

# WATERFRONT STEWARDSHIP

The following courses are offered as part of the Waterfront Stewardship Program. For further information about these courses please contact Christopher Girgenti, Natural Areas Manager, at 212-860-1899 ext. 309 or email: [Christopher.girgenti@parks.nyc.gov](mailto:Christopher.girgenti@parks.nyc.gov).

## Course 1 - Salt Marsh Exploration



In 2008, the Randall's Island Park Alliance and NYC Department of Parks & Recreation restored 5 acres of salt marsh habitat to the Island. Salt Marshes are wetlands located in the intertidal zones of estuaries. Marshes provide an abundant source of food and protection from predators for a variety of wildlife, making them excellent locations for fishing, crabbing, and bird watching. Like all wetlands, salt marshes slow coastal erosion, prevent flooding, filter water of harmful pollutants, and slow global warming by converting carbon dioxide to oxygen. Due to human population growth, salt marshes have been virtually eliminated throughout the NYC coast line, including areas of the Harlem River, East River, and western Long Island Sound.

In this course, students will learn the coastal history of NYC, Long Island Sound, and Randall's Island, and what it means to restore the environment. They will learn why wetlands, and specifically salt marshes, are important, what threats exist to salt marsh survival, and what we can do to protect them. They will also learn about the animals and plants that live in this environment and their adaptations to survival. Students in grades 3-6 will be able to use their Wetlands Stewardship Activities Booklets in the field as nature journals, recording the various plants and animals they see along the way. Younger students in grades K-2 conduct observational and inferential learning while in the field and complete writing and drawing activities back in the classroom. As part of the hands-on learning experience, students will use binoculars, magnifying glasses, fish nets, and traps to find animals in the wetlands.

## Course 2- Freshwater Wetland Exploration



In 2008, the Randall's Island Park Alliance and NYC Department of Parks & Recreation restored 4 acres of freshwater emergent wetland habitat to the Island. New York City once contained 224,000 acres of freshwater wetland. However, over the past century the expansion of the City has eliminated thousands of acres. The native plant-dominated freshwater wetland provides habitat for a variety of organisms, including dragonflies, damselflies and butterflies, and provides excellent feeding, resting and/or breeding habitat for birds such as red-winged blackbirds, marsh wrens, common yellowthroats, mallard ducks, swamp sparrows, and green herons, as well as small mammals, such as muskrats.

In this course, students will learn the history of NYC and Randall's Island and what it means to restore the environment. They will learn why wetlands, and specifically freshwater wetlands, are important, what threats exist to freshwater wetland survival, and what we can do to protect them. They will also learn about the animals and plants that live in this environment and their adaptations to survival. Students in grades 3-6 will be able to use their Wetlands Stewardship Activities Booklets in the field as nature journals, recording the various plants and animals they see along the way. Younger students in grades K-2 conduct observational and inferential learning while in the field and complete writing and drawing activities back in the classroom. As part of the hands-on learning experience, students will use binoculars, magnifying glasses, and traps to find animals in the wetlands.

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## Course 3- The World is your Oyster: Oyster Garden Program



The Randall's Island Oyster Garden Program is a partnership program with NY/NJ Baykeeper. In 2011, Randall's Island obtained a cage of 500 native juvenile Eastern Oysters (*Crassostrea virginica*) from Baykeeper which we placed in the East River adjacent to the wetlands. These animals were once abundant in the NY/NJ Harbor Estuary and western Long Island Sound but, due to years of overharvesting and pollution, they have all been eliminated. Oysters provide key ecological benefits to our wetlands and waterways: NY/NJ Baykeeper and Randall's Island Park are working hard to restore oysters to their natural habitat. This program will allow students not only to learn about oyster biology and their importance in our aquatic ecosystem, but also to collect important scientific data on their growth and development. Students will be able to use magnifying glasses, microscopes, rulers, and calipers to analyze and collect data on oysters and other reef inhabitants. Students will also make observations about the oysters in order to complete writing and drawing activities.

## Course 4- Plant Power:

## The Importance of Plants & Plant Communities to Humans & the Environment



Plants are the backbone of all life on Earth. They are part of all of our daily lives. They provide us with food and medicine, purify our water, clean our air, reduce greenhouse gases, and create habitat for people and animals. In this course, students will use magnifying glasses, microscopes, and rulers to examine key plants in the wetlands. Students will learn the life cycle, anatomy, and life histories of grasses, shrubs, and trees. They will learn the difference between invasive and native plants. Students will also learn why plants are important to all of us and why they need to be protected.

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## Course 5- It's Buzz Worthy: A Detailed Look at the Secret Life of Insects



Insects are everywhere in the wetlands. While insects can be defined as organisms with three pairs of legs and three body regions -head, thorax, and abdomen- they all possess unique and interesting life histories. In this course students will explore inside and outside the classroom the life cycle, anatomy, and adaptations of insects found in and around the wetlands at Randall's Island. Using magnifying glasses, butterfly nets, and terrariums students will get an up-close look at insects.

## Course 6-Water is what Matters: A Look at NYC Watersheds and Water Quality



Water connects us all. Water is constantly moving in, around, and through the Earth in various forms. It's found in our oceans, rivers, lakes, and ponds, falling from the sky as rain drops or snow, and flowing out of our faucets in our kitchen sink. People and wildlife all over the planet require clean water to live and thrive. Unfortunately, over the last century, human activities related to different land uses and land management has severely deteriorated water quality. But where does water come from? Where is going? What is a watershed? And are our NYC waterways, including the Harlem River, East River and Long Island Sound, clean and healthy? Through in class and field activities we will answer these and other questions in this course.

## Course 7- Feathered Friends: Birds of the Wetlands & Woodland



They fly, they dive, they swim, and they sing! Birds are abundant at Randall's Island all year long. Despite being located in one of the largest cities on the planet, Randall's Island is home to variety of waterfowl, songbirds, raptors, and wading birds. Check the wetlands for herons, egrets, and ducks. Look over the stadium for soaring hawks. Search the freshwater wetland in the fall and spring for migratory warblers and sparrows. Learn all about bird anatomy, their adaptations to survival, and their unique life histories. Students will learn how to use binoculars and scopes to view birds in their natural habitat.