

# COASTAL ECOLOGY PROGRAM FOR GRADES 9-12

## Beach



### Beach Seine

Students explore the high energy surf zone using a seine net to sift and sort critters. They will learn about behavioral and structural adaptations and the interdependence of organisms.

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EEn.2.7.2  
Bio.2.1.2, Bio.2.1.3, Bio.3.5.2



### Coastal Fishing

Students learn about typical species caught along our coast and basic coastal fishing techniques while being introduced to marine fisheries

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EEn.2.7.2, EEn.2.7.3  
Bio.2.2.1, Bio.2.2.2



### Maritime Forest Scavenger Hunt

Students identify plants based on physical characteristics as well as location within the successional zones of a barrier island.

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EEn.2.7.2, EEn.2.7.3  
Bio.2.1.2, Bio.2.2.1, Bio.2.2.2



### Seashore Discovery Walk

Students walk the tidelines in search of “treasures” washed up on shore and discuss their role in the marine ecosystem.

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EEn. 2.2.1, EEn.2.7.2, EEn.2.7.3  
Bio.2.2.1, Bio.2.2.2



### Turtle Hurdles

Students simulate the lifecycle of the Loggerhead Sea Turtle and become familiar with conservation efforts made on behalf of this endangered species found nesting on North Carolina beaches.

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EEn.2.7.3  
Bio.2.1.2, Bio.2.2.1, Bio.2.2.2



### Turtle Talks

Students build life-size sea turtles in the sand, as they learn about the biology and behavior of sea turtles around the world.

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EEn.2.7.3  
Bio.2.1.2, Bio.2.2.1, Bio.2.2.2

# Marsh



## Blue Crabs

Students learn about the anatomy and behavior of the Atlantic Blue Crab and its importance to our salt marsh ecosystem while trying to catch a few of their own.

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EEn.2.7.2, EEn.2.7.3  
Bio.2.1.2, Bio.2.2.1, Bio.2.2.2



## Dock Discoveries Field

Students use nets and buckets to investigate fouling communities created by man-made structures such as Caswell's floating dock.

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EEn.2.7.2, EEn.2.7.3  
Bio.2.1.2, Bio.2.1.3, Bio.2.2.1



## Dock Discoveries Lab

Students will use microscopes to observe and investigate the fouling community organisms found under Caswell's dock.

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EEn.2.7.2, EEn.2.7.3  
Bio.2.1.2, Bio.2.1.3, Bio.2.2.1



## Downstream Drift

By conducting a flood event using a miniature model of a watershed, students learn how people influence and are affected by pollution in a watershed and how salt marshes can help.

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EEn.2.2.1, EEn.2.3.2, EEn.2.4.1-2,  
EEn.2.7.3  
Bio.2.2.1, Bio.2.2.2



## Estuary Exploration

Students will explore our salt marsh using a scavenger hunt guide and will discuss the interconnectedness of this estuarine community.

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EEn.2.7.1, 2.7.2, 2.7.3  
Bio.2.1.2, Bio.2.1.3, Bio.2.2.1



## Fiddle Facts

Students learn about Fiddler Crab behavior and learn how populations of organisms are scientifically estimated.

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Bio.2.1.2, Bio.2.1.3

# Marsh



## Marsh Seine

Students assist staff naturalist with sieves and seines to discover the flora and fauna that abound in North Carolina estuaries and why they are called the “nursery ground of the sea”.

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EEn.2.7.1, EEn.2.7.2  
Bio.2.1.2, Bio.2.1.3, Bio.3.5.2



## Plankton Ecology Field

Students learn how to tow a plankton net and collect a sample for analysis. Learn how our interns collect samples for NOAA’s Phytoplankton Monitoring Network.

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EEn.2.4.2, EEn.2.7.2, EEn.2.7.3  
Bio.2.1.2, Bio.2.2.1, Bio.2.2.2



## Plankton Ecology Lab

Students use microscopes and lab equipment to view marine plankton and discuss the cause and effect of harmful algal blooms (HABs) in coastal waters.

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EEn.2.4.2, EEn.2.7.2, EEn.2.7.3  
Bio.2.1.2, Bio.2.2.1, Bio.2.2.2



## Tidal Creek Kayak

Students get a ducks-eye view of the salt marsh – *Spartina* grass, oysters, fiddler crabs, and more, as they kayak through the tidal creek with staff naturalists.

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EEn.2.4.2, EEn.2.7.2, EEn.2.7.3  
Bio.2.1.2, Bio.2.2.1, Bio.2.2.2





## Multiple Locations (Pair with beach or marsh activities)



### Fort Caswell Tour

Students take a walking tour of old Fort Caswell to learn the history of the pre-Civil War fort and other significant places, people and events in North Carolina's history.

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Experiential Learning



### History Hayride

Students explore the grounds of Fort Caswell by wagon while learning about early settlements in the Cape Fear region and historical uses of the fort throughout the last century and a half. \*Will have an opportunity to go inside the Fort.

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Experiential Learning



### Hooks and Ladders

Students simulate the life cycle of anadromous fish, like the Striped Bass, and learn about limiting factors that impact their survival as they journey between their freshwater spawning grounds and the ocean.

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EEn.2.4.1, EEn.2.7.3  
Bio.2.1.2, Bio. 2.2.1, Bio.2.2.2

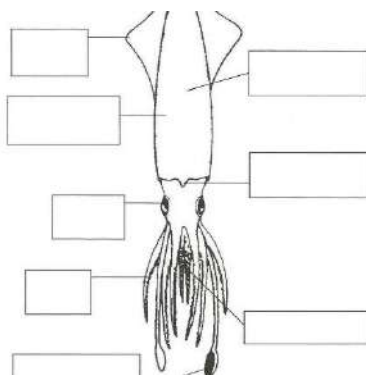


### Salt Water Survey

Students conduct water quality testing to learn how nonpoint source pollution such as nitrates and phosphates impact marine life.

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EEn.2.4.2, EEn.2.7.3  
Bio.2.2.1, Bio. 2.2.2



### Squid Dissection

Students learn about marine mollusks and investigate the taxonomy and anatomy of the squid through conducting a dissection.

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Bio.3.5.2  
Science as Inquiry

## Indoor Alternative



### Estuary Keeper

Students learn about the many factors, both man-made and natural, that affect fish populations in the estuary.

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EEn.2.4.2, EEn.2.7.2, EEn.2.7.3  
Bio.2.1.2, Bio.2.2.1, Bio.2.2.2



### Incredible Journey

Students become a water droplet and discover pathways water can follow through the water cycle and the forms water can take during this journey.

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EEn.2.3.2  
Bio.2.2.2