Scientists: Lake Okeechobee runoff not causing, but may enhance, red tide

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Mote scientists and an agricultural leader say there is no single cause or solution for red tide

CORRECTION: A previous version of this story indicated that Mote scientists said Lake Okeechobee runoff is not fueling red tide. The story has been corrected.

SARASOTA — Pollution from Lake Okeechobee does not start red tides but may enhance them along the Gulf Coast, according to Mote Marine Laboratory scientists.

“What we are seeing now is not unprecedented, but it is bad,” said Vincent Lovko, a phytoplankton ecologist at Mote. He said cyanobacteria (blue green algae) traveling from the Caloosahatchee includes nutrients used by other organisms in estuaries, sea grass beds and macro-algae and phytoplankton. The amount that actually makes it into the coastal systems is greatly reduced when it reaches the Gulf.

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Lovko made his comments before a sold-out crowd Thursday at a “Meet the Minds” panel discussion on red tide presented by Sarasota’s Argus Foundation.

Cyanobacteria’s effect is localized at the point of contact, Lovko said, and it doesn’t survive long in saltwater.

Lake Okeechobee and the Caloosahatchee River “brings a lot of freshwater with it,” the Mote scientist said. “Karenia brevis (red tide bacteria) is a marine organism; it doesn’t really like freshwater.”

Mote president and CEO Michael Crosby said that blue-green algae and red tide both have significant negative effects that need to be investigated through collaborations with scientific partners and the local community. He said there are many sources of land-based nutrients besides Lake Okeechobee, including terrestrial runoff from rainfall and runoff from creeks and rivers into coastal ecosystems.

Crosby said finding the answer to mitigating red tide will be complex.

“Unfortunately, part of human nature, and I fall prey to it myself, when you see a problem, you really hope there is one thing that you can correct,” Crosby said. “If only we could fix that one thing, it would make everything better. Red tide is not that simple. It’s just not.”

Panelist Alan Jones, owner of Jones Potato Farm in Manatee County, which has reduced fertilizer use 30 percent through precision farming, said major rain events can flush more than 20 billion gallons of water through coastal communities into the Gulf. He said cooperating with regulatory agencies like the Florida Department of Agriculture can be part of the solution.

“There has been a very proactive approach by the FDA to take on dairies to keep their runoff contained,” Jones said.

Argus Foundation president Jack Cox said the discussion was “eye-opening” for attendees.

“I thought they were all tied together,” he said. “There is not one single cause for this issue. There’s a lot of people responsible for it.”

Cox said the event was put together in 12 days. They chose to address red tide because it is currently the major issue facing the community.

“One thing I never thought about is our septic tank issue,” Cox said. “There are roughly 250,000 septic tanks still on the west coast of Florida — a majority are still down in Charlotte County. ... I think people had the same takeaway I did. People walked away knowing Mote is working on it and people walked away being more informed of what red tide is all about.”