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## **Mexican Government Considers Adding Aquifers To 1944 Water Treaty**

*by Carlos Navarro*

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Concerned about possibly losing the country's rights to underground water supplies along the US-Mexico border, the Mexican government is quietly exploring negotiating a clause in the 1944 water treaty with the US that would cover water supplies in aquifers. The 1944 treaty, negotiated to facilitate a barter of water rights involving the Colorado River and the Rio Grande, only applies to surface water. The alarm bells sounded in Mexico after the United States Geological Survey (USGS), at the request of the US Senate, launched a plan to begin taking inventories of underground water supplies in the US-Mexico border region. While the effort is sorely needed, there was little initial input from Mexico. This has led the Mexican government to consider options to protect its interests, including extending the 1944 treaty to include underground water supplies, officials from Mexico's water commission (Comision Nacional del Agua, CNA) told the Latin America Data Base (LADB).

### ***US mapping effort raises concerns in Mexico***

Under the 1944 water treaty, Mexico agreed to provide water from the Rio Grande to agriculture interests and communities in Texas in exchange for water from the Colorado River for farmers and other users in western Mexico ([SourceMex, April 18, 2001](#)). The treaty, however, covers only surface water and not the water in aquifers that straddle the US-Mexico border. While there are no disputes yet regarding ownership of the underground water, there is some concern in Mexico about a recent move by the US government to begin taking inventory of water supplies in the region.

The US initiated mapping the aquifers along the US-Mexico border with the approval of the United States-Mexico Transboundary Aquifer Assessment Act, which US President George W. Bush signed into law in 2006. Under the measure, the USGS received US\$25 million for the effort.

"This law will give us an idea about the level of water scarcity along the border. Water is a precious and scarce resource, especially in the US Southwest," said US Sen. Jeff Bingaman (D-NM), chair of the Senate Energy Committee, who requested the study.

"There is much to do to ensure that sufficient water resources are available to cover the basic needs of Americans in the future."

The USGS report said four of the 16 aquifers that straddle the US-Mexico border should be a priority: Bolson Hueco and Mesilla, which are shared by Texas, New Mexico, and Chihuahua; and Santa Cruz and San Pedro valleys along the Arizona-Sonora border. US engineers are now conducting studies to determine the exact size and composition of the four aquifers.

At first glance, the effort to inventory border water supplies could prove beneficial both to the US and Mexico. But there is some concern in Mexico that the US has embarked on the effort almost

unilaterally, even if the US has made no claims on the water in the aquifer. "The US is betting on the underground water supplies along the border with our country, which is one of the regions in the US with the highest population growth," said the Mexico City daily newspaper Milenio Diario. "The growing scarcity of water in this region has on more than one occasion created tensions between the two governments."

Even some Mexican government officials are concerned. "We have been watching the situation for many years," CNA director Felipe Arreguin told the LADB during an interview at the XXVI Border Governors Conference in Hollywood, California, in mid-August.

Arreguin said Mexico has asked the UN Educational, Scientific and Cultural Organization (UNESCO) for advice regarding possibly negotiating a treaty with the US that covers underground water resources. One of UNESCO's missions is to facilitate dialogue between countries on issues such as disputes regarding natural resources. "For the past four years, we have shared information [with UNESCO officials] and worked closely to identify the aquifers," aid Arreguin.

"We want to have a sufficient basis to negotiate a treaty [on underground water reserves], or at least make it an integral part of another treaty," said the CNA official, referring to negotiating a clause in the 1944 water treaty with the US. Arreguin said the matter has not yet been discussed at any length in the context of border governors conferences. "What we want to do is to recommend a comprehensive program [regarding this issue], but not until we have enough information."

### *Disputes regarding surface water remain a concern*

An agreement offers no guarantees against conflict, as evidenced by the disputes about surface water rights in the past couple of decades despite the existence of the 1944 treaty. At times, Mexico has been unable to meet its commitments under the treaty because drought has reduced the amount of water available in the Rio Grande, or Rio Bravo as the river is known in Mexico ([SourceMex, April 17, 2002](#), and [July 16, 2003](#)).

While the US and Mexican governments have reached compromises on water distribution, some private parties in Texas have been less willing to be flexible. In 2004, farmers and irrigation districts in Texas filed a lawsuit under the framework of the North American Free Trade Agreement (NAFTA) seeking damages from the Mexican government for its failure to comply with terms of the 1944 treaty ([SourceMex, Sept. 1, 2004](#)). In their lawsuit, the Texas parties said that, even though Mexico eventually made up its water deficit, they suffered severe economic losses.

In the summer of 2007, a NAFTA court ruled against the Texas plaintiffs. In early 2008, the Texans appealed the ruling.

The Mexican government argues that the Texans have no case. But key officials have declined to comment specifically about their claims. "I cannot offer an opinion about their arguments," Mexico's Environment Secretary Juan Elvira Quesada said in an interview with the LADB. "What I can tell you is that this is not our only environmental challenge. Water, agriculture, urban growth, population growth, climate change are all affecting the border region." Controversy has also arisen

regarding water from the Colorado River, not so much about the measurable amount of water supplied by the US to Mexico but about the interpretation of the treaty. The Mexican government contends that a decision by the state of California to pave some portions of the Colorado River to prevent runoff threatens water supplies downriver in Baja California and Sonora and violates the 1944 treaty ([SourceMex, March 22, 2006](#), and [Aug. 30, 2006](#)).

### *Condition of Chihuahua-Texas-New Mexico aquifers a major concern*

The border governors conferences have only had scant discussions of aquifers, although the governors of Chihuahua and Texas have held bilateral consultations regarding the Bolson Hueco, which sits under Ciudad Juarez and El Paso.

Some cooperation is also evident at the municipal level between officials from Juarez and EL Paso. "There is some work at the local level to harmonize and standardize practices in order for the two communities to ensure long term viability of the aquifer," said Daniel Chacon-Anaya, general manager of the Border Environment Cooperation Commission (BECC). "[Local officials] are working to develop coordination strategies."

The BECC was created under the auspices of NAFTA to identify, evaluate, and certify environmental infrastructure projects for the US-Mexico border area. These projects are developed with strong input from communities on both sides of the border (see [SourceMex, 1994-06-01](#)). Funding for the projects is provided by the North American Development Bank (NADB), which was also created as part of the NAFTA parallel agreement on the environment.

Chacon-Anaya, who also attended the 2008 Border Governors Conference, told the LADB that the effort to maintain the viability of the aquifers below Juarez and El Paso is part of an overall regional water strategy for the region, which includes conservation and reuse of water. A key project, said Chacon-Anaya, is to boost the use of treated wastewater for agriculture.

The BECC official also agreed that further studies were needed on the aquifers that straddle southwest Texas, northwest Chihuahua, and southeastern New Mexico. The biggest problem, he said, is determining the quality of the water in those underground reservoirs, which contain hundreds of millions of cubic meters of water. "Studies show the aquifer is fairly big, so we won't have any problems with a shortage of water," said Chacon-Anaya. He noted, however, that the extraction of water from the Bolson Hueco should be conducted in a more controlled manner to ensure its future viability. A recent study by the US section of the International Boundary and Water Commission (IBWC) confirmed the massive size of the Bolson Hueco, which covers 10,800 sq km. The IBWC said the Bolson Hueco, which provides virtually all the water used for residential and commercial purposes in Juarez, is being overexploited on the Mexican side. "The truth is that Juarez would probably not exist without this underground reservoir," said Milenio Diario.

In contrast, El Paso relies on the Bolson Hueco for only 30% of its water needs.

Still, there are major concerns about the future of the Bolson Hueco.

"We can conclude...that the aquifer is not sustainable in its current condition," Ruben Chavez Guillen, who heads the CNA's division that deals with underground water supplies, said in an interview with the Juarez newspaper El Diario. "Not only are supplies dwindling, but the quality of the water is deteriorating at a fast rate."

There are similar sentiments on the US side of the border. "We're starting to bump up against the ceiling," said Ed Hamlyn, program coordinator of the Center for Environmental Resource Management (CERM) at the University of Texas at El Paso (UTEP). "We really have to do something about the water crisis."

The matter has caught the attention of the US Congress, which is one reason behind the Senate's decision to pursue the United States-Mexico Transboundary Aquifer Assessment Act.

[The Bolson Hueco] has little recharge, water levels have declined by more than 250 feet, and its quality is deteriorating," C. Allan Jones, director of the Texas Water Resources Institute (TWRI) in College Station, Texas, said in testimony to the Senate Energy Committee in 2004.

Jones said the mapping studies by the USGS would provide valuable information that would help ensure the viability of the underground water supplies all along the border. Jones noted that the new USGS mapping effort would help local authorities build on previous groundwater studies to develop high-quality, comprehensive groundwater quantity and quality databases for the Mesilla Basin, Bolson Hueco, and other important transboundary aquifers.

Additionally, he told the Senate Energy Committee that the plan would encourage regional water assessment and planning and allow authorities to evaluate strategies to use groundwater supplies wisely and protect groundwater quality. Information from the following sources was used for this report: US Senate Energy Committee Hearing, May 2004 ([http://energy.senate.gov/hearings/testimony.cfm?id=1193&wit\\_id=3449](http://energy.senate.gov/hearings/testimony.cfm?id=1193&wit_id=3449)); "Draining Hueco Bolson, a report by Megan Ladner" (<http://journalism.berkeley.edu/projects/border/elpasodraining.html>); The Dallas Morning News, 02/19/08; El Diario (Juarez), 04/23/08; Milenio Diario, 04/28/08; Tiempo, 04/30/08

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