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Scarcity and Power in US–Mexico Transboundary Water Governance: Has the Architecture Changed since NAFTA?

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ABSTRACT *This paper examines the politics of water allocation on the US–Mexico border since the North American Free Trade Agreement (NAFTA) began in 1994. While NAFTA reforms have modestly changed the water allocation regime, they have not altered the longstanding asymmetry of power relationships governing the allocation of water resources between the two countries. Two rivers are considered. On the Rio Grande, NAFTA and its associated reforms had the effect of accentuating recent allocation crises and helping to resolve them, while leaving existing power arrangements largely intact. On the Colorado River, efforts to save the Colorado River delta ecosystem after NAFTA benefitted from institutional reforms, but these efforts remain rather marginal to the longstanding structure of power governing allocation and management of Colorado River water resources, as the case of the All-American Canal dispute reveals. These cases reveal the treaty regime as one that is highly resistant to change, suggesting that caution is needed when using theoretical constructs like multilevel governance and collaborative watershed management in drawing generalizations on transboundary water management along the US–Mexican border.*

Keywords: Colorado River, Rio Grande River, 1944 Water Treaty, US–Mexico water governance, drought, All-American Canal

Introduction

To what extent, if any, has the North American Free Trade Agreement (NAFTA) altered the architecture of power in US–Mexico water relations? At a time of chronic water shortage across the transboundary river basins that serve the two countries, this is not just an academic question. It gets directly to the capacity of the governments to equitably address pressing water needs along the US–Mexico border, an arid region that continues to rapidly develop

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and generate a host of competing demands on the area's limited water resources. Transboundary water governance in the face of acute and chronic shortage arguably requires greater binational cooperation if conflict is to be avoided and resources are to be managed sustainably to the general satisfaction of stakeholders on both sides of the border. The NAFTA reforms, particularly its environmental side agreements and related developments, held out the prospect of greater cooperation on a range of natural resources and environmental concerns including the management of water resources. Has NAFTA made a difference in transboundary water governance and, if so, how?

This paper explores these questions. It proceeds, first, by retracing the basic architecture of US–Mexican water relations and reviewing several schools of thought on how the NAFTA reforms may have altered the water governance equation in transboundary river basins along the US–Mexico border. It follows with a brief review of important developments and recent problems in the management of river water in the two major river basins that dominate most discussions of US–Mexico water relations. These two cases and their subcases reveal important changes in water governance over the past 20 years that have generated some guarded optimism concerning the prospects for greater binational cooperation related to water management in these important basins. The paper concludes by reflecting on the impact of these changes on the overall structure of the bilateral relationship for transboundary rivers management along the border.

Structure and Reform in Transboundary Water Management: Theoretical Perspectives

In a recent article coauthored with Stephen Mumme and Oscar Ibanez (2013, p. 169), we argued that 'the structural underpinnings of power in US–Mexico water management are profound and enduring'. This is certainly the case. The allocation and management of transboundary water has historically evolved under circumstances of considerable economic and strategic asymmetry since the boundary was set in 1848, conditions that have not fundamentally changed even as the two countries have moved toward greater economic integration after WWII. Water relations are also affected by sovereign constitutional and political differences that shape the political dynamics of resolving water disputes (Mumme & Ibanez, 2013). With water governance centered at the national level in Mexico, and the state level in the USA, for example, the difficulty of achieving binationally acceptable agreements is considerable. Such differences accentuate the importance of agreements when achieved and raise the stakes associated with their undoing. Regional water scarcity has ensured that these agreements are foundational to national development on both sides of the border, accounting for the fact they rank among the earlier and more important of the national agreements struck by the two countries. In fact, the US–Mexico relationship on transboundary water is from a diplomatic point of view one of the most fixed arrangements in their common affairs, evolved over 165 years since the Treaty of Guadalupe Hidalgo and constitutionally determined by the 1944 Water Treaty and earlier agreements affecting the management of water on the Colorado and the Rio Grande Rivers. I say constitutionally determined because, in fact, the 1944 Water Treaty is one of the rarest of treaties, a 'constitutional treaty'. Such constitutional treaties, I argue, share a slate of basic political characteristics wherever they are found (see [Table 1](#)).

This deep institutionalization of transboundary water management, administered through the International Boundary and Water Commission (IBWC) and subject to the oversight of the national foreign ministries, has a different sovereign expression at the domestic level of each country that is reflected in national water administration and the politics of water affecting the governance of their transboundary rivers. At the international level, however, binational

Table 1. Criteria for constitutional treaties

-
- Linked to well-institutionalized national constitutions
 - Linked directly to individual property rights and/or pocketbook issues—deep penetration across civil society
 - Political costs of textual change are extremely high. Subject complexity that raises stakes of any alterations
 - Implementation change strictly through interpretation and political agreements on amendments.
 - Treaty survives multiple political administrations in both countries
 - Subnational jurisdictions have high investment in treaty
 - Treaty widely associated with national pride and popular conceptions of sovereignty
 - Treaty core unmodified for at least 50 years
-

Source: Author's analysis of treaties listed in the International Freshwater Treaties Database, Oregon State University, available at: <http://www.transboundarywaters.orst.edu/database/interfreshwaterdata.html>.

water management has been highly predictable, grounded in treaty interpretation and long-established diplomatic practice. Its purpose and focus have historically centered on the administration of treaty rules and procedures related to water allocation, whose priority prevails over other important values embedded in the treaty regime, or without.¹

This established institutional architecture prevailed unchallenged until the 1980s when a new agreement, the La Paz Agreement on border region environmental management, was signed by the governments. The 1983 La Paz Agreement opened an institutional window for the consideration of water quality and biodiversity issues that had been previously neglected by the IBWC, drawing new domestic and international players into transboundary rivers diplomacy. It also raised domestic awareness of border area environmental conditions that played into the politics surrounding NAFTA a nearly a decade later. The NAFTA debate in its turn produced a mix of new programs and international agencies that were additive to the extant water management regime along the border.

There is no question that the NAFTA side agreements and related programs altered the institutional environment for transboundary water management along the border. They established three new international agencies, the Commission for Environmental Cooperation, the Border Environment Cooperation Commission (BECC), and the North American Development Bank (NADB). They strengthened implementation of the La Paz Agreement along the border. They amplified natural resources policy cooperation through the *Trilateral Committee on Wildlife*. New domestic advisory bodies, focused on sustainable development and environmental protection on each side of the border, were established. The political process associated with NAFTA proved a catalyst for NGO engagement and network along and across the border, strengthening the capacity of civil society to collaborate and influence water governance. These changes, in turn, altered the structural context for transboundary water management, triggering adjustments at the IBWC and broadening its agenda.

But did these changes really alter the architecture of power that has historically prevailed in US–Mexico water relations? Several schools of thought may be brought to bear on the subject. One perspective that has gained currency in recent years, a view to which I partially subscribe (Mumme, Ibanez, & Till, 2012), draws on multi-governance relations theory (Hooghe & Marks, 2003; Ostrom, 2009, 2010) to argue that the new NAFTA institutions are paving the way for the emergence of a different type of transboundary water management along the border. The new management, perhaps best seen in the BECC, is grounded in a more flexible and resilient form of multilevel governance (MLG) enfolding older and more traditionally vertical modes

of public administration of the sort normally associated with established federal systems. Viewed from this perspective, older established institutions like the IBWC that operate as traditional dependencies of their respective governments, even when functionally focused and enjoying significant organizational autonomy, are constrained and redirected as they become enfolded within a web of other functionally specific and relatively autonomous organizations and informal arrangements whose jurisdictions and functions overlap or touch on their own. Along the border, for example, the BECC, its institutional partner, the NADB, national border advisory groups, and new binational environmental programs fall into this category. Other coincident factors, such as political and administrative decentralization on the Mexican side of the border in the post-NAFTA period, are also contributing to changes in border area water management (Wilder & Lankao, 2006).

Another and related perspective draws on social movement and network theory with an emphasis on collaborative water governance to argue that power relations have been substantially altered in border water management. Earlier work by Francisco Lara (2000), Dan Sabet (2008), and others, documented the proliferation of non-profit advocacy networks for water management along the border. These advocacy networks are visible in the new policy arenas coming out of NAFTA. In some instances, these networks have demonstrated an ability to shape the policy agenda for transboundary water management. As a recent paper by Andrea Gerlak (2014) argues, a new MLG environment in border water governance is receptive to the informational and aggregative assets that water policy networks can mobilize as the governments try to cope with specific issues on the binational water agenda. Gerlak's recent papers (2014, Gerlak, Zamora-Arroyo, and Kahler (2013)) on the Colorado River attribute recent policy innovations in part to the sustained engagement of binational public–private research and advocacy partnerships whose knowledge, networks, and ability to leverage monetary resources have enabled the governments to tackle conservation solutions for the Colorado Delta.

These relatively recent theoretical perspectives are by no means mutually exclusive nor do they entirely contradict earlier theoretical orthodoxy on the politics of border water management. That earlier understanding of border water politics and the architecture of power in transboundary rivers management is predicated on the politics of what Robert Putnam (1988) called two-level games and grounded in an understanding of domestic politics in the two countries. From this theoretical perspective, set out in the work of policy scholars like Dean Mann (1975a, 1975b), Helen Ingram (1990), Albert Utton (1991), the diplomacy of transboundary water management is determined, first, by domestic water interest groups (we can say stakeholders) pursuing their self-interest within the effective structure of government (centralized/ decentralized) and its various policy arenas on both the input and output side of the political system. These water interests are focused primarily on non-regulatory concerns related to the ownership, storage and distribution, and consumption of water. At the international level, the established treaty regime in US–Mexican relations was created to serve these respective interests as they are found in both countries, with variations in the pattern of representation and influence depending on the country. From this theoretical perspective, the prevailing pattern of politics and political power is well established and quite resistant, though not impervious, to newer and emergent social forces interested in sustainable development, ecology, and conservation, as well the achieving greater equity in the utilization of scarce water resources within and across the border region.

Each of these perspectives has a certain theoretical emphasis. MLG theorists tend to examine the institutional and political context within a policy domain. Social movement and network theorists tend to examine the way public and private policy actors interact, their communicative

strategies and linkages, and the informational and material resources they bring to the policy arena. And more traditional policy analysis focuses on organized interests, established structures, rules, and procedures, differences in policy content, and the way domestic politics constrains diplomacy at the international levels.

This paper does not purport to rigorously test these various perspectives for what they say about the changing architecture of power in US–Mexican transboundary water relations but draws some insights from developments over the past decade or more in the two major river basins, parsing these through the general optics of these three perspectives. For this purpose, the same approach used in Mumme et al.’s (2012) assessment of emergent multilevel governance in US–Mexico water management is employed here, first examining Rio Grande River developments followed by a look at developments on the Colorado River.

Drought on the Rio Grande

In the post-NAFTA period (1994–2014), chronic drought has been the principal challenge for water managers on the Rio Grande (Carter, Seelke, & Shedd, 2013; Mumme, 1999, 2003). Drought conditions, punctuated by occasional extreme weather events, have prevailed for the better part of the post-NAFTA era throughout the Rio Grande River Basin, stressing water management in both countries and occasioning significant disagreement on treaty implementation between the two countries. While definitions of drought vary among climatologists, the existence of drought has a concrete operational meaning under the 1944 Water Treaty. Under the Treaty’s Article 4, drought may be said to exist when Mexico fails to deliver its statutory quota of water to the USA in any given year but categorically exists when Mexico fails to deliver its treaty-mandated quota over a fixed five-year cycle (Treaty, 1944). In the past 20 years, a protracted Treaty-based drought has occurred on at least two occasions, the first in the period 1992–2005 and the second since 2007.

From a political perspective, what is interesting about the management of these two periods of Rio Grande drought is the extent to which the discussion and management of the conflict have proceeded as a full-on expression of the established management regime. To appreciate this, a brief accounting of the diplomatic development in each period is helpful.

Drought Management, 1992–2005

The Rio Grande drought crisis that developed after 1992 must be understood in terms of the treaty regime’s provisions bearing on that river. Article 4 of the 1944 Water Treaty provides that Mexico supply the USA with 350,000 acre feet of water annually as averaged over a five-year cycle. It does not stipulate that Mexico is in arrears should it fail to deliver the required amount in any given year. Should Mexico be in arrears in treaty water deliveries at the end of any five-year cycle, it may request that the arrearage be carried over as debt to the next five-year cycle (Treaty, 1944, Art. 4). Left unspecified is the question of whether Mexico is obligated to pay its debt in full from the previous cycle concurrent with any debt accrued in the current cycle, or whether debt in the current cycle may be rolled over to the following cycle, with Mexico simply paying down the debt from the earlier cycle. And on this point, the two countries disagree. Also at issue is the interpretation of the Treaty’s undefined reference to ‘extraordinary drought’ (Treaty, 1944). Article 4 provides that the Treaty’s Rio Grande drought management provisions shall operate under circumstances of extraordinary drought. This means, in effect, that any water debt rollover should be triggered by a declaration of extraordinary drought,

presumptively a circumstance on which both countries agree. But in the absence of any definition of the term, its effective meaning may be contested by the USA. This is no minor point as recent history has shown. Is, for example, an extraordinary drought determined by the operational fact of the amount of water delivered to the Rio Grande mainstem by Mexican tributaries, or is it determined by climatological conditions or the volume of water available in Mexico's upstream reservoirs? On that, the two countries disagree.

As a political problem, the earlier drought crisis really set in after 1997 when Mexico, in arrears on its water payments, asked for a rollover of its debt (CSIS, 2003; Vina, 2005). This was not so very controversial at the time, though such requests are always worrisome to Texas farms and municipalities downstream. When Mexico continued in arrears by 1999, however, Texas water users downstream were outraged, venting their wrath on the IBWC's US Section and the US State Department. At this point, Texas border water interests took their anger to the Texas Agricultural Commission, the Texas statehouse in Austin, Texas, and to the US Congress (Milloy, 2001, p. A14; Weiner, 2002, p. A11). Resolutions demanding Mexican compliance with the treaty's provisions were introduced in Austin and in the US House of Representatives. The issue was repeatedly raised at the level of the US–Mexico Binational Commission (cabinet-level agencies of both governments) and by 2000 in presidential summits (Wiener, 2002, p. A11). Mexico reacted by declaring an 'extraordinary drought' emergency on the River, pointing to low precipitation in the Conchos River basin. The USA responded by using satellite data to monitor levels in Mexican reservoirs, accusing Mexico of hoarding available water. Mexico's National Water Commission (CNA), in turn, rejected these accusations, noting that available supplies were insufficient to meet Mexico's own domestic demand and needs for flexibility in meeting the water needs of its upstream irrigation districts. Texas farmers indignantly argued that Mexico was using water inefficiently and had grown its irrigation districts in response to the opportunity to export crops to the USA, facilitated by NAFTA. Texas farmers would eventually (in 2004) file a NAFTA Chapter 11 lawsuit claiming monetary compensation for damages of more than \$500 million USD (Associated Press, 2004; Kibel & Schutz, 2007, p. 252; Michaels, 2008).

With the dispute focused on treaty implementation, its political focus and diplomacy centered on the IBWC and the foreign ministries. By 2000, the issue had become the rarest of issues in US–Mexican water relations, one that reached the presidential level in both countries (Weiner, 2002, p. A11). Even so, the debate revolved around technical issues with each section of the IBWC coordinating with water user organizations in its country, principally irrigators, and state and federal water managers including in the USA the Texas Rio Grande Watermaster, Texas Water Development Board, and Texas Commission on Environmental Quality in Texas, and the US Department of Agriculture, US Bureau of Reclamation (BOR), and the State Department at the federal level; and in Mexico, the CNA, Chihuahua's state water commission, water users associations, and municipal utilities. Because the problem lay upstream in Mexico, there was little that US agencies could do but fulminate. Congressional resolutions vented Texas frustration and kept pressure on the executive agencies but managed little else.

At the public level, the drought crisis was at least partly the catalyst for a series of symposia and conferences focused on the sustainable management of the river. In 1999, the IBWC, the US BOR, the Western Governors Association, and Mexico's CNA sponsored a drought management workshop in El Paso, an event followed in 2000 by a federally sponsored symposium on the Rio Grande/Rio Bravo in Cd. Juarez facilitated by the natural resources and environmental agencies of the two federal governments (IBWC, 2005a). One result of the latter conference was a new Rio Grande/Rio Bravo Ecosystem Work Group established by the IBWC. The IBWC's US

Section also established a new Lower Rio Grande Citizen's Advisory Committee as part of a new public outreach program begun by then Commissioner John Bernal (IBWC, n.d.). A civil society group, the Rio Grande/Rio Bravo Coalition also convened a 'Uniting the Basin' conference in Cd. Juarez in 2000 that brought together environmental and conservation groups as well as various municipal and agricultural stakeholder groups across the basin (IBWC, 2005a). In 2001, a coalition of 22 NGOs from both countries issued a 'Binational Declaration on the Rio Conchos and the Lower Rio Grande' advancing conservation principles, ecosystem protection, attention to the hydrological cycle, the need for revised operating protocols for Mexican reservoirs, deepened binational understanding on the management of Mexican water payments, and the need to involve stakeholders in both countries in the development of drought management planning and sustainable management of the Conchos/Rio Grande River systems (Texas Center for Policy Studies, 2001).² In 2002, The Texas Center for Policy Studies organized a conference on the Conchos River in Chihuahua, Chihuahua and later that year, the university led US-Mexico Binational Council and the Washington, DC-based Center for Strategic and International Studies held a workshop in Austin, Texas that became the basis for a widely distributed policy report on the Rio Grande in 2003 (IBWC, 2005a). One non-profit, the Environmental Defense Fund, also focused effort on finding alternative private sector solutions, working with private irrigators along the Conchos, among other things trying to develop conservation easements with private appropriators that might reduce water demand.

Sustained discussions at the level of the IBWC and the foreign ministries, with some help from the Vicente Fox administration, led to further Mexican water releases and binational agreements in 2001 and 2002 that produced a water conservation plan designed to enable Mexico to meet its US treaty obligation (Carter et al., 2013; CSIS, 2003). The agreement, set out in IBWC Minute 308, utilized the facilities of the BECC and NADB, establishing a new Water Conservation Investment Fund (WCIF) at NADB to finance needed conservation infrastructure in Rio Conchos Irrigation District 005 in Mexico (the largest of the Conchos' irrigation districts) and along the lower Rio Grande in the USA. Minute 308 also responded to criticism of the IBWC, calling for the creation of a binational advisory committee to apprise the Commission of water management needs in the middle and lower Rio Grande basin. It promised to convene a binational conference to assess the prospects and consider ways to advance sustainable water management in the basin (IBWC, 2002).

With tensions eased somewhat, the Mexican water debt was carried over to a new cycle beginning in October 2002, the effect of which meant de facto, if temporary, acceding to the Mexican position on Article 4 (Brezosky, 2002). A binational summit on the sustainable management of the Rio Grande, attended by a wide range of stakeholders, including some nonprofit organizations, was held in November 2005 that produced a number of resolutions related to water conservation and further calls for a basin-wide advisory body (IBWC, 2005b), but little has come of this to date apart from continued implementation of the WCIF projects on the Conchos. In 2005, abetted by hurricane-driven rains that filled Rio Grande storage dams, the Mexican water debt was vacated, establishing a new five-year cycle (IBWC, United States Section, 2005a, 2005b). With that determination, the drought crisis was technically resolved.

Drought Management, 2005–2013

As some Texas irrigators were well aware, the fundamental institutional problems associated with the drought crisis that peaked after 2000 were not addressed by October 2005 when the earlier crisis ended. Essentially, the crisis was in abeyance with the help of Mother Nature,

with considerably less diplomatic progress toward a satisfactory treaty-based solution. Even so, the water dispute was temporarily laid to rest. The WCIF projects went forward with the technical and financial help of BECC and NADB. The NAFTA Chapter 11-based Texas lawsuit failed (Ontario Superior Court, 2008; Shultz, 2008, pp. 12–13). Little progress was made on Minute 308 institutional reform recommendations despite the convening of the Rio Grande/Rio Bravo Binational Summit in 2005. The Rio Bravo/Rio Grande Coalition lost momentum and temporarily ceased to exist and other NGOs have given the issue less attention since the 2005 conference. Nevertheless, the 2005–2010 cycle unfolded without any dispute.

Renewed shortages in 2011, however, alarmed Texas irrigators, triggering a new wave of accusations and protests directed at Mexico and the IBWC. Essentially, the politics of drought on the river are repeating themselves. Texas irrigation districts and municipalities are besieging state and congressional offices with resolutions demanding Mexican treaty compliance. State offices, senators, and border district congressmen are leaning on the State Department and the President. The two sections of the IBWC have met frequently since 2012 to exchange information and discuss technical aspects of the problem. Texas governor, Rick Perry, responding to local water interests, is pressing President Obama to intervene directly with Mexico's new executive, Enrique Peña Nieto (Perry, 2013). The US Ambassador, Anthony Wayne, has pressed the issue with Mexico's new administration at the cabinet level (Carter et al., 2013). Members of the Texas congressional delegation have introduced bills that would require annual reports on Mexican compliance with treaty obligations (Staples & Rubenstein, 2013) and have unsuccessfully tried to link treaty compliance on the Rio Grande to treaty compliance on the Colorado River. Mexico remains behind in its water payments and is moving forward with plans to build a series of smaller storage dams on the Conchos that Texas farmers fear will enable Mexico to unilaterally hoard treaty water and Mexican water managers argue will help store runoff to meet and better regulate treaty deliveries (Drusina, 2013; TCEQ, 2014). While there has been some progress on various conservation programs on the river, these initiatives are politically delinked from the drought crisis. As of August 2014, more than two years into the crisis and nearly four years into the current treaty delivery cycle, there is no diplomatic breakthrough (TCEQ, 2014). All parties are praying for rain.

In sum, what we see in the Rio Grande drought crisis, in both iterations, is the persistence and prevalence of traditional patterns of politics, grounded in treaty interpretation and entitlement claims, given effect through the conventional arenas of government. Dispute settlement is centered at the IBWC and the foreign ministries with the full apparatus of local, state, and national representation deployed to influence negotiations at the level of the foreign offices and presidential summitry. The NAFTA reforms are not irrelevant. As seen in the case of the WCIF, they have added additional institutional capacity to pursue certain types of solutions, financing water conservation measures in the basin. But thus far, they have proven inadequate to addressing big picture problems like recurrent drought. Civil society responses have enhanced understanding of the complex social, economic, and hydrological variables behind the drought and elevated attention to the ecological values at stake in the drought crisis but thus far remain effectively disconnected from the core politics—the demands of irrigators and municipalities channeled through state governments, federal agencies, and the national sections of the IBWC—shaping the drought dispute. Perhaps the best evidence of this is the inability of the NGO sector to convince the governments to move forward with the Minute 308 promise of establishing a binational basin-wide advisory council to work with IBWC on sustainable water management and drought mitigation practices in the basin. I shall now review developments in the other important transboundary river basin on the border, the Colorado River Basin.

Drought and Ecology on the Lower Colorado River

Persistent drought has also dogged the Colorado River Basin, particularly its lower reach. However, an important political lesson in the politics of the US–Mexico transboundary rivers is that binational relations related to the Colorado River, though governed by the same 1944 Water Treaty, are politically and institutionally separate from the management of the Rio Grande. The 1944 Treaty was designed, in effect, as two treaties in one.³ This is something that Texas water managers dealing with the current drought have difficulty understanding as they futilely try to enlist congressional support from other US border states. These differences arise in good measure from geo-political variation between the two river basins. Whereas Texans are downstream on the Rio Grande River, on the Colorado River both Sonorans and Baja Californians share this predicament. In essence, Mexico controls most deliveries on the middle and lower reaches of the Rio Grande and the USA controls all deliveries on the Colorado. Ecological problems of binational concern are found on both rivers but loom larger politically on the Colorado River owing to the Colorado River Delta's vital role in sustaining regional biodiversity. This ecological factor inserts a less sectarian discourse based on shared national interests in recent management discussions on the Colorado.

The politics of the lower Colorado River have thus unfolded somewhat differently from the situation on the Rio Grande, a demonstration of the weak linkage between the binational management of transboundary water in the two basins. In this basin, binational advocacy networks that emerged after NAFTA have had a greater positive effect on water management in recent years. At the same time, however, the structural basis of politics at work in Lower Colorado Basin bears more than a family resemblance to what we see on the Rio Grande. This is evident if we look at two recent conservation measures on the Colorado River, the first related to the ecology of the Colorado Delta and the second involving the All-American Canal (AAC).

Delta Conservation, 2000–2012

The ecological importance of the Colorado Delta has been adequately presented elsewhere and there is no real need to review it here (Pitt, 2001; Varady, Hankins, Kaus, Young, & Merideth, 2001). Suffice it to say that persistent drought in the Colorado Basin since the late 1980s and US basin state conservation measures brokered by the BOR in the late 1990s were the catalyst for a remarkable effort by various environmental NGOs to press the IBWC for action on the conservation of the Delta ecosystem. The challenge was daunting in the face of persistent drought, the highly over-appropriated rights to water, and competing demands on the river north of the international border. In essence, there was no freshwater left in the river, not even the periodic pulse flows occasioned by flood events several times a decade that had largely sustained the Delta in the past. When state governments, particularly, California, were driven to enact more stringent water conservation measures, NGOs began to act.

Starting with a scoping conference on the Colorado Delta in 1999, a handful of national and regional environmental groups, Defenders of Wildlife, Environmental Defense, Pacific Institute, Sonoran Institute, Pronatura and others joined forces with US and Mexican universities to explore any available options for watering the Delta (Gerlak, et al., 2013; Glennon & Culp, 2002, p. 953; Pitt, 2001; Varady et al., 2001, p. 196). In 2000, they were successful in persuading IBWC to agree, in Minute 306, to support a binational task force to study the Delta problem. Unwilling to rile upstream water users with potential new claims on the river, IBWC astutely

justified the initiative under the 1970 Boundary Treaty, not the 1944 Treaty. With their new-found government sponsorship, the Minute 306 Task Force set about making a case for Delta conservation, a case that included leveraging private wealth and water rights as well as public resources tied to BOR operations in the region.

By 2007, the non-profit consortium/task force formalized their collaborative effort as the Research Coordination Network (RCN) for Delta conservation. In August 2007, the governments moved to formally establish a new Core Group of lower Colorado River stakeholders building on the earlier Task Force including the major federal water agencies engaged in Colorado River management and the organized NGOs assisted by university researchers sponsored and coordinated by the IBWC. Their focus centered on how river operations and a combination of fresh and brackish water could be freed periodically to sustain the most essential features of lower Colorado River ecology and restore certain badly damaged areas (Pitt, 2001; Sonoran Institute, 2014). A vital element in this effort was the development of binational consensus on the factual basis behind ecological concerns and the fundamental requirements of the Delta ecosystem if the area was to be managed sustainably.

The opportunity to do more, faster, presented itself accidentally. A devastating earthquake hit the region in May 2010, damaging water infrastructure across the Mexicali Valley. Unable to put its treaty water to work, Mexico turned to the USA for water storage. With US upstream dams, particularly Lake Mead, severely depleted, the opportunity to temporarily store Mexican water was one the USA could hardly refuse. The RCN and the Core Group scrambled to turn this disastrous event into an even richer opportunity for US–Mexican relations, one that included Delta conservation and the inclusion of ecological concerns within the ambit of the 1944 Water Treaty.

The result, developed in a rapid succession of IBWC minutes in 2010, provided for a temporary freshwater transfer to the threatened Santa Clara Slough, this related to the recent operation of the Yuma Desalting Plant that drains concentrated saline brine to this important wetland 50 miles south of the border (IBWC, 2010a), followed by a remarkable agreement (IBWC, 2010b) that (a) established a binational Consultative Council, (b) authorized development of an operating framework for considering new conservation measures and targeted investments for that purpose, (c) linked the agreement to the 1944 Treaty, (d) for the first time referenced climate change as a drought-inducing factor, and (e) provided a basis for discussing the storage of Mexican water upstream. Minute 317 was shortly followed by Minute 318 (IBWC, 2010c) which authorized the storage of Mexican water and reinforced Minute 317 measures. As reported in an earlier article, this was an extraordinary ‘breakthrough in US–Mexican water cooperation on Colorado River water supply’ (Mumme et al., 2012, p. 21).

Under the authority of Minutes 317/318, the NGO/Core Group actors then proceeded to work on consolidating these gains. The operational aspects of the new agreements were calibrated at short term, allowing the parties to spend the better part of the next two years working on a more detailed agreement. In November 2012, the two governments announced a landmark agreement, Minute 319 (IBWC, 2012) that consolidated the earlier gains on two flanks to accomplish something that many thought unachievable: on the one side, agreeing to an interim five-year scheme to allocate water to the Colorado Delta ecosystem and, on the other, to establishing a binational mechanism for allocating water reductions under conditions of ‘extraordinary drought’. The latter agreement is by far the more important agreement politically and involves a significant concession by Mexico in the service of managing protracted water shortages in the Colorado River Basin.

As Gerlak (2014, Gerlak et al. (2013)), Pitt (2014), Zamora (2014) and others have said, this is a remarkable achievement and one that could not have occurred were it not for the extraordinary

work and political influence of non-traditional water stakeholders (NGOs, universities and research institutes) working in tandem with traditional stakeholders in the Colorado (particularly Lower Colorado) River Basin. These non-traditional stakeholders offered a range of resources that augmented those of government agencies and irrigation districts, including scientific expertise, research and policy networking, and the ability to utilize private water markets to facilitate consideration of binational solutions to the Delta conservation problem Gerlak et al., 2013; Mumme et al., 2012). They drew on NAFTA-related reforms at the IBWC, its new citizen advisory boards, groups whose efforts were at least partly facilitated by strengthened La Paz Program initiatives for environmental protection on the border. Though they have not yet utilized the resources of BECC and NADB, this is certainly in the mix of infrastructure development options available should the need arise. The new multilevel governance context was helpful here. Coupled to the Mexicali Valley earthquake disaster and the opportunity it provided for innovative thinking on the river, these citizen-based organizations were able to make a compelling case that it would be in the mutual self-interest of Mexican and US water users to make needed sovereign concessions—the USA providing Mexico needed water storage and releasing water to the Delta; Mexico accepting a drought water rationing formula modestly favoring the USA; both countries recognizing ecological preservation as a beneficial use of Colorado River water—that would safeguard their water supplies under conditions of prolonged scarcity down the line. This was nothing short of a dramatic shift in conventional thinking on the law of the river that moves its management in a more sustainable direction and binationally cooperative direction. However, a cautionary note should be appended here, as witnessed in the political dynamics of the AAC dispute during this same period.

The AAC Controversy

At roughly the same time that Colorado River water conservation needs north of the border were driving collaborative efforts to save the Colorado Delta,⁴ the same dynamics contributed to a binational dispute over the long proposed lining of the AAC. The AAC, completed in 1940 prior to the signing of the 1944 Water Treaty, was dug to provide the giant Imperial Irrigation District (IID) with a delivery system for Colorado River water independent of an older canal, the Alamo Canal, that crossed the Mexicali Valley before draining to the USA (Mumme & Lybecker, 2004). The AAC runs roughly 80 miles from the intake at Imperial Dam, of which nearly 40 miles parallel the international boundary at short distance. The fact the canal was unlined meant considerable seepage southward to Mexico, water that Mexican farmers, wildlife, and waterfowl came to depend upon (Cortez Lara, 2006; Zamora-Arroyo, 2006).

Efforts to reclaim this seepage dates as far back as the early 1980s as pressure mounted on the IID to use water more efficiently so that surplus could be shared with other Southern California water claimants. In 1988, the San Luis Rey Indian Water Rights Settlement Act gave the Interior Department and its BOR the authority to devise a project to recapture AAC seepage and by 1994, BOR settled on a plan to build a new concrete lined canal running parallel to the older ditch. Implementation was delayed, however, due to financing constraints—the 1988 Act mandated that the project's beneficiaries pay its costs. When California was forced to pare down its draw on the Colorado River in 1999, it pushed through the California Quantification Settlement Agreement in 2003, a statewide conservation measure that upped the ante on lining the AAC. A deal with the San Diego County Water Authority was struck by which San Diego would foot the cost in exchange for the right to buy IID water for the next century. At that point, the BOR went forward with the project.

The lining project had drawn Mexico's objections at the level of the IBWC and Mexico's Foreign Ministry for years and Mexico continued to quietly question the international legitimacy of the project. While various arguments could be made against the lining under international law, Mexico did not forcefully advance its objections, unwilling to antagonize the USA at a time the NAFTA agreement was being negotiated and implemented. When BOR announced that it would proceed with the project in 2003, local interests in the Mexicali Valley were incensed, as were many environmentalists. A binational coalition quickly formed to oppose the project in US courts that joined agricultural, business, municipal, and environmental groups throughout the region.

In 2006, three NGOs filed suit, the Consejo de Desarrollo Economico de Mexicali (CDEM), a Mexicali business group, Citizens United for Resources and the Environment, a US regional environmental group, and Desert Citizens Against Pollution, another regional environmental group championing environmental justice. The City of Calexico also lent support (Ries, 2008, p. 504). Other environmental organizations working on the Colorado Delta problem were quietly supportive, but with the possible exception of Defenders of Wildlife, did not join the cause.⁵ The plaintiffs based their lawsuit on several sets of claims, arguing that lining the canal violated certain Mexicali Valley water rights, would harm the Mexicali economy, violated several federal statutes including the US National Environmental Policy Act, the US Administrative Procedures Act, the US Endangered Species Act, and the Migratory Bird Treaty Act, and violated terms in the San Luis Rey Indian Reservation Water Rights Settlement Act (Ries, 2008, pp. 505–507).

The US District Court in Las Vegas, Nevada denied almost all of these claims, finding that the Mexican plaintiffs had no standing to sue, that the laws in question lacked extraterritorial application, and that the US environmental groups lacked 'associational standing'. After an amended filing, the court accepted two of the plaintiffs' claims; (1) that BOR had failed to file a Supplemental Environmental Impact Statement (SEIS) after learning new information concerning the project's impact on the previously unknown Andrade Mesa Wetlands and (2) that BOR had violated the Endangered Species Act. When the plaintiffs demanded summary judgment of the two remaining claims, they were denied (Ries, 2008, p. 512).

The plaintiffs then appealed to the US 9th Circuit for an injunction that would halt the project pending preparation of further appeals. At the 9th Circuit, US attorneys claimed 'sovereign immunity', arguing that the seepage was US water governed by the 1944 Treaty and that CDEM's arguments were thus 'non-justiciable political questions' requiring a diplomatic rather than judicial resolution. The City of Calexico intervened in the suit in support of the plaintiffs and made the case that NAFTA effects had not been taken into account in the 1994 BOR-FEIS such that the adverse effects of lining the canal had not been properly understood. The 9th Circuit granted an injunction temporarily halting the project (Ries, 2008, p. 514). The plaintiffs gained a ray of hope when the court admonished BOR for failing to take new information into account.

At this point, however, the project's supporters placed their faith in a parallel effort to influence the US Congress. Southern California's congressional delegation successfully attached a bill to the Tax Relief and Health Care Act of 2006 ordering the Secretary of the Interior to build the project and specifying that the 1944 Treaty was, 'the exclusive authority for identifying, considering, analyzing, or addressing impacts occurring outside the boundary of the United States of works constructed, acquired, or used within the territorial limits of the United States (H.R. 6111, 2006). The 9th Circuit's injunction, and its specific judicial authority in the case, was effectively nullified and the lawsuit died (Ries, 2008, p. 515).

In sum, what we see in the AAC case is the classic resort to sovereignty and traditional water management politics north of the border asserting water allocation claims under the drawing on the 1944 Treaty. In this case, established water interests employed the tools of legislative, executive, and judicial power at the federal and state levels to prevail over a well-organized binational coalition of mostly non-traditional, non-profit actors on claims of water entitlement, ecological sustainability, and binational equity. It is interesting to note that the Delta Coalition, their resources and networks as arrayed in 2006, appear to have had marginal effect on the AAC dispute. In fact, the major non-profit players, with one notable exception, Defenders of Wildlife, were quite reluctant to join the case as plaintiffs—even Defenders declined to do so. It is evident that as effective as the NGOs were on the Colorado Delta issue, they were mostly unwilling to jeopardize their fragile and hard won political capital in one arena on another, particularly one that was as controversial and which had the support of the most powerful water interests in Southern California. It is interesting to speculate what might have happened had the Mexican Foreign Ministry, *Secretaria de Relaciones Exteriores* (SRE) sought to support the binational coalition by challenging the AAC lining with appeal to the 1944 Water Treaty. We do not know but can well suppose that technical experts at SRE and CNA may have believed that they had a weaker case in international law or thought the consequences of challenging the USA from anything less than a strong hydrological and legal position would invite sanctions or a hardened position on other bilateral issues, including in the case of a reoccurrence of drought on the Rio Grande. What we do know is that the Mexican CDEM was only able to get a soft statement of concern out of SRE during this period and that its concerns were not really pushed by the Mexican Section of the IBWC, *Comision de Limites y Aguas*.

Theoretical Perspectives and Post-NAFTA Water Security on the US–Mexico Border

The recent history of disputes and cooperation on the two major transboundary rivers suggests that the basic structure of politics and power, the architecture of power, affecting water security along the border has not changed very much. This traditional system of water security is dominated by sovereign defense of treaty-established water endowments resting upon a power structure formed largely of vested surface freshwater rights (now even in Mexico), water development interests, urban and agricultural water districts, state water agencies (more powerful in the USA but growing in political importance in Mexico), and federal water, development, and financial agencies that make up the water policy sector. In contrast, environmental and natural resources agencies have limited voice in transboundary water policy.

While various analysts are impressed by post-NAFTA changes in border institutions that have generated attention to water conservation, environmental protection, and sustainability concerns, it is also easy to overstate their effects. When we look at these disputes, we do see some remarkable accomplishments, as witnessed recently on the Colorado River, that advance certain aspects of water security, certainly biodiversity protection and drought management that are attributable to the emergence of unprecedented collaborative efforts in a particular issue-area that have changed the architecture of power at least slightly. When we look at the AAC dispute, it is also evident that water governance reforms in one policy realm do not necessarily translate to another and that the established structure of power in border water governance remains well embedded.

If we look at the Rio Grande drought disputes, where BECC and NADB have played a modest role in financing needed upstream conservation measures, we have yet to see much institutional development. Over a dozen years have passed since the governments promised to create a

basin-wide advisory committee to help IBWC better manage shortages and nothing much has come of it. Sovereign interest prevails and we see this in the dynamics of these disputes which pursue a very familiar political path wherein local and state interests bring political pressure to bear on both the executive and legislative side of US federal government with the hope that the president can persuade his Mexican counterpart to be more responsive to US concerns. Mexico's president, of course, has limited domestic incentive to comply, but the long-standing asymmetry in US–Mexican relations means he cannot ignore a strong appeal by the US executive. And so, we see a familiar political theater play out today much as it did a decade ago.

More recent theoretical perspectives on border water governance should be seen in this light. None of the theories mentioned above are really mutually exclusive. They point to different facets of a complex reality affecting water availability along the border.

The older theories of water politics drawing on political pluralism or, in the Mexican case, corporatism or presidentialism, should still be taken seriously because they describe a deeply embedded and treaty-reinforced system of national and binational water governance that still operates much as it did 70 years ago. New theoretical perspectives capture what is changing in US–Mexican water relations; new institutions, emergence of collaborative social networks, additive policy emphasis on sustainability and conservation, environmental protection and public health, and greater openness to public participation, or at least better public relations in water development. But these reforms have just begun to make a modest dint in US–Mexican transboundary water governance and this can be seen in the treaty regime itself, which has been extraordinarily resistive to political change—as we would expect of a constitutional treaty arrangement.

The problem, of course, evident in each of the cases outlined above (all of which can be described as responses to prolonged water scarcity, or drought), is that many of the embedded assumptions associated with the treaty allocation of freshwater on the transboundary rivers are changing with the climate and the enormous demands now placed on these limited resources. There is a need for greater flexibility in the treaty regime and this must be accomplished politically. The open question is whether non-traditional stakeholders in sustainable water management will gain a more influential role in transboundary water management as the problem of water scarcity, and water insecurity, deepens along the US–Mexico border.

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Notes

- 1 This is seen in the 1944 Treaty's Article 3, which specifies priorities for the beneficial use of Treaty water. The availability of water for domestic and municipal use, agriculture, hydroelectric power, and other industrial uses, water uses endowed with clear and tangible economic value and the core values to be gained by formal allocation, is given priority over other potential beneficial uses whose values are arguably less tangible—true even for navigation which at the time of the treaty was understood as impracticable on the treaty rivers and included so as to extend the reach of the U.S. federal commerce clause to the administration of the rivers. Allocation also trumps the Treaty's Article 3 border sanitation provisions which are clearly subsidiary to the Treaty's main purpose. The Treaty is also acknowledged to supersede the La Paz Agreement's pollution protection provisions as those bear on treaty water management and prevails over other binational executive agreements on natural resources management should conflicts arise.

- 2 The effort was spearheaded by Texas Center for Policy Studies. Signatory NGOs included World Wildlife Fund (USA and Mexico), Pronatura Noreste, Bioconservacion, Environmental Defense, Texas Center for Policy Studies, Alliance for the Rio Grande Heritage, Southwest Environmental Center, and Rio Grande/Rio Bravo Coalition among others (Texas Center for Policy Studies, 2001, p. 6).
- 3 Some might say three treaties insofar as the 1944 Treaty addresses the Tijuana River as well.
- 4 Active binational discussion of the All American Canal question dates to before 1983 and intensified in earnest after 2001 with the adoption of strict water conservation rules north of the border. Active discussion of the Delta began, as noted above, in 1999 and intensified after 2007, after the AAC issue had been decided in U.S. courts.
- 5 Personal communication with William Snape, Defenders of Wildlife, and further discussion with Melissa McKeith, an attorney representing CURE, 2006.

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