Healthy watersheds and bays support abundant wildlife and provide recreational opportunities. photo: NOAA

How's the Water?

Good water quality supports a diverse community of animals, plants, and habitats. It is characterized by high dissolved oxygen and water clarity, and low chlorophyll a and seaweed. Common symptoms of poor water quality are low dissolved oxygen levels, called hypoxia, and algae blooms (evidenced by high chlorophyll a and/or seaweed). While some algae are essential to support the base of the food web, too much nitrogen from human sources stimulates excessive growth of algae. As algae and the animals that feed on them respire, die, and decompose, oxygen in the water is depleted.

Water Quality in Our Bays

Each bay is unique and that is reflected in its water quality. Bays are highly susceptible to local pollutants, and while efforts underway should produce future success stories, the grades indicate the impact pollution has on coastal waters. This is especially true where tidal exchange with the open Long Island Sound and Fishers Island Sound is low and pollutants from the rivers and streams are high.

Right: CUSH volunteers taking water samples at Mystic River Park.

Left: Large amounts of a single type of green seaweed coating the bottom is an indicator of nutrient pollution, impaired water quality, and a degraded habitat.

Our Bays in Context

As part of the Unified Water Study, 59 bay segments are monitored across 45 bays; the bay segments presented here are among this larger Long Island Sound monitoring effort. The most recent Long Island Sound Report Card indicated 57% of bay segments sampled in 2021 received a "C," "D," or "F.".

Sources of Pollution

While coastlines are naturally nutrient-rich, humans contribute an overabundance of nutrients (especially nitrogen) from septic and sewer water; fertilizer applied to our yards, parks, and cropland; and fossil fuel emission from heating and vehicles.

Take Action

Our waterways are a mirror of how we live on the land, so you have a direct role in the health and well-being of the Sound. Join the movement to protect and restore Long Island Sound by taking these important actions.

Capture Storm Water

A rain garden is a depressed area in the landscape that collects rain water from a roof, driveway or street and allows it to soak into the ground. Rainwater tanks harvest roof runoff.

Maintain Your Septic

Private sewer lines and septic systems should be regularly inspected, repaired, and pumped out. Encourage CT legislators to approve N-removing septic systems.

Keep Litter Out of Waterways

Use less plastic. Reusable bags, straws, water bottles, and cups keep harmful plastics out of oceans and away from marine life. Pick up after your pets. Don't feed water fowl.

Plant Native

Native plants reduce water usage in yards, help filter pollutants along waterways, and provide food and shelter to wildlife.

Make Your Voice Heard

Tell elected officials you want policies that support clean water. Use your purchasing power to reward companies that put the environment first.

Eliminate or Reduce Fertilizer Use

Use half the amount, only around Labor Day or Memorial Day. Leave grass clippings on the lawn as a natural fertilizer. Remove clippings from the street before they flow into storm drains.

CUSH
Clean Up Sound and Harbors
Keeping Water Healthy
www.CUSHinc.org

Working to eliminate nitrogen pollution, bacterial contamination, and plastic waste from our local waters.

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A DIVISION OF THE NEW YORK COMMUNITY TRUST

REMOTE ECOLOGIST

Save the Sound®
Action for our region's environment.

LONG ISLAND SOUND FUNDERS COLLABORATIVE

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MYSTIC RIVER and WEQUETEQUOCK COVE REPORT CARD 2008 to 2022

Mystic Bascule Bridge

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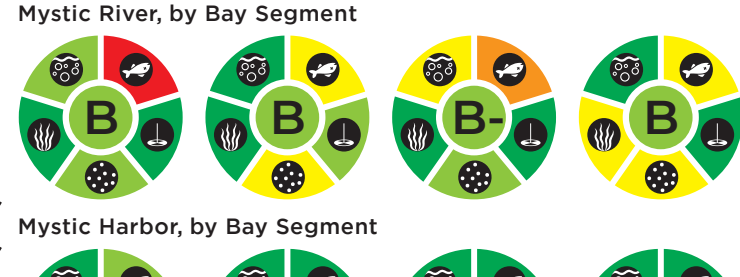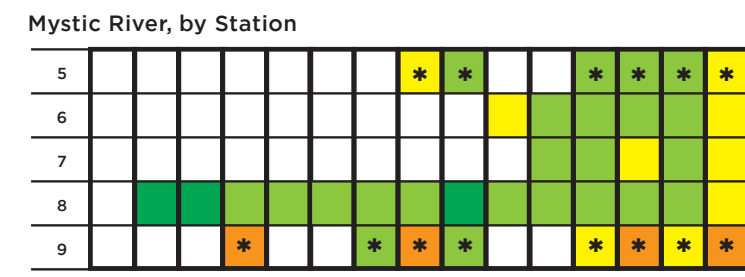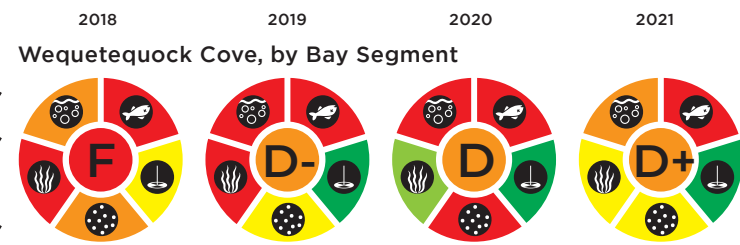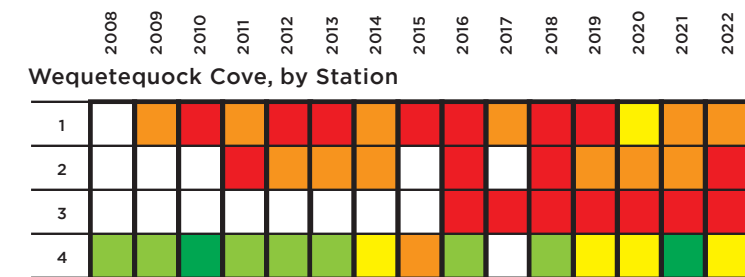
Measuring the Health of Our Bays

CUSH started monitoring water quality in bays of southeastern Connecticut in 2008, following the guidelines of University of Rhode Island's Watershed Watch. Watershed Watch, a Cooperative Extension program, is committed to providing information on the water quality of surface water resources in southern New England, with volunteers and scientists collaborating to understand our estuaries and fresh water. With the launch of Save the Sound's Unified Water Study in 2017, CUSH expanded sampling to allow for inclusion of data in the Unified Water Study and the resulting Long Island Sound and Bays Report Card. The Unified Water Study currently includes community-based sampling of 59 bays and bay segments across Long Island Sound. Both monitoring programs standardize the procedures of measuring water quality, ensuring consistency of the data collected.

As noted in the latest Long Island Sound report card, 43% of assessed bays and bay segments located around Long Island Sound are in good health, receiving grades of B- or better. It's important to understand how water quality challenges in bays differ greatly from the open Long Island Sound. Small bays and inland segments of larger ones suffer from poor tidal flushing and impacts from local human -sourced pollution flowing in from rivers, streams, and groundwater. Excess nitrogen from sewers, septic systems, abundant and sometimes unnecessary lawn fertilizer applications, and fossil fuel usage are some of the major contributors to detrimental conditions for marine life in Long Island Sound bays.

A Retrospective of Water Quality
– Station numbers correspond to the labels shown on the map. The Bay Segments are graded only for 2018 to 2022, when all stations were sampled under the UWS. See map for 2022 data.

*not included in Bay grade, not part of UWS

KEY

Grades

A	(90-100%)
B	(80-90%)
C	(70-80%)
D	(60-70%)
F	(0-60%)

Trend
- ↗ Improving
- → Stable
- ↪ Variable
- ↘ Declining

○ Part of the UWS and URIWW

▢ Part of URIWW, not in the UWS

⬠ Higher risk of fecal contamination*

✦ Lower risk of fecal contamination*

*For all waters, avoid contact following rainfall of more than 1 inch in 24 hours.
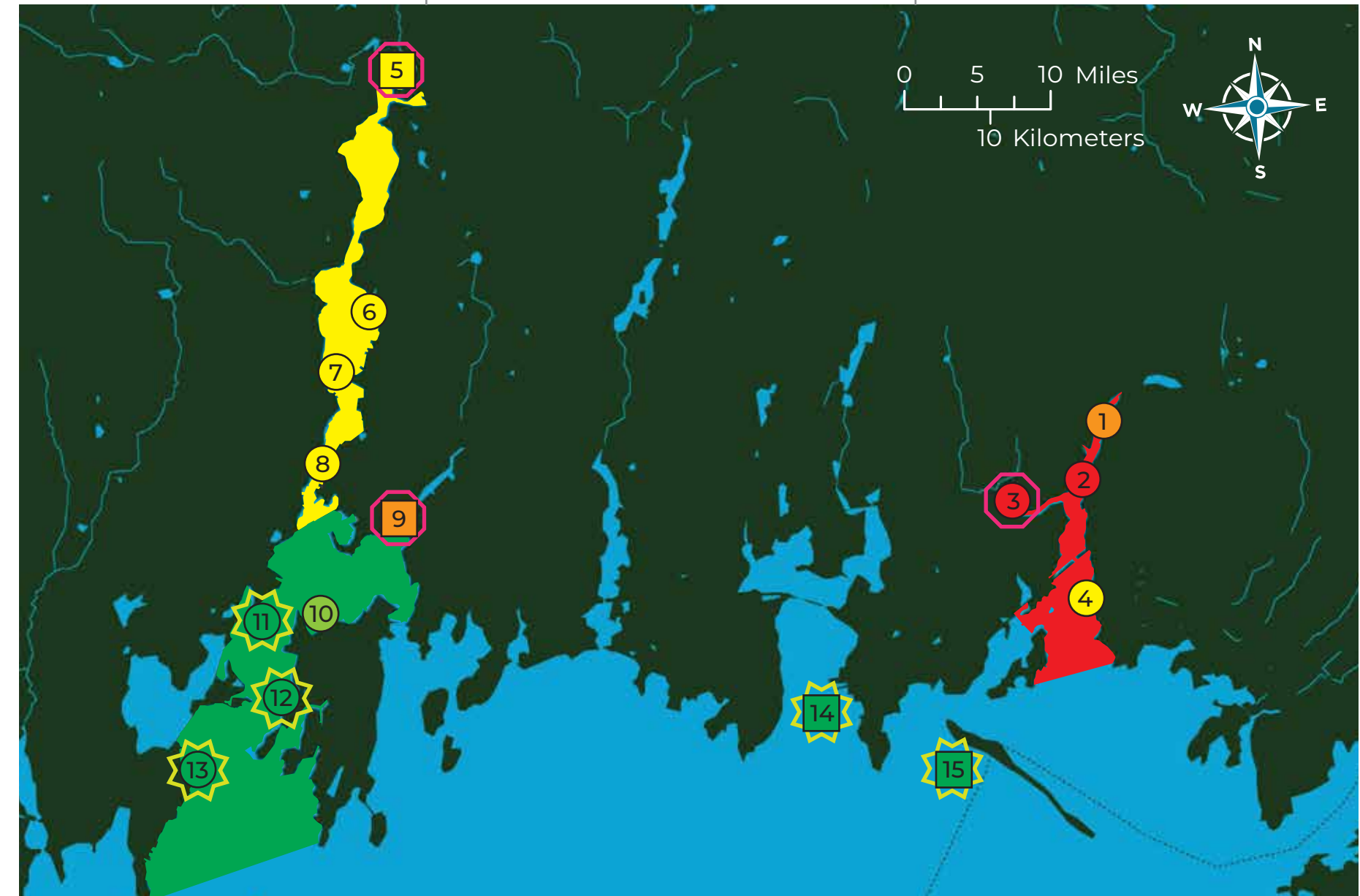
Mystic Harbor
Received an A- (92%), down from 94% in 2021. While generally scoring well due to tidal flushing with the Sound, both dissolved oxygen and water clarity occasionally have worse years, though both are typically above 80% for the indicator.

Mystic River
Received a C (76%), a full grade lower than in 2021 (85%). Although this was a decrease, the 14-year trend indicates this site is variable, and often in the B-range. The hypoxia score tends to be low, and chlorophyll is generally good.

Wequetequock Cove
Received an F (59%) down from an all-time high score of 68% in 2021. The bay typically scores < 65%. The Cove is negatively impacted by nutrient inputs from the watershed and from the Pawcatuck River which fuels a massive seaweed bloom.

Map with stations 1–15, scale bar 0–10 Miles / 10 Kilometers

How Are the Scores Calculated?

Like test scores in school, water quality scores are calculated by comparing the bay indicators with values known to be optimal for aquatic life. Save the Sound and its science advisors grade water quality indicators using scientifically derived scales developed with a Technical Advisory Committee of scientists and water managers from agencies around the Sound. Some indicators are used for both the Sound and the bays, while others are unique to the deeper Sound or the shallower bays, reflecting the differences in these types of systems.
Look for "Learn About Grades" at: **www.soundhealthexplorer.org/fishable**