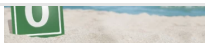


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already underway. WLRN-Miami Herald News presents a series of stories about the effects of sea-level rise. The project is called "Elevation Zero: Rising Seas In South Florida." Click through the pages below to see our entire archive of Elevation Zero stories.

Building For Sea-Level Rise -- Without Rules

WLRN 91.3 FM

Published November 15, 2013 at 12:57 PM EST

[LISTEN • 4:05](#)*Miami-Dade Water And Sewer Department /*

Miami-Dade County has recently worked out a \$1.5 billion plan with the Environmental Protection Agency to fix its aging sewer system — an over-burdened

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But a local environmental group says there's a major piece missing from that agreement: climate-change planning in a consent decree.

Biscayne Bay Waterkeeper is suing the county because, among other reasons, the agreement's consent decree doesn't include explicit plans to protect its three wastewater-treatment plants against sea-level rise. Rising seas could mean bigger storm surges during hurricanes.

Albert Slap is a lawyer with BBW who points out that when a wastewater-treatment plant is overrun by storm surge, it can cause huge problems.

"When hurricane Sandy hit, it knocked out many sewage-treatment plants in New Jersey and New York and caused the discharge of over 11 billion gallons of raw sewage," he says.

Prevention: Sandbags, Pallets And Storm Shutters

Fortifying a treatment plant is similar to the storm prep you might do for your own house. Slap demonstrated the process to WLRN in the two-car garage of his Key Biscayne home.

He has most of his stuff on pallets, to keep out of the flood zone. Sandbags act as seawalls. Storm shutters and impact glass are like "the hardening of the control rooms" of a hypothetical treatment plant.

BBW wants all those protections designed for the Miami plants with the best sea-level rise forecasts in mind.

Virginia Key Wastewater Treatment Plant, one of the three at the center of the controversy, is on the island between Slap's Key Biscayne home and the Miami mainland.

Not only is the plant on a small barrier island, it's also roughly 60 years old. The Environmental Protection Agency, and the Clean Water Act of which the county is in violation, didn't come around until the 1970s.

"It's showing its age," says Doug Yoder, deputy director of the Miami-Dade Water and Sewer Department. "Which is one of the reasons we have this consent decree."

The county still plans to fortify its wastewater-treatment plants against rising waters.

"The consent decree is the result of a lawsuit brought under the Clean Water Act," says Yoder. "The Clean Water Act really doesn't include any specific provisions dealing with sea-level rise and climate change. ... The EPA has no specific requirements, no rules, no guidelines, no standards associated with sea-level rise or climate change."

But the EPA does have a set of recommendations for preparing for rising seas, as does the Southeast Regional Climate Change Compact which Miami-Dade County has signed on to. But recommendations are a far cry from policy that carries penalties for inaction.

Execution: Different Agency, Different Rules

If this project fell under another federal agency, such as the U.S. Army Corps of Engineers, the situation would be very different.

The Corps' current policy, which dates back to 2009, requires its projects to be designed to withstand higher waters based on sea-level rise projections the agency lays out. The Corps doesn't have recommendations -- it has rules.

USACE's Kathleen White says the failure of the Corps' levee system around New Orleans during Katrina pushed the agency to develop a more robust policy for rising seas. She thinks Hurricane Sandy may do the same for the rest of the country due to the places it struck.

"The economic implications of Sandy expanded far beyond the Northeast and that means that people stood up and took notice," said White. "For Sandy, every dollar spent on the coastal storm risk infrastructure now could have saved over \$12 if it had been spent before Sandy. That's money, but that's also lives."

But state and local government doesn't have to wait for the feds to take the lead on environmental policy, according to Daniel Suman. He's with the University of Miami's Rosenstiel School of Marine and Atmospheric Science's policy division.

"I think there's some good examples regarding air pollution and carbon-reduction programs in some states because we don't have action at the federal level," said Suman. "California has taken some steps and really is leading that national effort now."

The Florida Department of Transportation is revamping Alton Road, a major street in Miami Beach.

That project includes sea-level rise projections in its design plans, even though the department does not have a specific policy for it. FDOT took it upon itself to plan for higher seas.

Biscayne Bay Waterkeeper is pushing for a rule -- with penalties attached -- for Miami-Dade to follow as it develops and implements the improvement plans for its wastewater-treatment plants. But the Water and Sewer Department's Doug Yoder says excluding requirements and penalties would give the county flexibility.

"There are a lot of reporting requirements and penalties if you don't finish the projects on schedule," he says. "From a project-management point of view, it simplifies things to have them separate."

If there's no agreement, a federal judge will have to decide in January what will be included in the consent decree. Judging by the BBW's take on it, the judge will have the final word.

"We want the protections built into the decree and enforceable in federal court," attorney Slap says. "We don't want to just take the county's word for it."

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