
Headed for a fish kill?

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By JOHN HOWELL

Those who pay careful attention to conditions in Narragansett Bay agree there has been a resurgence of life, both in the water and in the air in the upper bay, but rising water temperatures and a lack of dissolved oxygen could set the stage for a major fish or clam kill as soon as this week.

Admitting it wouldn't bode well for tourism and is not what most wish for at this time of year, W. Michael Sullivan, director of the Department of Environmental Management said last Thursday, "Two or three days of good, cold rainy weather would be a relief."

A change in the weather is about all that can alter the course for what could be one of the most trying weeks of this summer on the bay's marine life.

"We're right on the edge," Christopher Deacutis, chief scientist for the Narragansett Bay Estuary Program based at URI said yesterday. Deacutis said that dissolved oxygen levels in Greenwich Bay are "hovering right around hypoxia," meaning that oxygen levels are low enough to stress fish. Readings last Wednesday in Greenwich Cove were so low they were "anoxia" and incapable of sustaining fish.

Apart from reduced levels of dissolved oxygen, this Friday is a period of neap, or weak, tides meaning that the natural flushing of the bay and introduction of cooler ocean water is reduced.

Sustained high temperatures – some portions of the bay are already showing temperatures of 80 degrees – and reduced winds would heighten the threat of a fish kill. Increased temperatures reduce the ability of water to retain dissolved oxygen, while without wind and waves there is less aeration and mixing of water. Oxygen levels are not always consistent through the column of water, with less oxygen in lower stratifications.

Further, as Sullivan notes, because of a lack of rain, storm drains and natural drainage systems are filled with nutrients that with a sudden downpour will be injected into the bay. This would set up conditions for an algae bloom that would further deplete oxygen levels as those organisms multiply and then die off in large quantities causing decomposition.

John Torgan, Baykeeper for Save the Bay, says oxygen levels in the bay "are alarmingly low," making the bay "vulnerable to fish kills and clam die offs." Levels of 4 to 7 mg/l of dissolved oxygen are considered healthy, said Torgan. Readings last week in the Seekonk River were .2.

Yet, he is also amazed by what he is finding in bay waters as far up the Providence River as the city itself.

"There is a tremendous amount of diversity. I can never remember the Providence River being so alive."

Torgan said multiple species of fish are being found in the upper bay from menhaden and flounder to blues and striped bass. Blue crabs,

clams and shrimp are also prevalent, and along with all that is living in the water are coming a variety of birds.

"We have a beautiful bay, a vibrant bay," Torgan said at Thursday's press conference at Goddard Park to announce a campaign to educate people as to how they can reduce pollutants from reaching the bay.

"Know where it goes...take simple steps to reduce storm water pollution," is a four-year program being coordinated by URI and DEM and funded by \$675,000 from the Department of Transportation. Joining Torgan and Sullivan at the announcement were Mayor Scott Avedisian, DOT director Michael Lewis, URI vice president for administration Robert Weygand and Jeffery Seemann, URI dean of the College of Environment and Life Sciences.

But, Torgan cautioned, "These gains are precarious. It doesn't take much to tip it and to see a fish kill."

If conditions have improved so dramatically, why then have there been numerous beach closings? Also, why should there be closings during a dry period when storm water runoff and wastewater treatment overflows from Providence – often the reason for shellfishing and beach closures – are not occurring?

Torgan doesn't have an answer.

Sullivan has a partial answer to the beach closures.

Because of new testing procedures, Sullivan said, "We are seeing many more closures, but fewer days [of closures overall]." He said the Health Department is using a "quick test" for enterococci, a form of bacterium found in animal waste, rather than e. coli that was used as the former standard. Sullivan said water samples are taken at as many as a dozen locations to avoid false readings before a beach is closed. But because the tests can be completed quickly, he said, the beaches are reopened as soon as the water is safe.

Reducing the introduction of pollutants into the bay is the objective of the campaign that includes training, storm water management workshops and the development of model ordinances. The public portion of the program includes an advertising campaign that will become more visible in the weeks to come with advertising on RIPTA buses, bus shelters and radio.

Lorraine Joubert, director of the program at URI, said the public campaign is directed at getting people to think about the things they might do to reduce the introduction of pollutants into the drainage system and eventually the bay. Those measures are as simple as sweeping, rather than spraying, driveways and sidewalks, cleaning up dog waste and making sure when spreading fertilizer that it does not reach areas where it could be washed into storm drains.

Deacutis said fish have the ability to leave an area where oxygen levels drop but other organisms such as quahogs, soft shell clams, mussels and scallops cannot. Of these, quahogs are especially hardy and "shut down," thereby enabling them to live for up to a month without oxygen.

The massive Greenwich Bay fish kill of Aug. 2003, when thousands of dead menhaden washed up on Nausauket shores, Deacutis explained, occurred when the lower stratification of oxygen-depleted water was brought to the surface. This "upwelling" caused by a sudden change in weather patterns caught the fish with no place to go.

“It takes a combination of events to line up right to get a big fish kill,” he said.

Torgan agrees.

“It takes a lot of ingredients to cause a fish kill,” he said yesterday.

“We’re keeping the eye on the weather very closely,” he said, adding, “it looks like conditions at the moment are pretty healthy, but that doesn’t change anything.”