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HEALTH

Lake Okeechobee algae blooms net $5 million in state grants to help monitor, prevent them

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Published 11:51 a.m. ET Jul. 29, 2020

Two state grants totaling $5.2 million will help better monitor algae blooms in Lake Okeechobee and help keep algae-feeding phosphorus and nitrogen out of the lake.

Gov. Ron DeSantis announced the grants this week based on recommendations from the state's Blue-Green Algae Task Force.

The South Florida Water Management District will use $3 million to pay for a project to remove more than 15,000 pounds of phosphorus over three years from a canal entering the 730-square-mile lake. That's about the weight of the largest African bull elephant.

Florida Atlantic University's Harbor Branch Oceanographic Institute at Fort Pierce will use a $2.2 million grant for its Harmful Algal Bloom Assessment of Lake Okeechobee (HALO), a combination of state-of-the-art technologies and on-site work to better monitor blooms and understand the conditions that cause them.

The district has a contract with the company Ferrate Solutions to build a facility on Lake O's northeast shore to remove nutrients, primarily phosphorus, from a canal draining the Taylor Creek/Nubbin Slough watershed before the water reaches the lake.

The site was chosen because that watershed is "a hot spot with high nutrient loads to the lake," said Sean Sculley, the district's lake and river ecosystem administrator.

More: Record amounts of phosphorous flowing into Lake Okeechobee

The process also removes nitrogen, another algae-feeding nutrient, from the water, Sculley said, but the district is paying according to how much phosphorus is removed.

The facility is expected to be up and running in about a year, Sculley said.

Harbor Branch's grant for its HALO project will pay for:

- On-site, by-hand water sampling for algae in Lake O.

The water management district takes water samples every other week, said Jordan Beckler, a Harbor Branch assistant research professor, "and we'll take samples at the same sites on the weeks they don't."

The water is tested for the presence of blue-green algae and toxins. Results of the district samples are posted on the Florida Department of Environmental Protection's Algal Bloom Dashboard. The Harbor Branch data will be posted on HALO.GCOOS.org.

- Developing two models, one using artificial intelligence and the other using natural process forecasting, to forecast when and where algae blooms will occur in the lake.
- Studying sediment in the lake bottom to see the amount of nutrients, algae cells and toxins it contains and how they become suspended in the water.
- Using a small, remote-controlled sailboat to take water samples in the lake. Beckler tested a similar boat, Vela, on a two-week mission in February 2019.

More: Drone sailboat goes looking for blue-green algae in Lake Okeechobee

- Installing remote-controlled water quality monitors, known as Land/Ocean Biogeochemical Observatories or LOBOs, in the lake.
- Using a satellite to monitor algae bloom growth on the lake.
- Studying airborne toxins from algae blooms. Air samplers will be on Harbor Branch boats conducting water samples and staffers taking the water samples will have their noses swabbed before and after going on the lake to look for toxic cells.

More: People along St. Lucie River breathed in toxins from algae blooms

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