Addressing Mexico's Water Deficit to the United States

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Background

Source: TCEQ

The Rio Grande plays a critical role in meeting the water needs of businesses and families living in the Texas Rio Grande Valley. The river and its tributaries deliver water from storage reservoirs located in Mexico and two international reservoirs near Del Rio and Zapata for agriculture producers and cities across Texas from Fort Quitman, just below El Paso, to Brownsville.

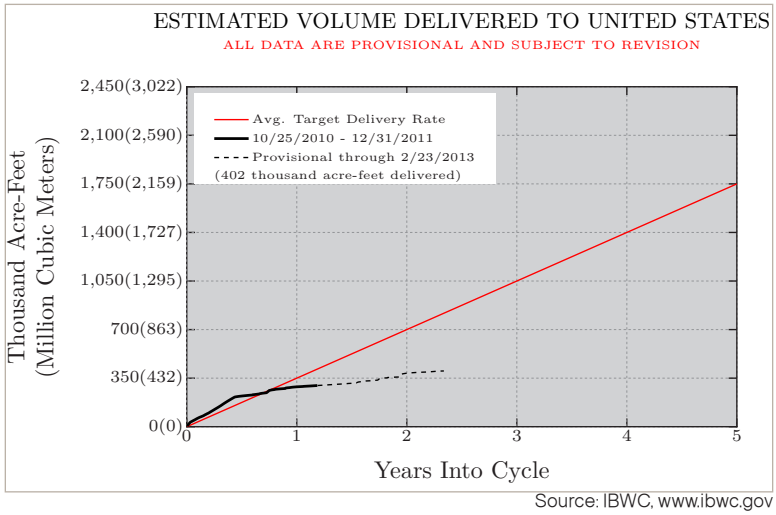
Mexico and the United States are obligated to jointly operate the Rio Grande to derive benefit from its waters and the storage reservoirs. The governing document for the management of the Rio Grande below Fort Quitman is the 1944 Water Treaty (Treaty). The Treaty outlines the obligations of the two countries to share this resource.

The International Boundary and Water Commission (IBWC) was established by Mexico and the United States to oversee operations of the Rio Grande and compliance with the Treaty. The U.S. representative to the IBWC is appointed by the president and overseen by the U.S. Department of State.

1944 Water Treaty

The Treaty takes a five-year approach to water management. Mexico is required to provide a minimum of 350,000 acre-feet of water on average to the United States each year of the term. Should Mexico fail to deliver the annual allocation, it is required to catch-up and correct the accumulated deficit by the end of the five-year term at the latest. The Treaty provides Mexico with an exemption to the delivery schedule if the country is in extraordinary drought. However, the agreement directs Mexico and the United States to attempt to ensure compliance. Currently, Mexico is neither in extraordinary drought nor attempting to ensure compliance.

The current water management cycle began in October 2010. Two and a half years into the current cycle, Mexico should have delivered 916,000 acre-feet to Texas. Instead, as of June 8, 2013, Mexico has delivered only 433,408 acre-feet, creating a pro-rata deficit of 483,000 acre-feet. Should Mexico refuse to comply with the Treaty, the water debt at the end of the five-year cycle could total approximately 1.2 million acre-feet or more.



Source: IBWC, www.ibwc.gov

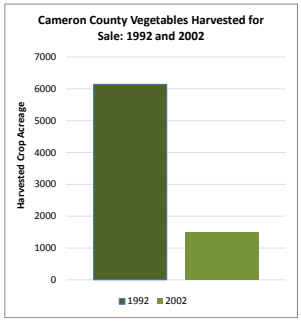
Impacts of Water Deficit

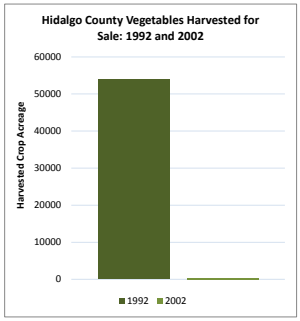
Between 1992-2002, Mexico accumulated a 1.5 million acre-feet debt, which primarily impacted agricultural water users because irrigation use is usually the first to be interrupted when water becomes scarce. In 2002, Texas A&M AgriLife Extension Service (AgriLife) estimated the value of water per acre-foot applied to farm land was $652. Looking at the impact of the water

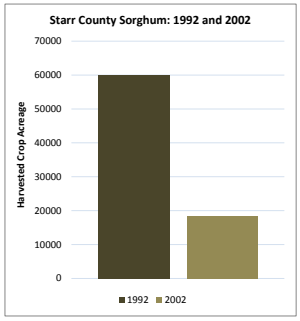
deficits that occurred during the 1992-2002 period, they calculated a loss of 4,130 jobs and $135 million in business activity per year.[1]

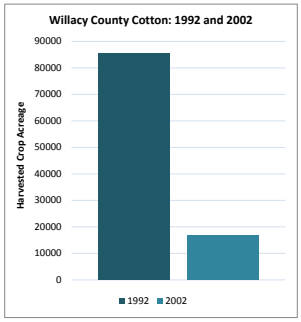
A comparison of data collected in the Census of Agriculture published by the U.S. Department of Agriculture in 1992, the beginning of Mexico's last water debt on the Rio Grande, and 2002, the height of the water debt, demonstrates a significant decrease in crop acreage. Total crop acreage for: Cameron County decreased 21 percent; Hidalgo County decreased 37 percent; Starr County decreased 45 percent; and Willacy County decreased 30 percent.

Cameron County vegetable acreage decreased 75 percent; Hidalgo County vegetable acreage decreased 99 percent; Starr County sorghum decreased 69 percent; Willacy County cotton decreased 80 percent.









Source: U.S. Department of Agriculture. 1992 Census of Agriculture. Online. http://www.agcensus.usda.gov/index.php
Source: U.S. Department of Agriculture. 2002 Census of Agriculture. Online. http://www.agcensus.usda.gov/index.php

An updated economic analysis prepared by AgriLife valued agricultural production in the Lower Rio Grande Valley (LRGV) region at approximately $820 million in 2012. Crop production was valued at $666 million, 81 percent of total production. Approximately half of the crop production acreage is irrigated. Thus, losing access to irrigation water supplied by the Rio Grande will have a devastating impact on the agriculture industry.

> "The loss of irrigated crop production in the LRGV region would lead to an estimated $394.9 million loss in economic output [Table 5]. Likewise, the loss of irrigated crop production in the LRGV region would generate a loss of $217.61 million in value added. In terms of employment, the loss of irrigation would result in an estimated loss of 4,840 jobs that depend on the production and sales of these commodities for some portion of their income."[2]

Table 5. 2013 Projected Economic Losses Associated with Lack of Irrigation Water in the LRGV*

Impact Type	Employment	Total Value Added	Output
Direct Effect	3,041.6	$117,175,997	$229,235,999
Indirect Effect	1,292.2	$66,615,832	$109,530,397
Induced Effect	506.3	$33,820,341	$56,130,084
Total Effect	4,840.1	$217,612,170	$394,896,481

*These results are conservative as they do not include the impacts (losses) that occur beyond the farm-level sale of the crops, such as transportation, storage, processing, packaging, and marketing.

The impacts of the 2010 water deficit are expected to extend beyond agriculture. Some cities and communities in the Rio Grande Valley are receiving notice that they may no longer be able to depend on irrigation water from the Rio Grande to convey their municipal allocations. The cost of finding and developing new water sources for households and industry, as well as the loss of economic activity that results from businesses losing access to water, are expected to be substantial and should be investigated further.

Municipalities & Irrigation Districts (ID) Impacted by the 2010 Deficit

Delta Lake ID
Expected date to run out of irrigation water late summer/early fall 2013
City of Lyford
City of Raymondville
North Alamo Water Supply Corp.

Hidalgo & Cameron County ID No. 9
Expected date to run out of irrigation water late summer/early fall 2013
City of Mercedes
City of Weslaco
City of Edcouch
City of Elsa
City of La Villa

Cameron County ID No. 2
Expected date to run out of irrigation water late summer/early fall 2013
City of Rio Hondo
City of San Benito
East Rio Hondo Water Supply Corp

Donna ID
Already using straight pushwater from Engelmann ID
City of Donna

Source: TCEQ

1 Robinson, John R.C., Ari M. Michelsen and Noel R. Gollehon. "Mitigating water shortages in a multiple risk environment." Water Policy 12 (2010). Online. http://www.iwaponline.com/wp/01201/0114/012010114.pdf

2 Ribera, Luis, Dean McCorkle. "Economic Impact Estimate of Irrigation Water Shortages on the Lower Rio Grande Valley Agriculture." Texas A&M AgriLife Extension, June 2013.

A Path Foreword: Curbing the Deficit

Allowing the 2010 water deficit to continue building until 2015 would have severe negative impacts on Texas. The data shows Mexico is not experiencing extraordinary drought conditions and has no justification for withholding water. There are ways to curb the deficit and for Mexico to begin meeting their delivery obligations. In 2005, Mexico successfully worked with the United States and addressed a water debt to Texas that at one time exceeded 1.5 million acre-feet. Resolution of that debt required water contributions from various sources. It required direct, meaningful and active participation from the Department of State, the White House and Texas officials. That unfortunate situation was preventable back then and proved that through a strategic and concerted approach, the current deficit — a man-made drought — can be resolved.

The following actions should be pursued:

Mexico needs to recognize the United States as a user of water under the Treaty. This recognition needs to result in water being set aside by Mexico in their annual allocation processes and reservoir operation plans to deliver a minimum of 350,000 acre-feet per year on average to the United States.

Mexico's internal and international reservoir operation plans should be modified, and upstream reservoirs should be called on to address the demands of downstream reservoirs and users. While Mexico's deficit to the United States has grown to more than 483,000 acre-feet, Mexico also has allowed its lowermost reservoir on the Rio Conchos, the Luis Leon Reservoir, to remain well-above conservation capacity. A portion of this water coupled with the utilization of water from other sources, as described below, could help address the deficit and Mexico's annual average water obligation.

At minimum, Mexico should commit to *not* allowing the current deficit to grow beyond its current level, which now exceeds 483,000 acre-feet. Mexico could ensure all of its tributaries to the Rio Grande collectively contribute an average of 958 acre-feet per day for allocation to the United States.

Article IX of the Treaty and a subsequently negotiated binding agreement called Minute 234 provide Mexico great flexibility in apportioning water to the United States. For example, the Rio San Juan, which enters the Rio Grande below Falcon Reservoir, is normally allocated 100 percent to Mexico. During the previous debt, Mexico allowed portions of this source to be allocated to the United States to the extent it could be beneficially used. This water was credited towards reducing the debt at that time. Such flexibility should continue to be pursued from this and other numerous Mexican tributaries to the Rio Grande to address the annual average delivery requirement and the current deficit.

IBWC needs to recognize the valid challenge of how the water at Fort Quitman should be accounted. The current accounting by IBWC gives one-half of this water to Mexico, while the binding 1906 Convention clearly allocates 100 percent of these flows to the United States. Texas' position is that the 1944 Treaty does not grant Mexico any ownership of these flows.

The U.S. representative of the IBWC must resolve and acquire the 78,000 acre-feet of water used to address water salinity issues created by Mexico's inadequate operation of El Morillo Drain. This is water Texas needs and has requested on numerous occasions with little to no response from Mexico.

IBWC needs to take a stronger and more proactive management role in stopping illegal diversions of Texas water by Mexico.

The WATER Act

U.S. Sens. John Cornyn and Ted Cruz, along with U.S. Reps. Filemon Vela and Mike Conaway, recently introduced the Working to Address Treaty Enforcement Rapidly (WATER) for Texas Act. The WATER Act would require the secretary of state's office to regularly submit reports detailing the efforts Mexico has undertaken to meet its Treaty obligations. It would mandate that the secretary's office annually report the benefits the United States is receiving from interim cooperative measures in the Colorado River basin intended to help Mexico following a 2010 earthquake.

SASDA

The 15 states comprising the Southern Association of State Departments of Agriculture (SASDA) recently passed a resolution introduced by Texas Agriculture Commissioner Todd Staples to petition the U.S. Department of State and Congress to ensure Mexico's compliance with water treaties, conventions and minutes to protect the viability of U.S. agriculture production and border communities. This action demonstrates the importance of resolving the Mexico water deficit and promoting the viability of the domestic food and fiber supply.