Rodriguez Key Field Trip with Diversity Indexing

The transitional ecotone habitats within the Florida Keys often harbor diverse communities. The field trip will begin at the dock with a brief discussion on ecotones, the specific algal shoal habitat the group will be snorkeling, and examples of some of the organisms they can expect to see in the water. *Neogoniolithon strictum* ("Gonio") is a branching crustose coralline algae that creates a microhabitat for a diverse array of invertebrates. Students will snorkel the unique Gonio ecotone habitat and participate in a lab on the boat to observe, identify and discuss the invertebrate community that lives within the Gonio. Students will then use the tools and knowledge gained during Diversity Indexing Lab to compute the Simpson's diversity index for the area; the number found will be compared to the index they calculated for Largo Sound and data will be discussed. Dependent on time and weather, students will be taken to a second snorkel site (North side of the island at the plane wreck or a patch reef.)

Grade Level: High School or Above (**Must have participated in our Diversity Indexing Lab**)

Concepts Covered:

- algal shoal habitat (food, shelter, substrate) with a focus on crustose corraline algae
- Diversity in different zones and ecotones
- Diverse invertebrate community found within crustose coralline algae
- Diversity index

Vocabulary: ecotone, zonation, calcareous, coralline algae, Simpson's diversity index

Resources: Long term data that students have collected during this particular lab and field trip are accessible to teachers before or after field trip to MarineLab for use in the classroom

MarineLab
Marine Resources Development Foundation
Marine Science education in the Florida Keys

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.17.6: Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.

Ocean Literacy Principles

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

d. Ocean biology provides many unique examples of life cycles, adaptations and important relationships among organisms (symbiosis, predator-prey dynamics, and energy transfer) that do not occur on land.

e. The ocean provides a vast living space with diverse and unique ecosystems from the surface through the water column and down to, and below, the seafloor. Most of the living space on Earth is in the ocean.