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Zombie estuaries: 2021 Lake O discharges will be bad for Caloosahatchee, St. Lucie River

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The toxic tsunami is coming again.

By summer's end, we can all expect to find zombie estuaries on both Florida coasts.

This is nothing new. For the third time in six years, people who live along the watersheds of the St. Lucie and Caloosahatchee rivers will stand by powerlessly as two of the state's most environmentally important ecologies get hammered.

And there is nothing we can do to stop it.

Avalanche of death

We knew it was coming. I've been dreading this all winter.

Watching Lake Okeechobee's water level can make a person edgy. It has remained way too high for way too long.

Let's face it, living downstream from the canals stretching east and west from Lake Okeechobee's shores is kind of like living at the bottom of a mountain in an avalanche-prone area — sooner or later, the life-smothering torrent is going to roll downhill.

Right down on top of you. Again.

And like we have had to do so many times before, we'll be left digging ourselves out of an ecological hole for as many months as Mother Nature grants us a break from rains, and until the next one comes.

Do the math

Lake Okeechobee discharges to the estuaries began March 6. The Army Corps of Engineers Jacksonville district commander Col. Andrew Kelly announced Friday — with a news release sent out at Happy Hour, no less — that the agency had no choice but to begin letting water go now before things really get bad later this spring.

We all could read the writing on the wall before the announcement. The water level gauges at Lake Okeechobee seemed stuck, measuring at nearly 15.5 feet for three months.

Any of us who have been paying attention to Florida's largest natural lake for more than a couple of years knew already that 15.5 is a big bad number for March of any year. The reason? The Army Corps' lake management manual demands the lake's level be at 12.5 feet by June 1 of every year — the unofficial official start of hurricane and rainy season in the Sunshine State.

So how much water has to come off the lake in just shy of three months? Let's do the math.

Lake Okeechobee measures 730 square miles in surface area, or roughly 467,000 acres. Multiply 3 feet by 467,000 acres to get about 1.4 million acre feet. Converting that number to gallons means the Corps needs to shed over 456.5 billion gallons in 86 days.

Anyone know where we can put 5.3 billion gallons per day until June 1? Since about a third of the discharges go to the St. Lucie River, that means over 150 billion gallons could head this way, without adding in any more rain, which is inevitable.

Zombie estuaries

There is only one place to put that much water under the current design of Florida's long-busted plumbing system — the sea. What everyone reading this column needs to keep in mind is that nearly every drop of this water once flowed into the Everglades.

But a century ago, we changed how and where the water flowed. Since then, the water balance in the Everglades has been out of whack. On the other end of the seesaw, coastal estuaries have been sacrificed.

Here is what is to come this year:

- High volumes of freshwater will lower salinity levels in saltwater and brackish estuaries. The freshwater will prevent young oysters from attaching and will kill them. Older oysters will also die. Oysters can filter up to 50 gallons of water per day in an estuary.
- Silt being carried downstream from the canals will smother other benthic organisms. Silt suspended in the water column will shade out new seagrass growth in the southern Indian River Lagoon south of Stuart Causeway. It will also smother nearshore coral and worm rock reefs offshore near St. Lucie Inlet.
- Pollutants and nutrients carried in the water will cause further damage to crustaceans, plankton, shellfish, including queen conchs, and juvenile fish. Nutrients and bacteria levels will be too high forcing public health officials to warn about touching out waters.
- Harmful algae such as cyanobacteria like *microcystis aeruginosa* will be carried downstream, causing a human health danger as it dies off and is released into the air.

That's just for starters.

History repeating

How do I know these things will happen? Well, like the old saying goes, he who ignores history is doomed to repeat it.

To me, the woes of our waterways is starting to feel a lot like the Bill Murray movie, "Groundhog Day."

- 1998 — Lesioned fish. The third worst Lake Okeechobee discharge event in the nearly 90 years of discharges sent 346.5 billion gallons of polluted water toward Stuart and caused more than 25 species of fish to develop open bleeding sores and lesions on their bodies. No one knows how many died and sunk to the bottom of the dark St. Lucie River.
- 2005 — The record 2004 hurricane season saw three hurricanes sweep over the greater Everglades system, producing rainfall amounts causing the Corps to leave the gates of St. Lucie Lock and Dam open for 19 months. It was the second largest volume of discharges, at 457.2 billion gallons. Blue green algae appeared in May 2005 in the St. Lucie River for the first time in recent history.
- 2013 — The Lost Summer saw the 12th worst discharge event, with 136.4 billion gallons sent down river for five months. Blue green algae appeared again. Protests began, causing everyone except then Gov. Rick Scott to notice.
- 2016 — The Lost Summer II saw the seventh worse discharges and guacamole-thick algae settled in at Central Marine in Rio for the second time. The smell choked everyone except the political candidates who flocked there for photo opportunities and to deliver empty promises.
- 2018 — Somehow Stuart was spared the worst of it, but the Caloosahatchee River watershed saw incredible devastation. Blue green algae paired with a persistent red tide and killed everything from mullet and pinfish to manatees, dolphins and whale sharks.

Hope?

I don't have much hope anything will be much different this year.

Some things have improved in the past year, but I'm confused as to how much it will change the Corps' operating procedures.

- U.S. Rep. Brian Mast, R-Palm City, filed a bill in August 2020 to set limits on water with harmful algae blooms being dumped into communities. The bill passed the House in December and the Senate only had to approve changes. That could help once it is enacted.
- In April 2020, the Calusa Waterkeeper and Center for Biological Diversity filed a lawsuit to protect sawfish and sea turtles from harmful discharges.
- In July, the Jacksonville district of the Army Corps of Engineers will receive a new commander. Kelly managed the complex lake system with more flexibility than any who preceded him. Could his replacement carry that philosophy forward?

Ultimately, this problem will continue until engineering creates a way to send high volumes of water south, and in order for that to happen, the Corps needs to be directed to do it. The narrow Miami Canal is too small to carry billions of gallons of water each day to the Everglades some 20-plus miles south of the lake's southern shore.

Until that happens, we can count on two nearly dead coastal estuaries being killed over and over again.

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