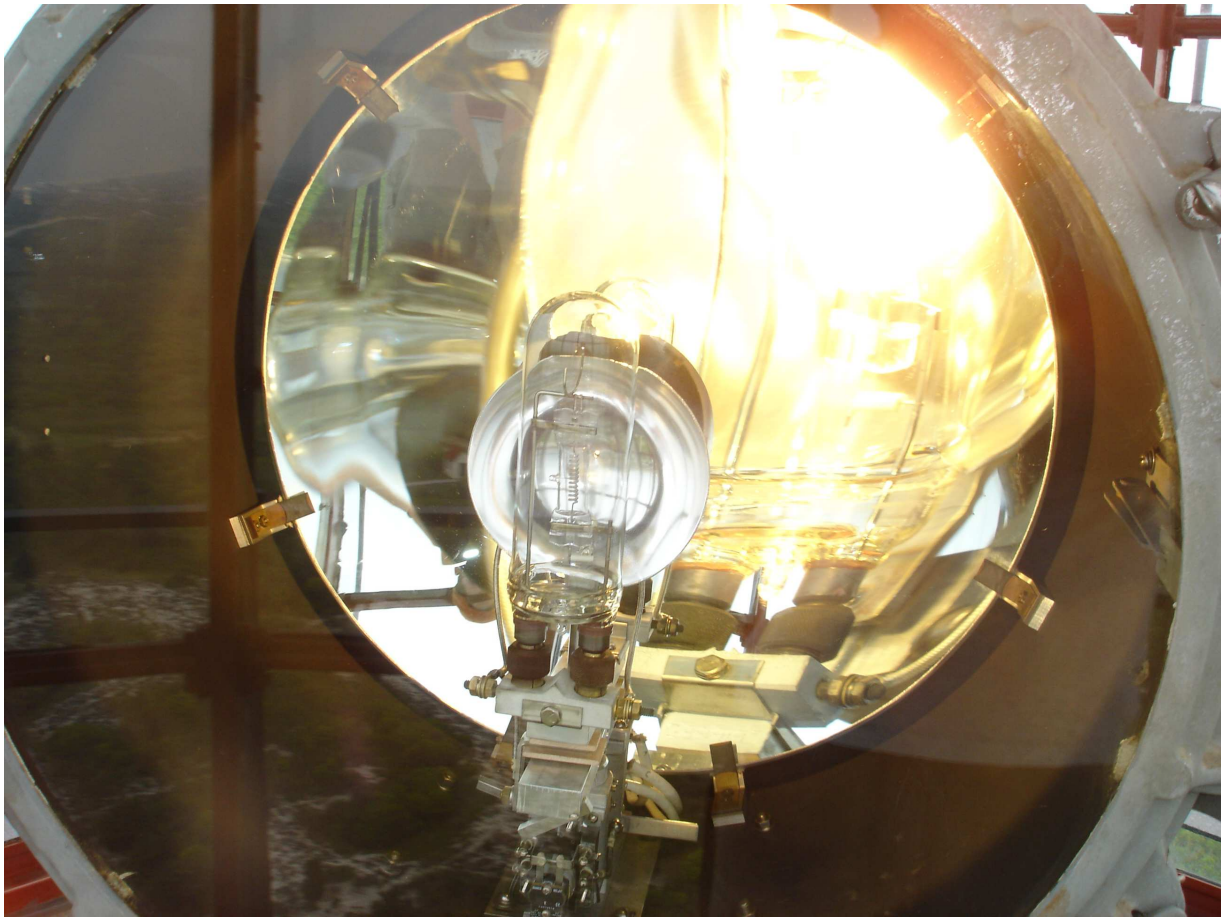
Fire Island Lighthouse Preservation Society



4680 Captree Island

Captree Island, NY 11702

631 – 661- 4876

programs@fireislandlighthouse.com

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How to Use This Guide

This guide is intended to introduce educators to the Fire Island Lighthouse Education Program. It is best suited to help you prepare connections to your curriculum and visit.

It is recommended that students become familiar with the vocabulary list before they come to the lighthouse. A general discussion about navigation and its hazards prior to the trip will help orient students to the cultural significance of the area.

Suggestions

We welcome ideas for activities which we could incorporate into our program or suggestions to improve this guide.

Program Overview

The Fire Island Lighthouse on site educational program consists of three topics: The Fire Island Lighthouse, the United States Lifesaving Service, and Forces of Nature.

Teachers should plan to bring a maximum of 50 students or two classes, and two chaperons per class. Prior to field trip, teachers should divide the total number of students into three equal groups. Each group will participate in all segments of the program.

Each component is approximately 45mins long and is lead by a trained volunteer.

Each program involves walking and other hands on activities, so that we may better facilitate your visit, please inform us of any special needs by calling (631) 661-4876 in advance.

Facilities and Visitor Preparation

Arrival: If possible, **please call 631-661-4876** when you get on the bridge. This will make it easier for our staff to meet the bus upon arrival. The bus is to proceed through the barricades at the end of the road and turn right at the stop sign. Follow the road until you're just south of the lighthouse. Turn left into the driveway and proceed up to the lighthouse. A volunteer will meet the bus in front of the lighthouse. Children should be dropped off in front of the lighthouse upon arrival and the bus may return to pick the children up at the end of the program. Unfortunately the bus is not permitted to park here at the lighthouse during the program. For further information please call 631-661-4876.

Anyone driving in personal vehicles must park at Parking Field #5 at Robert Moses State Park.

Universally accessible parking is available at the keeper's quarters for vehicles with handicap permits.

Bathrooms are located inside the keeper's quarters in the gift shop area and also at the

checkpoint near the Ranger Station.

To keep your visit safe, please ensure that all in your group remain on the boardwalks to avoid contact with deer ticks and poison ivy. Be aware that the beach directly south of the lighthouse is bordered by clothing optional beaches.

Students should dress for an outdoor hike, with sturdy shoes and long pants. They should be prepared to walk approximately 45 minutes outdoors on the nature trail.

Gift Shop: Following the program the gift shop will be open for the children to purchase souvenirs. There is an assortment of appropriate items in the $5 range. Your support of the gift shop enables us to keep the cost of the school program at a reasonable rate.

Lunch: Children may bring a bag lunch which may be eaten on the terrace following the program. In accordance with the National Seashore guidelines, the *Carry In, Carry Out* procedure will be observed. All groups should make arrangements to take their refuse back to school for disposal.

Fee Schedule

Educational programs at the Fire Island Lighthouse are scheduled by advance booking. The fee is $5.00 per person (including chaperons) for the visit. A deposit of $25 per day reserved must be submitted with the application form. Deposits will not be returned for visits canceled less than 21 days prior to the visit.

Goals

` The Fire Island Lighthouse and its surrounding community has provided many services to our maritime heritage. The Lighthouse itself is located in a very dynamic environment. This program is intended to meet the following goals:

- To appreciate the role of the Fire Island Lighthouse in maritime history.
- To understand community values in the restoration and preservation movement.
- To appreciate the ethic of the United States Life Saving Service and its importance to the community.
- To appreciate the fragile and dynamic natural resources that makes up Fire Island.

Program Segments

The Fire Island Lighthouse

Overview

Illustration 1: Drawing of the Fire Island Lighthouse

During this segment, students will have the opportunity to climb to the top of the lighthouse. A trained interpreter will guide the group up the cast iron, spiral staircase and upper ladders to the gallery. Out on the gallery students will be able to enjoy a panoramic view of Fire Island and the surrounding area. While the group ascends the tower the interpreter will narrate the history of the construction and restoration of the lighthouse. The interpreter will also speak about daily life and duties at the lighthouse.

Tower Safety

1. It is **recommended** that all visitors who intend to climb the tower, wear **sneakers** or similar type footwear for their safety, while in the tower.
2. Do not look up during your climb, as debris can fall through honeycomb stair treads.
3. Please hold on to hand ropes during your climb.
4. Schools must provide at least one chaperon per group climbing the tower.

Background

The first Fire Island Lighthouse was constructed in 1825, when it became evident that the Montauk Lighthouse alone was not sufficient to protect the entire coast of Long Island. The original lighthouse was located west of the existing lighthouse. The remains of the base of the 1826 lighthouse are visible from the site of the newly restored boathouse. The first lighthouse was constructed at the western most end of the Island, adjacent to the Fire Island Inlet.

Today, Fire Island Inlet is approximately 5 miles west of where it was when the first lighthouse was built. This accretion of sand is due to a process known as littoral drift. The original lighthouse was only 74’ high. This limited height did not allow the light to be seen far enough out to sea.

The second Fire Island Lighthouse was constructed in 1858. The Connecticut Blue Stone used in the creation of the first tower was recycled and used in the construction of the terrace for

the present lighthouse. The new 168’ tower boasted double walled brick construction and state of the art optics consisting of a first order Fresnel lens. The taller tower, in conjunction with the new lens resulted in a beam of light that could be seen up to 22 miles seaward in optimal conditions.

Both lighthouses, like all lighthouses of the time, were manually operated and required lighthouse keepers to maintain them. The lighthouse was not electrified until 1939, and the light was not fully automated until 1949. Before electrification, keepers had a number of daily duties that included keeping the lamps fueled, wicks trimmed and lenses cleaned. In addition the clockworks had to be rewound every 4 hours from sunset until dawn in order to rotate the lens, which caused the illusion of a flash.

Each lighthouse has its own unique characteristics including its flash pattern, light color and day markings. Today the electric light rotates in a counterclockwise direction, emitting a flash of white light at 7.5 second intervals. The day markings are an alternating pattern of black white black white horizontal stripes. Fire Island is the only lighthouse that possesses all three of these characteristics.

As navigation technology improved, the need for the lighthouse as a navigational aid decreased. In 1974 the lighthouse was decommissioned by the U.S. Coast Guard and replaced with a strobe light atop the Robert Moses State Park water tower. In 1983 the lighthouse and the surrounding 82 acres were transferred to the Fire Island National Seashore.

Local residents were not happy with the decommissioning of the light or with its deteriorating condition and slated demolition. This led to the establishment of the Fire Island Lighthouse Preservation Society (FILPS), which raised over $1.3 million to assist in the restoration and relighting of the lighthouse on May 28, 1986, in partnership with the National Park Service (NPS).

Today the current beacon is a Carlisle & Finch Aero Beacon, with two 1000 watt bulbs. It continues to rotate counterclockwise every 15 seconds, creating a flash every 7.5 seconds.

February 22, 2006, the United States Coast Guard transferred operation and maintenance of the light to the Fire Island Lighthouse Preservation Society. Today, it is maintained by dedicated group of volunteer light keepers. It remains on maritime charts as a private aid to navigation.

Objectives

1. At the end of the program, students should be able to define the reason for the construction of the lighthouse.
2. At the end of the program, students should be able to describe the work of the pre-electrification keeper.
3. At the end of the program, students should be able to define restoration and list some of the specific restoration activities of the Fire Island Lighthouse.
4. At the end of the program, students should be able to demonstrate a working knowledge

of all vocabulary words.

Vocabulary

Clockworks	Day Mark	Fresnel Lens
Inlet	Lighthouse Keeper	Mariners
Navigation	Nor'easter	Oil Lamp
Preservation	Restoration	

The United States Life Saving Service (USLSS)

Overview

The USLSS program is presented in the Keeper's Quarters of the Fire Island Lighthouse using exhibit material to explore the life and times of the Life Savers on Fire Island. Students will participate in hands on activities demonstrating the equipment utilized by the Life Saving Service.

Illustration 2: Logo of the USLSS

Background

The United States Life Saving Service began in the 1840's as a loosely organized volunteer force along the U.S. coastlines. In 1871, the organization formally became a government agency with paid employees. Its sole function was to aid in saving lives during maritime disasters.

There were seven life saving stations on Fire Island. The first one was built in 1849 just west of the Fire Island Lighthouse.

The USLSS used equipment(beach apparatus) and surfboats to rescue people from ships stranded in the surf. The use of these rescue techniques in severe weather required personal bravery from the keeper and surfmen. They lived by their unofficial motto, "you have to go out, but you don't have to come back."

Although the surfmen worked for a government agency, most of them were only employed during shipwreck season. During their off season they were baymen and farmers, working to support their families.

In 1915 President Woodrow Wilson signed the Act To Create The Coast Guard, which authorized the merger of the Life Saving Service and the Revenue Cutter Service. The Coast Guard still performs many rescues, but through the evolution of technology many of the techniques used by the original surfmen are now obsolete.

Objectives

1. At the end of this program, students should be able to discuss the function of the USLSS in the Fire Island community, and in the larger maritime community.
2. At the end of this program, students should be able to compare and contrast how rescues were performed by the USLSS and todays modern methods.

3. At the end of this program, students should be able to explain the dangers involved in shipwrecks to both victims and rescuers.

Vocabulary

Beach Apparatus Drill	Breeches Buoy	Hawser
Lyle Gun	Nor'easter	Salvage
Stranding	Sufboat	Surfcar

Forces of Nature

Overview

Illustration 3: Surf During a Nor'easter off the lighthouse beach

This segment is a nature walk lead by a trained interpreter. The boardwalk trail is accessible to persons in wheelchairs. The trail is less than ½ mile long and will take approximately 45 minutes to complete.

1. **Walk** - will include a talk about barrier beach dynamics and local flora and fauna.
2. **1939 boat house**, which houses the USLSS equipment and various tools used by local baymen.
3. **Fresnel Lens** building which houses the original First Order Fresnel Lens 1858.

Background

Fire Island is a barrier island, approximately 32 miles long, which protects the south shore of Long Island from the potential violence of ocean storms and currents.

On the lighthouse nature trail, students can explore the natural features of the fragile barrier island, as represented by the cross section diagram of the island. The barrier island contains several different ecosystems, visible on the Fire Island Lighthouse nature trail. Each different microenvironment has unique characteristics.

Objectives

1. After the program, students should to be able to identify and discuss the cross section of a barrier island.
2. After the program, students should be able be able discuss the process of littoral drift.
3. To be able to compare and contrast the evolution of illumination technology.

Vocabulary

Accretion	Barrier Island	Bay
Dune	Primary Dunes	Secondary Dunes
Ecosystems	Erosion	Inlet
Littoral Drift	Salt Spray Pruning	Fresnel Len
Prism	Reflection	Bulls eye
Clockworks	Refraction	Rotate

Further Activities

If you wish to enhance your students' learning experience at the lighthouse, please consider having your class complete one of the activities listed below:

1. Make a model or draw a mural of the Fire Island Lighthouse showing the surrounding area.
2. Pretend you are a keeper at the Fire Island Lighthouse during a nor'easter. Write a log entry describing your day's activities, how you feel, and what you see from the watch room.
3. Research how many lighthouses there were/are on Long Island. Identify on a map,where each was located. How many of these are still in operation? Write a short report on each one. Describe how each lighthouse looked, where it was located and how far its light could be seen.
4. Imagine you are a child living at the Keeper's Quarters before electrification. What is your life like? What kind of chores do you do? Write a story about your life.
5. Ask your parents or another adult to tell you about any other buildings that have been restored in your town. Find out as much as you can about this structure. Why was it important? How was it restored? How is it used today?
6. Choose a year in which you imagine yourself to be a keeper. Maintain a lighthouse keeper's log, recording weather conditions, conditions of the tower interior and light, passing ships, shipwrecks
7. Map out a nature trail in your school's playground. Identify the different trees, plants, flowers and animals you may find there, using field reference books from the library.
8. Create a mural of the swale, salt marsh, or bay environment.
9. Produce reports on different ecosystems (native to Long Island or elsewhere).
10. Create a cross section of Fire Island, labeling all the components observed during the nature walk.

Educational Programs Offered By Fire Island National Seashore

Fire Island National Seashore (FINS) offers a variety of programs for educators and students. For assistance in scheduling a visit to Sailors' Haven, Watch Hill or the William Floyd Estate, contact Park Headquarters at (631) 687-4750.

Standards▪

NYS MST

Science the Living Environment

Standard 1 - Living things are both similar to and different from each other and nonliving things.

Standard 3 - Individual organisms and species change over time.

Standard 6 - Plants and animals depend on each other and their physical environment.

Standard 7 - Human decisions and activities have had a profound impact on the physical and living environment.

Science The Physical Setting

Standard 2 - Many of the phenomena that we observe on Earth involve interactions among components of air, water, and land.

Technology

Standard 5.5 - Technology has been the driving force in the evolution of society from an agricultural to an industrial to an information base.

Standard 5.6 - Technology can have positive and negative impacts on individuals, society, and the environment and humans have the capability and responsibility to constrain or promote technological development.

NYS Social Studies

Standard 1.1 - The study of New York State and United States history requires an analysis of the development of American culture, its diversity and multicultural context, and the ways people are unified by many values, practices, and traditions.

Standard 1.2 - Important ideas, social and cultural values, beliefs, and traditions from New York State and United States history illustrate the connections and interactions of people and events across time and from a variety of perspectives.

Standard 1.3 - Study about the major social, political, economic, cultural, and religious developments in New York State and United States history involves learning about the important roles and contributions of individuals and groups.

Standard 2.2 - Geography requires the development and application of the skills of asking and answering geographic questions; analyzing theories of geography; and acquiring, organizing, and analyzing geographic information. (Adapted from: *The National Geography Standards, 1994: Geography*)

*Source: New York State Education Department Learning Standards for Social Studies; English Language Arts; Mathematics, Science, and Technology; Health, Physical Education, and Family and Consumer Sciences; and the Arts.

Glossary

1. Accretion – growth occurring from the addition of materials
2. Barrier Island - an island which lies parallel to the mainland, separating the mainland from the ocean. This protects the mainland from the forces of the ocean storms.
3. Bay – a body of water partially enclosed by land
4. Beach Apparatus Drill – a technique used by the United States Life Saving Service, using a block and tackle to rescue victims of shipwrecks.
5. Breeches Buoy - a flotation ring with an attached pair of canvas pants (called “Breeches”) which was hauled from the shore to the ship on a hawser. Shipwreck victims would sit in the breeches buoy and be hauled to shore.
6. Clockworks - – a mechanism of weights and chains that were located in the central column of the lighthouse. It was used to rotated the Fresnel lens.
7. Day Mark - unique tower coloration/pattern assigned to each lighthouse that was used by mariners during daylight hours to help differentiate lighthouses and help determine their location.
8. Dune – piles of sand built up by the wind and waves; held in place by the extensive root systems of the beach grass
9. Ecosystems - the interaction of plants, animals and nonliving matter which form a community
10. Erosion – the process of wearing away due to natural and man made forces.
11. Fresnel Lens - a specially designed glass lens in the lighthouse containing many prisms which focus a strong beam of light.
12. Hawser - a thick rope used to connect the wrecked ship to shore
13. Inlet - a break in the barrier island chain that allows an exchange of water between the ocean and the bay.
14. Lighthouse Keeper – individual in charge of lighthouse operations.
15. Littoral Drift – the movement of sand from one location to another due to wave action.
16. Logs - journals maintained by lighthouse keepers containing daily events, weather conditions and lighthouse operation information.
17. Lyle Gun - a small cannon designed specifically to fire a shot line to a stranded ship during a rescue of the ships crew.
18. Mariners – people who worked on and operated ships.
19. Maritime Forest - a forest that grows near the ocean and is affected by salt spray.

20. Navigation – the act of steering or directing the course of a ship.
21. Nor'easter(Northeaster) - severe winter storm with winds coming from the northeast, which often led to shipwrecks.
22. Oil Lamp - a device consisting of a wick and oil (fuel), used to provide light prior to electricity.
23. Preservation – to keep something of value, such as a cultural, historic or natural resource in such a way that it retains its value.
24. Primary Dune – the larger dunes closest to the surf
25. Restoration - the process of taking a damaged/worn object and repairing it to a previous state.
26. Salvage – cargo saved from a shipwreck.
27. Secondary Dune - the smaller dunes located behind the Primary Dunes
28. Stranding - when a ship got stuck on a sandbar offshore
29. Surf Car – also called life car, this boat was partially enclosed and was attached to the Hawser line which went from shore to the shipwreck.
30. Surf boat – a rescue boat about 25' long and 2 ½' deep with a flat bottom and 6 to 8 oars.
31. USLSS – a government agency which operated lifesaving stations along the coast of the U.S. between the 1870's and 1915.
32. Whip-line - used with Hawser and shot-line to form a pulley system to carry rescue devices and shipwreck victims from ship to shore