



Keeping the Caribbean Sea clean

CH2M HILL is helping six wastewater treatment plants in Puerto Rico maintain regulatory compliance, while saving the local government more than \$1 billion.

"It's been a complex, interesting and challenging project," said Don Holmes, who recently returned from three-and-a-half years in Puerto Rico as compliance manager, directing the technical work required to answer agency questions about the effects of primary effluent discharge on marine water quality and ecology.

The Puerto Rico Infrastructure Finance Authority called on CH2M HILL to help the six plants improve their compliance with the U.S. Clean Water Act. The firm retrofitted one plant with improved equipment, and developed standard operating procedures to enable all the plants to consistently and effectively treat the effluent that's discharged into the ocean.

"Our team was doing great scientific work in extraordinary conditions. At one point we had people out on the high seas gathering critical data during the approach of tropical storm Dean. They got the data and scooted for port, chased by increasingly large waves, black storm clouds and a truly exceptional display of lightning," Holmes said.

"This project is an excellent example of how good applied science can lead to smart regulatory decisions. The plants could be converted to secondary treatment facilities, but that would be unnecessary and would cost the government an additional \$1 billion for operations and maintenance. Instead, the government's money can now be applied to multiple, badly needed projects like clean drinking water, and improved sewerage systems."

From top to bottom:

The discharged effluent is repeatedly tested to ensure safety for marine life in the area.

CH2M HILL works with the U.S. EPA to lower a water sampler to different depths for water quality testing.



The University of Puerto Rico, a partner in CH2M HILL's efforts, provides one of the ships for routine water quality sampling efforts.

An environmental scientist analyzes samples of the sea floor that have been dredged near where effluent is discharged.

A towed net samples the surface water near where the effluent is discharged.

An environmental scientist removes sediment core samples from a dredge for chemical analysis.

