

FEATURE ARTICLE**MEXICO AND THE UNITED STATES: THE TRANS-BOUNDARY WATER QUALITY ISSUES THAT LIE AHEAD**

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(Note: The views expressed herein are those of the author and do not reflect the official position of the International Boundary & Water Commission or the United States Section, International Boundary and Water Commission.)

The part of the United States closest to the nation's border with Mexico has been called a forgotten America because of the relatively bleak economic conditions and environmental problems associated with its proximity to the border. And the environmental problems on the United States side of the international boundary are minor compared with the conditions in Mexico. Rich in cultural tradition, the border region of Mexico is undeniably poor in environmental quality.

In Matamoros, for instance, across the Rio Grande from Brownsville, Texas, health officials have reported an unusually high incidence of anencephalic babies in past years. Throughout the border region incidences of diseases such as hepatitis tend to run higher than in other parts of the United States, and cases of cholera have been reported at some locations. The entire border region, according to a report in the *Journal of the American Medical Association*, is "a virtual cesspool and breeding ground for infectious disease." Historically, such problems have failed to capture the public's attention; but since the advent of the North American Free Trade Agreement (NAFTA), the kinds of environmental problems that contribute to the unhealthful conditions near the border, especially water quality issues, are being addressed more aggressively. During the NAFTA

approval process, concerns over environmental and labor conditions in Mexico became focal points for criticism of NAFTA. To address that criticism, the Clinton Administration entered into an environmental side agreement that reaffirmed the two nations' commitment to solving environmental problems and tempered the impact of NAFTA on nations' domestic environmental laws.

The Role of the International Boundary and Water Commission

Solving such transboundary water quality issues can be a Herculean task when dealing with conflicting opinions and competing interests—between the United States and Mexico, and among interest groups within the two countries. The binational International Boundary and Water Commission (IBWC), comprised of a United States Section and a Mexican Section (*Comision Internacional de Limites y Aguas*, or CILA), has the mission to reconcile the differences between the two countries, and within the two countries, to find solutions to the perplexing water quality issues along the border. The IBWC, originally established by treaty as the International Boundary Commission in 1889, has jurisdiction over a wide range of issues relating to boundary questions and water resources along the border. These include resolving boundary disputes, maintaining stable river boundaries, maintaining certain bridges and other structures that cross the boundary, allocating Rio Grande and Colorado River water between the two countries, operating international dams on the Rio

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Grande, maintaining flood control works, water quality monitoring, and resolving water quality problems. The two sections of the IBWC are funded by their respective governments and are separately located, with the Mexican Section headquartered in Juarez, Mexico and the United States Section headquartered in El Paso, Texas. Both sections have field offices at various locations along the border. The sections work together to negotiate international agreements and operate several joint projects but otherwise function independently from one another. The United States Section is an independent federal establishment that acts as agent for the Secretary of State in border matters. The United States Section, with its 110 years of experience in natural resource diplomacy, is the logical leader among United States agencies for solving border water quality problems.

The United States-Mexico Border, which stretches nearly 2,000 miles from San Diego, California to Brownsville, Texas, follows the historic Rio Grande for some 1,254 miles, a land boundary marked by 258 strategically placed monuments for 674 miles across the arid West, and the Colorado River for 24 miles along the southwestern edge of Arizona. While the Rio Grande and Colorado rivers have raised significant water quality issues, the IBWC's water quality issues are not limited to those rivers. Several other rivers cross the land boundary between El Paso and San Diego. The Tijuana River, for instance, for many years carried untreated sewage from Tijuana, Mexico through San Diego before emptying into the Pacific Ocean, causing ocean water quality problems that have forced officials at Imperial Beach, California occasionally to close the beaches. Other transboundary rivers include the Santa Cruz of Nogales, Sonora and Nogales, Arizona; the New of Mexicali, Sonora and Calexico, California; and the San Pedro of Naco, Sonora and Naco, Arizona.

The IBWC's authority to solve transboundary water quality problems is derived from a document commonly known as the 1944 Water Treaty. Article 3 of the Treaty states that the uses of the transboundary surface water systems:

shall be subject to any sanitary measures or works which may be mutually agreed upon by the two Governments, which hereby agree to give preferential attention to the solution of all border sanitation problems.

Although for many years lack of funding had prevented the IBWC from acting on border sanitation issues, the Treaty's general mandate has been carried out since the 1970s with a series of smaller international agreements known as IBWC Minutes. Since the creation of the IBWC's predecessor in 1889, the Commission has entered into about 300 such minute agreements. The relationship of minute agreements to the various treaties that govern the IBWC is analogous to the relationship of federal agency regulations to statutes in that both minutes and regulations serve to flesh out the broader legal mandates but neither are valid without an underlying legal authority.

The IBWC and Water Quality Problems

Perhaps the first major water quality issue the IBWC faced was in solving the salinity problem in the Colorado River. Under the 1944 Water Treaty, Mexico is entitled to 1.5 million acre-feet of water from the Colorado River each year. At first, simply assuring the deliveries of water were made was sufficient. In the 1960s, however, the Mexicans became concerned because, while they were getting their Treaty allotment as required, the water was unusable for agriculture due to high salinity caused by agricultural return flows in the United States. After several years of discussions and negotiations, the IBWC in 1973 entered into Minute No. 242, in which the United States agreed to provide water to Mexico with salinity of no more than 115 parts per million (plus or minus 30 parts per million) over the average salinity of the Colorado at Imperial Dam, a point about 28 miles north of the border at which California makes its major diversion. The United States has complied with this salinity standard through desalting operations and through dilution with higher quality waters.

In 1979, the IBWC entered into Minute No. 261, which recommended means for solving "border sanitation problems." The two sections agreed to define "border sanitation problem" as "each case in which the waters that cross the boundary, including coastal waters, or that flow in the limitrophe reaches of the Rio Grande and the Colorado River, have sanitary conditions that present a hazard to the health and well-being of the inhabitants of either side of the border or impair the beneficial uses of these waters." The Minute further required the IBWC for

each water quality issue to enter a separate Minute agreement which provides specific courses of actions for solving the problems and specific time schedules for implementation. It also established that projects be designed, constructed and carried out "with the greatest speed and timeliness possible."

Yet tensions between the parties involved in solving border water quality problems can run extremely high. The Tijuana River carried untreated sewage from Mexico into California for decades. In 1990, in IBWC Minute No. 283, the two national governments agreed to a plan under which Mexico and the United States would both contribute funds to construct a wastewater treatment plant in the United States side of the border. The United States Environmental Protection Agency (EPA) provided some \$400 million for the project, known as the South Bay International Wastewater Treatment Plant. The project was criticized early and often by environmental groups in the United States. Several brought the EPA and the United States Section of the IBWC into court for various issues, the most significant of which was the agencies' failure to consider sewage treatment ponds as possible secondary treatment. The federal agencies eventually agreed to supplement their documentation prepared under the National Environmental Policy Act (NEPA), although the Mexican government had voiced its opposition to treatment ponds on the international boundary. The agencies are still working to resolve the issue of secondary treatment, trying to balance the concerns of United States environmentalists and of Mexico, although the advanced primary treatment plant began operation in December, 1998. The whole process beginning with initial negotiations has taken more than ten years already.

The Nogales Problem and Solutions

Solutions to border water quality issues have also been the source of disagreement between United States government agencies. In Nogales, Arizona, the IBWC's United States Section has been operating a wastewater treatment plant in cooperation with the City of Nogales since the 1950s. The United States Section operates and maintains the plant as a service to the people of the border region. Seventy percent of the water treated at the Nogales International Wastewater Treatment Plant comes directly from

Mexico, while 30 percent comes from the city. In 1988, the IBWC entered into Minute No. 276, which arranged for cost sharing for treating the Mexican sewage and established the basic principle that each nation will treat its own waste in compliance with its own laws. It did not, however, establish set limits for the Mexican sewage flowing over the border into the United States.

In the fall of 1998, EPA issued a renewed final discharge permit for the Nogales plant. It included separate pretreatment programs for the United States Section and the City of Nogales, the co-permittee with the United States Section. Under the permit requirements for the United States Section, an exceedance of the "influent" limitations established in the permit constituted a violation of the permit. The problem was, the "influent" comes from a sovereign nation, Mexico. In discussions with EPA, the United States Section argued that neither the United States Section nor the EPA have authority to enforce United States law in Mexico. Under the EPA's own regulations, at 40 C.F.R. § 403.8(f)(1), a publicly owned treatment works must have *legal authority* to enforce its pretreatment requirements on industrial dischargers. The legal authority of that regulation constitutes the exercise of *control* over dischargers. The United States Section lacks such legal authority over Mexico. EPA in its response to comments stated that it understood that the United States Section lacked authority to impose its requirements on Mexico but that the United States Section could "leverage its diplomatic resources to improve the quality of transboundary flows." However, use of "diplomatic resources"—although it is an important aspect of our nation's authority—falls far short of the kind of legal authority required under the EPA pretreatment regulations.

The United States Section argued further that, because the United States Section is the agency responsible for the diplomatic process between Mexico and the United States regarding water sanitation, unilaterally establishing pretreatment limits that must be imposed on Mexico improperly infringes on the diplomatic process. The United States would be improperly constrained in its negotiations with Mexico if it were bound in negotiations to the EPA's numbers. As a diplomatic agency, the United States Section is entitled to deference in the interpretation of its own mission. EPA may have

improperly infringed on the United States Section's mission, which in this case was to work for improved border water sanitation through the diplomatic process. Unilaterally establishing limits for Mexico, as the EPA attempted to do, would also arguably violate Mexico's sovereignty. The terms proposed also constituted an attempt at unilateral determination by a United States domestic agency regarding international agreements, namely the 1944 Water Treaty and IBWC Minute No. 276. As an alternative, the United States Section volunteered language that would require the IBWC to establish limits mutually agreed to by the United States and Mexico.

EPA, on the other hand, argued that it saw no legal exemption to pretreatment requirements for such international treatment plants—that the Clean Water Act required it. EPA was correct, but it failed to take into account the reason for the lack of a pretreatment exemption. It was never needed before. The Nogales plant was operating for several decades, and previous discharge permits issued by the EPA, most recently in 1991, did not include influent limitations. In addition, under the Treaty Clause of the Constitution, where regulations conflict with an international agreement, the agreement has supremacy. Still, the positions taken by both EPA and the United States Section reflect the honest concerns of both agencies to pursue their missions to the maximum extent possible—the EPA's primary mission being environmental enforcement and the United States Section's primary mission being diplomacy. Nevertheless, failing to provide an exemption from strict application of pretreatment requirements was undoubtedly an oversight. For the future, it can be corrected through legislation. The United States Section and the EPA have been working together to resolve this issue.

Meanwhile, the antiquated Nogales plant requires an upgrade that will cost several million dollars. The plant was constructed at a time when the wastewater from Mexico was comprised mainly of domestic sewage. The increased industrialization of Nogales, Sonora, however, has caused additional contaminants to cross the boundary for which the plant was not designed. The IBWC has been planning and designing a new facility, which is estimated to cost approximately \$21 million. The IBWC and the EPA have been seeking funding for the project, but the funds have not yet been identified.

Other IBWC Projects

IBWC wastewater treatment plants are also either operating or in planning and construction in several Mexican cities, including Nuevo Laredo, Matamoros and Mexicali. With the advent of the Border Environment Cooperation Commission (BECC) and the North American Development Bank (NADBank), both created by international agreement in 1993, the prospect of further environmental progress in the United States-Mexico border region appears excellent. Through the BECC, which includes the United States and Mexican IBWC Commissioners as members along with the EPA Administrator and others, border communities can propose their own environmental enhancement projects and seek funding from NADBank. In addition, the 1983 joint United States-Mexico (La Paz) Environmental Agreement, the first stage of which went into effect in 1992, has served to provide some direction for management in the border region. The EPA's Border XXI program has also further focused attention on United States-Mexico border environmental issues. It may take several years, however, for these newer organizations to have an effect.

As for the IBWC, an organization which has received criticism over the years for being too slow to respond to environmental needs and too reluctant to exert its problem-solving authority, a whole slate of environmental and water quality projects is underway. Attempting to balance competing interests in such endeavors, however, between nations and between stakeholders within nations, is an arduous task for the "engineer diplomats" of the IBWC. Critics of the IBWC should understand the difficult and sensitive nature of solving water quality problems in an international setting. With populations rising dramatically on both sides of the boundary, and especially in Mexico, water quality and other environmental problems are multiplied. Compounding the difficulty of arriving at solutions is the Mexican government's relative lack of financial resources.

Conclusion

The institutions are in place to take on these perplexing transboundary water quality problems. To effectively address those problems, however, will require three things. First, the institutions responsible for the border projects must have adequate funding.

Constructing, operating and maintaining international water projects requires a significant investment of resources. Understandably, the Mexican Government sometimes does not have the available resources to address border environmental issues as readily as the United States would like. Under those circumstances, we need to be creative in ways in which Mexico is allowed to contribute. While we expect Mexico to pay its fair share, the United States must realize that its own citizens also benefit from a cleaner border environment.

Second, the projects require more public support. This will require border institutions to reach out for public involvement in border environmental matters. The IBWC, for instance, has been criticized for being almost secretive, for negotiating agreements with Mexico and then presenting them to the public as a *fait accompli*. Through its experience with the South Bay treatment plant in San Diego, however, the IBWC's United States Section has learned the value of involving the public early in the planning process. The United States Section currently has plans to increase public participation by establishing an environmental forum in each of the major cities along the international boundary. In addition, the

IBWC may wish to establish of a tradition of binational hearings, briefings and workshops for public participation.

Finally, the fragmentation of border institutions must be addressed. Presently, several United States agencies are involved in border issues, including the IBWC, the EPA and the Bureau of Reclamation. The same is true with Mexico. It is not always clear who is in the driver's seat. Right now, the IBWC normally only becomes involved if coordination with Mexico is required. The IBWC, however, should be the lead agency on any project that has transboundary implications. Commentators have suggested that the IBWC's responsibilities can even be expanded to include air pollution and other issues critical to managing the border environment with an ecosystem approach. It is generally agreed that the consequences of degradation in one part of the environment may have unintended effects in other parts.

If these systemic problems are addressed, then, given time, the border institutions are capable of tackling border water quality problems. Only with persistence and dedication of significant attention and resources, however, will we be likely to see much improvement in the border environment.

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