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Lake Okeechobee flood control creates environmental disaster

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ON THE CALOOSAHATCHEE RIVER — The rains poured down in late January. Twelve inches in all, 11 inches more than normal.

Clewiston and Belle Glade flooded, as did thousands of acres of sugarcane and vegetable fields. Lake Okeechobee reached 15 feet, then 16, threatening to break free of an aging dike.

The Army Corps of Engineers, which regulates lake levels, knew it had to do something drastic to protect Clewiston and other small towns to the south.

On Jan. 29, the corps opened wide the gates holding in the lake.

Billions of gallons of polluted water gushed down the St. Lucie River to a brackish estuary on the Atlantic Coast, where it began killing oysters and sea grass and threatening coral reefs.

Billions more spilled west through the long and winding Caloosahatchee River, past cattle ranches and sugar fields and orange groves, beneath a swing bridge and Interstate 75. As it flowed past mansions and mobile home villages and small towns, the water collected more sediment and nutrients from the river itself.

It passed Fort Myers and entered Pine Island Sound, a dark brown plume that sliced through the middle of Sanibel Island's teal-hued waters at the height of its tourist season. Parasailing tourists would land and comment on how "nasty" it looked.

The water wreaked tremendous damage on both sides of Florida. Fish and tourists fled. The governor declared a state of emergency. And communities around the lake and along the rivers began blaming each other.

But this is not a problem that just popped up following a two-day rainstorm. It has been decades in the making, and it appears, for now, there is no way to stop it from happening again.

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To get to Lake Okeechobee, visitors can drive through "America's sweetest town" on Sugarland Highway, past the offices of America's largest raw sugar producer, U.S. Sugar Corp., by the Sugar Land Masonic Lodge and Clewiston High School's Cane Field Stadium, up 35 feet over a massive earthen berm that surrounds the lake.



At lake's edge, water and marsh sprawl out for 730 square miles. Jesse Allen, 76, a retired fishing guide, had just pulled his boat into a dock.

"It was a good day," he said. "We got more than 50 in there."

He opened up the hold of his bass boat to reveal a heap of silver and black speckled perch, one of the freshwater fish that make Lake Okeechobee famous.

The communities along the southern edge of the lake — Canal Point, Pahokee, Belle Glade, South Bay, Lake Harbor, Clewiston — have returned to normal since the January rains overflowed ditches and flooded main roads, including State Road 80 and U.S. 27.

Residents see the release of lake water as a necessity.

"They've got to release it," said Allen, who recalled how Hurricane Wilma in 2005 washed out the dike in several places. "If it was high like it was before they released it, it would go over the top of the dike" and flood the towns.

As for the tainted water, don't blame the flood-weary farming communities south of the lake, said Phillip Roland, Clewiston's mayor, who counts several U.S. Sugar Corp. vice presidents as personal friends. Everyone should turn a keen eye north, to the pollution pouring down from the Orlando suburbs via the Kissimmee River, he contended.

But at least some of what has been coming out of the lake came from the nearby towns.

When the canals in the towns swell, water managers alleviate flooding by firing up two large diesel-powered stations that pump water back into the lake. In late January, South Florida's wettest since record keeping began in 1932, they pumped for four days straight.

The corps tries to keep the lake level between 12.5 feet and 15.5 feet. By February, it reached nearly 16.5 feet, the highest in a decade.

The agricultural district south of the lake includes citrus groves, cattle ranches, about 30,000 acres of sweet corn, green beans, lettuce and broccoli, and about 400,000 acres of sugarcane. Some farms benefited from the back pumping, which dried out some fields, but they were not the reason it was done.

"Back pumping is used only as a flood-control measure for the communities located around the lake," said Judy Sanchez, a spokeswoman for U.S. Sugar, during a news conference last week to combat allegations that back pumping was to blame for the Caloosahatchee's woes. "Back pumping is never used to protect a farm."

The rains flooded U.S. Sugar fields and closed the mill for 17 days. They wiped out 50 percent of the region's sweet corn crop. The company is still assessing losses.

As for back pumping water into the lake and then releasing it in the river, Sanchez said: "Everybody's runoff goes into some water body in Florida."

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In a way this is all Hamilton Disston's fault.

A Philadelphia saw magnate, Disston bailed out a nearly bankrupt Florida state government in 1881 by buying 4 million soggy acres and vowing to drain them. He straightened the bends in the Kissimmee River, which flows southward into Lake Okeechobee, then built a 3-mile canal connecting the lake to the Caloosahatchee. He also wanted to build a 20-mile canal connecting the lake with the St. Lucie.

His plan was to flush all that water out of the Kissimmee valley and make the land dry enough to farm. He had some success, but he also flooded Fort Myers.

Disston died in 1896. The St. Lucie canal he envisioned wasn't started until after hurricanes in 1926 and 1928 made the lake overflow into the towns around its edge, killing 2,500 people. That also prompted the building of the Herbert Hoover Dike around the lake, which corps officials now call "a legacy structure," meaning it's old and needs replacing.

As a result, flooding remains a constant threat to the 40,000 residents who live south of the lake, as well as the 5 million people who live in the counties to the southeast. Without the manipulations of the water managers and the corps, the lake might have wiped out some of these small towns long ago.

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The Caloosahatchee River begins near Moore Haven just a few miles west of the lake, where water bubbles beneath a row of gates that resemble massive steel garage doors. Anglers line the banks to pluck the abundant fish.

The Corps of Engineers uses locks like this one to keep the lake from overtopping the dike. Anticipating a wet El Niño winter, it began dumping out more water in October. By January, it was clear that wasn't enough. Corps officials decided they had to flush out as much as they could. At the peak, more than 14,000 cubic feet per second spilled into the Caloosahatchee River alone. That's five large backyard swimming pools every second, or 450,000 swimming pools every day.

From her cattle ranch downstream, Mary Giddens, 67, watched the rushing water climb the bank of her property and break her irrigation pump. The rain pooled in the pasture where she raises 20 Dexter Heritage cows, drawing a flock of about 100 wood storks.

"There is more at stake here than any one government agency can deal with," she said. "It takes all of us, citizens and citizen scientists."

Farmland dominates the first five to 10 miles of the river — orange groves, sugar fields, cattle ranches, many of them hidden from view by a wall of oaks, palms and Brazilian pepper trees. Those farms, along with businesses, communities and residential developments, are permitted to release their runoff into the river through a series of drainage culverts and canals, said Randy Smith of the South Florida Water Management District. They are supposed to follow a series of what the state calls "best management practices" that include storing the water on other parts of their property before releasing it, to minimize the impact.

Robert Tower, an airboat pilot out of Clewiston, pointed to all that runoff as the real culprit ruining the estuaries farther down river.

"The pollution (hitting Sanibel) is coming from the Caloosahatchee River," he said, "not the lake."

John Paul, a third-generation citrus grower and president of Caloosahatchee Riverwatch, a diverse group of residents concerned about the river, said he and his family do everything they can to keep the water clean. He said his family's groves rely on the river for both irrigation and drainage.

"Fertilizer is expensive," he said, "and it's against our interests to have it run off, so we're constantly evaluating ourselves to prevent runoff and feed only the citrus trees."

As the river flows west past Alva, the banks give way to a mobile home park, a water treatment plant, a house under construction, a beige mansion with a tin roof and a dozen cattle grazing in the yard.

Some residents say the increase in development, including more septic tanks, also contributes to the pollution.

"A lot of people are blaming agriculture," said Joseph Thomas, president of the LaBelle Heritage Museum. "Yes, sugar and agriculture have done some of it, but they haven't done all of it."

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Farther west, near the mouth of the Caloosahatchee, the milewide estuary looked dark like black coffee as hydrologist John Capece leaned over the side of the 24-foot *Pursuit* boat and slurped water from his cupped hand.

The water was supposed to be a little salty. This is a brackish tidal estuary, after all. But it was not.

"It's freshwater," he said, eyebrows lifted in surprise.

Capece and several other members of the Caloosahatchee Riverwatch had boated toward the mouth of the river to take a look.

Capece did some math in his head. He calculated that the massive pulse of freshwater from the lake and river runoff was 13 times the volume of this part of the estuary, an area a mile wide and 10 miles long.

The scale was incredible to think about.

"Anything that resided in the river is being flushed out," he said.

Or as John Cassani, 63, a retired Lee County research scientist and aquatic resource manager, said later, "The estuary for all intents and purposes does not exist anymore."

John Cheshire, a retired firefighter and a spearfisherman who piloted the boat, said the water had appeared unusually cloudy for miles out into the Gulf of Mexico.

"We saw a bunch of green sea grass debris 5 miles off shore last week, tennis court-sized," Cheshire said. "That's not supposed to be there."

Capece nodded. But he said it's what he can't see that scares him.

"It's really underneath — the fish population, the diversity of species, the nutrients, the sediments, the salinity, the plant life, the cumulative effect of the problem that you simply don't see," Capece said. "My thoughts are that we will feel the effects of this for years to come."

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Finding a solution will require money and political will, both seemingly in short supply.

Nine years ago, then-Gov. Charlie Crist proposed something radical. It was 2007, and the South Florida water agency had just banned the sugar companies from back pumping into the lake. Crist offered to buy U.S. Sugar's assets: 187,000 acres of land. That way the next time the lake got too full, the water could flow south across that land and into the Everglades.

A buyout deal was struck.

But Gov. Rick Scott and the water district recently let that buy-out option lapse. They said that it was too expensive and that it would not provide the relief everyone wanted. However, that left no other alternatives.

The state ought to acquire about 50,000 acres of the 480,000 acres of farmland south of the lake to build a reservoir big enough to hold and treat the excess lake water before releasing it southward into the Everglades, said Mark Perry, executive director of the Florida Oceanographic Society in Stuart. That would prevent the polluted lake water from destroying the estuaries, he said. It would also save Florida Bay, down at the tip of the Florida peninsula, which has been suffering from too much salt ever since the natural flow was cut off almost 90 years ago.

Last month, what Sanibel Island residents call "the dark water" forced Scott to declare a state of emergency for Lee, Martin and St. Lucie counties. He also blamed everything on President Barack Obama. If the Obama administration had fixed the dike, the governor said, the lake could hold more water — even though the repair plans do not include increasing the lake's capacity.

Earlier this month, corps officials reduced the flow through the Moore Haven lock to 4,000 cubic feet per second, and reduced it further on Friday. They will want to get the lake level down to below 14 feet before the summer rainy seasons fill it up again, Perry said.

That means more dark water pumped into the already reeling estuaries.

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The destruction is mounting, both environmentally and economically.

Over in the St. Lucie estuary, "we're looking at 40 percent mortality in the oyster beds," Perry said. Snook, redfish and other marine creatures often use the sea grasses to spawn in April and May, but Perry thought it was unlikely they would have grown back by then.

In the past, the releases from the lake haven't continued long enough to cause lasting ecological damage, Perry said. This time, he's not so sure.

On Sanibel Island, bait houses and fishing guides saw their business dwindle. Beach hotels had cancellations and early checkouts. Restaurants that usually jump sat quiet, their tables empty. Even businesses that had little to do directly with the beach, like family-owned Bailey's Grocery, saw a drop in customers.

"We want the blue water back, not the black," said fourth generation Bailey's co-owner Calli Johnson, who is also a dedicated spearfisherman.

In winter, anglers normally pack the fishing pier near the old lighthouse, snatching snook and sheepshead as fast as their lines get wet. By March, only about a dozen diehards remained.

"I've been here for 20 years and I've never seen it this bad," said Rick Rzemieniewski of Fort Myers, who fishes from the pier nearly every day. "I don't understand the philosophy behind devastating such a fragile ecosystem."

Charlotte Wilcox, who spends six months each year on Sanibel and six months in Minnesota, has photographed every one of 68 species of fish she has caught while visiting the island. When she first came 10 years ago, "the fishing was incredible."

Right now, though, she said, "If I caught a redfish I'd be afraid to keep it. ... If the water is brown, I'm afraid to go in it."

The brown water mostly gets its color from the dissolved organic matter scoured from the bottom of the lake and the river, said Rae Ann Wessel of the Sanibel-Captiva Conservation Foundation, which has been sampling and analyzing the "dark water."

"We don't sample for pesticides, herbicides and pharmaceuticals, but we're sure that's in there, too," she said.

What's really scary for Sanibel is what this means for the next tourist season.

"We're hearing from our customers that this is it," said Ryan Markosky, manager of a bicycle-rental store. "They're not coming back."

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