ALGAL BLOOM

WHAT IS AN ALGAL BLOOM?

Algal blooms can be incredibly harmful to humans, pets, wildlife and the ecosystem. Here are some things to know about harmful algal blooms (HABs).

THE ALGAL BLOOM LIFECYCLE

HABs can destroy critically important habitat on a massive scale:

START

A body of water is filled with microorganisms as well as nutrients like nitrogen and phosphorus.

Algae are a group of these microorganisms.

Algae photosynthesize to turn sunlight into energy and consume nutrients such as phosphorus and nitrogen.

With the right conditions and extra nutrients from sources like fertilizers, algae can multiply quickly and turn into a "bloom."

HARMFUL OUTCOME

Some algae contain and/or release toxins, which can poison humans, land animals, aquatic animals and plants.

TOXIC ALGAE

When algae die and sink, bacteria feed on the dead algae and multiply.

The bacteria exhaust the water's oxygen and suffocate aquatic life. A dead zone is created.

HARMFUL OUTCOME

With little to no oxygen in the water, fish, shellfish and other aquatic life die from hypoxia.

DEAD ZONE

Unless conditions change and nutrient levels are reduced, the ecosystem will be prone to another algal bloom.

THE MANY COLORS OF ALGAE

Common Algae and Their Potential Toxic Hazards

Freshwater

Credit: Lamiot via Wiki

Toxins	Harmful Effects
Anatoxin	Human Nervous System
Microcystin	Human Liver
Lyngbyatoxin	Human Skin
Saxitoxin Creates Paralytic Shellfish Poisoning*	Human Nervous System

Credit: Texas Parks and Wildlife Department

Toxins	Harmful Effects
Prymnesim	Fish Shellfish

Marine-Salt Water

Credit: NOAA

Toxins	Harmful Effects
Saxitoxin Creates Paralytic Shellfish Poisoning*	Human Nervous System Marine Mammals Sea Birds
Numerous Biotoxins	Fish Marine Plants

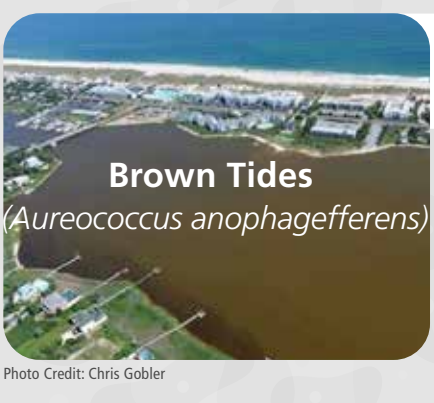

Photo Credit: Chris Gobler

Photo Credit: Bill Portlock

Credit: NOAA

Toxins	Harmful Effects
Suspected Toxins	Sea Grass Shellfish
Suspected Toxins	Fish Shellfish Microorganisms Crustaceans
Domoic Acid Creates Amnesic Shellfish Poisoning*	Human Nervous System Marine Mammals Shellfish

*In some cases, toxins can infuse the flesh of shellfish making them highly poisonous to humans.

REFERENCES:

Environmental Protection Agency
EPA: http://bit.ly/1Q366pw

Long Island Coastal Conservation Research Alliance
LICCRA: http://www.liccra.org/

Woods Hole Oceanographic Institution
WHOI: http://bit.ly/2aYcaJm

Sustainable Table

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