

Rhode Island Department of Environmental Management

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HARMFUL ALGAE BLOOMS IN LOCAL WATERS Frequently Asked Questions

WHAT IS A HARMFUL ALGAE BLOOM?

Harmful algae blooms (HAB) are naturally occurring – the cause of which is unknown. These blooms occur when colonies of algae—simple plants that live in the sea and freshwater—grow out of control. Sometimes these algae blooms can become so intense that the blooms can cause harm to fish and shellfish and the mammals (including humans) that eat them. RIDEM regularly monitors local marine waters for the presence and level of various species of phytoplankton. RIDEM and RIDOH analyze water and shellfish samples from local waters for the presence and abundance of phytoplankton that are known to cause public health issues. Species of concern in RI waters are *Pseudo-nitzchia, Dinophysis, and Alexandrium.* RIDEM's HAB Monitoring and Contingency Plan can be found here.

The Phytoplankton Pseudo-nitzchia produces domoic acid which can be harmful to birds and marine life and is responsible for causing amnesic shellfish poisoning (ASP) in humans. Symptoms of ASP include short- and long-term memory loss along with other serious health effects. Other blooms of harmful algae that RIDEM monitors for such as *Alexandrium* (commonly referred to as "Red Tide") produce a saxitoxin that causes paralytic shellfish poisoning (PSP) and blooms occur regularly in the waters of Maine and Massachusetts but blooms have yet to occur in RI waters. Symptoms of PSP are numbness or tingling of the face, arms and legs, headaches, dizziness, nausea in mild cases and muscle paralysis and respiratory failure in more severe cases. The third phytoplankton that RIDEM routinely monitors for is Dinophysis. This phytoplankton produces okadaic acid and can cause Diarrhetic Shellfish Poisoning (DSP). DSP produces stomach and intestinal symptoms such as vomiting, severe diarrhea, nausea, abdominal cramps and fevers.

HAS THIS EVER HAPPENED IN RHODE ISLAND WATERS?

RI experienced blooms of Pseudo-nitzchia in October of 2016 and again in March of 2017, which for the first time resulted in enactment of emergency shellfish closures in Narragansett Bay when evidence of domoic acid production was found. To date, Alexandrium and Dinophysis blooms have yet to occur in RI waters. Waters in other New England states experience HABs sometimes on an annual basis (Maine – Red Tide (PSP) or Pseudo-Nitzchia (ASP)) or as we did as an infrequent occurrence in Massachusetts and New Hampshire. As occurred in Rhode Island, areas of those state's waters are closed to shellfishing during these blooms.

CAN I SEE THE PHYTOPLANKTON/BLOOM FROM THE WATER SURFACE? IS THIS RELATED TO 'RUST TIDE'?

Depends. Phytoplankton are microscopic organisms that are not visible to the "naked eye". The phytoplankton *Pseudo-nitzchia* is not visible from the water surface. Other plankton blooms can cause discoloration of the water if the bloom is intense enough as is the case with *Alexandrium* thus the commonly referred to name "Red Tide". However, not all reddish-brown discolorations are associated with Alexandrium blooms. In late summer of 2016, RI experienced a bloom of *Cochlodinium* that turned the water a rust-red color thus its commonly referred name, "Rust Tide". A Cochlodinium bloom does not pose a human health risk but may harm fish and shellfish because it produces a hydrogen peroxide like compound that can damage their gill tissue.

HOW LONG CAN CLOSURES BE IN PLACE?

Emergency shellfish closures due to toxic algae blooms, once announced will remain in effect until test results determine it is safe to reopen the waters to shellfishing. For updates on shellfish closure areas, contact the DEM 24-hour shellfishing hotline at 401-222-2900 and/or sign up for the DEM Marine Fisheries email list at rimarinefisheries-subscribe@listserve.ri.gov.

WILL EATING SHELLFISH MAKE ME SICK?

The public is advised to avoid eating shellfish from areas that are closed due to a preliminary finding of domoic acid in the shellfish.

SHOULD I AVOID CONTACT WITH THE WATER IN NARRAGANSETT BAY?

Contact with waterbodies experiencing toxic algae blooms is not advised.

HOW DO I SIGN UP FOR REGULAR UPDATES ON THE CLOSURE?

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