

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

Introduction

The Tijuana River enters the U.S. from Mexico, eventually discharging into the Pacific Ocean on the U.S. side of the border through the Tijuana River Estuary. The estuary's water quality is affected by contaminants typical of municipal wastewater and by the quantity of fresh water that reaches it. Sediment and trash associated with stormwater runoff to the Tijuana River from Mexico and the U.S. also pose a risk to the estuary and ocean waters.

Of the total estimated population of 1.6 million persons in the City of Tijuana, approximately 20% do not have access to wastewater collection and treatment and rely on septic tanks, latrines, and open ditches. During wet weather these discharges combine with stormwater contaminating beaches on both sides of the border.

Solid waste is another concern in the Tijuana River Valley. According to Mexico's Institute of Statistics and Geography (INEGI), 15% of the 2000 tons of trash produced per day in Tijuana is not collected. Lack of rigorous enforcement of trash disposal laws and the growth of unregulated settlements lacking basic services are largely the causes of this illegal disposal of trash. Lastly, haphazard development has led to homes being built on steep hillsides of highly erodible land. When it rains, both uncollected trash and exposed soil wash into the canyons and creeks. Much of this sediment is carried across the border and deposits in the Tijuana River Valley, burying native vegetation and causing dangerous floods.

Border Environment Infrastructure Program

EPA funding has supported both wastewater infrastructure planning and construction for the City of Tijuana.

Joint U.S.-Mexico efforts to improve wastewater collection and treatment for the City of Tijuana began in 1990 with mutual agreement on an international solution to the border sanitation problem in the San Diego/Tijuana area. With \$240 million in funding from EPA, the International Boundary Water Commission (IBWC) constructed an international wastewater treatment plant in the U.S. and the City of San Diego constructed an adjoining ocean outfall in San Diego adjacent to the U.S.-Mexico border. This plant treats over 25 million gallons per day (mgd) of sewage from Tijuana that had historically contaminated the beaches and estuary within the San Diego/Tijuana area. The IBWC recently upgraded this facility to treat to secondary levels in order to comply with the Clean Water Act.

In addition to our investment in the IBWC facility, EPA has spent nearly \$50 million in wastewater collection pumping and improvement projects in Tijuana, Rosarito, and Tecate over the last two decades through our Border Environment Infrastructure Fund. These projects, all of which have resulted in improved water quality in the Tijuana River, have required at least a 50% funding match from Mexico.

EPA is currently funding another infrastructure rehabilitation project in Tijuana. This project will rehabilitate over 10,000 meters of main collectors and sub collectors, construct nine new manholes, rehabilitate 30 existing manholes, expand wastewater collection service to 525 residences and effectively reduce an estimated 4 liters per second of untreated wastewater discharges to open drains.

Binational Border 2012 and 2020 Programs

Border 2012 and Border 2020 programs (as well as other grants) have provided for over \$1.5M in funding for pilot projects and trash studies in the Tijuana watershed. Most of these funds have gone to universities and non-profit organizations in the area. These projects have leveraged over \$800,000 in funding from Mexico's Secretariat of Environment and Natural Resources (SEMARNAT) via its Temporary Employment Program. We currently have a Border 2020-funded cleanup and restoration project underway in the only unlined section of the Tijuana River.

With a 5-year grant from EPA, the Southwest Wetlands Interpretive Association constructed sediment-control and tire-reuse demonstration projects in Tijuana, trained hundreds of volunteers via 106 watershed improvement projects, removed 57,000 pounds of trash and over 16,000 tires from the estuary, and planted 10,000 containers of native plants.

Finally, EPA's Office of Research and Development is currently funding the development of a sediment model for a sub-basin the Tijuana River Watershed (in partnership with the U.S. Department of Agriculture, San Diego State University, and Ensenada's Center for Investigative Science). The need for such a model was identified in both the 2005 Binational Watershed Advisory Council's Vision document and the 2012 Tijuana River Valley Recovery Team Strategy. The model is a critical first step to prioritize and develop sediment control projects and will show how important land conservation practices are in preventing new sources of sediment.

All of these efforts can be found in the 2013-14 Border 2020 Action Plan.

Next Steps

EPA intends to continue our work with our partners on both sides of the border via our Border 2020 program and our Border Environment Infrastructure Fund. We are currently updating our Border 2020

2-Year Action Plan to reflect current and planned activities in the watershed being pursued with government partners on both sides of the border. In the spring of 2015 we will be soliciting proposals for pilot projects and studies to reduce trash and sediment in the watershed for possible funding under the Border 2020 program. We will also be continuing our investment in Tijuana wastewater infrastructure, including a planned phase II of the rehabilitation project mentioned above.

While significant improvements in wastewater collection and treatment in Tijuana have been made, EPA recognizes that aging wastewater infrastructure combined with rapid growth results in impacts to the Tijuana River and estuary that will require continued attention and investment.