Center for Latin American Studies
University of California, Berkeley

Modernizing the International Boundary and Water Commission

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Paper No. 1
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Modernizing the International Boundary and Water Commission

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* Dedicated to the memory of Albert E. Utton.
In the last of his many scholarly articles on U.S.–Mexico border issues,¹ the distinguished Professor Albert Utton rightly noted that the two countries had peacefully reached agreements that provided an unprecedented degree of certainty and stability in the basic allocation of transboundary surface water resources.

But Professor Utton was always thinking about the future, and he was realistic about the ability of these agreements to meet future challenges. Focusing particularly on the changes in the Río Grande basin, he concluded:

If we used the metaphor of a foot in a shoe in which the population depending on the Río Grande were a growing foot, and the water supply were the shoe that surrounds, protects and allows the foot to grow and prosper—then we could predict that early in the 21st century, the shoe will begin to pinch.

Few would disagree that Professor Utton’s prediction was right on target. In the Río Grande basin, some parts of the foot are already yelping in pain. Drought, reservoir mismanagement, increasing municipal demand, inefficient and copious use of water for irrigation, and long-ignored environmental water needs are the most prominent underlying causes, and none them are limited to the Río Grande basin. Indeed, similar challenges are present in the Colorado River basin and in smaller transboundary systems like the San Pedro along the Arizona–Sonora border.

How the U.S. and Mexico respond to these new challenges will determine whether the 21st century will be one of continued stability in water management, or one of frequent crises

¹ Albert E. Utton, “Coping with Drought: the Case of the Río Grande/Río Bravo,” in Transboundary Resources Report 12:1 (International Transboundary Resource Center at the University of New Mexico School of Law, 1999).
and conflicts in the binational relationship.

The International Boundary and Water Commission (IBWC) lies at the institutional heart of binational water management. Composed of a U.S. and Mexican section, the Commission was first established in 1889 to survey and maintain the U.S.–Mexico boundary along the Río Grande and Colorado rivers. While the 1944 U.S.–Mexico water treaty gave the Commission new duties relating to water allocation, flood control and border sanitation, its basic structure remained unchanged.

Over the last decade, the Commission has made some attempts—within the confines of its 115-year-old structure—to adapt to the radical changes affecting water management along the boundary. Those efforts—which include increased technological sophistication, more attention to environmental implications of floodplain management, improved public outreach and, on the U.S. side, establishment of various local citizen forums—are commendable, but it is increasingly evident that they have not been sufficient to allow the Commission to respond effectively to new pressures and challenges.

The time has come for the U.S. and Mexico to modernize the Commission. This does not mean renegotiating the 1944 water treaty in any significant respect. In our view, however, effective modernization will require that the countries confront the long-held fiction that controversial water issues can be resolved, out of the public eye, solely through application of what is traditionally viewed as the Commission’s technical expertise. As a first step,

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2 Comisión de Límites y Aguas.

3 The term “border sanitation” has been interpreted by the Commission to basically encompass water pollution caused by the discharge of municipal sewage. See, for example, Minute 261, Recommendation for the solution...
changes are required to ensure that the Commissioners have the full range of skills and stature necessary to address the political and diplomatic aspects of controversial transboundary water management issues. In this regard, the current limitation of an “engineer-commissioner” is no longer useful.

Effective modernization will also require that the two federal governments elevate the priority of border water issues within their respective foreign relations secretaries; more fully integrate the U.S. and Mexican sections of the Commission; significantly expand the resources available to the Commission; and develop clear procedures to avoid the types of crises confronting us now along the Río Grande. The latter will also require bringing the respective border states more fully into the Commission’s monitoring and decision-making functions regarding water allocation.

Given what is at stake, these are relatively modest modernization proposals. But if they are not pursued, the pinch of the shoe may become too much to bear. The Commission will be unable to respond effectively to even present-day challenges, let alone the increasingly difficult challenges that will come with continued change in the border region. And, without a functioning and relevant Commission, the U.S. and Mexico will find it extremely difficult to maintain even a modicum of certainty or stability in transboundary water management. 4

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4 We focus in this article primarily on surface water supply management, and the closely related issues of flood control and river system restoration. While the Commission does have certain functions related to important matters of water quality, we leave that subject for another day. We also do not address the very significant issue of better management of transboundary groundwater. For more on the groundwater issue, see Helen Ingram, “Transboundary Groundwater on the U.S.–Mexico Border: Is the Glass Half Full, Half Empty or Even on the Table?” Natural Resources Journal 40:198 (2000).
I. OVERVIEW OF THE COMMISSION AND RECENT BORDER WATER ISSUES

The Commission was created in 1889, when the combined population of its eventual headquarters, El Paso–Juárez, was less than 50,000. Its early responsibilities were centered on surveying and maintaining the binational boundary along the Colorado and Río Grande. The initial requirement that each Commissioner be an engineer was well suited to these limited responsibilities.

In 1906, the Commission was charged with the administration of the Convention between the U.S. and Mexico for Equitable Distribution of the Waters of the Río Grande. Motivated by a potboiler dispute between the two countries over flows in the Río Grande, this relatively simple agreement provided that Mexico would receive 60,000 acre-feet per year, delivered through the Acequia Madre, just above El Paso. In return, Mexico renounced any claims to the waters of the Río Grande between the Acequia Madre and Fort Quitman, Texas.

Then, in the midst of World War II, after lengthy negotiations and a somewhat contentious ratification process in the U.S. Senate, the two countries signed the 1944 Treaty for allocation of the waters of the transboundary portion of the Colorado and Tijuana rivers and the Río Grande. This treaty continued the structure of one engineer-commissioner from each country, though there were attempts during the U.S. Senate ratification debate to

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provide instead for three commissioners from each country.\footnote{7}

The engineer-commissioner structure, combined with the fact that most of the Commissioners have been careerists,\footnote{8} has led many, both inside and outside the governments, to view the Commission as a place where border water and boundary alignment issues are dealt with on a “technical” basis, as opposed to a “political” basis.\footnote{9} The Commission’s preferred mode of operation has long been behind-the-scenes negotiations among engineering and technical personnel.\footnote{10}

This distinction between the “technical” and the “political” is increasingly problematic. Many border water issues are inherently policy-based, as well as political. In both the U.S. and Mexico, water issues involve a broad set of competing, vocal and politically active interests, and they can sometimes stir up trouble for both domestic policy and the bilateral relationship.

One need only look at the public furor (in both countries) over Mexico’s accumulated water delivery deficit in the transboundary Río Grande to see how “political” it can get. With elected officials, farmers, environmentalists and others in both countries newly attuned to and

\footnote{7} Article 2, 1944 Treaty. The International Joint Commission, which deals with water issues on the U.S.–Canada border, has three Commissioners from each country.

\footnote{8} Since 1927, the U.S. Section of the IBWC has had only seven Commissioners, the longest running being L.M. Lawson and Joe Friedken, who served for 27 and 24 years, respectively. The Mexican Section has had only 8 commissioners, with the current commissioner, Arturo Herrera having served for 14 years. Other staff, in both sections, have had similar longevity. For example, Bob Ybarra, who recently retired from the position of Secretary in the U.S. section, spent 27 years at IBWC.


expressing all manner of opinions on the issue, it was not (and is not) possible for the Commission to just sneak off and quietly negotiate a resolution. Instead, the dispute has required the attention of the highest officials in both countries,¹¹ and much more active involvement on the part of the U.S. Department of State and the Mexican Foreign Relations Secretariat.

The Río Grande dispute has also illuminated the need to bring the border states more fully into the water allocation and management process. Isolated much of the time from the Commission’s negotiation process, state politicians on both sides of the border have sometimes used strong rhetoric to advance their demands, thus making it even more difficult for the two federal governments to find solutions.¹²

Moreover, the Commission’s view of itself as a “technical” agency may have helped create the current Río Grande management crisis. In hindsight, it should have been obvious to the Commission in 1996 that the operation of key reservoirs in the Río Conchos basin by Mexico’s National Water Commission was setting up a possible deficit situation.¹³ Yet, neither Commission section seemed willing to elevate the issue to their respective foreign

¹¹ Presidents Fox and Bush have discussed the issue at least four times over the course of the last three years.

¹² For just three of many examples, see “México Apesta,” Proceso (19 May 2002) and “Governor of Chihuahua: Perry playing politics with water dispute,” McAllen Monitor (11 May 2002) (both covering statements from Texas Governor Rick Perry and Chihuahua Governor Patricio Martínez) and “Perry Touts Mexico Water Cut-Off,” San Antonio Express News (August 18, 2003).

¹³ The worst year of the northern Mexico drought was 1995 and 1996, and it put Mexico way behind in its delivery obligations. The following year brought significantly more rain to the Río Conchos basin, but instead of ensuring that some of that water was used to meet the five-year cycle average delivery requirement of 350,000 acre-feet/year, Mexico’s National Water Commission (CNA) allowed it to be used for irrigation. This decision resulted in Mexico ending the 1992 to 1997 cycle with a deficit of about 1 million acre-feet, forming the bulk of the present deficit. See Gerardo Jiménez, “Uso Agrícola del agua en el Río Conchos,” Proceedings of May 2002 binational conference on the Río Conchos, available at http://www.environmentaldefense.org/pdf.cfm?contentid=2906&filename=RioGrande_rioconchosAgricola.pdf.
ministries, possibly for fear of stepping on political toes.

As the Río Grande crisis deepened, it became necessary to involve the respective state departments. Fortunately, this helped the Commission reach agreements that have avoided a further increase in the deficit since 2000, secured some transfers of water to the U.S. from Mexico as payment on the deficit, and, most importantly, laid the policy groundwork for better long-term management of the basin. Among other features, the policy groundwork includes: negotiation to define the treaty’s ambiguous “extraordinary drought” term; a commitment to hold a binational summit on Río Grande basin management; and investments in agricultural water conservation. It is not at all clear that the Commission, with its more limited and ad hoc, technical focus would have been able to reach these agreements without the vigorous involvement of the two state departments.

The Colorado River basin also presents examples of the need for a different approach by the Commission. Here, the Commission was unwilling or unable to get the U.S. Department of Interior to consider the need for some periodic flow to sustain the Delta in the Department’s formulation of “Interim Surplus Criteria” for the Colorado River. The criteria define acceptable uses of Colorado River surface water in years when a surplus is available. As a result, Mexico was put in the position of having to file a diplomatic note with the U.S. Department of State, protesting the fact that water needs for the Delta were not included at

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14 Though the four official interim accords regarding this dispute are contained in Minutes of the IBWC, the last three, in particular, (Minutes 307, 308 and 309) were largely negotiated by the respective state departments, with technical input from the Commission. The Minutes are available at [www.ibwc.state.gov](http://www.ibwc.state.gov).
After considerable pressure from conservation groups and other interests, the Commission finally recognized the importance of the Colorado Delta in Minute 306 in December 2000. Among other things, this agreement commits the Commission to work towards recommendations for environmental use of water to sustain the Delta. Delayed by the focus on the Río Grande dispute, the binational nongovernmental advisory group established by this Minute had its first meeting in November 2003, but no Mexican members had been appointed.

Another area of challenge is flood control operations. Traditionally, the Commission has been focused on structural remedies and vegetation removal practices designed to maintain or increase channel carrying capacity. In several parts of the border, however, this approach conflicts with local interests in maintaining or restoring healthy riparian corridors for wildlife. These conflicts have arisen in the Lower Río Grande Valley of Texas–Tamaulipas, the reach of the Río Grande between Caballo Dam and El Paso and the limitrophe reach of the Colorado. Conservation groups are advocating for flood control approaches that minimize habitat loss and that foster restoration opportunities. Other interests are pushing equally hard for more expansive (and expensive) clearing, channel dredging and levee reinforcement.

In sum, resolving these and other major border water issues increasingly requires skilled diplomacy, political will, adequate resources, and excellent public outreach, as well as good science. And, given the border region’s desert environment and growing demand on already

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overtaxed rivers, water issues within the Commission’s purview are only likely to get more
difficult and more political.

II. THE SHOE PINCHES: GROWING DEMAND, ENVIRONMENTAL NEEDS AND
CLIMATE CHANGE

From 1944 to 1992, water allocation in the Colorado and Río Grande basin did not pose
major binational problems, with the notable exception of the salinity dispute in the Colorado
basin. In fact, during many of those years, the U.S. sent more water to Mexico from the
Colorado than required by the treaty, and Mexico sent more water from its tributaries to the
Río Grande than was required. A combination of several “wet” years and, until the last two
decades, demands well within the available supply largely accounted for this relatively happy
state of affairs.

The situation has begun to change dramatically, however. Municipal water needs have
grown rapidly, as the population in both basins has increased. The growth stems from many
factors: the “industrialization” program that attracted *maquiladora* factories and workers to
Mexico’s northern border; general migration patterns in the U.S. favoring a population shift
to the warmer climates of the southwestern deserts; and a relatively young border population
with high birth rates. Population in both the Colorado and Río Grande basins is projected to
continue its upward spiral, with annual growth rates in the 2 to 4 percent range.

Economic development policy for much of the border region was formulated without
consideration of water resource limitations. Local and state, and even federal, officials in
both countries have often assumed that water would come from somewhere: new reservoirs,

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new well fields or reallocation from agricultural use. For example, irrigation diversions currently account for about 90 percent of surface water diversions in the Lower Río Grande Valley of Texas. The regional water plan for this area places considerable reliance on cities being able to satisfy their future demand by leasing or purchasing irrigation water rights.

In many areas of the Colorado and the Río Grande basins, however, agricultural water use has not yet decreased significantly. While some irrigated land has gone out of production due to suburban development or agricultural market forces, much of the available water has been used to grow more thirsty crops, such as alfalfa or pecans. Some areas of the border have even experienced an increase in agricultural water use, as new lands were opened up via improvements in irrigation delivery systems.16

Nevertheless, market forces, increasing competition for limited water supplies and loss of irrigated land to other uses could reduce future irrigation demand in some parts of the transboundary region. The questions involve how much of this water is transferred to consumptive municipal use, at what price, and whether some of it is available to meet pressing environmental water needs.

Environmental needs are on the table because the longstanding ability of water managers to ignore them is coming to an end. For example, there are many interests advocating for a guarantee of some water to sustain the productivity of the Colorado Delta. Though decades of reduced Colorado River flow reduced the once magnificent Delta to a shadow of its former self, there has been some recovery due to periodic floods over the last few decades. The Delta still supports several endangered species, and is an increasingly important
economic asset for local communities. In the Río Grande basin, efforts are underway to protect the environmental values of the river in both New Mexico and Texas, as well as in some of the major tributaries like the Río Conchos in Chihuahua. Though there are many challenges to overcome in meeting these environmental water needs, the issues will not just fade away.

The final degree of increasing complexity is the potential effect of climate change on the transboundary basins. Even in normal times, most of the border region receives less than twenty inches of precipitation per year; some areas receive less than five inches. Increasingly, there is reason to believe that hotter and potentially more arid conditions will characterize the future climate of the border region, a trend likely to further disrupt water budgets already overwhelmed by demographic and other factors.

Climate change could bring other significant complications, such as a change in spatial and temporal distribution of precipitation, soil moisture and runoff, and the frequencies and magnitudes of droughts and floods. In turn, these factors could lead to changes in cropping patterns, the supply of and demand for water, and changes in natural ecosystems.

Though more analysis is needed to define specific projected effects, most studies show that the Río Grande and Colorado basins would be hard hit if global temperatures continue to rise.

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16 Jiménez, supra.
III. MODERNIZING THE COMMISSION

Responding to these and other border water management challenges is going to require action on the part of water users, government at all levels and the policy community. It is clear that the states, on both sides of the border, need to be much more actively involved in transboundary water policy. Many of the management decisions that affect our border rivers are made at the state level, and those decisions will increasingly need to incorporate transboundary concerns.

We focus here, however, on what we believe needs to happen at the Commission. While the Commission is only one piece of a sustainable border water management framework, it is a crucially important piece.

A. ELIMINATE “ENGINEER-COMMISSIONER” REQUIREMENT

Article 2 of the 1944 Treaty specifies that the Commissioner of each section shall be an “Engineer Commissioner.” Over the years, the governments have interpreted this language as requiring that the Commissioner actually be an engineer.19

Such a limitation on the potential candidates for Commissioner, in either country, has long outlived its usefulness. As discussed above, the role for the Commission has gone far beyond boundary surveys and technical measurements of water flows and allocations.


19 In fact, in January 2004, President George W. Bush appointed Arturo Duran as the new U.S. Commissioner. Most U.S. Commissioners have been civil engineers. Mr. Duran, however, is a chemical engineer, though he was most recently the director of the Lower Valley Water District in El Paso. Selection of a chemical engineer is an indication that the “engineer-commissioner” restriction is increasingly an artificial (and unnecessary) limitation.
Addressing the current and likely future transboundary water issues, particularly in the Colorado and Río Grande basins requires a host of skills: political, diplomatic, public relations, and, most importantly, a vision of how to achieve sustainable water management. Limiting the pool of candidates to engineers is far too restrictive.

B. ELEVATE BORDER WATER ISSUES IN THE FOREIGN RELATIONS SECRETARIATS

The U.S. Department of State and the Mexican Secretaría de Relaciones Exteriores have been largely content to relegate transboundary water issues to a small, back room desk for the Commission liaison. Only when the issues reach a certain diplomatic crisis standpoint (e.g. controversy over Colorado salinity in the late 1960s and early 1970s or the Río Grande water delivery dispute) do higher ranking staff of the foreign secretaries engage.

In the U.S., this liaison has traditionally functioned almost as the IBWC representative within the State Department, primarily for budget purposes, rather than as a staff that oversees the work the of the U.S. section of the Commission or that has a mandate to independently gather and analyze information about transboundary water issues. In Mexico, the former General Directorate for International Boundaries and Waters was dismantled in the 1990s, as part of a general budget cut, and reduced to a small desk several bureaucratic levels down.

As we discuss above, growing—and competing—demands for water are making management of the transboundary basins more difficult. And, as evidenced by the Río Grande dispute, a disagreement over water can affect other important issues on the binational agenda.
These factors argue for elevating border water issues on a systematic basis. The Commission liaison position in the Mexico Office in the U.S. Department of States Western Hemisphere Bureau should be given supervisory/oversight responsibility, and charged with identifying and raising internally in the Mexico Office those transboundary water issues that have difficult policy or political dimensions. The abovementioned General Directorate for International Boundaries and Waters should be reinstated in the Mexican Foreign Ministry.

C. Joint Office
Currently, the U.S. and Mexican sections of the Commission reside in completely separate headquarters, the Mexican section in Juárez and the U.S. section across the river in El Paso.20 Besides the fact that waiting in five-hour bridge crossing lines might discourage more face-to-face meetings, the separation of the sections does not foster the kind of coordination necessary for effective binational management. Instead, it fosters much more of an “our side/your side,” “our data/your data” approach to the issues, a situation that is exacerbated by an asymmetry of resources greatly favoring the U.S. section.

Integration of the Commission offices would help the sections better coordinate data gathering,21 public outreach (the Mexican section of the Commission does not yet even have a web site) and technical project design. It should also lead to stronger working relationships and earlier and more effective communication about potential problems and solutions.

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20 This approach contrasts with the binational/one-office structure of the Border Environment Cooperation Commission (located in Ciudad Juárez, Chihuahua), the North American Development Bank (located in San Antonio, Texas).

21 For example, a joint office could develop a central real-time river flow monitoring system to keep tabs on reservoir management and diversions. The sections could share water quality laboratory facilities, helping to eliminate duplicative testing.
D. DESIGNING FOR THE FUTURE

There are at least three changes that could help to reduce future binational conflicts over transboundary water resources management. First, the State Department and SRE should jointly undertake a major review of the types of resources, technology and staff skills the Commission will need to better manage and protect transboundary water resources over the coming decades. To be effective, the Commission is going to need a bigger budget, with more environmental/biological expertise and increased resources for real-time stream monitoring, public outreach, hydrological studies, reservoir modeling and futures forecasting. It is particularly important that this review be undertaken jointly and that both countries be prepared to commit the same level of resources.

Second, the Commission should establish a formal procedure by which the two countries are clearly bound to provide early and detailed notification of projects that could reduce the flows of tributaries or groundwater springs contributing to the shared basins. In fact, Item 6 of Minute 242 provided that such consultations would be carried out, but the lack of clear procedures for when consultation is required and how and when it is to occur rendered this commitment less than effective.22

Third, the two governments should establish joint binational basin councils, one for the Rio Grande and one for the Colorado River. A version of this idea is, in fact, included in

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22 In pertinent part, Minute 242 provides:

With the objective of avoiding future problems, the United States and Mexico shall consult with each other prior to undertaking any new development of either the surface or the groundwater resources, or undertaking substantial modifications of present developments, in its own territory in the border area that might adversely affect the other country.
In our view, these basin councils should be composed of representatives of various relevant federal agencies (primarily the Department of Interior and the Secretaría de Medio Ambiente and Recursos Naturales (SEMARNAT)) and each of the state governments in the respective basins. The councils would necessarily be designed to operate in a transparent fashion, providing a meaningful process by which water users, nongovernmental organizations and the public could have their concerns heard. The basin councils would focus on identifying actions necessary for sustainable management of these two important transboundary river systems, with representatives bringing their own concerns and management proposals directly into a joint decision-making process.

This type of basin council is required because the challenges facing these two river systems have gone far beyond mere water allocation and boundary maintenance. The management challenges in the basins, in each of the states in which the rivers and their tributaries flow, are largely under the control of the respective federal agencies and state governments, not under the Commission’s control.

Thus, there is a critical need to provide an institutional framework where the implications of these water management decisions for the transboundary resources can be

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23 Minute 308 provides:

International Advisory Council. The Commission, subject to provision of financial and personnel resources to each Section by the respective governments as a step to strengthen the Commission’s role in the area of sustainable management of the basin and drought management planning, will establish a forum for the exchange of information and advice to the Commission from government and nongovernment organizations.
examined and improved.

We propose that the Commission would essentially act as a Secretariat to these basin councils, providing technical analysis and ensuring that treaty considerations were included in the councils’ decision-making process. This would help avoid concerns that the Commission would in any way usurp national or state authority over domestic water resources. In addition, the Commission (with additional resources, as discussed above) would be positioned to assist in implementation of the basin councils’ joint decisions to improve the sustainable management of the two basins, within the parameters of its authority under the 1944 Treaty.

IV. CONCLUSION
Our objective has been to make the case for why Commission must be modernized and to set out some specific proposals that we hope can contribute to the debate about what to do. The important thing is that the debate begin … in earnest. Praying for rain won’t do the job: drought is the “normal” condition in these two river basins.

But, the border can prosper even during drought years if the basins are well managed. Modernizing the Commission is a critical element of a stable transboundary water future.

The basin council concept is also discussed in *U.S.–Mexico Transboundary Water Management: The Case of the Rio Grande/Rio Bravo* (U.S./Mexico Binational Council, Center for Strategic and International Studies, January 2003).