LPBF
SAVE OUR LAKE
SAVE OUR COAST
LAKE PONTCHARTRAIN BASIN FOUNDATION

Education & Outreach Program

School of Marsh

LPBF has created an urban marsh at the mouth of Bayou St. John in New Orleans, about a mile from the New Canal Lighthouse. Planted with seven native marsh grasses, it is home to many aquatic species, including fish, crabs, and waterfowl. This half-acre of native marsh quantifies for students the amount of wetlands lost from Louisiana's coast every 30 minutes. In addition to improving the water quality of Bayou St. John, the marsh is an amazing outdoor classroom where students can experience nature in an urban area and have meaningful field experiences.

Students can walk onto the marsh, where they will collect a sample to test the water quality in the marsh using the same parameters that LPBF scientists use: temperature, turbidity, salinity, dissolved oxygen, and pH.

Students will use nets to capture samples of the marsh's macroinvertebrate populations. Using two-way magnifiers, they'll get an up-close view of the critters and will identify the plant and animal species using field identification cards.

Water Quality Testing Materials (l-r): thermometer, pH paper, refractometer, LaMotte dissolved oxygen test kit, Secchi disk

A refractometer is an optical device used to test the water's salinity. It measures the bending of light waves from air to water. The more salt there is in the water, the more it bends the light. This provides the reading on the refractometer. Certain species cannot live in water that is too salty or too fresh, so a balance must be maintained.

All aquatic animals need oxygen to live. A shortage of dissolved oxygen in the water is a sign of pollution and is also harmful to fish. Students will use a LaMotte dissolved oxygen test kit to find the concentration of oxygen in the water.

Temperature affects how much oxygen the water will hold. It also affects feeding behavior, growth, and reproduction of all aquatic organisms.

pH is a measure of how acidic or alkaline the water is. Human activities can affect the pH of the water. A consistently high or low pH may indicate pollution.

Turbidity is a measure of water clarity. High turbidity, or cloudiness, can keep aquatic plants from getting the light they need, hinder predators in hunting, and harm filter-feeding animals. Turbidity is measured using a Secchi disk, which is lowered into the water. The distance at which you can longer see the difference between the black and white on the disk is then recorded; this is the turbidity measurement.

Students will inspect their water samples for macroinvertebrates. The presence of macroinvertebrates is an indicator of water quality. Students will capture and examine the macroinvertebrates with two-way magnifiers to identify the species before releasing them back to the marsh.