Rands Harbor

What does the Bay Health measure?

The Bay Health Index is the sum of five health indicators: nitrogen (organic and inorganic), dissolved oxygen, algal pigments, and water clarity. Data are combined and reported as a single score that provides a snapshot of a waterway's health. (Note: The Bay Health Index does not include bacteria and is not an index of swimmability or shellfish bed status.)

Nitrogen

Nitrogen is a type of nutrient that controls plant production in Buzzards Bay. Some nitrogen is an essential part of any waterway. But when there's too much nitrogen in the water, it can become pollution.

The Coalition monitors two forms of nitrogen in Buzzards Bay: inorganic and organic. Tracking both forms of nitrogen helps to identify their source and potential impact on our water. Our nitrogen monitoring is conducted with the Marine Biological Laboratory in Woods Hole.

Dissolved Oxygen

Dissolved oxygen is the amount of oxygen in the water. Like you and me, fish, shellfish, and plants all need oxygen to survive. When oxygen levels are low, it's an indication that there is too much nitrogen pollution in the water.

Algal Pigments

Chlorophyll a is a green plant pigment found in algae and most phytoplankton. Plants use chlorophyll a during photosynthesis. Measuring chlorophyll a and its immediate breakdown product, pheophytin a, indicates the amount of algae in the water. High chlorophyll levels are often a sign of nitrogen pollution.

Water Clarity

Water clarity is affected by the amount of algae and sediment particles suspended in the water. Good water clarity is vital to the health of a waterway. When the water is too cloudy, sunlight can't reach eelgrass growing at the bottom.

Water clarity is measured using a Secchi disk: a black-and-white circle attached to a measuring tape. The disk is lowered into the water until it's no longer visible. This depth is known as the "Secchi depth."