



Delaware National Estuarine Research Reserve Educational Opportunities

We'll Visit You! Classroom Visits

Estuary Creature Feature
Grades: K-1
Cost: Free
Time: 30 minutes
Science Units: Senses; Organisms

Horseshoe Crabs
All Grades
Cost: Free
Time: 30-45 minutes

Non-Point Source Pollution/ Watersheds
Grades: 6-8
Cost: Free
Time: 30-45 minutes
Science Units: Watersheds; Ecosystems

Getting Down With Data
Grades: 9-12
Cost: Free
Time: 45 minutes – 1 hour

For descriptions of these programs
please see following pages.

Visit Us and Discover the Estuary! Field Trips

Featured Field Trip: Grade 4: Discovering Land & Water; Then & Now.

Flowing through the Landscape: River Formation
Time: 30-1 hour
Grade: 4
Cost: Free
Time: 30 minutes -1 hour

St. Jones Reserve
Blown Away: Weather, Climate, and Water Quality
Grades: 4
Cost: Free
Time: 30 minutes – 1 hour

St. Jones Reserve
Let's Go Fishing
Grades: 4
Cost: Free
Time: 30-45 minutes

For descriptions of these trips and additional trips for all grades see
following pages.

DNERR Field Trips

FEATURED FIELD TRIP:

Our featured field trip experience is designed with the 4th grade in mind. This opportunity is a joint field trip at the St. Jones Reserve and the John Dickinson Plantation. The Reserve programs will focus on the Land and Water and Structure and Form units of the 4th grade and the Plantation's programs align with the Delaware State History unit. This unique opportunity allows students to explore and experience Delaware's Land and Water and Historical significance in the same field trip!

Grade 4: Discovering Land and Water; Then and Now.

Flowing through the Landscape: River Formation

Grade: 4

Cost: Free

Time: 30-1 hour

Water has a profound impact on shaping the Earth's landscape. The dominant erosion process is influenced by water moving across the land. This flow of water is typically associated with rivers and streams. Students will have a hands-on experience where they explore the force of water on the land which impacts river formation. Students will be able to describe the formation of landforms as water flows over and through land, utilize correct geographic terminology as it relates to rivers and streams, and be able to describe changes over time to rivers as it relates to land use.

Science Units: Land & Water Unit

Blown Away: Weather, Climate, and Water Quality

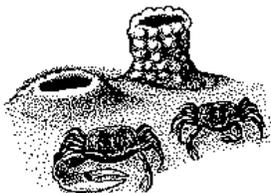
Grades: 4

Cost: Free

Time: 30 minutes – 1 hour

Weather and climate are dynamic and greatly influence earth system and impacts natural resources including our water quality. In this engaging activity students will be able to describe the difference between weather and climate and to better understand how weather and climate impact water quality.

Science Units: Land & Water Unit



Let's Go Fishing

Grades: 4

Cost: Free

Time: 30-45 minutes

Using an estuarine fish as an example, students will look at how the form of a fish correlates to its function for survival. Students will use what they learn to "make their own" fish.

Science Units: Structure & Form Unit

ADDITIONAL FIELD TRIPS:

The Reserve offers additional diverse field trip opportunities for all grade levels. Here is a listing of programs that we offer to Delaware's schools:

Muckless Marsh Walk

Grades: K-College

Cost: Free

Time: 30-45 minutes

The Muckless Marsh Walk introduces students to the St. Jones Estuary through a walking tour of the Reserve. Along the way, the values and functions of estuaries, watershed health, and wetland ecology are discussed. Students will identify plants and animals of the tidal salt marsh ecosystem. Each walk is geared toward the appropriate age and skill level.

Science Units: Environment, Ecosystems, and Watershed

May I Introduce, the Horseshoe Crab?

Grades: 1-6

Cost: Free

Time: 30 minutes – 1 hour

Learn about Delaware's oldest and most interesting creature, the horseshoe crab. A St. Jones naturalist will discuss the horseshoe crab's anatomy, life history, ecological and economic importance, and management. Students will have an opportunity to examine horseshoe crab specimens.

Science Units: Organisms, Ecosystems

Skins, Scat, and Tracks

Grades: K-1

Cost: Free

Time: 30 minutes

Discover the lives of our animals that live around and use the estuary. Students will use their senses to examine animal pelts, tracks, scat, and skulls that are left by our animals here in the estuary.

Science Units: Senses and Organisms Units

Fish Printing

Grades: K-1

Cost: Free

Time: 30 minutes

Students will explore the fish in a fun and artistic way! Delaware has numerous kinds of fish living a variety of different habitats from freshwater streams and ponds to brackish water bays, and salt water oceans. Students will learn about fish and use their creativity to paint what they have learned.

Science Units: Senses and Organisms Units

Pond Exploration

Grades: 1-3

Cost: Free

Time: 30 – 45 minutes

Get outside and explore the life in our pond systems! Students will have the opportunity to utilize dip nets to examine the life that is in our ponds here at the Reserve. They will look at the various organisms and discuss their life cycles and importance to a healthy pond.

Science Units: Organisms, Insects, Water Units



Estuary Web of Life

Grades: 5

Cost: Free

Time: 30 minutes

Oh, what a tangled web we weave when we practice to feed! Students will engage in an interactive exploration of the web of life of an estuarine ecosystem. Students will learn about producers, consumers, decomposers, and their importance in the ecosystem and to each other.

Science Units: Ecosystems Unit

Beach Ecology

Grades: 3-12

Cost: Free

Time: 2 hours

Students will engage in an interactive beach experience to determine the relationships of plants and animals and how they adapt to three different beach environments: dunes, sandy beaches, and the coastal water zone. Students will determine why animals and plants can survive in one area but not in another. They will use field guides to identify plants and animals in each of the unique habitats. Activities will also include active participation in beach combing, seining, and getting up close and personal with a horseshoe crab.

Science Units: Water, Land & Water, Ecosystems, Watershed Units; Biology, Ecology

Boat Trip – Salt to Fresh

Grades: 5-College

Cost: Free

Time: 1-2 hours

Students will experience the St. Jones river from a 24' Carolina skiff or by canoe. They will sample water, discuss what influences salinity changes, and learn about the tidal process. The history of the area will be discussed with a focus on the John Dickinson Plantation and how the river was a navigable, profitable waterway. There are three different options for this activity and the length of time allotted varies with each option. (**NOTE:** Limited to small groups, 14 students maximum per boat trip)

Science Units: Environment, Ecosystems, Watershed Units; Biology, Ecology

Discovery Lab Series

Grades: 5-12

Cost: Free

Time: 30-45 minutes

Yes, the Reserve has a laboratory where students can explore various subjects up close! The labs are subject specific and incorporate a presentation from an expert and lab activities about the particular topic. Topics include but are not limited to: water quality, benthic habitats, shorebirds, weather & climate, horseshoe crabs, and conifers. Join us as we explore our estuaries through the microscope and more!

Science Units: Dependent upon each lab experience

Watersheds

Grades: 5-12

Cost: Free

Time: 30-45 minutes

This program focuses on the water cycle and run-off pollution. Through demonstrations and a boardwalk hike students will comprehend the important role wetlands play in protecting our drinking water and how people's activities can affect the health of the watershed. Students will obtain a basic understanding of what a watershed is and how humans are an integral part of keeping the watershed healthy.

Science Units: Environment, Ecosystems, and Watershed Units, Ecology

Horseshoe Crabs are for the Birds

Grades: 7-12

Cost: Free

Time: 45 minutes – 1.5 hours

Students will focus on the delicate balance that exists between all living things. They will investigate the management issues of and the scientific relationships between horseshoe crabs, shorebirds, and humans through hands-on, problem solving activities.

Science Units: Diversity of Life and Ecosystems Units, Biology, Ecology

DNERR Classroom Outreach

OUTREACH INTO YOUR CLASSROOM:

Would you like us to come to you? No problem! We understand the difficulties in arranging a field trip so as an alternative we can bring the field trip to you.

Estuary Creature Feature

Grades: K-1

Cost: Free

Time: 30 minutes

What a great way to incorporate literacy and science! Young students will enjoy learning about the animals living in and near the estuary. A naturalist will engage the students during the reading an age appropriate book to the students about an animal or group of animals. After the story, the students will have the opportunity to see pelts, skulls, shells, and/or other items related to the animal and the story. Be ready for great questions and stories from the students as they relate to the animals! Creature Feature topics include but are not limited to horseshoe crabs, ducks, raccoons, turkeys, and animals in winter. Science Units: Senses and Organisms Units

Horseshoe Crabs

All Grades

Cost: Free

Time: 30-45 minutes

Learn about Delaware's oldest and most interesting creature, the horseshoe crab. A St. Jones naturalist will discuss the horseshoe crab's anatomy, life history, ecological and economic importance, and management. Live horseshoe crabs will be included depending on their seasonal availability.

Non-Point Source Pollution/ Watersheds

Grades: 6-8

Cost: Free

Time: 30-45 minutes

Students will learn to identify non-point source pollution and understand their effects on the overall health of a watershed. Pollution prevention techniques will be discussed so that students may begin to take action themselves. The watershed program takes an in-depth look at watersheds and non-point source pollution. Students will learn how pollution enters the watershed and what types of pollution are most harmful.

Science Units: Watersheds and Ecosystems Units

Getting Down With Data

Grades: 9-12

Cost: Free

Time: 45 minutes – 1 hour

Are you interested in using real data and student-driven inquiry in the classroom? This hands-on session is designed to engage your students in using online tools and sources of real time, local data. This session will equip your students with the knowledge, tools, skills, and confidence to access current monitoring efforts and use data to ask and answer questions.

For more information or to book a field trip or classroom outreach please contact R@DNERR.gov or call 302-837-3377 or www.dnerr.gov

