

EPA's Border Water Program and the New River March 2015

Introduction

The New River originates 20 river miles south of the international border and, after crossing the border, travels 65 river miles northward through Calexico and the Imperial Valley of California before emptying into the Salton Sea. This transboundary river was recognized as significantly polluted as early as the 1940s.

Up until 2007, approximately 15 million gallons per day (mgd) of untreated wastewater from the City of Mexicali flowed into the New River. The untreated wastewater, making up about 10% of the New River flow at the U.S.-Mexico border, posed serious public health and environmental threats both in the U.S. and Mexico.

Border Environment Infrastructure Program

To address this problem the United States and Mexico invested in multiple wastewater treatment projects in Mexicali, including the construction of a wastewater treatment plant called *Las Arenitas*, which was completed in 2007. These projects removed nearly all untreated wastewater from the river and benefited an estimated 635,000 people in Mexicali.

Monitoring conducted by the International Boundary and Water Commission (IBWC) and the California Regional Water Quality Control Board (RWQCB) have shown the benefits of the investments: the 12-month average measurement of dissolved oxygen in the river jumped from just above 1 mg/l to above 5 mg/l, which is EPA's water quality criterion for warm water (see graph below). In addition, levels of the indicator bacteria, *fecal coliform*, dropped exponentially.

The source of the U.S. investment was EPA's Border Environment Infrastructure Fund (BEIF). The BEIF funds construction projects through a cooperative agreement with the North American Development Bank (NADB). All BEIF projects in Mexico must have a U.S.-side benefit and be funded at least 50% by Mexico. In this case, the \$42M U.S. investment in Mexicali was matched by approximately \$100M in funding from Mexico. EPA also supports project development through a cooperative agreement with the Border Environment Cooperation Commission (BECC).

In addition to this investment, the Mexicali water utility agency (CESPM) and the Mexican Federal Water Commission (CONAGUA) continue to fund, build, and operate and maintain wastewater infrastructure projects to keep pace with population growth in the city.

BEIF has also funded projects in U.S. communities in California (Imperial County) that discharge wastewater to the New River, including Brawley, Westmorland, Heber, Seeley, and Calexico.

Binational Border 2012 and 2020 Programs

EPA recognizes the continued need for coordination among the many governmental agencies involved in designing, funding, and implementing the solutions. Binational agreements, such as the Border 2020 framework established under the La Paz Agreement, as well as the 1944 U.S.-Mexico Water Treaty and subsequent binational Treaty Minutes, allow for such coordination and joint investments to occur.

Through the Border 2012 program EPA and the BECC funded the non-profit Sonoran Institute to help design 250 acres of artificial wetlands in Mexicali, immediately downstream of the Las Arenitas wastewater treatment plant. These wetlands were then constructed with \$1.1M from the State of Baja California's Secretariat of the Environment (SPA), CESPМ, Mexico's Ministry of the Environment and Natural Resources (SEMARNAT), and the US Fish and Wildlife Service. They provide additional treatment of the wastewater, create habitat for birds and other wildlife, and create opportunities for environmental education. Since their construction, over 140 species of birds have been seen in the area, including the endangered Yuma Clapper Rail.

Furthermore, as prescribed in Border 2012 and reaffirmed in Border 2020, CONAGUA has been working to ensure that slaughterhouses in Mexico treat their wastewater when these facilities discharge directly to the New River.

Next steps

The New River Binational Technical Committee, which is chaired by the Mexican Section of the IBWC (CILA), and whose members include the IBWC, EPA, CESPМ, State of Baja Water Commission (CEA), CONAGUA, and RWQCB, believes that the most cost-effective and expeditious way to further improve water quality in the New River is by treating and/or preventing pollution at its source in Mexicali. Through this committee, the United States and Mexico continue to work together to address these sources.

Through the BEIF program, EPA is jointly-funding a collector rehabilitation project for construction later this year to address collapses and leaks impacting the New River. In addition we are working with CONAGUA to conduct a study this year that will evaluate the state of wastewater infrastructure in Mexicali, identify and estimate costs of the specific projects needed to address deficiencies, and identify opportunities for technical assistance.

Finally, through the Border 2020 program, EPA has funded the Sonoran Institute to clean and restore various agricultural drains in Mexicali that feed into the New River. They have also launched community environmental education and capacity-building efforts to prevent future illegal dumping.

Figures and photos

1. National Geographic article on the Las Arenitas wetlands funded, in part, by Border 2020. Full article can be found here: <http://newswatch.nationalgeographic.com/2013/05/09/once-a-smelly-nuisance-mexicalis-wastewater-now-brings-life-to-the-colorado-delta/>
2. Graph showing reduction in bacteria (fecal coliform) at the border for January 2005 - June 2014. The "standard" of 30,000 coliform forming units/100 ml was a goal set in an IBWC Treaty Minute. The RWQCB's fecal coliform standard for water contact recreation (REC I) is 200 MPN/100 ml based on a minimum of not less than five samples for any 30-day period. Also, more than ten percent of total samples during any 30-day period may not exceed 400 MPN per 100 ml. While fecal coliform levels have dropped significantly, the RWQCB level has not yet been achieved.
3. The RWQCB's standard for dissolved oxygen (DO) for warm water is not less than 5 mg/l. As evidenced in the graph for January 2005 - March 2014, this level is achieved much of the time.
4. A trash cleanup in Mexicali performed on January 24, 2015 removed 146 cubic meters of trash and properly disposed of it in a landfill.

News Watch

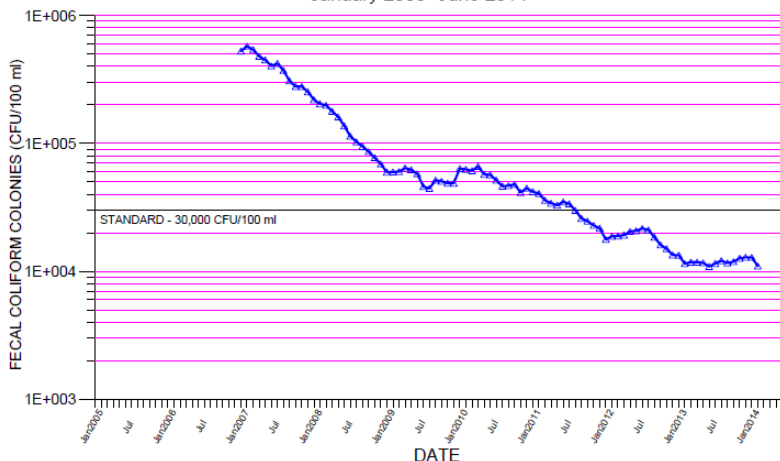


Once a Smelly Nuisance, Mexicali's Wastewater Now Brings Life to the Colorado Delta

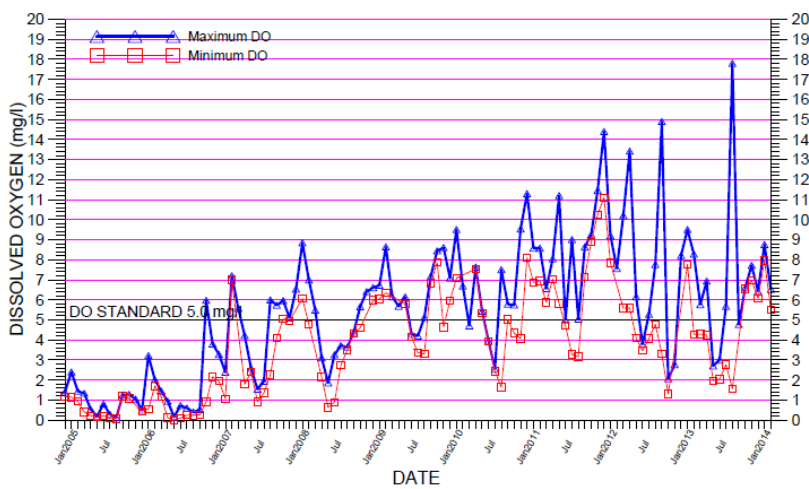
Posted by [Sandra Postel](#) of National Geographic's Freshwater Initiative on May 9, 2013



U.S. SECTION, IBWC
 Water Quality Monitoring Program
 IBWC Minute No. 264
 NEW RIVER UPSTREAM OF DISCHARGE CANAL
 FECAL COLIFORM 2 YEAR ROLLING GEOMETRIC MEAN
 January 2005 - June 2014



U.S. SECTION, IBWC
 Water Quality Monitoring Program
 IBWC Minute No. 264
 NEW RIVER AT INTERNATIONAL BOUNDARY
 DISSOLVED OXYGEN
 January 2005 - March 2014





Before cleanup

After

