

Salt Marsh Field Study

Grade Level: Ninth-twelfth

Content Area: Ninth-twelfth: Ecosystem Dynamics, Earth Science, and Weather and Climate

Core Area: Exploring Organisms and Their Environments

Lesson Overview: The Reserve's ninth through twelfth estuary programming aligns to the current SC Academic Standards and Performance Indicators for Science, Next Generation Science Standards (NGSS), and NOAA's Ocean and Estuarine Literacy Principles and Concepts. Programs can be customized to incorporate activities on our marsh boardwalk or trail, Hobcaw Discovery Center exhibits and classroom, a screened outdoor classroom, freshwater pond and dock. Class size is limited to 60 students per trip, with one field study scheduled per day at our salt marsh sites to protect the sensitive nature of the habitats. Programs vary in length from 2-4 hours each, and may be combined with other activities as staff and schedules allow. Cost for programs is \$5 per student (teachers, chaperones are free), and must be booked in advance.

Biology 1: ECOSYSTEM DYNAMICS; CHEMISTRY 1 CHEMICAL REACTIONS; EARTH SCIENCE EARTH'S ATMOSPHERE – WEATHER AND CLIMATE; EARTH SCIENCE EARTH'S HYDROSPHERE

Reserve field studies for high school incorporating these science standards include:

Where Rivers Meet the Sea <https://coast.noaa.gov/estuaries/curriculum/where-rivers-meet-the-sea.html>

Biodiversity in an Estuary <https://coast.noaa.gov/estuaries/curriculum/biodiversity-in-an-estuary.html>

Extreme Weather in Estuaries <https://coast.noaa.gov/estuaries/curriculum/extreme-weather-and-estuaries.html>

Waters of North Inlet and Winyah Bay (Water Quality)
<http://www.northinlet.sc.edu/research/swmp.html> (Link to the System Wide Monitoring Program)

Many of the Reserve's curriculum activities are based on or adapted from the NOAA's 'Estuaries 101' Curriculum. This suite of estuary education resources help educators bring estuarine science into the classroom through hands-on learning, experiments, fieldwork, and data explorations. These specially designed lessons, activities, animations and videos can be used independently or as a supplement to existing curricula and can be adapted to meet any grade level.

Resources:

SC Academic Standards and Performance Indicators for Science

<https://ed.sc.gov/instruction/standards-learning/science/standards/>

Next Generation Science Standards (NGSS) <https://www.nextgenscience.org/>

NOAA's Ocean Literacy Principles and Concepts

https://aamboceanservice.blob.core.windows.net/oceanservice-prod/education/literacy/ocean_literacy.pdf

Estuaries 101 Curriculum <https://coast.noaa.gov/estuaries/>

Estuarine Literacy Principles and Concepts <https://coast.noaa.gov/data/estuaries/pdf/estuary-principles-and-concepts.pdf>