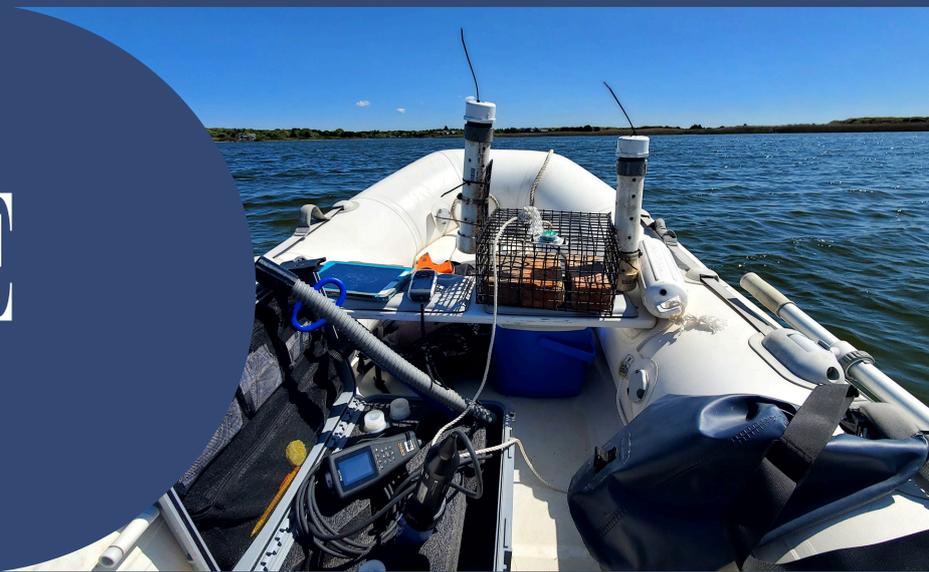


TOOLS OF THE TRADE



Handheld Water Quality Meter

GPF uses a YSI Pro DSS which is an industry standard. This device has a multiparameter probe which measures numerous parameters such as water temperature, salinity, dissolved oxygen, pH, and turbidity. The probe is attached to a cable which allows us to lower it into the water and measure these parameters throughout the water column to determine if they change with depth.



Secchi Disk

This is a standardized black and white disk connected to a tape measure that is used to measure water clarity and light penetration. If the water is murky, the disk will disappear before it reaches the bottom. When the water is clear the Secchi disk is visible at a deeper depth and is often visible at the bottom. Although there are higher-tech ways of measuring water clarity and light penetration Secchi disk measurements are universal and have been used for many years.



Chlorophyll and Cyanobacteria Fluoroprobe

At GPF we utilize fluorometry to measure chlorophyll and cyanobacteria concentrations. To do this we use a Fluoroprobe II, made by bbe Moldaenke. The Fluoroprobe is a spectral fluorometer that can estimate phytoplankton abundance through fluorescence of pigments unique to individual algal groups.



Van Dorn Sampler

A van dorn water sampler is used to collect samples below the surface. This device is essentially a glass tube that gets lowered into the water column while in the “open” position. When at the desired depth a weighted messenger is deployed traveling down the rope and triggering the sampling tube to close capturing water. After being pulled up, the water is then put into sample bottles.



Seine Net

It is important for us to know what lives in our ponds and how water quality can affect biological resources such as fish and shellfish. To see what is present in our ponds we use a seine net. A beach seine net is used to capture fish in shallow waters. This 30-foot net is attached to two dowels and is stretched across the running tides and slowly brought back to shore. We then sift through the net and collect of the caught species.

Microscopes

GPF owns two microscopes. One microscope is a stereomicroscope also called a dissecting microscope, which is useful for observing whole specimens of larger organisms, such as invertebrates and fish larvae. The second microscope is a compound microscope, which has greater magnification and is used to look at smaller organisms such as phytoplankton. This compound microscope is often used to identify cyanobacteria.



Loggers

GPF has several loggers deployed in numerous coastal ponds across the island. We have individual loggers that collect dissolved oxygen, conductivity, and water elevation as well as a rain gauge. These are real-time sensors that collect these measurements every 30 minutes allowing us to see changes in the water system as they occur.



Elevation Logger



Conductivity Logger



Bottom Feeder (Housing for Loggers)



Dissolved Oxygen Logger



Rain Gauge