

# Florida Bay Survey Program

**Grade Level:** All (but all students in the group must have already participated in our seagrass and mangrove ecology core programs)

**Timing:** 2 – 3 hours \*\* we can shorten this program to 2 hours if you are interested in incorporating another lab/discussion \*\*

**Summary:** The Florida Bay survey program is a citizen science program that builds on the snorkeling expertise gained during the seagrass/mangrove ecology core programs. This is a 3 hour program where students will collect water quality data and work in buddy pairs to conduct underwater surveys. Students will record the abundance of seagrass, macroalgae and Florida Bay animals they learned to identify during the seagrass/mangrove ecology programs. All data is entered into MarineLab's long term database.

## Program Objectives:

Students will be able to...

- Collect species abundance data while in the water
- Correlate species abundance data with water quality

## Concepts Covered:

- distinguishing characteristics of algae and grass
- unique Florida Bay habitat
- common marine phyla, the characteristics of each phylum and examples of species of each phylum
- water quality
- underwater survey techniques

**Vocabulary:** ecology, estuary, calcareous, substrate, obligate halophyte, autotroph, heterotroph, biotic, abiotic, sessile, prop scar, rhizome, salinity, dissolved oxygen, salinity, temperature, ammonia

**Procedures:** Students board the vessel to return to a Florida Bay seagrass/mangrove habitat. Once at the snorkel site, students will be briefed on proper techniques to measure water quality data. Once water quality data is collected, instructors will explain to students how to properly conduct the survey. Each buddy pair will be given an underwater data sheet to fill out during the snorkel. Once on the boat, data will be discussed and compared.

**Extensions:** long term data collected by MarineLab students is available for analysis before or after your MarineLab program

**Resources:** [www.seagrasswatch.org](http://www.seagrasswatch.org), <http://seagrass.fiu.edu/>, <http://floridakeys.noaa.gov/plants/seagrass.html>, <http://floridakeys.noaa.gov/plants/mangroves.html>, <http://mangroveactionproject.org/>, <https://marinelabresearch.wordpress.com/2012/10/15/mangrove-restoration-update/>



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# Standards Addressed:

## *Next Generation Sunshine State Standards*

SC.6.L.15.1: Analyze and describe how and why organisms are classified according to shared characteristics with emphasis on the Linnaean system combined with the concept of Domains.

SC.912.L.17.2: Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.

## *Ocean Literacy Principles*

### Principle 5. The ocean supports a great diversity of life and ecosystems

f. Ocean ecosystems are defined by environmental factors and the community of organisms living there. Ocean life is not evenly distributed through time or space due to differences in abiotic factors such as oxygen, salinity, temperature, pH, light, nutrients, pressure, substrate and circulation. A few regions of the ocean support the most abundant life on Earth, while most of the ocean does not support much life.



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