



School Group Programs

In support of your teaching goals, Coastal Rivers offers the following school group programs. All are designed to teach basic concepts of ecology and integrate hands-on opportunities to learn scientific methods. By enabling students to make their own discoveries about the natural world, we hope to inspire a deeper connection to nature.

Program format

Most programs incorporate a variety of activities including observation time, games, and nature journaling designed to help students develop naturalist skills.

Programs can be tailored for any age and are offered year-round unless otherwise specified. Special classes can be designed to meet specific needs.

Fees

All programs are provided to AOS93 and Lincoln Academy free of charge. Other groups will be charged \$70/hr. Scholarships may be available.

Travel to Coastal Rivers Preserves

We encourage you to use our preserves for your classes, whether you are within walking distance or can bring students by bus. If you let us know ahead of time when you plan to visit, we can be sure to let you know about any changing conditions. Maps and information about the preserves can be found at coastalrivers.org.

A note about standards

A standard is listed for each program. This is intended to indicate a potential learning standard that this program might support. For most programs this can be changed or strengthened to meet specific needs.

To register or for more information, please contact us

Sarah Gladu, Director of Education and Community Science: sgladu@coastalrivers.org
Angela DesVeaux, Education Manager & Camp Director: adesveaux@coastalrivers.org

PROGRAM LIST

All about Animals

Horseshoe Crabs (Offered June – September 15)

These remarkable and ancient creatures present many mysteries. Learn how scientists are tracking these animals in Great Salt Bay and how critical they are to the life cycles of many other animals. *Standard: Life cycle.*

Animal Tracks and Signs

Tracks and signs can tell the life histories of wild animals if we learn to read them carefully. Go beyond footprints and scat identification to discover the habits of the many animals living among us. Observe signs of the interactions of animals with each other and with plants. *Standard: Connection of mammals to specific habitats (biotic and non-biotic connections).*

Birds of Maine

Borrow Coastal Rivers' binoculars and field guides and learn to identify some common (and perhaps even some uncommon) birds in several different habitats. Observe bird behaviors and make your own discoveries about the fascinating life histories of these animals that live all around us. *Standard: Animal adaptations through the seasons (homeostasis).*

Owls of Maine

Learn all about the seven species owls in Maine, their calls, and their adaptations that help them hunt in the dark. Take a walk to visit different habitats that owls use and dissect an owl pellet and discover what they eat – students can assemble the bones into a rodent skeleton. *Standard: Adaptations. Sensory systems.*

Predators and Prey (Ages K- 4)

Large or small, predators can be fearsome. Discover some ways they are different from other kinds of animals, the critical roles they play in the ecosystem, and what really controls animal populations. *Standard: Physical adaptations and human perception of predators, energy cycling.*

Incredible Insects (Offered late May – September 15)

Insects are all around us. We will go on an insect safari and discover the many ways insects have adapted that enable them to thrive. Discuss natural selection and pollination. Learn about the variety of life cycles of insects. *Standard: Animal adaptations for survival. Plant and animal interactions.*

Mammals of Maine

What makes a mammal a mammal? Become familiar with the variety of mammals in Maine and discover what makes them specially adapted. Do you know the difference between a mole and a vole? *Standard: Adaptations. Sensory systems.*

Diadromous Fish (Mid-May through early June at the Damariscotta Mills Fish Ladder)

Eels, salmon, alewives and other shad have incredible life histories that are closely tied with conservation and local human history. Witness the incredible annual migration of these fish, play a migration game and more! *Standard: Migration (movement of matter in ecosystems).*

Cultural History

Who are the Wabanaki?

An introduction to the culture and history of the Wabanaki people. See artifacts such as stone tools, hear a story, make a birch bark spoon or cedar twine. *Standard: Wabanaki history and culture.*

Wabanaki Living Skills and Culture

Our re-created Wabanaki village occupies a site where Wabanaki people lived for thousands of years. Make cedar twine, taste wild edibles, hear a story, learn about traditional Wabanaki culture and, if time permits, visit a shell midden left by people thousands of years ago. Learn how you can help maintain the wigwams when you visit on your own. *Standard: Wabanaki history and culture.*

Wabanaki Plant Uses Through the Seasons

Trace Wabanaki plant use through the seasons. Sample wild edibles on a plant walk and use natural materials to make cedar twine or a birch bark spoon. *Standard: Wabanaki history and culture.*

Note: Every October we work with an Indigenous Educator, and this is the best opportunity to provide authentic Wabanaki educational experiences to your students. Please talk with us if you are interested.

Plants

Tremendous Trees

Trees have fascinating adaptations that enable them to survive in a variety of conditions. Learn to identify common trees and why they are important resources for people and other animals. *Standard: Photosynthesis, seed dispersal, patterns of organisms across ecosystems.*

Maple Syruping (Late February through 3rd week of March only)

Tap maple trees (we will loan buckets and spiles for your site), sample sap and see syrup being made. Learn all about tree anatomy and how trees function, and play an identification game. *Standard: Photosynthesis, seed dispersal, cycling of energy through ecosystems.*

Cider Pressing (Late September-early November)

Use an old-fashioned cider press to make sweet apple cider. Learn about the life cycle of a flower and their unique adaptations that ensure seed dispersal. *Standard: Biodiversity and ecosystem services.*

Plant and Animal Interactions

Forest Ecology

Learn to identify key forest flora and fauna. Focus on succession and the life history of forests. (Older groups may practice using a transect to document plant and animal diversity.) *Standard: Patterns of organisms through habitats, energy transfer, plant adaptations.*

Pollinators, Seeds and Fruits- Oh My! (Offered August - October 15)

Discover how seeds are the result of millions of years of coevolution of plants and animals. Witness these complex and highly developed relationships. *Standard: Biodiversity and ecosystem services.*

Prehistoric Relics (Grades 4 and up)

Take a trip back in time to study geologic history. Observe plants (like horsetails and conifer trees) and animals (like horseshoe crabs) that have survived for millions of years and have adapted to the modern environment. *Standard: Adaptations. Interpreting data from fossils. Variations in characteristics over time.*

Wetlands and Coastal Ecology

Oysters and Aquaculture

Dissect an oyster (we provide oysters and tools) and learn about the ecological role of wild oysters and how they are raised commercially. In spring and fall the group can visit an aquaculture site where oysters are grown. *Standard: Genetic traits, adaptation, and the relationship of non-biotic environment to oyster survival (water quality and conditions). Also possible (engineering): Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.*

Coastal Studies in Great Salt Bay

Explore the shore of Maine's first Marine Protected Area and discover how organisms have adapted to exist in an ever-changing tidal environment. Older groups will learn about nutrient cycling in the ocean. *Standard: Understanding community history and human relationship to the local environment.*

Go with the Flow: Comparing Salt and Freshwater Habitats

Compare stream and marsh habitats and the life they sustain. Observe the fantastic adaptations of freshwater invertebrates and plants. Learn how water quality is critical to supporting healthy aquatic environments. *Standard: Comparing diversity in different habitats.*

Microscopic Ocean Life (Best from April 15 – November 1, grades 4 and up.)

View the extraordinary world of phyto- and zooplankton through quality microscopes loaned by Coastal Rivers. Optionally, students can observe online through our microscope so we are all looking at the same thing. Learn how these minute organisms impact the atmosphere and all life on earth. Identify key phytoplankton. *Standard: Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.*

Saltwater Marsh Geologic History and Ecology

Marshes serve a variety of important functions including as a nursery for young fish spawning, a sponge absorbing the impact of flood tides, and a hotel and restaurant for migrating birds. Witness the effects of tens of thousands of years of tides and other mechanisms that transport living and nonliving matter throughout this ever-changing environment. *Standard: Use information from several sources to provide evidence that earth events can occur quickly or slowly and how this impacts organisms.*

Freshwater Habitats

Observe the fantastic adaptations of freshwater invertebrates and plants (which we can deliver to your school, let you know where to find on school grounds, or show to your students using Zoom). Learn how water quality is critical to supporting healthy aquatic environments. *Standard: Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.*

Aquatic Invertebrates of Fresh Water

Go marsh mucking and discover the wide array of adaptations that can be found! Focus on developing observation skills to identify adaptations and differentiate between different groups of animals. *Standard: Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.*

DEEP - Damariscotta Estuary Education Program (spring or fall only)

A three-part, inquiry-based curriculum taught in school and then in the field. Students learn about estuaries, develop research questions, conduct field work to answer their questions through data collection, and create a final presentation to share their findings. A teacher-led field component is a required element. *Standard: Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.*

Conservation Issues

Climate Change (Only for ages 12 and up)

This four-part program includes an introductory activity, a study of Maine's natural communities' response to climate change, a study of a local estuary ecosystem and a study of students' carbon footprints. *Standard: Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.*

Watersheds and Water Quality (For ages 10 and up)

How does a watershed function? Learn to sample dissolved oxygen, aquatic invertebrates (as a measure of water quality), salinity, pH, and turbidity. Study the utility of these indicators in understanding pollution. *Standard: Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.*

Land Conservation Game

Play a role-playing game and learn how communities can plan for a future that includes open space. *Standard: Evaluate competing design solutions for maintaining biodiversity and ecosystem services.*

Outdoor Living Skills

Orienteering

Learn to use a compass and map. Create compass courses for your friends to try! Or try our courses. *Standard: Tie to studies on migration or mapping.*

Basic Needs – Food, Water and Shelter

Learn to build quick emergency shelters, start a fire (with and without matches, and find water. *Standard: Tie to literature (read “To Build a Fire” by Jack London).*

Note: Special classes on creating a friction fire and outdoor cooking can be arranged.

Activities to integrate into your programming

- Go for a nature hike at a new preserve
- Snowshoeing (snow permitting)
- Sledding (snow permitting)
- Cider pressing (Offered in the fall – This fits well with pollination and seed dispersal programs)
- Watercolor triptych painting
- Discovery cards (a “choose your own adventure” style trivia game)
- Read aloud