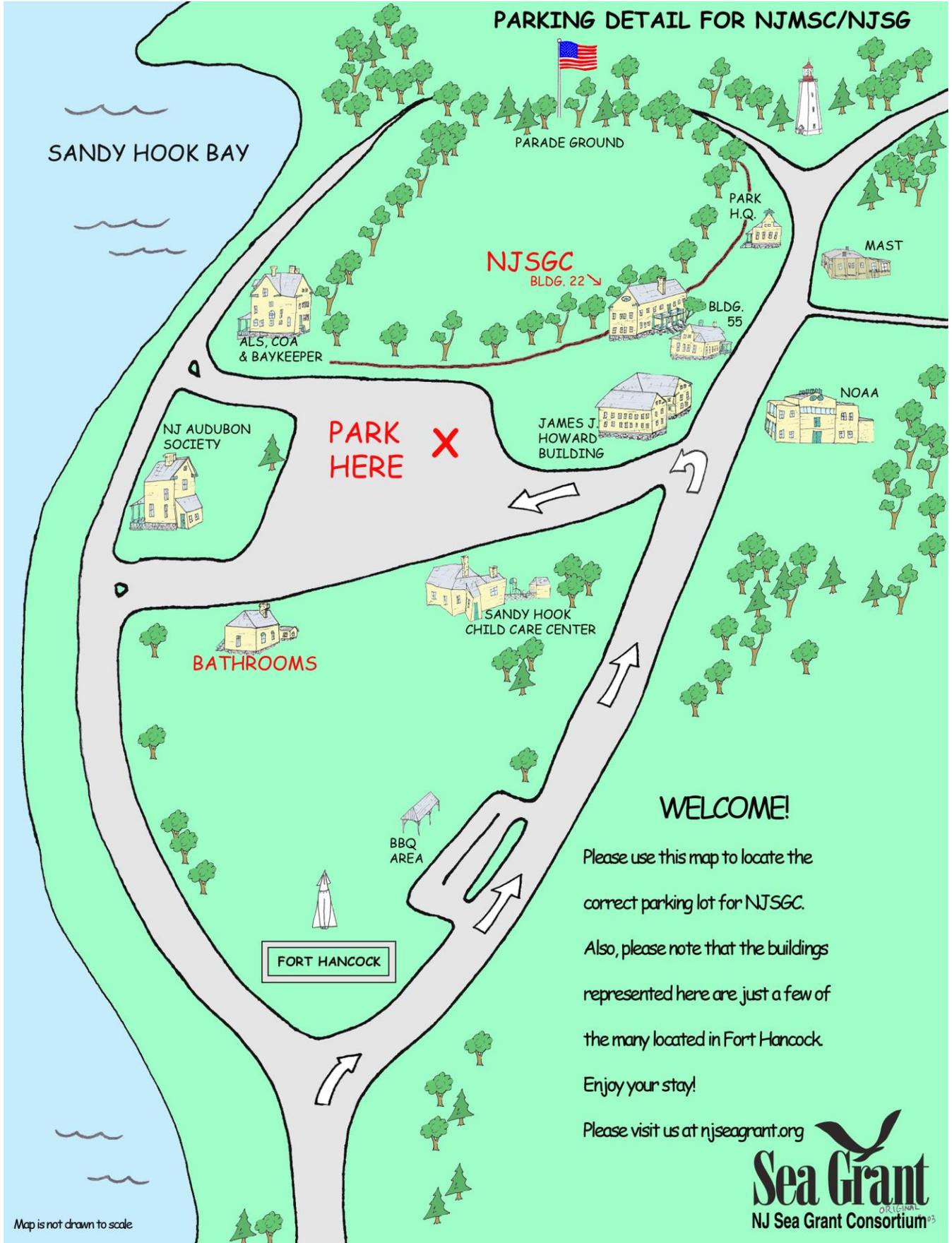


The Coastal Experience
NJSGC Field Trip Planning Guide

Education Department
New Jersey Sea Grant Consortium
22 MaGruder Road
Fort Hancock, N.J. 07732
732-872-1300

PARKING DETAIL FOR NJMSC/NJSG



Map is not drawn to scale

WELCOME!

Please use this map to locate the correct parking lot for NJSGC.

Also, please note that the buildings represented here are just a few of the many located in Fort Hancock.

Enjoy your stay!

Please visit us at njseagrants.org





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THE EDUCATION PROGRAM AT NJSGC

Dear Educator:

Thank you for choosing the New Jersey Sea Grant Consortium (NJSGC) for your upcoming field trip. Please review this trip planning guide as soon as possible. It can help you make the most of your day with us and help you bring marine science into your classroom.

If you have questions regarding your trip, contact Sandy Varone ((732) 872-1300, extension 13; reservations@njseagrant.org) or me (extension 16; dburich@njseagrant.org). Should other personnel involved in your trip need a planning guide, please call me or feel free to make copies.

A Gift Shop is available at the NJSGC and you can view the current preorder form online at: <http://njseagrant.org/education/education-gift-shop/> . Sales support education at the NJSGC, so I hope you will share this information with your students and their parents. We are happy to send you as many copies of our catalog as you need. Just call Rosemary Higgins at extension 19 or rhiggins@njseagrant.org. We appreciate completed forms mailed to us in advance, but even when we receive them on the morning of your trip, we will, in most cases, have them ready to go before you head home.

See you soon--we look forward to working with you and your students!

Diana Burich
K-12 Program Coordinator/
Sea Grant Program Associate
NJ Sea Grant Consortium



THE COASTAL EXPERIENCE FIELD TRIP GUIDELINES

**BUSES REMAIN with the group the entire day.
Drivers need to bring their lunch.
Be sure to notify your bus company and driver.**

OUR FIELD TRIPS RUN RAIN OR SHINE!

Programs generally run from 9:30AM to 1:30PM unless previously arranged. If your departure time requires adjustment, please let your guide(s) know on arrival.

Student discipline is the responsibility of the teachers, not the staff of the NJSGC.

Programs require at least one teacher per class and one adult chaperone per 10 students.

Divide students into groups of 25 (or one class) prior to arrival. This will be their group for the entire field trip.

Students must bring their own lunch.

Sandy Hook is a "carry-in, carry-out" park. Lunch trash removal is your responsibility. We can supply large bags for you to take your trash away in.

Students **cannot** walk barefoot. Old sneakers are best; expect them to get dirty.

Swimming is not allowed. The only time students are allowed in the water is for the seining activity using the chest waders provided.

Students should bring a collection bag for shells. Plastic grocery bags work best.

Students will be outdoors most of the day and should dress accordingly.

Schools are encouraged to bring a nurse, especially if students are known to have allergies, asthma, or if medications are to be administered.

If you have access to a cell phone, it is advisable to bring one.

To better accommodate all students; please notify NJSGC if there are any students with physical disabilities. Sand wheelchairs are available upon advance request.

A Gift Shop is located in NJSGC's Building #22. Pre-orders are urged for large groups. A copy of our pre-order catalog will arrive in a separate mailing. Pre-orders mailed in advance are ready to go home with you by the end of your trip.

DIRECTIONS TO NJSGC

From the North:

Garden State Parkway South to Exit 117. Take Route 36 east, following signs for Sandy Hook Unit of Gateway National Recreation Area, approximately twelve (12) miles.

From the South:

Garden State Parkway North to Exit 105. Take Route 36 (Joline Ave.) to the Ocean Boulevard intersection. Turn left at traffic light to follow Route 36 (Ocean Boulevard); go approximately eight (8) miles. Follow signs for Sandy Hook Unit of Gateway National Recreation Area

Once in the Park:

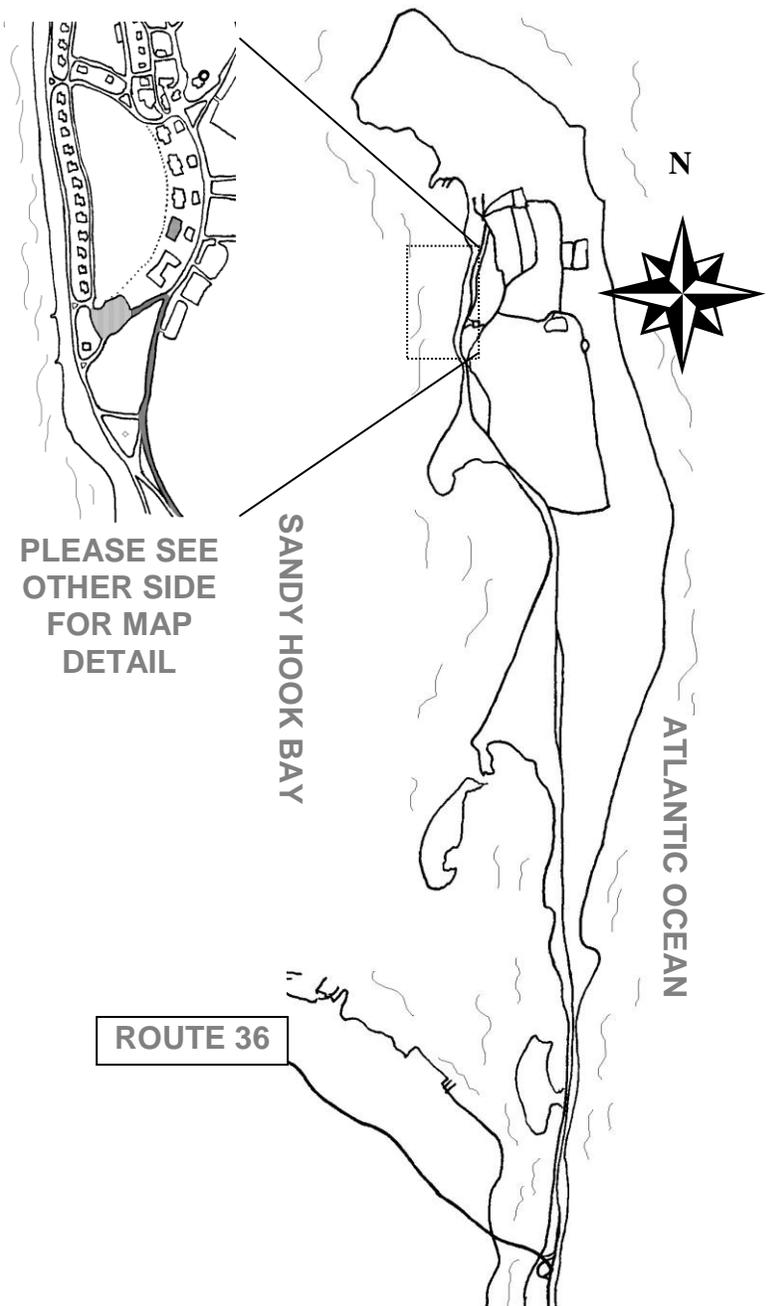
Drive straight ahead on main road approximately four (4) miles to historic Fort Hancock. At the Nike Missile Monument (Guardian Park) bear right onto Magruder Road. Go one-tenth (0.1) mile and turn left into the entrance of NJSGC's parking lot (BEFORE the NOAA, James J. Howard Marine Lab). Your field guide(s) will meet you in this parking lot. If you need to locate our building, it can be found by following the brick walkway from the parking lot to the second building on the right, #22.

Have a field trip date AFTER Memorial Day?

You will have to stop at a fee collection booth upon entering the park. Instruct your bus driver to tell the attendant that you are going to the NJ Sea Grant Consortium. He or she will wave you through. **You do not pay an entrance fee.**

Road problems?

Call 732-872-1300, x 13, 16, or 19.



Buses and drivers MUST remain with the group all day.

Drivers MUST bring their lunch.

MARSH AND OCEAN ENVIRONMENTS PROGRAM TOPICS

This full-day, guided outdoor field program accommodates grade levels preK-12. This program is recommended for large groups of students (over 50) and provides an introduction to the salt marsh and barrier beach environments. The program is divided into two parts: a salt marsh exploration and a beach hike. Students will become involved in hands-on learning activities at both sites.

Marsh Portion: Key Concepts

Through discussion and instruction, your field guide will cover the following key concepts during the salt marsh portion of the program:

- Geographic orientation
- Structure, function and importance of an estuary
- Structure, function and importance of a salt marsh (habitat)
- Human impact on the bay and marsh environment
- An overview of native salt marsh plants and animals (adaptation)
- An introduction to the watershed concept
- Marine food webs (producer, consumer, and predator)

Students will participate in the following activities while at the salt marsh:

- Seining (boots, nets and buckets supplied by NJS GC)
- Salt Marsh Orientation
- Plant Identification Walk (conditions permitting)
- Benthic Sampling (conditions permitting)
- Optional Activities (require advance notice): Water Quality Testing, Plankton Sampling/Identification

Beach Portion: Key Concepts

Through discussion and instruction, your field guide will cover the following key concepts during the barrier beach portion of the program:

- Geographic orientation
- Formation, structure, function and importance of the barrier beach
- Beach processes (waves, currents, tides)
- Zones of the beach (dunes, backshore, foreshore, nearshore)
- Human use and impact on barrier beach environment (erosion, replenishment)
- An overview of barrier plants and animals
- Identification of seashells and other shoreline "finds" (bivalves, univalves, crustaceans)

Students will participate in the following activities while at the beach:

- Shell Collecting and Identification, Beach- Hike
- Optional Activities (requires advance notice): Beach Profiling, Longshore Current Measurement, Sand Sampling

An overview of the history of Sandy Hook is integrated throughout the program.

This program supports NJ Core Curriculum Content Standards:

- Language Arts Literacy 3.1, 3.2, 3.3, 3.4, 3.5
- Mathematics 4.1, 4.2, 4.3, 4.5
- Science 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.10
- Social Studies 6.3, 6.9

BARRIER BEACH DYNAMICS

This guided program is appropriate for grades 4 through 12. By participating in indoor and outdoor hands-on and discovery-based activities, students will gain an in-depth understanding of beaches and the processes that influence them. The following information is intended to help you prepare your students for their upcoming field experience.

Key Concepts

Through discussion your NJMSC guide will cover the following key concepts during the outdoor portion of the program:

- Coastal processes: Winds, waves, currents and tides
- Origins of sand and its movement
- Beach zonation and the importance of dunes
- Identification, succession and importance of plant life on the barrier beach
- Coastal erosion
- Marine debris: origins and impacts
- Marine species of the barrier beach

Students will participate in the following activities while at the beach:

- Shell collecting and identification
- Beach hike along dunes with the opportunity to observe a natural beach, bird nesting areas, and the NY/NJ shipping channel
- Sand sampling
- Beach profiling
- Longshore current measurement
- Marine debris investigation (“mini-beach clean-up”)
- Wave analysis

Students will participate in the following indoor activities:

- Multi-activity sand laboratory investigation (sand sampling, grain size and shape analysis, sample comparisons, etc.)
- Beach modeling
- Species identification using taxonomic keys
- Marine debris analysis
- Beach profile graphing

This program supports NJ Core Curriculum Content Standards:

- Language Arts Literacy 3.1, 3.2, 3.3, 3.4, 3.5
- Mathematics 4.2, 4.3
- Science 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.9, 5.12
- Social Studies 6.9

SALT MARSH ECOLOGY

This guided program provides an opportunity for students in grades 5 - 12 to investigate one of the most productive natural systems on earth—the salt marsh. This program is limited to 50 students per day. By participating in indoor and outdoor hands-on and discovery-based activities, students will gain an in-depth understanding of estuaries and salt marshes and the processes that influence them. The following information is intended to help you prepare your students for their upcoming field experience.

Key Concepts:

Through discussion your NJMSC guide will cover the following key concepts during the outdoor portion of the program:

- Geographic orientation
- Marsh zonation and function
- Human use
- The watershed concept
- Salt marsh plants and animals (adaptation)
- Food webs (producers, consumers, predator, and biomagnification)
- Plankton
- Water quality
- Tides and currents

Students will participate in the following activities while at the salt marsh:

- Seining: Students use a net to collect a sample of the nearshore community.
- Sieving: Students use shovels and sieves to collect benthic invertebrates.
- Plankton collection: A plankton net is set out to collect a sample.
- Water quality testing: A hands-on demonstration of water testing will be conducted.
- Marsh hike: Students observe salt marsh structure, plants and animals

Students may also participate in the following lessons and activities:

Marsh Bag (salt marsh functions)	Graphing the Tide
Web of Life (marine food webs)	Fish Anatomy
Fish Morphology and Fish Printing	Plankton Lab
Salt Marsh in a Pan demonstration	Water Quality Lab
Shell Taxonomy	

This program supports NJ Core Curriculum Content Standards:

Language Arts Literacy 3.1, 3.2, 3.3, 3.4, 3.5
Science 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.8, 5.9, 5.10, 5.12
Social Studies 6.9

Lenape and the Jersey Shore

This full-day, guided outdoor field program is well suited for students learning about New Jersey's history, providing a "hands-on" introduction to the historic coastal lifestyle of New Jersey's natives; the Lenape people. The program involves students in problem solving, teamwork, and an inter-disciplinary exploration of their environment. This program is designed for smaller groups of students (50 or less) and is recommended for grades 3-6. Programs typically start at 9:30am and go until 1:30 pm. The fee is \$265.00 per class, limited to two classes per day (25 students per class maximum, please).

Key Concepts

The main focus of this program is to show the connection between the native peoples and the coastal environment of New Jersey. Your guide will accomplish this through discussion, instruction, and "hands-on" activities that explore the historic lifestyle of the Lenape people. By focusing on coastal community life the student will gain insight into the Lenape lifestyle, organization and traditions.

Topics:

- The Lenape people
- Geographic orientation
- Language and lore
- Food and tools
- Gender roles
- Food webs

Activities:

- Traditional fishing techniques (boots, nets, and buckets supplied by NJSGC)
- Plant and animal identification
- Hunting techniques
- Food preparation
- Fire by friction
- Crafts

This program supports NJ Core Curriculum Content Standards:

- Language Arts 3.3, 3.4
- Science 5.1, 5.2, 5.5, 5.10
- Social Studies 6.2, 6.3, 6.4, 6.5

COMPARATIVE STUDIES OF BARRIER ISLAND COMMUNITIES

This program is intended for high school or advanced placement students. The following information is intended to help you prepare your students for their upcoming Comparative Studies of Barrier Island Communities field trip. We look forward to working with you and your students!

By visiting three locations within the Sandy Hook environment (beach, marsh, maritime forest) and participating in hands-on activities at each location, students will develop a sense of the inter-relationships and differences within the barrier island community.

Key Concepts:

- Plant and Animal Adaptation and Identification
- Zonation and Succession
- Food Webs
- Water Quality (dissolved oxygen, pH, salinity, and temperature)
- Biological Sampling
- Sediment Sampling

Salt Marsh Activities:

- Seining: Students use a net to collect a sample of the nearshore community.
- Sieving: Students use shovels and sieves to collect benthic invertebrates.
- Plankton collection: Plankton net is set out to collect a sample.
- Water quality testing: A hands-on demonstration of water testing will be conducted.
- Marsh Hike: Students observe salt marsh structure, plants and animals

Maritime Forest Field Activities

Students will participate in a variety of activities to become familiar with the maritime forest and its relationship to other communities of the barrier island.

Key components include:

- Sediment Sampling
- Plant Identification

Coastal Beach Field Activities

Students will participate in a variety of activities to become familiar with the coastal beach habitat and its relationship to other communities of the barrier island.

Key components include:

- Sand and Sediment Sampling
- Zonation
- Water Quality Parameters (dissolved oxygen, pH, salinity, and temperature)
- Biological Sampling

This program supports NJ Core Curriculum Content Standards:

Language Arts Literacy 3.1, 3.2, 3.5

Mathematics 4.1, 4.2, 4.3, 4.4, 4.5 Science 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10

Social Studies 6.9

SAMPLE FIELD TRIP PERMISSION LETTER

Dear Parent/Guardian:

We have been given the following guidelines to follow for our field trip to New Jersey Sea Grant Consortium at Sandy Hook on Date _____.

- This field trip is mostly outdoors and will run **rain or shine**. Please check the weather the night before the trip and dress your child accordingly. Sunscreen, if necessary, should be applied before leaving home.
- Old sneakers or water shoes should be worn, expect them to get dirty.
- All students must bring their own lunch. Lunch should include a drink (no glass bottles please!) or two if it is a hot day.
- All lunches should be placed in a brown bag with your child's name clearly written on the bag.
- Swimming is **NOT** allowed.
- All children will need a collection bag for shells. A plastic bag from the grocery store works best.

A Gift Shop is available at NJSGC for students to purchase marine science related toys, scientific equipment and t-shirts. All proceeds from the sale of Gift Shop items support education programs at NJSGC, allowing them to keep their fees affordable.

A copy of NJSGC's Gift Shop catalog and pre-order form is enclosed or can be found on the website: <http://njseagrant.org/education/education-gift-shop/>. This form is intended to maximize the time students can spend outdoors for hands-on learning activities while visiting Sandy Hook. Please make your selections on the enclosed order form and place both the money or check (taxes are included in the price) and the order form in a sealed envelope or sandwich baggie with your child's and their teacher's name on the front. The envelope will be collected on the morning of the trip.

Thank you for your cooperation.

Sincerely,

Carry-In, Carry-Out Policy

NJSGC supports the National Park Service (NPS) Carry-In, Carry-Out Policy for the management of trash and recyclables at Sandy Hook. You will notice that there are no trash receptacles in the outdoor areas of the park. Instead, visitors are required to carry out any trash that they generate while visiting the park, including all paper, plastic, foil, cans, bottles and leftover food.

During your field trip, please ask your students to comply with this policy. Remember to bring trash bags for their use to remove the trash from the park after the trip. NJSGC will be happy to provide plastic trash bags to your group if necessary. Thank you for helping to preserve and protect the natural resources and the public health at Sandy Hook.

Looking for Lesson Plans and Worksheets

Our web site njseagrant.org is frequently updated and provides a hub to the many programs and updates in the Education Department as well as the other departments of NJSGC. Some samples include:

- Pre-K through 12th grade program details.
- Information on Professional Development and CEU's for teachers, including grant-funded workshops.
- Information about our College Programs and course offerings.
- Oceans To Go! our in-school, afterschool and family science program.
- Public programs: Ocean Fun Days, Scout Programs and Marine Science Day Camp.
- Gift Shop pre-order forms, general information, directions, and current research.

Start now to begin learning about the marine environment

Being prepared for an upcoming event is key to its enjoyment. In order to help you prepare for your field trip NJSGC has compiled information on-line to help integrate the subject matter of our field trips into classroom preparatory activities.

Visit our web site for lesson plans or worksheets on:

- Classification and Identification
- Web of Life
- Plankton
- Salt Marsh in a Pan
- Common Mollusks
- Common Fish
- Common Plants