FIU Operations and Safety
Emergency Management

Red Tide Guidance

Red Tide FAQ

What is red tide? A red tide, or harmful algal bloom, is a higher-than-normal concentration of a microscopic alga (plantlike organism). In Florida, the species that causes most red tides is *Karenia brevis*, (or *K. brevis*). To distinguish *K. brevis* blooms from red tides caused by other species of algae, researchers in Florida call the former the "Florida red tide."

Are red tides red? At high enough concentrations, alga blooms can discolor water with a red or brown hue. Blooms caused by other algal species can appear red, brown, green, or even purple. Water can also remain its normal color during a bloom.

How long do Florida red tides last? Red tides can last as little as a few weeks or longer than a year. They can even subside and reoccur. The duration of a bloom in nearshore Florida waters depends on physical and biological conditions that influence its growth and persistence, including sunlight, nutrients, and salinity, as well as the speed and direction of wind and water currents.

Is the Florida red tide found in estuaries, bays, or freshwater systems? It can be found in bays and estuaries but not in freshwater systems such as lakes and rivers. Because *K. brevis* cannot tolerate low-salinity waters for very long, blooms usually remain in salty coastal waters and do not penetrate upper reaches of estuaries.

Purpose: Florida International University strives to promote safe and secure campuses for all students, faculty, staff, and visitors. The purpose of this document is to briefly outline promising practices, prevention and protection activities to address a red tide event that may affect university properties (i.e. Biscayne Bay Campus, Medina Aquarius Program). **Currently, FIU does not have a red tide situation.**[1]

Red tides are harmful because many produce toxic chemicals that can affect both marine organisms and humans. The Florida red tide organism, *K. brevis*, produces brevetoxins that can affect the central nervous system of fish and other vertebrates, causing harm to these animals. Wave action can break open *K. brevis* cells and release these toxins into the air, leading to respiratory irritation for those that have pre-existing respiratory conditions such as emphysema or asthma. The red tide toxins can also accumulate in filter feeders such as oysters and clams, which can lead to Neurotoxic Shellfish poisoning in people who consume contaminated shellfish.

Human Effects[2]

Some people experience respiratory irritation (coughing, sneezing, tearing, shortness of breath, and an itchy throat) when the Florida red tide organism, *K. brevis*, is present at high concentrations and winds blow onshore. Offshore winds usually keep respiratory effects experienced by those on the shore to a minimum. The Florida Department of Health advises people with severe or chronic respiratory conditions, such as emphysema or asthma, to avoid red tide areas especially when winds are blowing on shore. If you have symptoms, leave the area and seek clean fresh air, such as within an air conditioned (A/C) building. This is also true when driving: keep your car windows up and the A/C on.

Florida red tide can cause some people to suffer skin and eye irritation. If you experience irritation, get out of the water and thoroughly wash yourself off with clean fresh water. Do not swim near dead fish because they can transport harmful bacteria.

For people without asthma or any other chronic respiratory problems, over-the-counter antihistamines may relieve symptoms. If any respiratory symptoms persist, please seek medical attention from your medical provider, or contact the Florida Department of Health for further information.

Pets may be affected by red tide. Consider bringing outdoor pets inside during a red tide event to prevent respiratory irritation. If you are at the beach with your pets, do not allow them to play with dead fish or foam that may accumulate on the beach during or after a red tide.

[1] Beyer, B. & Bush K. (2018, October 2). Officials testing Miami-Dade beaches for red tide. Retrieved from https://wsvn.com/news/local/officials-testing-miami-dade-beaches-for-red-tide/
[2] http://myfwc.com/research/redtide/faq/

If your pet swims in the red tide, wash them off with freshwater as soon as possible. Do not allow pets to lick themselves. Contact your local veterinary office if your pet exhibits any symptoms.

General Prevention and Control Measures

Protect yourself and your pets by:

- Avoid entering or playing in bodies of water that smell bad, look discolored, have foam, scum, or algal mats on the surface, contain or are near dead fish or other dead animals (for example, do not enter a body of water if dead fish have washed up on its shore or beach).[3]
- Researchers may wear personal protective equipment such as gloves and masks when dealing with contaminated waters.
- Follow guidance from local officials. Boiling water does not remove algal toxins and can increase the amount of toxin in the water by concentrating it. Be aware of advisories and health risks related to consuming contaminated fish and shellfish.

Report Fish Kills or Illnesses

Fish Kill Hotline: Florida Fish and Wildlife Conservation Commission (FWC), 1-800-636-0511

Human Illnesses: Florida Poison Control Center, 1-800-222-1222

General Questions: Florida Fish and Wildlife Conservation Commission (FWC), 1-866-300-9399

Check the Status of Red Tide at your Local Area

Florida Fish and Wildlife Conservation Commission (FWC) Red Tide Current Status: http://myfwc.com/REDTIDESTATUS and Mote Marine Laboratory: https://visitbeaches.org/

Actions taken by State of Florida[4]

As of 10/2/2018, the state of Florida has taken the following actions on red tide:

Fish and Wildlife

- Propose creating a Florida Center for Red Tide Research, a new resource for local communities impacted by red tide;
- Re-establish the Florida Harmful Algal Bloom Task Force; and
- Request an increase of funding for red tide research during the upcoming 2019 Florida Legislative Session.

Environmental Protection

- Department of Environmental Protection (DEP) continues to perform enhanced water testing, beach cleanup and public outreach, as well as the deployment of additional biologists to assist communities dealing with naturally occurring red tide.

Health and Safety

[3] https://www.cdc.gov/habs/prevention-control.html
[4] https://www.floridadisaster.org/news-media/news/20181002-gov.-scott-state-prepared-to-deploy-resources-funding-to-atlantic-coast-communities-impacted-by-red-tide/

- The red tide signs provide details on respiratory issues, health precautions, and resources for FWC, Mote Marine Laboratory, and current beach conditions.
- Environmental staff and County Health Department leadership are in contact with city and county leadership, as well as local partners, in order to coordinate efforts and messaging.
- A press release detailing the effects of red tide and resources for mediation was sent out to local media partners. Additional resources, like website materials, social media posts, etc., have been shared with local partners for their use and distribution to their partners.
- More substantial red tide signs were purchased in August and staff replaced the damaged/missing signs along the beach access points, as well as added additional signs at popular fishing sites and boat ramps.

Recommended University Strategy for Red Tide Response

Awareness

- Raise awareness on local conditions. Ensure that the community is aware of what the situation status by capturing photos/videos of coastal waters or diverting to reliable and trusted local sources such as Miami-Dade County or North Miami Beach officials.

Information

- Provide current information through various channels (e.g. dedicated webpage with red tide information, university-wide e-mail, and social media). Utilize and share sources with university community.

Education

- Post ongoing, up-to-date information on high concentration areas or reports from Florida Department of Health, etc. on the hosted university webpage.

Faculty/Staff Questions

If faculty or students have questions about classes, what should they do?

- FIU will advise any cancellations through normal university communication channels.

My job requires me to work outdoors, but I'm feeling ill. What should I do?

- If you are outside and experiencing symptoms, you should go indoors to an enclosed, air conditioned area. Faculty/staff should speak with their supervisor about using sick leave and seek immediate medical attention.

Should we wear masks? If so, when and where?

- If it is determined that personal protective equipment is necessary, information will be provided through normal university communication channels.

If red tide is confirmed in a body of water on or near campus, will red flags or signs be posted so patrons do not get into the water?

- FIU will be preparing signage that will inform patrons to stay out of the water. These signs will be posted at primary water access points (e.g. boat ramps, kayak launch sites).

For general questions about red tide, who can I contact at FIU?

- You can contact Dr. Kathleen Rein, Professor, Department of Chemistry and Biochemistry, reink@fiu.edu, 305-348-6682.

Additional Information and Resources

FIU Health: https://studentaffairs.fiu.edu/health-and-fitness/student-health/

Florida Fish and Wildlife Conservation Commission (FWC): http://myfwc.com/research/redtide/faq/

Florida Department of Health: Red Tide FAQs: http://www.floridahealth.gov/environmental-health/aquatic-toxins/_documents/red-tide-faqs8-23-181.pdf

Florida Department of Health: Red Tide?: http://www.floridahealth.gov/environmental-health/aquatic-toxins/_documents/red-tide-card-dodgeIt.pdf

Florida Department of Environmental Protection (DEP): https://floridadep.gov/

Florida Poison Control Center: https://floridapoisoncontrol.org/

Florida Division of Emergency Management: https://www.floridadisaster.org/

Centers for Disease Control and Prevention (CDC): https://www.cdc.gov/habs/prevention-control.html