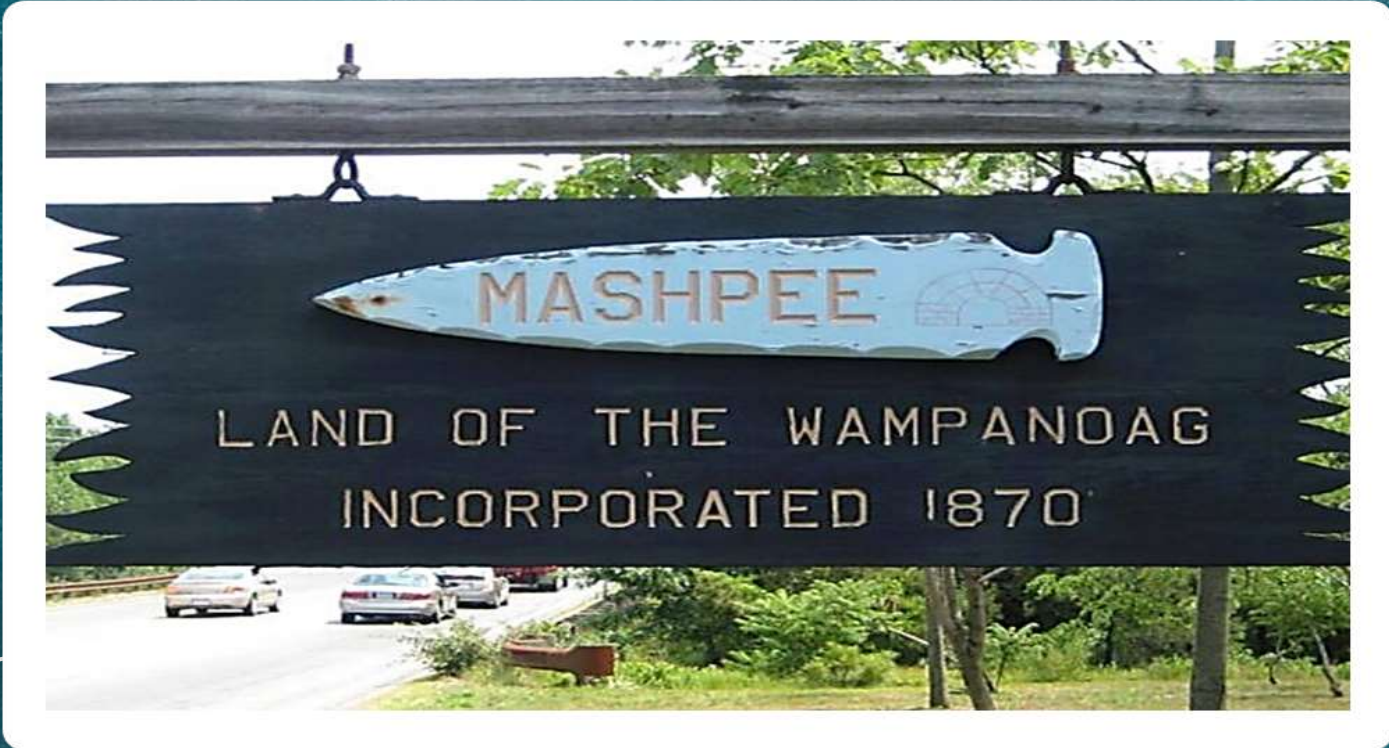
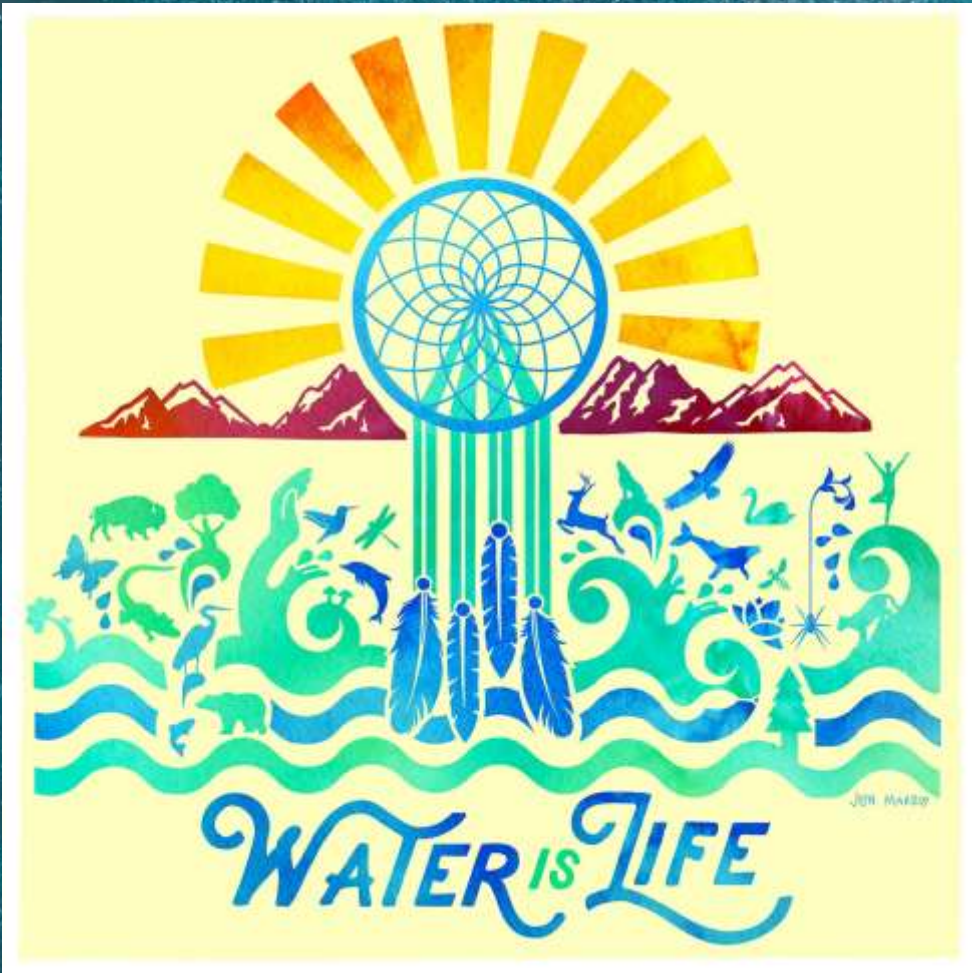



Clear Waters, Stronger Communities: Partnering for Sustainable Solutions



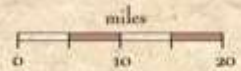


TERRITORY OF THE WAMPANOAG circa 1620

 Historic territory of the
Wampanoag Indians

Nauset Wampanoag village

(Salem) Present-day name



Present-day shorelines shown



Naumkeag (Salem) •

Boston •
Shawmut

Mayflower
landing site
(Provincetown) •
Meeshawm

ATLANTIC OCEAN

Patuxet •
Plimoth Plantation

Cape Cod

Namasket

Cape Cod
Bay

Nauset

Manomet

Mannamoyik

Pocasset

Pokanoket

Mashpee

Sakonnet

Aquinnah

Capowak

Martha's
Vineyard

Nantucket
Island

Nantucket







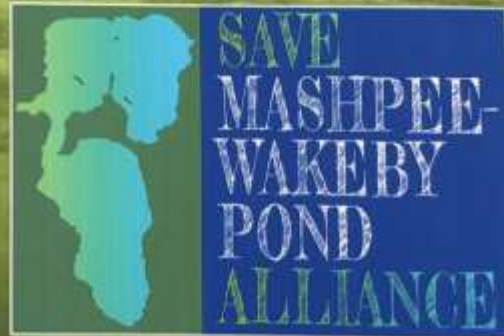




CYANOBACTERIA ALERT!!

Mashpee-Wakeby Pond
Is Currently Not Safe for
Swimming, Children or Pets.

More Information:
SaveMashpeeWakeby.org



PUBLIC HEALTH ADVISORY

CYANOBACTERIA BLOOM PRESENT



**Waterbody Unsafe for
People and Pets**

-  Do not swim.
-  Do not swallow water.
-  Keep animals away.
-  Rinse off after contact with water.

© 2014 Massachusetts Department of Health Services

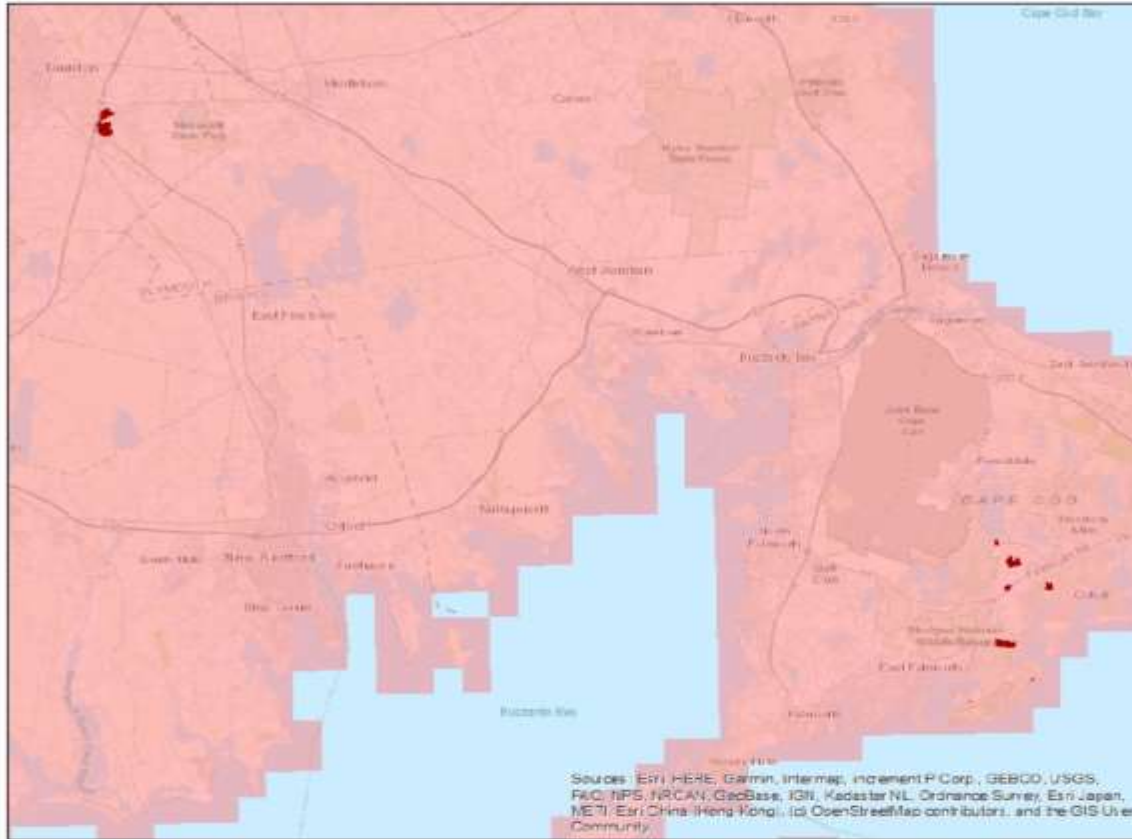
Additional information is available at
www.mass.gov/dph/algae







Tribal Lands and 3DEP Project



Legend

- Mashpee Wampanoag reservation and trust land
- Project area

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, Mapbox Contributors, and the GIS User Community.

Reference Map



Project Name: MA_CentralEastern_2021_B21
 Map Date: 03/30/2021
 Created by: USGS NGTOC CPT
 Tribal Boundary Sources: www.census.gov, tiamaps.doi.gov



PFAS IN OUR ENVIRONMENT:

WHAT DO WE KNOW AND WHAT YOU CAN DO

**SUN
MAY 19
11:30am-
1:30pm**

*Light buffet
lunch provided*

**Mashpee
Wampanoag
Government Center
Gymnasium
483 Great Neck Rd
South, Mashpee**

**THE FOREVER
CHEMICAL
SCANDAL**

*Bloomberg Investigates
A Bloomberg Originals
Series*



STEEP

Sources, Transport, Exposure & Effects of PFAS
UNIVERSITY OF RHODE ISLAND SUPERFUND RESEARCH PROGRAM

PARTNERSHIP IS ESSENTIAL



Massachusetts
Rhode Island
Connecticut



Massachusetts Resilient Coasts Regional Collaborative



Santuit Pond Restoration Mashpee, MA

Jason Steiding, Mashpee Wampanoag
Tribe

Dale Oakley, Mashpee Wampanoag
Tribe

Ashley Fisher, Town of Mashpee
Kimberly Groff, SNEP Network



October 12, 2023 Site Visit K. Groff

SNEP Network Technical Assistance

Empowering communities to achieve healthy watersheds, sustainable financing and long-term climate resilience through management of stormwater and restoration projects.



Meet communities where they are at



Engagement to find solutions



Overcome barriers to implementation



Build local capacity



Advance implementation

Project Partners & Contributors



KIMBERLY GROFF CONSULTING



CAPE COD COMMISSION



Climate Change Effects on Water Quality

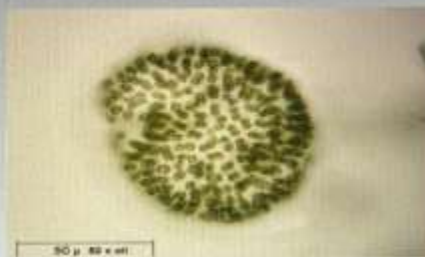
What Effect Does Climate Change Have on Water Quality?

Climate change increases intense weather events such as; increased rainfall that generates runoff which can transport nutrients and sediments into water bodies, more frequent drought conditions which causes stagnant water in ponds and lakes, and increased temperature and more high heat days which increase water temperatures.

The combination of increased runoff, longer more frequent periods of drought, and warmer water conditions favor the formation of harmful algal blooms (HABs), including cyanobacteria HABs (cyanoHABs) in Santuit Pond and many other ponds on Cape Cod. CyanoHABs can look like foam, scum, mats, or paint on the surface of the water.

Santuit Pond

Topographic Map
Showing Areas of Major Storm Water Runoff



Woronichinia naegeliana, a dominant cyanobacteria found in Santuit Pond



Cyanobacteria bloom in effect on Santuit Pond

What Are Cyanobacteria Blooms?

Cyanobacteria are bacteria that function like algae and are commonly referred to as "blue-green algae." Although cyanobacteria are typically present in surface waters, when there is excessive growth of cyanobacteria - called a bloom - water quality is impacted. The blooms can be harmful because they can produce a toxins that can be toxic to both humans and animals alike. In addition, they can reduce the amount of oxygen in the water available to fish and other aquatic life and can produce a musty odor. CyanoHABs have restricted recreational use of the pond and have impacted aquatic life that has great significance to the Wampanoag Tribe

Though weather has a large effect on the frequency of cyanoHABs nutrients, especially phosphorus, drives the intensity of the blooms. Increased rainfall, especially intense storms, deposits phosphorus directly into the pond, fueling the growth of cyanobacteria and the formation of blue-green algae.

Why is Santuit Pond so Susceptible?

Due to the elevations at which Santuit Pond sits, as well as the surrounding landscape, this body of water receives storm water runoff which includes phosphorus from sources such as septic systems, lawn fertilizer, pet waste, and yard waste. Santuit Pond also has high levels of phosphorus in its bottom sediments. Under certain conditions, these are released back into the water, a process referred to as internal loading, and provide fuel for the growth of cyanoHABs.

How to Identify a Cyanobacteria Bloom

If you see a bloom, stay out of the water and keep your pets out of the water. Do not fish, swim, boat, or play in the water.

Check for and follow local fish advisories before eating any fish you collect.

Do not go into or play in water that:

- * Smells bad
- * Looks discolored
- * Has foam, scum, algal mats, or paint-like streaks on the surface
- * Has dead fish or other animals washed up on its shore or beach

To learn more about climate change effects on water quality, scan the QR code to watch a short Public Service Announcement of the impacts on the Mashpee community, filmed by Mashpee TV.



