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Wastewater projects improving Rio Grande water quality

Jared Janes

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McALLEN -- A sharp decline in bacteria levels in a polluted section of the Rio Grande coincided with the completion of a Matamoros wastewater treatment facility that prevented untreated wastewater from being discharged into the river.



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Excessive levels of *E. coli* were frequently recorded by the International Boundary and Water Commission, the binational agency that oversees border sanitation and water quality issues between the United States and Mexico.

But the spikes in bacteria levels ceased once Matamoros completed a \$76 million wastewater treatment plant in 2008 that greatly reduced unsanitary discharges into the Rio Grande and Gulf of Mexico.

E. coli and other bacteria concentrations are steadily increasing along other urbanized stretches of the river, including Rio Grande City and near Hidalgo, said Elizabeth Verdecchia, an environmental protection specialist with the commission. Continued implementation of water and wastewater projects — the North American Development Bank is financing \$846 million in similar projects along the border — should help Rio Grande water quality levels continue to improve.

“We received a lot of public concern about the bacteria levels,” Verdecchia said. “But a lot of these water quality issues, people are aware of them and are addressing them.”

E. coli is bacteria normally found in the intestinal tract of humans and animals that sometimes causes illness or death when consumed in tainted food products. *E. coli* often is traced to fecal contamination.

The high levels of *E. coli* found in portions of the Rio Grande aren't considered dangerous unless people have direct contact with the water, such as swimming and other recreational activities. Water treatment plants sanitize the water by removing the bacteria and other impairments before it is delivered to users.

Both sides of the border have seen increased development and population growth since the North American Free Trade Agreement was ratified. Since its inception under the treaty to address environmental issues in the border region, NADBank has funded more than 100 projects that prevented the discharge of 360 millions of gallons a day of untreated sewage into rivers and streams like the Rio Grande. The funding has increased sewer coverage in Mexico's border region while allowing U.S. communities to replace, upgrade and expand existing water and wastewater infrastructure.

U.S. Rep. Ruben Hinojosa, D-Mercedes, introduced legislation this month that would allow NADBank to work on infrastructure projects that increase economic development along the border and improve compliance with existing environmental laws and regulations. Hinojosa's legislation would expand the bank's authority to finance infrastructure projects that promote trade and commerce such as upgrading ports-of-entry.

NADBank has worked primarily to address basic environmental infrastructure needs such as water and wastewater infrastructure needs in poor border communities. In 2003, for example, it agreed to provide \$42 million in loans and grants to the water utility in Matamoros.

Most of Matamoros is connected to a sewer system, but there was no wastewater treatment facility before the plant was completed in 2008. All wastewater was dumped untreated into the Rio Grande and drainage channels that eventually emptied into the Gulf of Mexico.

Verdecchia said the plant's completion is positively impacting the water quality of the Rio Grande near Brownsville and could result in the section being removed from the state's impairment list maintained under the Clean Water Act. Field crews from the IBWC, the Texas Commission on Environmental Quality and the University of Texas-Brownsville sampled the water last year in half-mile increments along a 23-mile section of the river and found bacteria levels were nowhere near historical spikes.

The spikes are often accompanied with rainfall. Sewer overflows occur during rainstorms when pipes carry both rainwater and sewage, contributing to contamination through washing untreated waste into the river. Contamination is also caused by rainwater runoff from leaking septic tank systems, sewer malfunctions, feedlots and landfill leakage.

Verdecchia said the IBWC will soon conduct a similar study in the Rio Grande City and Hidalgo area because of high bacteria levels found there.

Rio Grande City Mayor Ruben Villarreal said his city's \$21 million water and wastewater treatment plant expansion will be complete next year. About 90 percent of his city's residents are tied into its sewer system, but the extraterritorial jurisdiction just outside the city limits is not.

Villarreal said he would like to connect more of those areas into the city's sewer system.

"The colonias that are out there, for the most part, have septic systems, but funding is always an issue to tie them into our own system," Villarreal said. "Money for water projects is not abundant right now."

Jared Janes covers Hidalgo County government, Edinburg and legislative issues for The Monitor. He can be reached at (956) 683-4424.

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