Collateral Damage: How the San Diego-Imperial Valley Water Agreement Affects the Mexican Side of the Border
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Collateral Damage: 
How the San Diego-Imperial Valley Water Agreement Affects the Mexican Side of the Border

CARMEN MAGANDA

This article contends that local water practices are a fundamental element of border water politics. It asks who makes decisions concerning the distribution of binational water resources, how are these decisions made, and how do they get implemented. The analysis examines the particular case of San Diego–Imperial Valley water transfers within the context of water overallocation and urbanization in the Colorado River basin in Southern California and how this dynamic of transfers will affect the Mexican side of the binational Colorado Delta (Imperial Valley–Mexicali).

Keywords: water politics; environmental policy; border politics; United States; Mexico; local politics

This article is about cooperation in border water politics. Douglass North (1990) argued that human cooperation exists when institutional restraints on self-interested behavior forces actors to work together to achieve common goals. The main water distribution problem at the Mexico-U.S. border is that local institutions are themselves actors competing for greater quantities of this resource. This article analyzes the recently signed Imperial Valley–San Diego water agreement and discusses its impact on Mexican border cities dependent on the same water sources. Why have local actors recently followed self-interested policies and what can be done to foster future binational cooperation?

The deal struck between Imperial Valley and San Diego violates traditional “good neighbor” border practices and the spirit of binational U.S.-Mexico water agreements. While many environmentalists fear the impact of the North America Free Trade Agreement (NAFTA) on water resources, this article contends that local competition in shared water basins has resulted from incomplete regional integration at the supranational level. Scholars of supranational institutions (see Appendini & Bislev, 1999; Chambers & Smith, 2002; Hix, 1999) have noted that NAFTA is an intergovernmental accord that relies on negotiations rather than legitimate regulatory bodies. Hence, local elites can follow self-interested strategies within an incomplete policy network that lacks institutional restraints. Increasing power disparities between U.S. and Mexican border cities have created an asymmetrical relationship that
can only be addressed by the construction of stronger binational institutional restraints. Otherwise, local actors, rather than national ones, will remain the most influential protagonists in U.S.-Mexico border water politics.

The Border Water Context: Reviewing Needs and Responses

The U.S.-Mexican Border (Figure 1) is a 3,200-kilometer boundary of contrasts and disparities that presents an excellent “temperature indicator” of bilateral relationships examined by numerous scholars of water politics. Because it has been studied extensively (see Bennett, 1995; Getches, 2003; Ingram, Laney, & Gillilan, 1995; Kelly, 1999; Mumme, 1988; and others), I merely review the border water context to introduce the institutional and environmental frameworks in which local competition for water resources occurs.

The border, populated by 10.5 million people, is one of the fastest growing regions of North America because it offers unique economic opportunities provided by its geographical position. By 2020, it is expected to reach 19.4 million (Environmental Protection Agency [EPA], 2002). Obviously, this growth requires significant quantities of water for human, agricultural, and industrial uses. Unfortunately, distribution
processes are not always visible to citizens who do not see the problems their actions generate or the long-term impact of their decisions. Little consideration is given to the availability of water that is an essential element for any social activity.

The arid U.S.-Mexican border can be divided into three water subregions (Figure 2): the Colorado River watershed (the Californias, western Arizona, and western Sonora); the central “surface border” area, with no significant river systems (Sonora, Arizona, New Mexico, and western Texas); and the Rio Grande/Rio Bravo watershed (eastern New Mexico, Texas, Chihuahua, Coahuila, Nuevo León, and Tamaulipas).

Although access to water is a problem throughout Mexico (see Kelly, Solí, & Kourous, 2001; Mumme & Aguilar Barajas, 2003), the border region is noteworthy because it demonstrates the additional challenge of working binationally with the United States to develop a plan of action that accounts for both nations’ priorities. Water issues are complex and numerous as allocation remains a contentious topic (Van Shoick, 2003).

This border region is characterized by large deserts, arid land, and limited rainfall, in combination with multiple water uses that cause the
degradation of water (i.e., golf greens, maquiladoras,1 and human consumption). On both sides of the border, cities and rural communities are facing unprecedented stress on limited water supplies as the result of competition for water and the presence of persistent drought for many years (Gleick, 2002). The border region faces unequal distribution of water and poor infrastructure. Mexico depends on the same water that is badly needed in California, Arizona, Nevada, and Texas. In the Mexican border region, the greatest need is for water and wastewater infrastructure in urban areas where sewer systems have exceeded their useful life and require rehabilitation. Less than one half of the wastewater is treated. In most cities, one half of the piped water is squandered because of leakage, and more than one half of the irrigation water is lost to evaporation or seepage (Rosenblum, 2002). In the U.S. border area, there is a great need for water and wastewater infrastructure in unincorporated communities, called colonias. Deficient wastewater treatment, the disposal of untreated effluence, and inadequate maintenance of treatment plants result in health risks. In addition, the lack of adequate distribution systems for drinking water increases the potential risk of gastrointestinal infections.

These problems are realities that work against the spirit of regional integration. Since the 1992 NAFTA, the Mexican-U.S. border has dominated public agendas. Thus, management decisions are no longer sovereign (Mumme & Lybecker, 2005). While their execution remains national, their effects are binational.

BINATIONAL WATER AGREEMENTS: SEARCHING FOR WATER ACCESS EQUITY?

Binational diplomacy concerning water in the border region dates back to the convention of March 1, 1889, between the United States and Mexico that established the International Boundary Commission. Furthermore, in February 1944, it became the International Boundary and Water Commission (IBWC), referred to in Mexico as the Comisión Internacional de Limites y Aguas (CILA). This agency promoted conventions on binational watershed flows, and the main binational water accord signed in 1944, the Treaty for the Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande (known as the 1944 Treaty). As noted by Mumme (2003), this Treaty was the first significant instrument to govern the border’s water supply. It commits Mexico to provide one third of the flow from the Rio Conchos (lower part of Rio Grande/Rio

1. “Maquiladoras” are bonded assembly plants found in Mexican border cities that are permitted to import goods without payment of import duties. These goods, especially electronics, are further processed or manufactured and exported. When the goods enter the United States, tariff is levied only on the value added outside the United States (Koff, 2005).
Bravo), which is not to be less than 431 Mm$^3$ (million cubic meters) annually, as an average amount in cycles of 5 consecutive years. Furthermore, the agreement also commits the United States to deliver to Mexico a guaranteed annual quantity of 1.85 Bm$^3$ (billion cubic meters) of Colorado River water. Each participant is also to provide some surplus (Nitze, 2003). Although the 1944 Treaty allots a specific water quantity to each country, nothing is said about the quality of the water or the management of groundwater. Moreover, the agreement does not adequately deal with drought, which has contributed to Mexico’s water debt at the border.

Since 1944, the IBWC/CILA has become the principal binational agency with jurisdiction over territorial limits, water quality, water allocation, wastewater treatment, and sanitation. The activities of the IBWC include planning, constructing, and operating wastewater treatment plants on both sides of the border. Since its inception, it has been involved in every noteworthy border activity concerning water, except for groundwater. Its authority, however, is limited to functions directly affecting the international boundary (Mumme & Brown, 2002). In recent years, the IBWC has proven outdated. Many of its suggestions for projects were ignored by the U.S. Congress. As Mumme and Brown (2002) noted, the 1944 Treaty lacks provisions concerning: promotion of environmental values, distribution of domestic and urban water consumption and agricultural uses, and protection of border communities against floods and droughts. For these reasons, the IBWC has been criticized for being slow, bureaucratic, and not publicly oriented.

In response to the failure of the IBWC to effectively confront the continuous stream of new environmental problems, numerous binational water agreements have been signed in an attempt to improve water governance at the border. Even though critics note that these agreements represent attempts by new U.S. administrations (Bush I, Clinton, Bush II) to put their stamp on border water politics, the collection of accords does signify incremental improvements of the legal framework surrounding water management at the border. This form of policy making is common in supranational bodies (see the Monnet method in the European Union²). Table 1 summarizes the progressive improvements achieved through each event. Nonetheless, the overall impact of this policy-making process has been the creation of a piecemeal approach to water management that has created incomplete and ineffective water distribution strategies. For this reason, the table also summarizes the major structural problems with each agreement.

2. Jean Monnet was one of the founding fathers of the European Union. This method of supranational policy making, based on incremental spillover from one policy arena to another, bears his name because he identified it as the key to expanding regional integration.
<table>
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<th>Year</th>
<th>Event</th>
<th>Objectives</th>
<th>Major Structural Problems</th>
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<tr>
<td>1848</td>
<td>Treaty of Guadalupe Hidalgo</td>
<td>Definition of the international boundary</td>
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<tr>
<td>1889</td>
<td>Convention that created the International Boundary Commission</td>
<td>Observance of the rules of the Boundary Treaties and the Convention concerning the changes of course in the international river</td>
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<tr>
<td>1944</td>
<td>Treaty for utilization of waters of the Colorado and Tijuana Rivers and of the Rio Grande and the creation of the International Boundary and Water Commission</td>
<td>Allocated waters of the international rivers between the two countries and extended the functions of the International Boundary and Water Commission (IBWC)</td>
<td>Only addresses quantities of surface water, no mention of extraordinary drought, groundwater, or water quality. Surface-water quantities fixed since 1944 with no update.</td>
</tr>
<tr>
<td>1983</td>
<td>Agreement for the Protection and Improvement of the Environment in the Border Area (La Paz Agreement)</td>
<td>Provided formal guidelines for the binational participation of various levels of government in the design and implementation of trans-boundary environmental solutions by specific work groups</td>
<td>Reinforced national regulation of water issues as border remained low priority. It has big aspirations for binational cooperation but commits no funds and delegates no power.</td>
</tr>
<tr>
<td>1992</td>
<td>Release of the Integrated Environmental Plan for the US-Mexican Border Area (IBEP)</td>
<td>Strengthened enforcement of environmental laws, increased cooperative planning, completed the expansion of wastewater treatment facilities</td>
<td>Lacked institutional framework necessary to effectively carry out goals</td>
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Table 1 (continued)

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<th>Year</th>
<th>Event</th>
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<th>Major Structural Problems</th>
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<td>1993</td>
<td>Creation of the Border Environment Cooperation Commission (BECC) and the North American Development Bank (NADBank)</td>
<td>Assisted communities on both sides of the border in coordinating and carrying out environmental infrastructure projects</td>
<td>Dominated by the United States because of discrepancies in the distribution of funding. Commodifies water through managerialist discourse.</td>
</tr>
<tr>
<td>1996</td>
<td>Release of Border XXI Program</td>
<td>Promoted sustainable development in the border region</td>
<td>It suffered from deficiencies in public participation and public access. It was severely underfunded.</td>
</tr>
<tr>
<td>2002</td>
<td>Border 2012: US-Mexico Environmental Program</td>
<td>Addressed environmental and environmentally related health problems on the Mexico/U.S. Border, in partnership with official environmental agencies</td>
<td>In progress. Evaluation to be determined</td>
</tr>
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Source: Southwest Center for Environmental Research and Policy (2002).
Note: Category 2002 and Major Structural Problems column are author’s additions.
The greatest problem with these agreements and with binational policy making, in general, is that they are based on national interests while the problems in the Rio Grande/Rio Bravo, Colorado, and Tijuana watersheds are regionally unique. Each area has its own geography, resources, population, water users, and community actors. Thus, supranational efforts have had varying effects on binational watersheds because of uneven implementation. This is the focus of the next section, which examines local practices in the Colorado River Delta.

**Implementation of Water Policy**

As stated above, this article contends that local interests, rather than national ones, drive competition for water resources at the U.S.-Mexico border. Because the policy framework presented earlier has proven incomplete, local actors enjoy significant decision-making freedom. For decades, local officials cooperated to find informal solutions to daily water problems (such as salinity crises) that were not suitably addressed in binational water accords. Today, however, the wealth and political power of U.S. border cities such as San Diego have created strong disincentives for neighborly cooperation.

**THE COLORADO RIVER, CALIFORNIA, AND MEXICO**

The Colorado River Basin includes 632,000 km² (square kilometers), of which 32,000 km² makes up the Colorado River Delta. The river’s water is used by the upper basin states (Colorado, New Mexico, Utah, and Wyoming), lower basin states (Arizona, California, and Nevada) and Mexico. Many leaders identified the Colorado River as a water source to serve the western United States as early as the late 1800s, and Laguna Dam, the first dam constructed on the river, was completed in 1909. However, as Michael Cohen (2002) argued, the river could not be controlled until the completion of the Hoover Dam in 1935. The Colorado River’s water, recognized for its sedimentary quality, was greatly altered by the construction of these barriers which created a cold, regulated river with clear water from a warm, turbulent, and sediment-filled one (Cohen). Drained by seven states, the river becomes a muddy trickle when it reaches Mexico.

The Colorado River Delta is one of the hottest and driest areas in North America, and human settlement is possible because the river’s waters create a fertile plain. Once one of the continent’s richest and most diverse wetland systems, the lower Colorado River watershed is now degraded and poorly managed (Anderson, 1999). This 7,770 km² delta extends from Yuma, Arizona, to the Gulf of Mexico.
The high quality of water from the upper Colorado River is particularly sought by Arizona, California, and Nevada, with their growth rates among the highest in the United States. By 2020, it is expected that 38 million residents of the lower basin will be dependent on this water. During this same period the population dependent on this river will increase 91% (EPA, 2002). However, the allocation of this water creates legal, economic, and environmental competition.

The “Law of the River” is a collection of legislative instruments, judicial decisions, and other legal documents that have been realized since the middle of the 19th century, to regulate the use of the Colorado River’s waters. Implementation of these laws gave priority to those who arrived first. A complex system of urban water and irrigation districts became the decision-making framework, giving autonomy to local officials.

A major problem facing the Colorado River is that it is overallocated. More water is legally apportioned (“paper water”) than actually flows (“wet water”; Cohen, 2002; Gleick, 2002). Overallocation results from the faulty average hydrology capacities established in 1922. In addition, the upper basin states, primarily Utah and Colorado, have not fully developed their shares, enabling lower basin states, particularly California, to overuse their entitlement. In accordance with the Colorado River Compact, the upper and lower basin states are entitled to the exclusive beneficial consumptive yearly use of 9.25 Bm³ each. An option is granted to the lower basin states for an additional 1.23 Bm³ for beneficial consumptive use. The 1929 California Limitation Act restricts California’s annual consumptive usage to 5.43 Bm³, plus not more than one half of any surplus water not apportioned by the compact. For its part, the Metropolitan Water District (MWD) explains that California’s annual use of the Colorado River water has varied from 5.55 Bm³ to 6.41 Bm³ over the past decade. The current use of up to 6.41 Bm³ per year stems from the existence of surplus conditions and the availability of water unused by Arizona and Nevada (Metropolitan Water District of California, n.d.).

The pressure on California to limit water use has generated concerns. The development of domestic water supplies was considered to be the state’s “highest and best use” of water, followed by agricultural usage (Davis, 2004). California had grown quickly, importing water from distant locations to meet its needs. According to Cohen (2002), water in the western United States developed under institutions designed to encourage settlement and consumptive, off-stream use. The state’s overusage and high consumption have caused what Davis (2004) labelled “clash of the titans’ style water fights.”

Allocation problems also cross borders. The Imperial Valley in California and the Mexicali Valley in Baja California (Mexico) have been centers of development in the lower Colorado River Delta because of irrigation. The 1944 Treaty formally allocated Mexico 1.85 Bm³ from this delta (one tenth of the river’s estimated flow). However, the treaty also stipulated
that during years of drought any shortfall required to meet Mexican rights would be substituted by equal quantities from the basin states. Vagueness in the treaty, caused by failure to define *extraordinary drought* and *quantities distributed* has lead to conflict over claims to the river. Mexico cannot participate in water management debates, and it currently receives the insufficient amount allocated in the outdated 1944 Treaty.

It is curious to note, Mexico’s claim in this treaty was considered a nationalist victory. The intended primary use of the water delivered was agriculture. On the U.S. side, nearly 25% of the annual river’s flow (Colorado River Water Users Association Web site: www.crwua.org/crwua_hp/welcome.html) is allocated to agricultural users via government-built dams and aqueducts. The 1944 Treaty never anticipated that water would be needed to sustain significant urban and industrial structures (Boime, 2000). The original intent to emphasize irrigation has almost exclusively led to chronic environmental problems and has made governance of the river obsolete.

SAN DIEGO WATER NEEDS AND SD-IMPERIAL VALLEY WATER DEAL

The City of San Diego has witnessed important growth since World War II, becoming a center for military production and a premier naval port. Since then, San Diego County has become the state’s third largest, after Los Angeles (LA) and Orange counties, and it is more populated than 22 states in the nation (*San Diego Book of Facts*, n.d.), with nearly three million inhabitants and growing water needs.

To face these challenges, San Diego water authorities, inspired by the effectiveness of Los Angeles’ hydraulic engineers (“water barons”), who laid early claim to all of the water supplies of the LA River and then claimed Owen Valley’s, large quantities of water from the Colorado and other rivers in Northern California, began importing water more than 100 years ago (Carle, 2000). Currently, anywhere between 75% and 90% of San Diego County’s water is imported (*San Diego County Water Authority* [SDCWA], n.d.). Like LA and its water transfers through canals from the Colorado River, San Diego became famous for bringing water from distant sources. A principal concern facing the region today is this reliance on imported water.

While appropriate technology has been necessary for long-distance water transfers, political power sufficient to negotiate investments, build dams, and get required allocations of water has been the key to ensuring resources, particularly in areas with shortages. These deficits and the overallocation of imported water pose a threat to the vitality of Southern California, prompting the region to look elsewhere, or internally (i.e., to irrigation districts) for solutions. The main complication, in this case, is not the growing population and the increasing demand but
the fact that local officials have been boldly promoting urban development and maximizing water allocation. Despite the fact that San Diego County residents overwhelmingly support the diversification of the area’s water supply (SDCWA Web site: www.sdcwa.org/news/07224publicopinionpoll2004.shtml), local officials insist on importing water resources.

Historically, this has been the case. In 1873, water issues in San Diego were managed by the San Diego Water Company (SDWC), a private entity. In 1901, local authorities bought this company; and since then, the local government has been responsible for water management. Until 1947, local water resources supplied the city. In 1928, the Metropolitan Water District (MWD) was established to bring water from the Colorado River to Los Angeles. At that time, San Diego was not part of the plan; however, in 1930 the U.S. Supreme Court awarded the city not only the right of water use but also priorities of use over water from the San Diego and Colorado River. More responsibility required more institutional structure, so in 1944 the San Diego Water Authority (SDWA), and other agencies were incorporated into the SDCWA, which later became a member of MWD to have a direct voice in the economic negotiation of water distribution.

In 1947, the San Vicente Dam in San Diego received the first water from the Colorado River, and with that this city’s dependence on the Colorado began. San Diego’s water situation became highly dependent on Los Angeles, when water was imported from the LA aqueduct and the MWD, and it was bought from the Colorado River Aqueduct (see Figure 3). After 1947, San Diego’s growth projections were often artificially inflated for water negotiation purposes. There is an inextricable connection between water and opportunity structures in negotiations. Demand for water has generally been based on what a community can negotiate rather than its needs.

Despite success in water negotiations, not everything was eternally blue for San Diego. The drought that lasted from 1987 to 1991 created tense competition under water allocation agreements along the Colorado River and forced San Diego water seekers to refocus their attention on local sources. The year 1991 was an especially hard year for San Diego because of water reductions from the Colorado River, Mono Lake, and Owens Valley; demographic, commercial, and industrial expansion; and military demands. In fact, the SDCWA serves more than three million people populating more than 518 km² of developed land. In spite of the negative environmental predictions for San Diego’s water future, local economic and political leaders actively negotiated expansion of local water sources. They have improved and increased the desalination plants and ground water extraction and developed a water transfer plan for the near future (SDCWA, n.d.).
San Diego’s effort to diversify the sources of its water supply, long ago lead by SDCWA, has forced leaders to reevaluate agricultural-urban relationships in water distribution. For years, San Diego’s water leaders had looked with interested eyes toward the Imperial Valley Irrigation District (IID). In 1988, they first announced the probability of a water transfer agreement, despite vehement opposition from many in Imperial Valley. Higher priced water quotes eventually made this solution unfeasible. In 1995, the SDCWA finally had enough money to approach officials from IID about water transfer negotiations. In 1997, the SDCWA presented a draft agreement to IID to buy up to 370 Mm³ of water yearly at U.S. $249 per 1,233m³ (equivalent of one acre-foot) with an increment of $311 to be considered after 10 years of transfers. Prices were even higher than SDCWA pays to MWD for its water (Hundley, 2001). The original plan was to be established for 45 years with a possible extension.
of 30 years. The SDCWA director made media declarations concerning a new era of independence from LA and the MWD, if this agreement could be arranged.

This transfer proposal, however, stalled for 6 years because of opposition from local farmers and IID leaders who were evaluating the price of the agreement. The media was particularly effective in raising problems and inconsistencies between various declarations. Furthermore, environmental groups took a stand to protect Salton Sea restoration, as the water involved in the negotiation was originally designated for this project. In fact, the environmental impact statement, a particularly urgent matter, took 4 years to be completed from 1998 to 2002. A third-party socioeconomic impact report was completed in 2003; however, it is interesting to note, IID officials interviewed for the current study stated that “no such report was completed.” Many times during this period IID tried to cancel negotiations under pressure from environmentalists. In the end, IID officials included environmental costs in a higher acre-feet price.

In 2002, the negotiation between San Diego and IID blossomed into a proposal at the state level for water conservation. The MWD was severely pressured by states above the river to minimize water allocation for LA and San Diego. These cities were also urged to minimize consumption. However, because San Diego was fighting for a water transfer agreement with Imperial Valley, the state’s strategy needed to place the case into a broader framework that could respond to external pressures and support San Diego transfers. This position gave IID the responsibility to save water and respond to Southern California’s political pressure. Preferential rights and voting power assigned by court decisions were crucial contributors to this transfer effort.

When the environmental impact statement was finished and environmentalist opposition relaxed, Southern California water agencies signed the final accord in October 2003 with the following terms: SDCWA will receive up to 246 Mm$^3$ per year of IID water and will be responsible for lining the All-American and Coachella Canals with the State of California obligated to pay $235 million. In return, SDCWA will receive 95 Mm$^3$ per year from the All-American Canal for 110 years (Walker, 2004). Up to $300 million will be made available for socioeconomic and environmental costs in Imperial Valley, including Salton Sea restoration. The agreement, however, does not specify from where this money will come, and there is no official study of the socioeconomic impact of this water transfer on neighboring Mexican cities, which were not included in the third-party report. Besides this environmental struggle, the California-U.S.

3. Under this agreement, there is a 200,000 acre-feet flow reduction into the Salton Sea. Restoration plans must take into account the lower lake levels and the higher salinity levels that could result (Davis, 2004).
conservation plan, taking shape just kilometers from its wheat fields, means less water will percolate through the sandy soil into Mexicali’s underground water supply, threatening crops that are the lifeblood of Baja California’s richest agricultural region.

PAVING THE ALL-AMERICAN CANAL

As stated above, San Diego–Imperial Valley water deal calls for the paving of the All-American Canal. In 1929, the Colorado River Compact allowed the construction of the canal in Imperial Valley. In 1935, about 32 km northeast of Yuma, work began on the Imperial Dam to divert the river’s waters into a giant plant before it entered the canal (Walker, 2004). Completed in 1940, the All-American Canal (AAC) has become the main conduit for water to the region, including more than 2000 km² in the Imperial and Coachella Valleys for irrigation and supplies for nine small cities (approximately 142,000 people). Along this canal, the Compact granted 5.43 Bm³ to California, 4.07 Bm³ of which went to Imperial Valley farms (Carle, 2000).

In the south, the canal runs parallel to the lower Colorado River, almost to the border. It turns west following a line parallel to the border for over 80 km of its 132 km length, (see Figure 4). Because the canal is not lined with a gradient toward Mexico, an important amount of water filters there. According to García (2005), the history of the AAC reveals that a rationale for its construction was the insecurity of a previous route that delivered water to Imperial Valley through Mexico.
Without any legal binational documents regulating delivery, approximately 98.6 Mm³ annually were allocated to Mexico under the 1944 treaty, on top of 1.85 Bm³ surface water, filling Mexicali Valley’s underground aquifers (Herrera Barrientos, Norzagaray Campos, García Saillé, Cortez Lara, & Jorquera Flores, 2005). This interdependence between Imperial and Mexicali Valleys assisted Mexican development for more than 60 years. Mexicali is now the third-largest Mexican border city, with a population close to one million. The filtered water has the highest quality on the northeast side of the Mexicali Valley. It has traditionally been used to develop agriculture. The AAC lining would greatly limit groundwater recharge into Mexico.

This project is not new. In the second half of the 20th century, a salinity crisis, in which the “official surface water” delivery from United States to Mexico was too salty to use, forced Mexico to extract underground water (Mumme, 1988). Following this crisis, both countries agreed to report changes in transboundary groundwater extraction along the border with the prospect of eventually reaching a new groundwater treaty. However, this never occurred. Since 1988, lining has been proposed by Southern California authorities, including SDCWA, to recapture the “fugitive” resource. Nonetheless, because of a funding shortage, it never became a priority for the Colorado River Compact or the MWD. Recently, because of the aforementioned 2003 agreement, lining became a reality, qualifying the case as a significant international topic (García Acevedo & Ingram, 2004) because it opens the possibility of creating a negative public image of the U.S. in world politics.

The position of Mexican leaders, and border water users, is that the water is theirs because of long-standing beneficial use, which had been implicitly established. In addition, Mexico informally complained through the IBWC/CILA that it had water ownership rights and the United States was obligated to consult it before implementing any lining plans (Sánchez, 2005). It argued that if the 1944 Treaty did not prohibit groundwater use and “silence is tacit agreement.” In response, the United States denied that Mexico had any legal underground water rights since the 1944 Treaty regarded surface water “belonging” to the United States and not groundwater. It is currently a contentious issue because lining work has begun with a December 2008 proposed completion date. So far, the two nations have not reached a consensus on diplomatic positions. In January 2005, the Mexican commissioner of CILA/IBWC was invited to the second conference of the Border Water Project at University of California, San Diego. There, he was questioned by Mexican border water users and nongovernmental organization (NGO) representatives about CILA’s “weak position regarding the U.S. lining effort.” According to these activists, the water commissioner has not sufficiently voiced concerns about the unilateral paving to his U.S. counterparts or presented the probable impacts on the Mexican side. The com-
missioner defended himself by saying “The case is not yet closed and we are doing what we can in this moment” that satisfied few of his critics.

**Conclusion: The Collateral Damage of Power and Water Decision Making at the Border**

This article analyzed recent border water issues and links international discussions of water rights to local developments. In response to the question, “who gets what, when and how?” this article contends that water competition at the border is characterized by asymmetrical power relationships that have unintended, but detrimental effects on water resources in Mexican border cities, hence, the reference to collateral damage resulting from the curious nature of border water relationships. In other areas such as migration or political economy, local cross-border cooperation often creates subnational symmetry that overcomes the inequity of the U.S.-Mexico relationship. In border water politics, the opposite is true. It is surprising to note, the legal agreements at the national and supranational levels have promoted equity in water sharing while local politics have recently created unequal and unfair outcomes.

The main asymmetry in the U.S.-Mexico border water relationship that has contributed to this situation is structural in nature. The binational transfers between the two main shared basins (Rio Bravo/Rio Grande, Rio Colorado), were applied globally as a product of the outdated 1944 Treaty, and they do not focus on regional particularities. This deficiency in the border water system created potential for conflict that was ignored for decades because local water authorities from each side found informal solutions to daily problems. Even though this piecemeal approach eventually addressed many uncertain situations, it did not link short-term solutions to a general border-water context. This created a system with few legal restraints on local actors.

For 60 years, this system survived because local officials chose collaboration over conflict. However, the San Diego–Imperial Valley water transfer agreement obviously signifies a critical moment. This accord not only marks a change in water distribution but also demonstrates a shift in the spirit of water policy making at the border because it contradicts 60 years of silent use of underground water on the Mexican side. This point illustrates two other asymmetrical characteristics of U.S.-Mexico border water politics.

First, the behavior of local leaders is self-interested. The 1944 Treaty supposedly included controls for abusive behavior by combining regulation of the two binational river basins. It was assumed that guaranteeing Mexican rights in the Colorado Delta would ensure U.S. rights in the Rio Bravo Basin because of the different directions of the flows of these
rivers. The agreement’s logic, however, was based on national interests. This article shows that subnational leaders follow local interests without regard for cross-border effects or potential repercussions in the other basin.

This highlights the importance of the second practical asymmetry in U.S.-Mexico border water politics. Because local officials follow the needs of their communities, water distribution necessarily becomes competition based on local power. Water is controlled by human settlements according to their geographical position. The San Diego–Imperial Valley water agreement necessarily affects Mexicali adversely because these communities are located further upstream on the Colorado River. More significantly, the economic and political power of San Diego officials allows them to negotiate water transfers from a nearby agricultural area without regard for its impact on Mexican border settlements. In fact, one could argue that the 1944 Treaty maintained a peaceful status quo for so long because there was enough water for all. At that time, San Diego was a midsized city with a population of 300,000. Today, following military investments and the development of high-technology industries, San Diego has become a metropolis with an economy worth $90 billion. Obviously, its water needs have expanded; and, given the city’s importance to California’s economy, San Diego officials have the political and economic resources to exert power in border water politics.

In fact, ensuring San Diego’s future water needs has become a statesupported case. Because of backing by California officials, the Colorado River Compact agreed that Southern California should be able to purchase water that, until now, only Las Vegas was allowed to buy from states located higher in the river basin. This case became complex because it involved different levels of power, including the supreme and state courts, which supported the AAC lining. Local, state, and regional authorities are ready to fight for their water interests if Mexican actors present opposition to the lining.

This opposition will surely come because of the adverse effects of the AAC lining across the border. The impact on Mexico is estimated to feature losses of more than 80,000 annual square meters of water with severe consequences for the agricultural economy, the environment, and quality of life in Mexicali Valley. The preliminary estimations of the economic consequences from Mexican researchers, such as Castro Ruiz (2005), Sánchez Munguía (2005), and Cortez Lara (2005) include an immediate impact on agricultural activities, and a medium to long-term hyper-added impact on Mexicali’s urban water needs. Even with improved irrigation systems, the possible deficit could halt 20% to 30% of agricultural production following the lining.

More significantly, this case study demonstrates the shortcomings of the IBWC/CILA, a binational structure created to manage border water issues. According to the CILA Mexican commissioner, it is understood
that “things have gone as well as they could” and negotiations have not ended, even though the binational agenda has not yet moved toward a solution in 2005. However, this Commission is hindered by structural deficiencies. First, it is the guarantor of a treaty that lacks legal specification on many issues. For example, even though there is, within the IBWC/CILA institutional structure a groundwater-working group, it does not construct relationships with local and state U.S. governments. There is no groundwater treaty, and that is a fact that U.S. authorities make clear while Mexican ones stress the “good neighbors” understanding of water rights that have developed over decades.

According to Ingram and Garcia (2003) “The enormous asymmetry of power between the U.S. and Mexico hinders the achievement of such a climate (…) the United States rarely focuses attention on its relationship with its far weaker and often compliant southern neighbor. Mexico, on the other hand, is acutely aware of its relative powerlessness and is hesitant to engage in treaty making from a position of disadvantage” (Garcia Acevedo & Ingram, 2004). However, this case demonstrates that despite these fears, a more comprehensive binational water agreement, including the regulation of groundwater, would be better than the status quo because the current system is flawed by inconsistencies which local U.S. officials use to their advantage. Mexico can improve its negotiating position by linking water issues to other questions related to regional integration. Thus, if NAFTA’s treatment of this issue is redefined to create harmonization, then increased supranational activity in water politics may better protect the long-term uses of this resource and guarantee fair distribution. This is a challenge; however, it is also the stated goal of recent binational water programs. Until this occurs, the IBWC/CILA will be unable to protect Mexican Colorado Delta water rights legally recognized by a May 2000 joint declaration signed by the U.S. Department of Interior and the Mexican Secretaría del Medio Ambiente y Recursos Naturales. Mexican border water authorities, stakeholders, urban users, and environmentalists have only 3 more years to find a local or binational solution to this problem before the AAC’S lining is completed, and the collateral damage will become permanent.

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