative requires both countries agree to add a minute to the 1944 Water Treaty governing this delivery of water to the delta, a proposition that, as discussed below, may not be ripe.

3. Improve Mexican Irrigation Methods.

Implementation of more efficient irrigation systems in the Mexicali Valley would free up water currently allocated to Mexico. [[104]](#footnote-105)104 With appropriate instream protection, water not drawn from the ***Colorado*** could then be dedicated to delta restoration. Because agriculture is the single largest user of water in the delta region the amount saved could be significant, although, no studies have yet been performed that estimate the potential savings.

This option is attractive because it works within Mexico's 1.5 maf entitlement and does not require upstream water users to forgo any use. Deciding who will pay for the costly improvements, however, is an obvious obstacle to its adoption.

4. Water Marketing

In theory, this solution allows interested groups to purchase quantities of water that would then be devoted to sustaining delta ecosystems. [[105]](#footnote-106)105 Water transfers, however, must be consistent with the Law of the ***River***, federal reclamation law, and state transfer law. [[106]](#footnote-107)106 Regulations would have to be put in place that allow for voluntary **[\*261]** transfers among basin states and between the U.S. and Mexico. [[107]](#footnote-108)107 At this time, several barriers exist to their implementation.

[*First*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8T9R-T2X2-D6RV-H374-00000-00&context=1516831), the majority of unutilized water lies in the Upper Basin, [[108]](#footnote-109)108 therefore, any water purchased for the delta would require the Upper Basin to deliver such quantity to the Lower Basin, an action that on its face violates the terms of the ***Colorado*** ***River*** Compact. [[109]](#footnote-110)109 Pursuant to article III(d) of the Compact, the Upper Basin is required to deliver 7.5 maf annually. [[110]](#footnote-111)110 The delivery of water over and above that amount is problematic when considered in conjunction with the requirement of article III(e) that any water withheld by the Upper Basin or demanded by the Lower must be used for a beneficial consumptive purpose. [[111]](#footnote-112)111 Currently, environmental uses are not considered a beneficial consumptive use. [[112]](#footnote-113)112

[*Second*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8T9R-T352-D6RV-H379-00000-00&context=1516831), interbasin transfers would likely violate the 1964 Decree in Arizona v. California. Article II(B)(5) of the Decree states that water users must have valid contracts with the Secretary to receive deliveries. [[113]](#footnote-114)113 To the extent that a purchaser contracts with an Upper Basin entity and not the Secretary of the Interior, the delivery of purchased water to the Lower Basin is unauthorized. [[114]](#footnote-115)114

Finally, in addition to problems associated with domestic transfers, cross-border water transfers raise a host of issues. First, a minute to the 1944 Water Treaty would most likely be required. [[115]](#footnote-116)115 The problems associated with such a binational agreement, discussed in detail below, include predicting when such an agreement would be politically viable in both Mexico and the United States. The second major barrier lies in recognition of the fact that the United States, while beginning to perceive water as a commodity within its borders, is not likely to agree to market- **[\*262]** based transfers of ***Colorado*** ***River*** water outside its borders. [[116]](#footnote-117)116 Countries opposed to such transfers invoke state sovereignty as a basis for storing water resources rather than marketing surplus to nearby nations. [[117]](#footnote-118)117 Overcoming this conceptual difficulty will require a paradigm shift to viewing ***river*** management from the perspective of the entire ***river*** system, an idea whose time has not yet come.

B. Enforcement

Once implemented, the success of the solutions will hinge on Mexico's ability to guarantee flows are properly delivered. [[118]](#footnote-119)118 Such a guarantee would come in the form of a minute to the 1944 Water Treaty. If both countries agree, a minute that enforces joint obligations and provides operational authority would ensure the object of the solution is achieved. Precedent for such a minute can be found in Minute No. 242 to the 1944 Water Treaty. [[119]](#footnote-120)119

Minute 242 was a permanent solution to the problem of water quality. Despite the Treaty's silence on the issue, the United States and Mexico were able to agree on salinity standards for water delivered under its provisions. Because Minute 242 represents a successful response to a transnational environmental problem, it is heralded as the model for future agreements on water supply.

If an ecological minute were adopted, a noncompliance provision would be necessary. The provision should address the lack of instream flow laws in Mexico by authorizing the U.S. to withhold deliveries if delta water is diverted to other uses. Even prior to adoption of a minute, an interim agreement providing for delivery of water to the delta could be put in place. Such an agreement would allow delta restoration efforts to begin before a minute to the Treaty is forged. [[120]](#footnote-121)120

**[\*263]**

C. Problem of Drought

How the proposed solutions will fare in periods of prolonged drought is of some concern. As it currently stands, the only ***Colorado*** ***River*** water to cross the border in dry years is the 1.5 maf owed under the 1944 Treaty. No water reaches the delta wetlands below Mexican diversion points when this occurs; [[121]](#footnote-122)121 therefore, solutions that free up water already allocated to Mexico would provide the most safety in drought years. With proper instream protection, water previously used on now retired agricultural land would remain in the ***river*** and reach the remnant wetlands. In the same vein, water saved by improving irrigation methods could be given similar protection from diversion by CNA.

Solutions that require transboundary water deliveries are subject to attack by U.S. water users. If flows are insufficient to meet Lower Basin demand after U.S. Treaty obligations are satisfied, arrangements that send water to Mexico above the 1.5 maf requirement will be disfavored. A minute to the Treaty could address this possibility by allowing deliveries to be temporarily redirected in times of drought. [[122]](#footnote-123)122 For example, a provision allowing the brackish flows from Yuma, Arizona to be delivered to the ***Colorado*** at the NIB and counted toward the treaty until drought conditions subside might gain support of junior water interests in the U.S. Incorporating such flexibility in the minute would also increase the chances of its initial adoption.

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

Current policies in place in the United States and Mexico affect the likelihood that an enforceable solution can be adopted. First, there must be political consensus that delta conservation is a worthy goal. Without the support of ***Colorado*** ***River*** stakeholders, solutions that require political action will not go forward or will be sacrificed for a competing interest. Second, the laws and institutional rules in both countries must allow for a solution to be implemented. Finally, adequate resources - both financial and natural - must be available. This section explores the domestic policies in both Mexico and the United States that may impact what solution is chosen, and the possibility of enforcing such a solution through a minute to the 1944 Water Treaty.

**[\*264]**

A. Mexico

There is doubt whether sufficient political will exists in Mexico to achieve adoption of an ecological minute to the 1944 Water Treaty. Mexican officials are mainly preoccupied with the Rio Grande, where Mexico is currently over 1.5 million acre feet in arrears on its delivery obligations to the United States. [[123]](#footnote-124)123 Moreover, divergent policies in place in Baja and the delta region generally suggest a lack of consensus on conservation matters. [[124]](#footnote-125)124

Presently, consumptive agricultural uses such as irrigation and livestock watering account for a majority of the diversions from the ***Colorado*** ***River*** in Mexico. [[125]](#footnote-126)125 To protect fields from potential floods, Mexican authorities have built a system of levees that encompass most of the delta's 150,000 acres. [[126]](#footnote-127)126 In the summer of 1999, CNA reportedly began a program of vegetation clearing in the delta in order to prevent damage to the levee system and to keep floodwaters from reaching nearby farmland. [[127]](#footnote-128)127 Programs such as this are contrary to conservation efforts to increase vegetation and provide sustainable habitat for native species in riparian areas of the delta.

"Nautical Steps" is a development initiative that has moved from the planning stages to implementation. The plan contemplates building marinas throughout the Gulf of California along with a trans-Baja road in order to attract U.S. boater interest and tourist dollars. With this investment, the Mexican government hopes to bring prosperity to a region historically plagued by unemployment and a low standard of living. Many environmentalists oppose the resort-based development and view it as a sign that the Mexican government is concerned with economic growth over environmental protection. The Upper Gulf of California, referred to as "Jacques Cousteau's playground," is a biologically diverse aquatic habitat that is home to some of the world's **[\*265]** richest sea life. [[128]](#footnote-129)128 Some biologists argue that the increased boater traffic and development along the Gulf's shores threatens endangered species populations. [[129]](#footnote-130)129

Further evidence of Mexico's plans for the region is found in a proposed five-year plan to make emergency water deliveries of a portion of Mexico's ***Colorado*** ***River*** allocation to Tijuana. [[130]](#footnote-131)130 The deliveries would alleviate some of the current water shortages in the Baja, California city of 1.3 million, and improve conditions that could lead to public health and economic problems on both sides of the border. [[131]](#footnote-132)131 Made under the terms of a minute of the IBWC, the plan would use existing conveyance systems owned and operated by Southern California water agencies to make the emergency deliveries. [[132]](#footnote-133)132 Although dictated by necessity, the use of a portion of Mexico's ***Colorado*** ***River*** allotment to supply Tijuana's water needs shows that municipal water supply is increasingly a factor in Mexico's water use decisions. [[133]](#footnote-134)133

Despite these developments, there are signs that the Mexican government is serious about conservation. The 2000 Joint Declaration between DOI and SEMARNAP and Minute No. 306 are recent commitments to cooperate with the U.S. to pursue further studies of the delta and establish baseline ecosystem requirements. [[134]](#footnote-135)134 Moreover, the Biosphere Reserve established in 1993 protects over two million acres in the delta region by promoting sustainable development within unique ecosystems. [[135]](#footnote-136)135 What specific events or conditions would prompt Mexican officials to take further action on the delta is unknown. However, it is increasingly clear that recently implemented U.S. policies **[\*266]** have the potential to impact the ecological well-being of the delta's riparian and estuarine habitat. [[136]](#footnote-137)136

B. United States

The large and well-organized NGO movement pressuring policy makers and elected officials to act on behalf of the delta suggests the issue is gaining political momentum in this country. Yet, the official posture of the federal government has hardly been unequivocal. [[137]](#footnote-138)137 DOI has signed joint declarations and authorized a minute relating to delta conservation, but has also taken a legal position at odds with its more public statements. In fact, within the DOI, the Bureau of Reclamation (BOR) has consistently maintained that it is not obligated to engage in federal Endangered Species Act (ESA) consultations over species impacted in Mexico by ***Colorado*** ***River*** operations. [[138]](#footnote-139)138 In short, BOR will not consider the effects of its actions as they contribute to reduced flows to the delta. The reasons advanced for this position are: 1) federal agencies do not have the authority to carry out mitigation programs in a foreign country; 2) such matters are governed by international treaties and other diplomatic documents, and are handled by agencies such as the State Department; and 3) that BOR lacks discretion regarding Mexico's use of treaty water and surplus flood control releases. [[139]](#footnote-140)139 The extraterritorial application of the ESA is an issue currently before the D.C. Circuit Court in Defenders of Wildlife v. Babbitt. [[140]](#footnote-141)140

In hopes of protecting water supplies for current and future uses, the seven basin states and other ***Colorado*** ***River*** water users generally take a **[\*267]** hard-line stance on the delta issue. [[141]](#footnote-142)141 This is significant because, as one commentator observes, the seven basin states "wield considerable decision-making power over water allocations, flows, storage, management of endangered species concerns, and environmental restoration." [[142]](#footnote-143)142 Their political influence on the Law of the ***River*** and control over operations in the Upper Basin put states in a position to dramatically impact ***Colorado*** ***River*** management. [[143]](#footnote-144)143

1. The California 4.4 Plan and the Interim Surplus Guidelines

As water master for the Lower Basin, the Secretary of the Interior manages the Lower ***Colorado*** ***River*** system in accordance with federal law. The 1964 Decree of the U.S. Supreme Court in Arizona v. California (Decree), the ***Colorado*** ***River*** Basin Project Act of 1968 (CRBPA), and the Criteria for Coordinated Long-Range Operation of the ***Colorado*** ***River*** Reservoirs implemented pursuant to the 1968 Act (LROC), provide the legal framework within which the Secretary makes annual determinations regarding the availability of surplus water from **[\*268]** Lake Mead. [[144]](#footnote-145)144 The Decree provides that if there exists sufficient water to satisfy consumptive use in Arizona, Nevada and California in excess of the 7.5 million acre-feet entitlement of the Lower Basin, such excess consumptive use is "surplus." [[145]](#footnote-146)145 Under the Decree, the Secretary is authorized to determine the conditions upon which such water may be made available. [[146]](#footnote-147)146

California's over-dependence on ***Colorado*** ***River*** water has its roots in the 1964 Decree. Article II(B)(6) of the Decree provides that water apportioned to, but unused by one or more Lower Division states can be used to satisfy beneficial consumptive use [[147]](#footnote-148)147 requests of mainstream users in other Lower Division states. [[148]](#footnote-149)148 For many years, California water agencies have requested surplus water, and such requests were fulfilled by utilizing unused apportionments of the other Lower Division states. [[149]](#footnote-150)149 This means that California has been diverting more than its legal entitlement of 4.4 maf, a situation that has caused water users in the state to become dependent on surplus flows. [[150]](#footnote-151)150 Since 1996, California has also utilized surplus water made available by determination of the Secretary, and this surplus is over and above any water unused by Arizona and Nevada. [[151]](#footnote-152)151 As Arizona and Nevada near full use of their apportionments, California has become increasingly dependent on these surplus determinations by the Secretary.

In response to pressure from other ***Colorado*** ***River*** basin states and then Interior Secretary Bruce Babbitt, California's ***Colorado*** ***River*** Board adopted the "California 4.4 Plan." [[152]](#footnote-153)152 The purpose of the Plan is to implement programs that will allow California to meet its ***Colorado*** **[\*269]** ***River*** water needs from within its annual apportionment of 4.4 maf. [[153]](#footnote-154)153 Programs that will be implemented in the first phase of the Plan include water transfers, utilization of the Arizona Water Bank, and conjunctive use programs that utilize ground and surface water supplies. [[154]](#footnote-155)154

In an attempt to provide a "soft landing" for California in its reduction efforts, the Department of the Interior, with input from the basin states, adopted the Interim Surplus Guidelines (ISG). The Guidelines recognize the increased demand for surplus water in the Lower Basin and the need for more specific criteria to assist the Secretary in making her annual surplus determinations. [[155]](#footnote-156)155 With adoption of the ISG, the Secretary hopes to "afford mainstream users of ***Colorado*** ***River*** water, particularly those in California who [depend on] surplus flows, a greater degree of predictability with respect to the likely existence, or lack thereof, of surplus conditions." [[156]](#footnote-157)156 Further, the ISG are "intended to recognize California's plan to reduce reliance on surplus deliveries, to assist California in moving toward its allocated share of ***Colorado*** ***River*** water, and to avoid hindering such efforts." [[157]](#footnote-158)157 The idea is that the increased level of predictability will assist in planning and operations by entities dependent on surplus water and afford them the means by which to reduce their usage over a 15-year period. [[158]](#footnote-159)158 If use in California in fact can be decreased, the frequency of surplus declarations will decline and the amount of water delivered to California will reduce in turn. [[159]](#footnote-160)159

**[\*270]** A consequence of implementing the ISG in the near-term, however, is that the Secretary will declare a surplus more frequently than in the past. [[160]](#footnote-161)160 Because surplus deliveries are satisfied by releases from Lake Mead, its levels are likely to be lower during the 15-year interim period. This has profound consequences for the delta. The number of operational over-deliveries that occurred when the reservoir was full will likely be reduced. [[161]](#footnote-162)161 Thus, the relatively consistent flows to the delta over the past two decades will be significantly curtailed. [[162]](#footnote-163)162

2. The Mexican Response

In January 2001, the Foreign Ministry of Mexico made a formal diplomatic statement requesting the State Department mitigate the adverse impacts of the ISG. [[163]](#footnote-164)163 While the ramifications for the delta are not yet fully known, Mexico's Minister of Environment has suggested border water issues have the potential to affect U.S-Mexico relations. [[164]](#footnote-165)164

Clearly, the ISG may impede the delta's continued recovery and stand to be yet another example of U.S. policy decisions dictating the health of downstream ecosystems. When and if U.S. management of the ***Colorado*** will become the basis for diplomatic pressure is uncertain, but at least one commentator believes delta issues will eventually prompt challenges to the current ***River*** regime. [[165]](#footnote-166)165

[*V*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8T9R-T3X2-8T6X-731X-00000-00&context=1516831). Conclusion

Ensuring continued recovery in the delta depends on several factors. First, the proposed solutions themselves must be effective means of providing baseline flows to targeted restoration areas. Those solutions that free up water currently allocated to Mexico, such as the purchase of farmland with water rights in the Mexicali Valley and the improvement **[\*271]** of Mexican irrigation systems, are the most politically feasible at the present time. Therefore, efforts should be directed toward accomplishing these solutions in the near term.

[*Second*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8T9R-T352-D6RV-H379-00000-00&context=1516831), a minute to the 1944 Treaty must be implemented to provide operational authority and enforce the joint obligations of the U.S. and Mexico. The history of agreements between the two nations suggests there is legal and diplomatic precedent for an ecological minute. However, policy considerations in both countries make its adoption less certain.

Plainly, it is not a forgone conclusion that an ecological minute will be adopted. [[166]](#footnote-167)166 Rather, the viability of a minute depends on the availability of water, the willingness of ***Colorado*** basin water users to come to the table, and constraints placed on the ***River*** by the ISG. Former Director of the ***Colorado*** Department of Natural Resources, James Lochhead, summarizes the situation succinctly:

If … California is able to implement measures to reduce its dependence on surplus water then the states would improve their ability to take a positive role in resolving [delta water supply issues]. On the other hand, if the allocation framework of the Law of the ***River*** is undermined, the states will need to take a much more conservative approach. [[167]](#footnote-168)167

How the domestic situation in the United States unfolds will undoubtedly affect which solutions to the delta water supply problem will be pursued. Whether an ecological minute to the 1944 Water Treaty can be adopted to enforce the solution also remains to be seen. In the end, it is apparent that ensuring the delta's future ecological health will depend on the confluence of several factors, none of which is perfectly clear in the present day.

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1. 1 Daniel F. Luecke et. al., A Delta Once More: Restoring Riparian and Wetland Habitat in the ***Colorado*** ***River*** Delta 32 (Environmental Defense Fund, 1999). [↑](#footnote-ref-2)
2. 2 See e.g. Charles Bergman, Red Delta (Fulcrum, 2002); Brent Israelsen, Groups Want Water Left in ***Colorado*** ***River***, Salt Lake Tribune, Mar. 6, 2001, at B2, 2001 WL 4631345; Susan Greene, The ***Colorado***: ***River*** of No Return, Denver Post, Sept. 24, 2000, at 26A, 2000 WL 25828852; Luecke, et al., supra note 1, at 8-10. [↑](#footnote-ref-3)
3. 3 Groups having an interest in the region include the American Humane Association, American Rovers, Amigos Bravos, Animal Protection Institute, Asociacion Ecologica de Usuarios de los Rios Hardy y ***Colorado***, Audubon Council of Utah, Biodiversity Legal Foundation, Border Ecology Project, Bosques de las Californias, A.C., Bradshaw Mountain Wildlife Association, Center for Biological Diversity, Center for Environmental Connections, Centro de Derecho Ambiental e Integracion Economica del Sur A.C., Centro Regional de Estudios Ambientales y Socioeconomicas, Conservation International, Defenders of Wildlife, Ducks Unlimited, Earth Island Institute, Environmental Defense, Friends of Arizona ***Rivers***, Friends of Pronatura, Forest Guardians, Fund for Animals, Glen Canyon Institute, Great Salt Lake Audubon, High Country Citizens' Alliance, The Humane Society of the United States, In Defense of Animals, Intercultural Center for the Study of Deserts and Oceans, International ***Rivers*** Network, International Sonoram Desert Alliance, ITESM-Campus Guaymas, Living ***Rivers***, National Audubon Society, The Nature Conservancy, Northwest Ecosystem Alliance, Pacific Institute, Pro Esteros, Pronatura Sonora, Pronatura Peninsula de Baja California, Sierra Club, Sonoran Institute, Southwest ***Rivers***, Southwest Toxic Watch, and Wetlands Action Network. [↑](#footnote-ref-4)
4. 4 Luecke, et al., supra note 1, at 8, 10. [↑](#footnote-ref-5)
5. 5 Israelsen, supra note 2. This statement should not be taken as an endorsement of environmental groups' position, however. In another public statement Patricia Mulroy calls the environmentalists' proposals to provide additional water to Mexico "ridiculous," and admits that her "gut instinct is that if we sent the water down there today, it wouldn't be used to restore the delta." Greene, supra note 2. [↑](#footnote-ref-6)
6. 6 Luecke, et al., supra note 1 at 15-16; Jennifer Pitt, et. al., Two Nations, One ***River***: Managing Ecosystem Conservation in the ***Colorado*** ***River*** Delta, 40 Nat. Resources J. 819, 819 (2000). [↑](#footnote-ref-7)
7. 7 The governing treaty is the Treaty Respecting the Utilization of Waters of the ***Colorado*** and Tijuana ***Rivers*** and of the Rio Grande, Feb. 3 & Nov. 14, 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) [hereinafter 1944 Water Treaty]. A minute is similar to an amendment to a treaty. [↑](#footnote-ref-8)
8. 8 See Luecke, et al., supra note 1 at 4. [↑](#footnote-ref-9)
9. 9 Id. [↑](#footnote-ref-10)
10. 10 Id. [↑](#footnote-ref-11)
11. 11 Id. at 2. [↑](#footnote-ref-12)
12. 12 Id. at 4. [↑](#footnote-ref-13)
13. 13 For a description of the Law of the ***River*** see infra, Part I.B. [↑](#footnote-ref-14)
14. 14 The function of the International Boundary and Water Commission [hereinafter IBWC] is described infra at note 22. [↑](#footnote-ref-15)
15. 15 Other treaties and agreements bearing on the delta region include: Convention for the Protection of Migratory Birds and Game Mammals, Feb. 7, 1936, U.S.-Mex., 178 L.N.T.S. 309; Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, Oct. 12, 1940, No. 485, 161 U.N.T.S. 193 (entered into force May 1, 1942, available at [*http://www.tufts.edu/departments/fletcher/multi/texts/*](http://www.tufts.edu/departments/fletcher/multi/texts/) BH175.txt (last visited Jan. 17, 2003); Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Feb. 2, 1971, T.I.A.S. No. 11,084, 996 U.N.T.S. 245 (entered into force Dec. 21, 1975), available at [*http://www.ramsar.org/key<\_>conv<\_>e.htm*](http://www.ramsar.org/key<_>conv<_>e.htm) (last visited Jan. 17, 2003); Joint Committee for the Conservation of Wild Flora and Fauna (1975); North American Waterfowl Management Plan (1986), see Mexico, U.S. Update Wetlands Conservation Pact, [Current Reports] 17 Int'l Env't Rep. (BNA) 451 (May 18, 1994).; North American Free Trade Agreement (NAFTA)Dec. 17, 1992,32 I.L.M. 296 (1993) & ***32 I.L.M. 605 (1993),*** available at [*http://www.nafta-sec-alena.org/english/nafta/nafta.htm*](http://www.nafta-sec-alena.org/english/nafta/nafta.htm) (last visited Jan. 17, 2003); and the Canada/Mexico/United States Trilateral Committee for Wildlife and Ecosystem Conservation and Management (1996), see Memorandum of Understanding Establishing the Canada/Mexico/United States Trilateral Committee for Wildlife and Ecosystem Conservation and Management, at [*http://www.trilat.org/*](http://www.trilat.org/) general<\_>pages/mou<\_>eng.htm (last visited Jan. 22, 2003). [↑](#footnote-ref-16)
16. 16 For a thorough discussion of the 1944 Water Treaty, see Norris Hundley, Jr., Dividing the Waters: A Century of Controversy Between the United States and Mexico (1966); Charles Meyers & Richard Noble, The ***Colorado*** ***River***: The Treaty with Mexico, 19 Stan. L. Rev. 367 (1967). [↑](#footnote-ref-17)
17. 17 The proposal was for an annual delivery of 750,000 acre-feet to Mexico, which was flatly rejected by the Mexicans who demanded 3.6 million acre-feet annually. Hundley, Jr., supra note 16 at 37; Meyers & Noble, supra note 16 at 367-68. [↑](#footnote-ref-18)
18. 18 Meyers & Noble, supra note 16 at 370-80. [↑](#footnote-ref-19)
19. 19 See Hundley, supra note 16, at 170. [↑](#footnote-ref-20)
20. 20 1944 Water Treaty, supra note 7, at preamble. Hundley points out that many Americans and Mexicans had come to associate the 1944 Water Treaty with President Roosevelt's Good Neighbor Policy. Resolving this international political problem amicably and retaining friendly relations with Mexico was, in Hundley's view, motivated by the United States' post World War II foreign policy objectives: mainly, the desire to have a significant role in the formation of the United Nations. Hundley, supra note 16 at 159-161, 170. [↑](#footnote-ref-21)
21. 21 1944 Water Treaty, supra note 7, at art. 10(a). The delivery procedure is as follows:

    Mexico, before the first of each calendar year, presents through the IBWC [see infra note 22] an annual schedule of requested deliveries by month, within the Treaty annual allotment and specified rates. Mexico also submits a weekly schedule of deliveries by day, within the monthly amounts scheduled. Mexico's requests are transmitted by the United States [section of the IBWC] to the Bureau of Reclamation, which makes the releases as necessary from the United States storage works on the ***Colorado*** ***River*** to fulfill the delivery schedule. The deliveries to Mexico are jointly monitored by the IBWC to ensure compliance with the Treaty allotment and schedules.

    International Boundary and Water Commission, United States Section, ***Colorado*** ***River***: US-Mexico Joint Projects - ***Colorado*** ***River*** Boundary Section Treaty Deleveries to Mexico, at [*http://www.ibwc.state.gov/wad/body<\_>****colorado****<\_>****river****.htm*](http://www.ibwc.state.gov/wad/body<_>colorado<_>river.htm) (last visited Feb. 7, 2003). [↑](#footnote-ref-22)
22. 22 1944 Water Treaty, supra note 7, at art. 10(b). Although not defined in the section, "surplus" is qualified as "waters of the ***Colorado*** ***River*** in excess of the amount necessary to supply uses in the United States and the guaranteed quantity of 1,500,000 acre-feet … annually to Mexico." Id. Article 2 of the 1944 Water Treaty changed the International Boundary Commission's name to the "International Boundary and Water Commission." The IBWC, consisting of a Mexican Section and United States Section, has the status of an international body and retains jurisdiction over both the Rio Grande and ***Colorado*** ***Rivers*** in the U.S.-Mexico border region. "The Commission is entrusted with application of the treaty, regulation and exercise of rights and duties which the two Governments assume under it, and the settlement of disputes which may arise out of its observance and execution." Meyers & Noble, supra note 16, at 387; 1944 Water Treaty, supra note 7, at art. 2. [↑](#footnote-ref-23)
23. 23 1944 Water Treaty, supra note 7, at art. 10(b). [↑](#footnote-ref-24)
24. 24 See Hundley, supra note 16, at 167, 171; Meyers and Noble, supra note 16, at 411-415. [↑](#footnote-ref-25)
25. 25 Meyers & Noble, supra note 16, at 413. [↑](#footnote-ref-26)
26. 26 1944 Water Treaty, supra note 7, at arts. 11, 15. [↑](#footnote-ref-27)
27. 27 Id. at art. 12 (a)-(d). The two main delivery points are the Northern International Boundary (NIB), near Yuma, Arizona, and the Southern International Boundary (SIB) near San Luis in the Mexican state of Sonora. The overwhelming majority of Mexico's treaty entitlement (1,360,000 acre-feet) is delivered at the NIB. [↑](#footnote-ref-28)
28. 28 From 800 parts per million (ppm) in 1960 to over 1300 ppm in 1961. See Memorandum from Randy Seaholm to the ***Colorado*** Water Conservation Board, Sept. 14, 2001(on file with ***Colorado*** Journal of International Environmental Law and Policy) [hereinafter Seaholm I]. [↑](#footnote-ref-29)
29. 29 Id. [↑](#footnote-ref-30)
30. 30 Id. [↑](#footnote-ref-31)
31. 31 International Boundary and Water Commission, Permanent and Definitive Solution to the International Problem of Salinity of the ***Colorado*** ***River***, Aug. 30, 1973, U.S.-Mex., [*12 I.L.M. 1105.*](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:42MV-FN20-0041-43DS-00000-00&context=1516831) [↑](#footnote-ref-32)
32. 32 Id. [↑](#footnote-ref-33)
33. 33 [*43 U.S.C. 1571*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SDD-0HD2-8T6X-74F4-00000-00&context=1516831)-1599 (2002). [↑](#footnote-ref-34)
34. 34 Id. at 1571, 1572. The Desalting Plant was completed in 1992 but, due to its high cost of operation (about $ 23 million per year), has not been used to meet the salinity control objectives of Minute 242. Rather, the Secretary has used the approximately 132,000 af conserved by lining the Coachella Canal (authorized by 1572(a) of the Salinity Control Act) to meet the standards and offset the need to use the Yuma Desalter. Seaholm I, supra note 30. [↑](#footnote-ref-35)
35. 35 Masahiro Murakami, Managing Water for Peace in the Middle East: Alternative Strategies 85 (United Nations University Press 1995). [↑](#footnote-ref-36)
36. 36 Agreement Between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area, Aug. 14, 1983, U.S.-Mex., 35 U.S.T. 2917. [↑](#footnote-ref-37)
37. 37 Id. art. 1, at 2918. [↑](#footnote-ref-38)
38. 38 Id. art. 4, at 2919. [↑](#footnote-ref-39)
39. 39 Id. art. 6. [↑](#footnote-ref-40)
40. 40 Id. [↑](#footnote-ref-41)
41. 41 Id. art. 8, at 2919-20. The EPA is the national coordinator in the U.S.; Mexico's coordinator is the Secretaria de Desarrollo Urbano y Ecologia, through the Subsecretaria de Ecologia. [↑](#footnote-ref-42)
42. 42 Commission for Environmental Cooperation, U.S.-Mexico Border XXI Program Executive Summary (Oct., 1996), at [*http://www.cec.org/pubs<\_>info<\_>resources/law<\_>treat<\_>agree/transbound<\_>agree/SourceFiles/F24-EXECUTIVESUMMARY.HTML*](http://www.cec.org/pubs<_>info<_>resources/law<_>treat<_>agree/transbound<_>agree/SourceFiles/F24-EXECUTIVESUMMARY.HTML). [↑](#footnote-ref-43)
43. 43 Id.; see also Border Briefs, 9 Borderlines, (Jan., 1995), at [*http://www.us-mex.org/borderlines/1995/bl9/bl9brief.html*](http://www.us-mex.org/borderlines/1995/bl9/bl9brief.html). [↑](#footnote-ref-44)
44. 44 U.S.-Mexico Border Program, Border XXI Program Framework Document: Executive Summary, [*http://www.epa.gov/r6border/2001/ef.htm*](http://www.epa.gov/r6border/2001/ef.htm) (last modified Aug. 9, 2000) (on file with the ***Colorado*** Journal of International Environmental Law and Policy). [↑](#footnote-ref-45)
45. 45 Id. [↑](#footnote-ref-46)
46. 46 Id. [↑](#footnote-ref-47)
47. 47 Id. [↑](#footnote-ref-48)
48. 48 Letter of Intent between the Department of the Interior (DOI) of the United States and The Secretariat of Environment, Natural Resources and Fisheries (SEMARNAP) of the United Mexican States for Joint Work in Natural Protected Areas on the United States - Mexico Border, May 5, 1997, at [*http://www.cerc.cr.usgs.gov/FCC/protected<\_>agreement.htm*](http://www.cerc.cr.usgs.gov/FCC/protected<_>agreement.htm) [hereinafter Joint Work Letter]. [↑](#footnote-ref-49)
49. 49 Id. 1. [↑](#footnote-ref-50)
50. 50 Other agreements that make up this framework include: the Memorandum of Understanding on Cooperation in Management and Protection of National Parks and Other Protected Natural and Cultural Heritage Sites, Nov. 30, 1988; the Memorandum of Understanding Concerning Scientific and Technical Cooperation on Biological Data and Information, May 1995; and the Memorandum of Understanding establishing the Trilateral Committee for Wildlife and Ecosystem Conservation and Management, Apr. 1996. [↑](#footnote-ref-51)
51. 51 Joint Work Letter, supra note 48, at 2-3. [↑](#footnote-ref-52)
52. 52 Id. 6(a). [↑](#footnote-ref-53)
53. 53 Id. 7. [↑](#footnote-ref-54)
54. 54 Joint Declaration Between The Department of the Interior (DOI) of the United States of America and the Secretariat of Environment, Natural Resources and Fisheries (SEMARNAP) of the United Mexican States to Enhance Cooperation in the ***Colorado*** ***River*** Delta, May 18, 2000, at [*http://www.cerc.cr.usgs.gov/*](http://www.cerc.cr.usgs.gov/) FCC/jointdeclCO.htm [hereinafter 2000 Joint Declaration]. [↑](#footnote-ref-55)
55. 55 Article 5 of the Ramsar Convention provides:

    The Contracting Parties shall consult with each other about implementing obligations arising from the Convention especially in the case of a wetland extending over the territories of more than one Contracting Party or where a water system is shared by Contracting Parties. They shall at the same time endeavor to coordinate and support present and future policies and regulations concerning the conservation of wetlands and their flora and fauna.

    World Heritage Convention. Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Feb. 2, 1971, T.I.A.S. No. 11,084, 996 U.N.T.S. 245. [↑](#footnote-ref-56)
56. 56 2000 Joint Declaration, supra note 54. [↑](#footnote-ref-57)
57. 57 Id. 1, 5, 6. [↑](#footnote-ref-58)
58. 58 Id. 1. [↑](#footnote-ref-59)
59. 59 See id. 2. [↑](#footnote-ref-60)
60. 60 International Boundary and Water Commission, United States and Mexico, Minute No. 306: Conceptual Framework for United States - Mexico Studies for Future Recommendations Concerning the Riparian and Estuarine Ecology of the Limitrophe Section of the ***Colorado*** ***River*** and its Associated Delta, Dec. 12, 2000, at [*http://www.ibwc.state.gov/Files/Minutes/Min306.pdf*](http://www.ibwc.state.gov/Files/Minutes/Min306.pdf) [hereinafter Minute No. 306]. [↑](#footnote-ref-61)
61. 61 The ***Colorado*** ***River*** Delta Symposium, which took place in Mexicali in September of 2001, was held as part of the implementation of Minute No. 306. The symposium aimed "to educate and inform stakeholders … about legal and institutional issues … related to the [delta, and] to start the discussion on identification of [delta] water needs." Memorandum from Randy Seaholm to the ***Colorado*** Water Conservation Board, Sept. 14, 2001, Subject: Agenda Item 8f (on file with ***Colorado*** Journal of International Environmental Law and Policy) [Hereinafter Seaholm II]. [↑](#footnote-ref-62)
62. 62 Minute No. 306, supra note 60. [↑](#footnote-ref-63)
63. 63 Id. 1. [↑](#footnote-ref-64)
64. 64 Id. 2. [↑](#footnote-ref-65)
65. 65 Paul D'Amours, The ***Colorado*** ***River*** Delta, 2000 Y.B. (***Colo.*** J. Int'l Envtl. L. & Pol'y) 183, 183-84. [↑](#footnote-ref-66)
66. 66 For detailed discussions of the Law of the ***River*** see Charles Meyers, The ***Colorado*** ***River***, 19 Stan. L. Rev. 1 (1966); Meyers & Noble, supra note 16; David Getches, Competing Demands for the ***Colorado*** ***River***, 56 U. ***Colo.*** L. Rev. 413 (1985); James S. Lochhead, An Upper Basin Perspective on California's Claim to Water from the ***Colorado*** ***River*** Part I: The Law of the ***River***, [*4 U. Denv. Water L. Rev. 290 (2001).*](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:43XH-WN80-00SW-5022-00000-00&context=1516831) [↑](#footnote-ref-67)
67. 67 The 1922 ***Colorado*** ***River*** Compact is the foundation of the Law of the ***River***. It divided the ***Colorado*** ***River*** into two basins (the Upper and Lower) and requires the Upper Basin to deliver 75 million acre feet ("maf") of water to the Lower Basin every ten years (7.5 maf annually).1922 ***Colorado*** ***River*** Compact, art. III, reprinted in 70 Cong. Rec. 324 (1928); [***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) (2002) [hereinafter 1922 Compact]. The 1948 Compact, on the other hand, apportions water among the Upper Basin states according to the following shares: ***Colorado***, 51.75%; Utah, 23%; Wyoming, 14%; New Mexico, 11.25%; Arizona, 50,000 acre-feet. 1948 Upper ***Colorado*** ***River*** Basin Compact, [*63 Stat. 31 (1949),*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:5CCB-R1P0-01XN-S056-00000-00&context=1516831) reprinted in [***Colo.*** *Rev. Stat. 37-62-101*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:61P5-WY01-DYDC-J33Y-00000-00&context=1516831)(2002) [hereinafter 1948 Compact]; Getches, supra note 66, at 416-20. [↑](#footnote-ref-68)
68. 68 The two most important being the Boulder Canyon Project Act of 1928, [*43 U.S.C. 617,*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SDD-0HD2-8T6X-73R7-00000-00&context=1516831) 617c(a) (2002) (authorizing construction of Hoover Dam and the All-American Canal and suggesting apportionment among Lower Basin states as follows: 4.4 maf to California, 2.8 to Arizona, and .300,000 acre feet to Nevada, with California and Arizona splitting the surplus equally), and the ***Colorado*** ***River*** Basin Project Act of 1968, [*43 U.S.C. 1501*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SDD-0HD2-8T6X-74D2-00000-00&context=1516831)-56 (2002) (authorizing construction of the Central Arizona Project (CAP); giving first priority in the Lower Basin to California; declaring the delivery of water to Mexico under the 1944 Water Treaty a "national obligation;" and directing the Secretary to prepare long range operating criteria for ***Colorado*** ***River*** reservoirs). [↑](#footnote-ref-69)
69. 69 [*Arizona v. California, 373 U.S. 546, 592, 601 (1963)*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3S4X-H3B0-003B-S2D7-00000-00&context=1516831) (holding that the Boulder Canyon Project Act of 1928 did in fact apportion the ***river*** among Lower Basin states and that tributary use did not count against mainstream entitlement); [*Arizona v. California, 376 U.S. 340, 342-43 (1964)*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3S4X-H350-003B-S2D6-00000-00&context=1516831) (enjoining the Secretary from delivering water outside apportioned entitlements; directing the Secretary to prepare an annual accounting of water use in Lower Basin; and charging the Secretary with declaring shortages and surpluses). [↑](#footnote-ref-70)
70. 70 1944 Water Treaty, supra note 7. [↑](#footnote-ref-71)
71. 71 See David H. Getches, ***Colorado*** ***River*** Governance: Sharing Federal Authority as an Incentive to Create a New Institution, [*68 U.* ***Colo.*** *L. Rev. 573, 592 (1997).*](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:3S3T-T610-00CV-N03B-00000-00&context=1516831) [↑](#footnote-ref-72)
72. 72 See discussion infra, Part I.A.1. [↑](#footnote-ref-73)
73. 73 1922 Compact, supra note 67. Actually, Article III(c) of the Compact initially provided for water to be supplied from the unallocated surplus thought to be available in the ***Colorado***. If this amount proved insufficient, the Upper and Lower Basins would then bear the deficiency equally. As commentators explain: "since there is, on average, no long-term unallocated surplus water in the ***river***, the effect of this provision is to obligate both the Upper and Lower Basins each to ensure the annual availability to Mexico of 750,000 acre-feet of ***Colorado*** ***River*** Water." Lawrence MacDonnell, et al., The Law of the ***Colorado*** ***River***: Coping with Severe Sustained Drought, 1995 NRLC Occasional Paper Series 826. [↑](#footnote-ref-74)
74. 74 See MacDonnell, et al., supra note 73, at 826. [↑](#footnote-ref-75)
75. 75 Id. at 828. Tribal reserved water rights and those rights held by California's Imperial Irrigation District are examples. [↑](#footnote-ref-76)
76. 76 Id. at 829. [↑](#footnote-ref-77)
77. 77 Id. at 830. [↑](#footnote-ref-78)
78. 78 Luecke, et al., supra note 1, at 11. [↑](#footnote-ref-79)
79. 79 Id. The RIP in the Upper Basin involves the U.S. Fish and Wildlife Service, Bureau of Reclamation, Western Area Power Administration, the states of ***Colorado***, Utah, and Wyoming, water users, and environmentalists. The Lower Basin's MSCP was launched by water users representing irrigation, municipal, and power interests. Id. [↑](#footnote-ref-80)
80. 80 Id. [↑](#footnote-ref-81)
81. 81 See 1922 Compact, supra note 65. [↑](#footnote-ref-82)
82. 82 See generally 1944 Water Treaty, supra note 7. [↑](#footnote-ref-83)
83. 83 William Rinne, How the ***Colorado*** ***River*** Operates, 2000 CLE International: The Law of the ***Colorado*** ***River*** 1, 5. [↑](#footnote-ref-84)
84. 84 Surplus flow conditions did not exist in 2000 or 2001. Jo Clark, et. al., Immediate Options for Augmenting Water Flows to the ***Colorado*** ***River*** Delta in Mexico 33 (2001 Packard Foundation); Feb 2001 Letter from Robert Johnson, Regional Director of BOR to Commissioner John M. Bernal of United States Section of IBWC re: Schedule of 2001 Water Deliveries to Mexico [hereinafter Schedule of 2001 Water Deliveries]. [↑](#footnote-ref-85)
85. 85 See discussion infra, Part III.B.1. [↑](#footnote-ref-86)
86. 86 Luecke, et al., supra note 1, at 11. [↑](#footnote-ref-87)
87. 87 See e.g. [*Ariz. Rev. Stat. Ann. 45-151(a)*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8VTM-JTG2-D6RV-H0JR-00000-00&context=1516831); [*Cal. Water Code 174*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:5J6S-6TX1-66B9-848D-00000-00&context=1516831), 1243, 1243.5; Nev. Rev. Stat. 533; [***Colo.*** *Rev. Stat. 37-92-102*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:61P5-WY01-DYDC-J3FN-00000-00&context=1516831); [*Wyo. Stat. 41-3-1001*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:56VF-H6T1-73WF-6476-00000-00&context=1516831); [*N.M. Stat. Ann. 17-4-14*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:5BXH-G961-64V8-10V5-00000-00&context=1516831). For federal laws that recognize instream flows, see e.g., Wild and Scenic ***Rivers*** Act, [*16 U.S.C. 1271;*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8S7X-DBF2-D6RV-H4F0-00000-00&context=1516831) National Wildlife Refuge System Improvement Act of 1997, [*16 U.S.C. 668dd*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:676K-B033-CGX8-01RF-00000-00&context=1516831)(a)(4)(F) (2002). [↑](#footnote-ref-88)
88. 88 See, e.g., Frank Wilson, A Fish Out of Water: A Proposal for International Instream Flow Rights in the Lower ***Colorado*** ***River***, 5 ***Colo.*** J. Int'l Envtl. L. Pol'y 249 (1994). [↑](#footnote-ref-89)
89. 89 See A. Dan Tarlock, Safeguarding International ***River*** Ecosystems in Times of Scarcity, [*3 U. Denv. Water L. Rev. 231, 255-61 (2000).*](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:42FS-2W20-00C3-W0XP-00000-00&context=1516831) [↑](#footnote-ref-90)
90. 90 [*Id. at 255.*](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:42FS-2W20-00C3-W0XP-00000-00&context=1516831) [↑](#footnote-ref-91)
91. 91 Id. [↑](#footnote-ref-92)
92. 92 See Getches, supra note 71, at 627. [↑](#footnote-ref-93)
93. 93 See Luecke, et al., supra note 1 at 12; Pitt, et al., supra note 6 at 832. [↑](#footnote-ref-94)
94. 94 Luecke, et al., supra note 1, at 42. See also infra, Part III.B.1 for why this statement might not be completely accurate. [↑](#footnote-ref-95)
95. 95 Luecke, et al., supra note 1, at 42. [↑](#footnote-ref-96)
96. 96 Id. [↑](#footnote-ref-97)
97. 97 The bulk of the solutions discussed below were proposed in the 2001 Packard Foundation report. See Clark, et al., supra note 84. [↑](#footnote-ref-98)
98. 98 Id. at 23-24. [↑](#footnote-ref-99)
99. 99 The CNA has jurisdiction over Mexico's water resources and planning. It builds irrigation, drainage and flood control systems and administers Mexico's system of water rights, as well as monitors the nation's water quality. Luecke, et al., supra note 1, at 36. [↑](#footnote-ref-100)
100. 100 Tarlock, supra note 89, at 269. [↑](#footnote-ref-101)
101. 101 Clark, et al., supra note 84, at 24. [↑](#footnote-ref-102)
102. 102 Id. at 24-25. This would be in addition to the 125,000 acre-feet of water currently delivered via the Bypass Drain to the Cienega de Santa Clara. [↑](#footnote-ref-103)
103. 103 The majority would likely come from releases from Lake Mead. [↑](#footnote-ref-104)
104. 104 D'Amours, supra note 65, at 191. [↑](#footnote-ref-105)
105. 105 Luecke, et al., supra note 1, at 42, 44-45; Pitt, et al., supra note 6, at 857-58. [↑](#footnote-ref-106)
106. 106 [*U.S. v. Alpine Land & Reservoir* ***Co****., 697 F.2d 851, 858 (1983).*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3S4X-0TK0-003B-G43F-00000-00&context=1516831) [↑](#footnote-ref-107)
107. 107 Dale Pontius, ***Colorado*** ***River*** Basin Study: Report to the Western Water Policy Review Advisory Commission 24-25 (1997). [↑](#footnote-ref-108)
108. 108 Currently, Upper Basin states are not using their full allotments while the Lower Basin is strapped for water due to California's dependence on surplus flows. See discussion infra, Part III.B.1. [↑](#footnote-ref-109)
109. 109 1922 Compact, supra note 67, art. III(d). [↑](#footnote-ref-110)
110. 110 Id. [↑](#footnote-ref-111)
111. 111 Id., art. III(e). [↑](#footnote-ref-112)
112. 112 See Id. art. III(a). [↑](#footnote-ref-113)
113. 113 [*Arizona v. California, 376 U.S. at 343.*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3S4X-H350-003B-S2D6-00000-00&context=1516831) [↑](#footnote-ref-114)
114. 114 The Secretary could, however, implement regulations that would permit such transfers. [↑](#footnote-ref-115)
115. 115 But see David J. Guy, When the Law Dulls the Edge of Chance: Transferring Upper Basin Water to the Lower ***Colorado*** ***River*** Basin, 1991 Utah L. Rev. 25, 36 (1991). [↑](#footnote-ref-116)
116. 116 Tarlock, supra note 89, at 270. [↑](#footnote-ref-117)
117. 117 Id. [↑](#footnote-ref-118)
118. 118 One possible solution involves creation of a Mexican institution to guarantee the delivery of water to the target areas. Luecke, et al., supra note 1, at 43. [↑](#footnote-ref-119)
119. 119 Tarlock, supra note 89, at 271. See supra, Part I.A.2. [↑](#footnote-ref-120)
120. 120 The following language has been suggested as a means of enforcing the interim agreement: "If at any time surplus flows intended to benefit the Delta are intercepted and consumed by users within Mexico, further deliveries of water for such purposes shall cease unless and until Mexico enters into a commitment to prevent further releases from being diverted and consumed and to guarantee their delivery to the Delta." Letter to David Hayes and Robert Johnson re: ***Colorado*** ***River*** Interim Surplus Criteria, February 15, 2000; at [*http://www.pacinst.org/coriver.html*](http://www.pacinst.org/coriver.html). [↑](#footnote-ref-121)
121. 121 Pitt, et al., supra note 6, at 828-29. [↑](#footnote-ref-122)
122. 122 When drought conditions could be declared should be defined with specificity in the minute. [↑](#footnote-ref-123)
123. 123 Under the 1944 Treaty, Mexico is obligated to deliver an average of 350,000 acre-feet of water annually into the Rio Grande. 1944 Water Treaty, supra note 7, Art. 4. Since 1992, Mexico has failed to meet its delivery obligation to the U.S., producing diplomatic tensions between the two countries. Jim Yardley, Water Rights War Rages on Faltering Rio Grande, N. Y. Times, Apr. 19, 2002, at A16. [↑](#footnote-ref-124)
124. 124 Pitt, supra note 6, at 846. [↑](#footnote-ref-125)
125. 125 Michael J. Cohen & Christine Henges-Jeck, Pacific Institute, Missing Water: The Uses and Flows of Water in the ***Colorado*** ***River*** Delta Region 26-27 (2001). [↑](#footnote-ref-126)
126. 126 Pitt, et al., supra note 6, at 823-24. [↑](#footnote-ref-127)
127. 127 Id. at 846. [↑](#footnote-ref-128)
128. 128 Mary Jordan, Environmentalists Protest Mexican Plans for Baja California Upscale Marinas, Wash. Post, May 6, 2001, at A16. [↑](#footnote-ref-129)
129. 129 Id. [↑](#footnote-ref-130)
130. 130 International Boundary and Water Commission, United States and Mexico: Implement International Agreement for Deliveries to Tijuana, Baja California, of a Part of Mexico's ***Colorado*** ***River*** Waters Through the Southern California Aqueducts; Notice of Draft Finding of No Significant Impact, [*66 Fed. Reg. 19,239, 19,240*](https://advance.lexis.com/api/document?collection=administrative-codes&id=urn:contentItem:42TB-0P40-006W-82W2-00000-00&context=1516831) (Apr. 13, 2001). [↑](#footnote-ref-131)
131. 131 Id. [↑](#footnote-ref-132)
132. 132 Id. [↑](#footnote-ref-133)
133. 133 Seaholm II, supra note 61. Describing the events of the recent ***Colorado*** ***River*** Delta Symposium, Seaholm stated that "Mexican representatives were in general agreement [on delta conservation matters]. However, it appeared that some of them were more interested in water for further economic development rather than environmental restoration." Id. [↑](#footnote-ref-134)
134. 134 See discussion supra, Part I.A.7, 8. [↑](#footnote-ref-135)
135. 135 Pitt, et al., supra note 6, at 843-44. [↑](#footnote-ref-136)
136. 136 Seediscussion supra, Part I.B. [↑](#footnote-ref-137)
137. 137 Recently, at the ***Colorado*** ***River*** Delta Symposium in Mexicali, the Department of State liason to IBWC, Mary Brandt, reminded ***Colorado*** ***River*** stakeholders that treaties are binding and must be adhered to in good faith. One of the State of ***Colorado***'s representatives, Randy Seaholm, reported that "in general, the statements of both [the Department of the] Interior and [the] State [Department] were encouraging, with State seeming a little more hard line and Interior perhaps a little more conciliatory." Seaholm II, supra note 61. [↑](#footnote-ref-138)
138. 138 Pitt, et al., supra note 6, at 845-6. [↑](#footnote-ref-139)
139. 139 Extraterritorial Application of ESA Briefing Paper, circulated at Department of Interior meeting in Washington D.C. regarding the Joint Declaration (Oct. 11, 2000) (on file with ***Colorado*** Journal of International Environmental Law & Policy). [↑](#footnote-ref-140)
140. 140 Defenders of Wildlife v. Babbitt, No. 00CV1544, (D.C. Circuit filed June 28, 2000). Various conservation groups joined the Defenders of Wildlife in alleging federal agencies failed to comply with the Endangered Species Act in analyzing Lower ***Colorado*** ***River*** operations, in particular BOR's failure to consider the impacts of its actions on federally listed species in the delta. [↑](#footnote-ref-141)
141. 141 See e.g. Bergman, supra, note 2 at 222 (quoting a representative of the Coachella Valley Water District in California as saying: "We solved the delta problem in 1944 … This is not a U.S. problem. It is a Mexican problem."); Regarding Management of the ***Colorado*** ***River*** for the 21st Century - A 7 State Perspective, a written statement submitted by Kent Holsinger, Assistant Director, ***Colorado*** Department of Natural Resources, to the Field Hearing on ***Colorado*** ***River*** Management for the House Resources Committee, July 9, in Salt Lake City, at [*http://multi..hydrosphere.com/pipermail/****rivers****/2001/000223.html*](http://multi..hydrosphere.com/pipermail/rivers/2001/000223.html). As pertinent here, the statement reads:

     The Congress should be aware that all water resource use on the ***Colorado*** ***River*** within the United States has been consistent with the 1944 Mexican Treaty and other aspects of the "Law of the ***River***." The State of ***Colorado*** stridently objects to any suggestion that water for restoration efforts in Mexico come from the ***Colorado*** ***River*** in the United States. We urge the Congress and the Bush Administration to ensure any discussions regarding the ***Colorado*** ***River*** Delta be done in full and complete consultation with the seven ***Colorado*** ***River*** Basin States. Id.

     See also Resolution of the ***Colorado*** Water Conservation Board Concerning the ***Colorado*** ***River*** Delta, (Mar. 27, 2001), at [*http://cwcb.state.****co****.us/*](http://cwcb.state.co.us/) Board<\_>Resolutions/ColoRivDelta32001.pdf. [↑](#footnote-ref-142)
142. 142 Pitt, et al., supra note 6, at 840, See also Luecke, et al., supra note 1, at 36. [↑](#footnote-ref-143)
143. 143 By law, the Secretary must consult with states in setting operating criteria for federal facilities on the ***Colorado***. ***Colorado*** ***River*** Basin Project Act, [*43 U.S.C. 1501*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SDD-0HD2-8T6X-74D2-00000-00&context=1516831) (2002). [↑](#footnote-ref-144)
144. 144 ***Colorado*** ***River*** Interim Surplus Guidelines, ***66 Fed. Reg. 7,772, 7,773*** (Jan. 25, 2001), available at [*http:www.lc.usbr.gov/g4000/surplus/surplus<\_>rod<\_>final.pdf*](HTTP://www.lc.usbr.gov/g4000/surplus/surplus) [hereinafter Interim Surplus Guidelines]. [↑](#footnote-ref-145)
145. 145 ***Id. at 7,773-74*** [↑](#footnote-ref-146)
146. 146 ***Id. at 7,774.*** [↑](#footnote-ref-147)
147. 147Consumptive use" is "diversion less returns to the ***river***." Boulder Canyon Project Act, [*43 U.S.C. 617c*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SDD-0HD2-8T6X-73RB-00000-00&context=1516831)(a) (2002). [↑](#footnote-ref-148)
148. 148 Interim Surplus Guidelines, ***66 Fed. Reg at 7,774.*** "Lower Division" is synonymous with "Lower Basin." [↑](#footnote-ref-149)
149. 149 Id. [↑](#footnote-ref-150)
150. 150 Id. In 1997, California's annual consumptive use of ***Colorado*** ***River*** water totaled 5.2 maf. In 1997, California's annual consumptive use of ***Colorado*** ***River*** water totaled 5.2 maf, ***Colorado*** ***River*** Board 4.4 Plan: Californians Use of its ***Colorado*** ***River*** Allocation, December 17, 1997 Draft, at [*http://www.sci.sdsu.edu/salton/*](http://www.sci.sdsu.edu/salton/) CoRiverBoard4.4plan.html [hereinafter 4.4 Plan]. [↑](#footnote-ref-151)
151. 151 Id. [↑](#footnote-ref-152)
152. 152 4.4 Plan, supra note 150. [↑](#footnote-ref-153)
153. 153 Id. In a move that signaled DOI is serious about limiting California's use of surplus water, the Secretary of the Interior entered an order in January 2003 requiring California live within its allotted share. The order was prompted by the failure of California water entities to sign a reduction plan known as the Quantification Settlement Agreement by the December 31, 2002 deadline. The deadline passed when the Imperial Irrigation District and the Metropolitan Water District of Southern California were unable to timely agree to the terms of a water transfer between the District and urban San Diego. Although it was the first time the Secretary had utilized her authority to limit California's use of surplus ***River*** Water, the move was mainly symbolic, in that deliveries of surplus water will resume once the entities reach an agreement. Dean E. Murphy, California Water War Takes New Turn, S.F. Chronicle, Jan. 5, 2003 at A-3, at [*http://www.sfgate.com/cgi-bin/article.cgi?file=/c/a/2003/01/05/MN169799.DTL*](http://www.sfgate.com/cgi-bin/article.cgi?file=/c/a/2003/01/05/MN169799.DTL). [↑](#footnote-ref-154)
154. 154 Id. [↑](#footnote-ref-155)
155. 155 Interim Surplus Guidelines, ***66 Fed. Reg. at 7,774.*** [↑](#footnote-ref-156)
156. 156 Id. [↑](#footnote-ref-157)
157. 157 Id. [↑](#footnote-ref-158)
158. 158 Id. [↑](#footnote-ref-159)
159. 159 The likelihood of this occurring is slim according to William Swan of the Imperial Irrigation District, California's largest water user at 3.1 maf per annum. Statement made to students in an Advanced Water Law seminar at the University of ***Colorado*** School of Law (October 22, 2001). [↑](#footnote-ref-160)
160. 160 This is because during the first phase of California's "water diet" the Secretary has agreed "to continue to meet southern California's water supply needs and keep the ***Colorado*** ***River*** Aqueduct full while programs are implemented to reduce California's demand for ***Colorado*** ***River*** water." 4.4 Plan, supra note 150. [↑](#footnote-ref-161)
161. 161 Pitt, et al., supra note 6, at 853; D'Amours, supra note 65, at 189-90. [↑](#footnote-ref-162)
162. 162 See 2001 Schedule of Deliveries to Mexico, supra note 84, which states there will be no surplus delivered to Mexico. [↑](#footnote-ref-163)
163. 163 Clark, et al., supra note 84, at 13. [↑](#footnote-ref-164)
164. 164 Id. [↑](#footnote-ref-165)
165. 165 Getches, supra note 71, at 607 (asserting that "it is only a matter of time before legal or diplomatic challenges will be made to the operating regime for the ***Colorado*** ***River***."). [↑](#footnote-ref-166)
166. 166 Compare William J. Snape, III, Adding an Environmental Minute to the 1944 Water Treaty: Impossible or Inevitable?, Appendix D in Workshop Proceedings, Water and Environmental Issues of the ***Colorado*** ***River*** Border Region Roundtable Workshop, San Luis Rio ***Colorado***, Sonora, Mexico. (April 30, 1998) (on file with the ***Colorado*** Journal of International Law & Policy.) (arguing that "three hard realities lead to the conclusion that there will be an ecological minute to the 1944 water treaty: 1) international law requires it; 2) the ecological condition of the [Lower ***Colorado*** ***River*** Basin], especially the delta wetlands in Mexico, necessitates it; and 3) domestic U.S. law provides the authority and mandate to restore imperiled riparian species and their associated habitat."). [↑](#footnote-ref-167)
167. 167 Lochhead, supra note 66, at 310. [↑](#footnote-ref-168)