



# The Boston Harbor Islands: Past, Present & Future

An Interdisciplinary Guide for Teachers

Developed for Boston Harbor Islands  
a national park area by



Center for Collaborative Education

## **The Boston Harbor Islands: Past, Present and Future**

### **Unit Overview**

The Boston Harbor Islands, which were added to the National Park System in 1996, offer a resource that has no parallel in the United States. Collectively, the 34 islands comprising the Boston Harbor Islands National Park Area tell the story of the area's unique geological past, its history, and the impact of people on the environment. Individually, the islands provide discrete laboratories for students to study the area's natural, geological, cultural, and historical resources right within urban Boston.

The goal of this unit is to help students develop an understanding of, and appreciation for, the Boston Harbor Islands, a National Park area. The unit provides a framework for teachers to use as they help students explore - - -first hand, through classroom-based activities and research, and visits to the Islands - - -the significance of the natural and cultural resources of the Boston Harbor Islands to the region and to their lives. By examining the impact people have had on the islands, students develop an understanding of stewardship and their role in helping to protect the islands.

This unit serves as a framework for planning an interdisciplinary study -- providing examples of questions students might choose to investigate, and learning experiences that will help facilitate their inquiry into the historical, cultural and environmental issues associated with the Islands. The Islands provide a perfect venue for interdisciplinary studies that have multiple connections to the state frameworks. (See pages 4-6 of this unit for a list of Massachusetts State Standards in Mathematics, Science and Technology, History and Social Science, and English Language Arts that this unit addresses.)

The unit has been designed with the expectation that teachers will expand and adapt it to the interests and needs of their students. Some teachers and students might use this unit to help them frame a collaborative inquiry into the Boston Harbor Islands as a National Park, or they might use it to help them figure out how to incorporate the rich resources of the Boston Harbor Islands into an already established topical unit, such as Native Americans, Geology, Ecosystems, the Civil War, or the American Revolution. (See Appendix A and Appendix B for possible curricular connections.) The intent of this unit is not to present a comprehensive unit, but rather to help teachers and students frame their own collaborative inquiry.

## Planning your Study

As mentioned above, this Unit lends itself well to implementation by an interdisciplinary team of teachers. The following provides an example of how one interdisciplinary team of 7<sup>th</sup> grade teachers approached the planning of their classes' in-depth study of the Boston Harbor Islands.

Step 1: Each teacher read the unit, *The Boston Harbor Islands: Past, Present and Future*, in its entirety and highlight activities and investigations that he or she was interested in pursuing with his or her students.

Step 2: During social studies, each class completed a KWL chart (from Learning Experience #1) documenting what the students KNOW about the Boston Harbor Islands, what they WANT to know, and setting the stage for future documentation of what they LEARN about the Islands over the course of their study.

Step 3: The interdisciplinary team met during its regularly scheduled common planning time. During this meeting the four teachers:

- analyzed data from KWL activity. Data indicated that students are curious about where the Islands are located, what's on them, who owns them, how they got there, whether they are open to the public and, if so, how to get out to them.
- determined which Learning Experience(s) and project each teacher would take primary responsibility for.
  - The mathematics teacher agreed to take the lead on Learning Experience #1, helping her students develop mathematical understandings and skills through work with maps and nautical charts, and helping them construct a scale model of the Boston Harbor Islands area. She also expressed interest in using the module *Maps and Navigation* from the *Voyage of the Mimi*, to help her students learn some of the fundamentals of navigation.
  - The science teacher will take primary responsibility for Learning Experience #2 helping students develop an understanding of the geology of the Islands, how they were formed and how they have changed over time. He also agreed to help students incorporate topographical features into their scale models and explore the role of tides in navigation and their expedition planning.
  - The english language arts teacher decided to take primary responsibility for Learning Experience #3 in which students research an island, write about it, develop a rubric for assessing their work, and present their research to the rest of the class. He also expressed interest in helping students develop and carryout their stewardship project(s) in Learning Experience #5.
  - The social studies teacher will spearhead both Learning Experience #4 (working with students to plan their Island expedition) and Learning Experience #5 (helping students develop and carry out a stewardship project. She also expressed interest in

supporting the english language arts teacher as student researched and wrote about the Islands.

Step 4: Team teachers planned the logistics for the Island Expedition(s) by contacting the education coordinator at the Boston Harbor Islands national park area and reviewing Island guides and brochures.

Step 5: Students take their Island Expedition.

- Students and their teachers took the ferry from Boston to George's Island where they divided into four groups. Two of the groups stayed on George's Island. One group took a tour of Fort Warren while another explored island tide pools. The other two groups took a ferry to Peddock's Island where they explored Native American history and investigated the geology of the islands.

Step 6: Returning to their school building, students incorporated their experience of being in the Harbor and on the Islands into their journal reflections about how they think the Islands should be used. These reflections provide a foundation for students to explore their roles as stewards of the Boston Harbor Islands as they plan and carry out their stewardship projects.

# Massachusetts State Standards

This unit addresses the following Massachusetts State Standards in Mathematics, Science and Technology, History and Social Science, and English Language Arts:

## **Mathematics Standards (from the Massachusetts Framework)**

The following Mathematics Standards are addressed throughout Learning Experience #1 as students explore maps and charts of the Boston Harbor Islands and the surrounding area and create a scale model of the Boston Harbor Islands.

- Standard 8.N.3 -- Use ratios and proportions in the solution of problems, in particular, problems involving unit rates, scale factors, and rate of change.
- Standard 8.N.11 -- Determine when an estimate rather than an exact answer is appropriate and apply in problem situations.
- Standard 8.M.1 -- Select, convert (within the same system of measurement), and use appropriate units of measurement or scale.
- Standard 8.M.4 -- Use ratio and proportion (including scale factors) in the solution of problems, including problems involving similar plane figures and indirect measurement.

## **Science & Technology Standards (from the Massachusetts Framework)**

The following Science & Technology Standards are addressed in Learning Experience #2 as students examine historical maps of Boston Harbor and consider topographical changes in the Harbor from 1630 to present day. Students deepen their understanding of the geology of the region during Learning Experience #3 as they research and write about how the Islands were formed and how they have been altered over time. In Learning Experience #4, as they plan their expedition to the Islands, students may choose to deepen their understanding of tides as part of their expedition planning.

- Earth & Space Standard 1 -- Recognize, interpret, and be able to create models of the earth's common physical features in various mapping representations, including contour maps.
- Earth & Space Standard 6 -- Describe and give examples of ways in which the earth's surface is built up and torn down by natural processes, including deposition of sediments, rock formation, erosion, and weathering.
- Earth & Space Standard 9 -- Describe lunar and solar eclipses, the observed moon phases, and tides. Relate them to the relative positions of the earth, moon, and sun.

## **History and Social Science Standards (from the Massachusetts Framework)**

The following History and Social Science Standards are addressed in Learning Experience #3 as students research and write about the Islands, in Learning Experience #4 as they explore the Islands on their class' expedition to an island, and in Learning Experience #5 as they explore the concept of stewardship and develop and carry out a stewardship project.

Learning Standard 2: Historical Understanding

- Students understand how people in the past could believe themselves justified in excluding others from their community or privileges.

- Students recognize the contingency of history and how it must be taken into account when passing judgment on people and actions of the past.

Learning Standard 7: Physical Spaces of the Earth.

- Students learn about and locate the watersheds, ecological regions, and resources of the United States.

Learning Standard 10: Human Alteration of Environments.

- Students recognize the intended and unintended consequences of technological advances on the environment.

Learning Standard 19: Citizenship.

- Students learn the ways in which individuals participate in the political process and in civic life.
- Students understand the relationship between rights and responsibilities in a democratic society.

### **English Language Arts Standards (from the Massachusetts Framework)**

The following English Language Arts Standards are addressed in Learning Experience #3 as students research and write about the Boston Harbor Islands, decide on modes for presenting their research, and develop a rubric for assessing their work; and in Learning Experience #4 as students develop and carry out their stewardship project(s).

Oral Presentation

- Standard 3.12 -- Give oral presentations to different audiences for various purposes, showing appropriate changes in delivery (gestures, vocabulary, pace, visuals) and using language for dramatic effect.
- Standard 3.13 -- Create a scoring guide based on categories supplied by the teacher (content, presentation style) to prepare and assess their presentations)

Nonfiction

- Standard 13.22 -- Identify evidence used to support an argument.

Writing

- Standard 19.26 -- Write well-organized essays (persuasive, literary, personal) that have a clear focus, logical development, effective use of detail, and variety in sentence structure.
- Standard 19.27 -- Write well-organized research papers that prove a thesis statement using logical organization, effective supporting evidence, and variety in sentence structure.

## **Theme**

Stewardship

## **Essential Questions**

Why protect the Boston Harbor Islands?

What impact have people had on the Islands?

What can I do to help protect the Islands?

## **Learning Goals**

### **Habits of Mind**

Students will develop ways of thinking and being that promote:

- Taking Responsibility: What is my responsibility to myself, to my community and to the environment?
- Making Connections: How are events, people, and the environment connected to one another?

### **Skills**

Students will develop skills in:

- Mapping and Modeling
- Group work
- Communication
  - Oral
  - Written
  - Visual
- Research

### **Content Standards**

Students will develop understanding of:

- Orientation within their local and regional areas
- Geological formations and processes
- Ratio and Proportion
- Natural, cultural, and social history of the Boston Harbor Islands
- People's impact on their environment
- Individual and governmental responsibility

## **Formative (Ongoing) Assessment**

- Student journals (ongoing reflections on stewardship)
- Teacher observations of individual and group work and discussion
- Student/teacher conferences on students' process and work
- Student self-assessment

## **Summative (Culminating) Assessment**

- Island research report/presentation
- Student journal
- Student Stewardship plan
- Student self-assessment

## **Guiding Questions**

The Guiding Questions provide points of inquiry for each of the five learning experiences. They are:

- What are the Boston Harbor Islands? Where are the Boston Harbor Islands? Where are the Islands relative to our school?
- How has the topography of the Boston Harbor Islands changed since the 1600s?
- How have the Islands been used? What impacts have people had on the islands?
- What is it like to visit one of the islands?
- What is stewardship? What can I do to help protect the islands?

# Sequence of Learning Experiences

## Learning Experience 1: Introduction to the Boston Harbor Islands

### Guiding Questions

- What are the Boston Harbor Islands?
- Where are the Boston Harbor Islands?
- Where are the Islands relative to our school?

### Overview

Students will explore what they already know and what they want to know about the Boston Harbor Islands. Through this activity, teachers gain an understanding of what students already know and questions students are curious about that could be used to guide their inquiry. Students will also explore maps in order to broaden and deepen their understanding of the Boston Harbor Islands, discover where they live in relation to the Islands, and where the Islands are located relative to each other.

### Activities

1. As a class, complete a KWL chart. Keep the chart posted in the classroom throughout the unit for students to add to.
  - What do you **Know** about the Boston Harbor Islands, a National Park Area?
  - What do you **Want** to know?
  - What have you **Learned**? (This list will be developed by the students as the unit progresses.)
2. In teams, students examine maps and nautical charts. They might want to use the following questions (or questions they generate themselves) to structure their inquiries.
  - What can you tell about these Islands by looking at these maps and charts?
  - Where are the Boston Harbor Islands located?
  - How can we get from our school to the Boston Harbor Islands?  
(Students might choose to draw a map of the route they would take to get from school to one of the Islands.)
  - How far apart are the Islands?  
(Measure distances between islands.)
3. Facilitate a whole-class discussion of small group and individual discoveries using the questions above (in #2) to guide discussion.
4. Journal Reflection. Ask students to reflect in their journals on the following question:
  - How should these islands be used?
5. Ongoing project
  - Students work in groups to create a scale model of the Boston Harbor Islands area; this might take the form of a classroom size 3-D topographical map, or a desk-sized replication made of modeling clay; or a small map drawn to scale.

## **Resources and Materials**

- Map of the Boston Harbor Islands
  - Informational brochure/map published by the Boston Harbor Islands Partnership. *Boston Harbor Islands: A National Park Area, Massachusetts*
- Local/Regional Road Maps Encompassing Boston Harbor
  - Map published by Global Graphics, *City in your pocket Map of Boston & Cambridge*
  - Map published by Arrow Map, Inc. *Greater Boston Folded Wall Map and Street Guide*
- Nautical Chart of Boston Harbor
  - Nautical chart of Boston Harbor (Chart Number 21, Edition 2, *Massachusetts Bay and Boston Harbor*, Maptech Inc. ©2000)
- For classes interested in studying maps and navigation in depth, the computer-based module *Voyage of the Mimi: Maps and Navigation* provides a comprehensive set of investigations for students to pursue. The module is available from Sunburst (Phone 800-321-7511).

## Learning Experience 2: Geology and Geography of the Boston Harbor Islands

### Overview

Students will examine maps, guides, and photographs to deepen their understanding of how the islands were formed and how the geography of the area has changed from the 1600s.

### Guiding Question:

- How has the topography of the Boston Harbor Islands changed?

### Activities

- In small groups students:
  - examine maps of Boston Harbor from different time periods (1630, 1870, 1970).
  - read information about the geology of the region.Students might want to use the following questions (or questions they generate themselves) to structure their inquiries.
  - How were the Boston Harbor Islands formed?
  - How has the area changed over time?
  - Do you think these changes were for the best? Why or why not?
- Facilitate a whole-class discussion of small group work using the questions above (in #1) to guide discussion.
- Journal Reflection. Ask students to continue to reflect in their journals on the following question:
  - How should these islands be used?
- Ongoing project
  - Students continue working on their scale model(s). They might want to consider including topographical features as they learn about the formation and geology of the Islands.

### Resources and Materials

- *Boston Harbor Seaside Educator's Guide*. Boston, MA: New England Aquarium. 2000. (Boston's Water Timeline, p. 5)
- Kales, E., and D. Kales. 1993. *All about the Boston Harbor Islands*. Cataumet, MA: Hewitts Cove Publishing Co., Inc. (Introductory, pages 1-8)
- Skehan, J. 2001. *Roadside Geology of New England*, Missoula, MT: Mountain Press Publishing Company. (Boston Harbor Islands and Peninsulas, pages 66-75)

## Learning Experience 3: Island Research

### Guiding Questions:

- How have the Islands been used? What impacts have people had on the Islands?

### Overview

Students will research the natural and cultural history of the Boston Harbor Islands and will share what they discover with other people.

### Activities

- In teams, or individually, students research the Boston Harbor Islands.
  - As a class, brainstorm, then refine, questions students might want to explore as a framework for their research. Questions guiding research might include:
    - Who owns the island?
    - How has the island been used? How is it used now?
    - How have people altered this island over time?
    - What structures (buildings or remnants of buildings) are found on the island?
    - How was the island formed?
    - What ecosystems are found on this island?
  - Students should choose from the following islands: Bumpkin, Deer Island, Gallop's, George's, Grape, Little Brewster, Lovell's, Peddock's, Rainsford, Spectacle, Thompson.
  - After completing their research, students will share what they have learned/discovered with the rest of their class and with other members of the community.
  - With students, decide on modes for presentations (written paper presented orally, poster presentation, video etc.) and develop a rubric for assessing their work.
- Ongoing project
  - Create a class timeline. As students research their islands, they should contribute interesting historical events to the timeline. These events can be from the history of the Boston Harbor Islands as it relates to the history of Boston and the United States. (If you have access to a timeline software program, such as Tom Snyder's *Timeliner*, you might want to use it as a way to integrate the use of technology into this unit.)
  - Discuss the earliest date students want to have represented on the timeline.
- Journal Reflection. Ask students to reflect again in their journals on the following question:
  - How should these islands be used?

### Resources and Materials

- Assorted Boston Harbor Islands Guides and Brochures, available from the Boston Harbor Islands national park area (617) 223-8666 ([www.harborislands.com](http://www.harborislands.com))
- Assorted maps of the region

- Map published by Global Graphics, *City in your Pocket, Map of Boston & Cambridge*
- Map published by Arrow Map, Inc. *Greater Boston Folded Wall Map and Street Guide*
- Nautical chart of Boston Harbor (Chart Number 21, Edition 2, *Massachusetts Bay and Boston Harbor*, Maptech Inc. ©2000)
- Sammarco, A. M. 1998. *Images of America: Boston's Harbor Islands*, Charleston, SC: Arcadia Publishing.
- Kales, E., and D. Kales. 1993. *All about the Boston Harbor Islands*. Cataumet, MA: Hewitts Cove Publishing Co., Inc.
- Skehan, J. 2001. *Roadside Geology of New England*, Missoula, MT: Mountain Press Publishing Company. (Boston Harbor Islands and Peninsulas, pages 66-75)
- Snow, E. R. 1971. *The Islands of Boston Harbor*, Cornwall, NY: The Cornwall Press, Inc. (Out of print.)
- *Boston Harbor Seaside Educator's Guide*. Boston, MA: New England Aquarium. 2000.
- Appendix A of this Unit, *The Boston Harbor Islands: Past, Present and Future*.

- Boston Harbor Islands Park Web Sites:
  - Boston Harbor Islands Park Reference Guide  
[http://www.bostonislands.org/manage/manage\\_park\\_overview.html](http://www.bostonislands.org/manage/manage_park_overview.html)
  - A national park area: Islands Tidbits  
<http://www.bostonislands.com/tidbits.html>
  - A national park area: Ten Islands  
[http://www.bostonislands.com/ten\\_islands.html](http://www.bostonislands.com/ten_islands.html)
  - A national park area: Trip Planning  
[http://www.bostonislands.com/getting\\_there.html](http://www.bostonislands.com/getting_there.html)
  - A national park area: FAQ's  
<http://www.bostonislands.com/faqs.html>
  - A national park area: Island Talk (Request information, ask questions about the islands, or write about your recent trip)  
[http://www.bostonislands.com/talk\\_main.html](http://www.bostonislands.com/talk_main.html)
- The History Place: American Revolution Timeline  
<http://www.historyplace.com/unitedstates/revolution/rev-early.htm>
- The History Place: The U.S. Civil War 1861-1865 timeline  
<http://www.historyplace.com/civilwar/index.html>
- TimeLiner software. Available from Tom Snyder Productions. <http://www.tomsnyder.com/>

## Learning Experience 4: An Expedition to the Islands

### Overview

The class visits one or more of the Boston Harbor Islands, exploring aspects of the Islands that they have previously researched. The expedition is most meaningful if tied into the curricular focus of the unit (ecology, history, etc.).

### Guiding Question

- What is it like to visit one of the islands?

### Activities

1. Plan a visit to one or more of the Boston Harbor Islands, then take the trip you planned.
  - As a class, decide which Island(s) you want to visit. (See Appendix A for a list of possible curricular tie-ins to specific islands.)
  - Plan the visit – What do you want to see and do on the island?
  - Decide how you will record your experiences.
  - Put the date of your visit on your previously constructed timeline.
  - Track where you are, during the visit, using maps and/or nautical charts.
  - Record your experiences (as decided above).
2. Journal Reflection. Ask students to reflect again in their journals on the following question:
  - How should these islands be used?

### Resources and Materials

- Student Research Reports (started in Learning Experience 3)
- Assorted Boston Harbor Islands Guides and Brochures, available from the Boston Harbor Islands national park area (617) 223-8666 ([www.harborislands.com](http://www.harborislands.com))
- Assorted maps of the region
  - Map published by Global Graphics, *City in your Pocket, Map of Boston & Cambridge*
  - Map published by Arrow Map, Inc. *Greater Boston Folded Wall Map and Street Guide*
- Nautical chart of Boston Harbor (Chart Number 21, Edition 2, *Massachusetts Bay and Boston Harbor*, Maptech Inc. ©2000)
- Boston Harbor Islands Park Web Sites:
  - A national park area: Islands Tidbits  
<http://www.bostonislands.com/tidbits.html>
  - A national park area: Ten Islands  
[http://www.bostonislands.com/ten\\_islands.html](http://www.bostonislands.com/ten_islands.html)
  - A national park area: Events & Programs  
<http://www.bostonislands.com/events.html>
  - A national park area: Trip Planning

- [http://www.bostonislands.com/getting\\_there.html](http://www.bostonislands.com/getting_there.html)
- A national park area: FAQ's  
<http://www.bostonislands.com/faqs.html>
  - A national park area: Island Talk (Request information, ask questions about the islands, or write about your recent trip)  
[http://www.bostonislands.com/talk\\_main.html](http://www.bostonislands.com/talk_main.html)
- Sammarco, A. M. 1998. *Images of America: Boston's Harbor Islands*, Charleston, SC: Arcadia Publishing.
  - Kales, E., and D. Kales. 1993. *All about the Boston Harbor Islands*. Cataumet, MA: Hewitts Cove Publishing Co., Inc.
  - Skehan, J. 2001. *Roadside Geology of New England*, Missoula, MT: Mountain Press Publishing Company. (Boston Harbor Islands and Peninsulas, pages 66-75)
  - Snow, E. R. 1971. *The Islands of Boston Harbor*, Cornwall, NY: The Cornwall Press, Inc. (Out of print.)
  - *Boston Harbor Seaside Educator's Guide*. Boston, MA: New England Aquarium. 2000.
  - Appendix A of this Unit, *The Boston Harbor Islands: Past, Present and Future*.
  - *National Park Service Education Program Guide* (Not yet ready for distribution.)
  - Tide Tables of Boston Harbor
    - Websites
      - <http://www.maineharbors.com>
      - <http://www.saltwatertides.com>
      - <http://www.harbertides.com>
      - <http://www.tidesonline.com>
    - Books
      - *Eldridge Tide and Pilot Book*, Published annually by Eldridge Tide & Pilot Book in Boston, MA.

## Learning Experience 5: Stewards of the Islands

### Overview

Students will explore the idea of stewardship by talking about how they take care of things in their lives that are important to them. Next they discuss National Parks and what it means to protect them. Students relate what they have learned about people's impact on the islands to their understanding of stewardship. They share ideas about their role in helping to protect the Islands.

### Guiding Question

- What is stewardship? What can I do to help protect the islands?

### Activities

1. Introduce the concept of stewardship by asking students questions such as the following:
  - What kinds of things do you take care of at home? In school? In other parts of your life?
  - What, specifically, do you do to take care of these things?
  - What is a National Park? How are the National Parks protected?
2. With students, decide on, and carry out a stewardship project for the Boston Harbor Islands. Project ideas might include:
  - Create a class list of ideas for how people can take care of the Islands, and share the list with other members of your community.
  - Discuss the following scenario: You have been asked by the National Park Service, the designer of the park's management plan, to provide recommendations for taking care of the islands. What comments, suggestions and recommendations would you offer?
  - Create a public information sheet in which students can inform their communities about the Boston Harbor Islands.
  - Write a personal essay on stewardship.
  - Invite other people to visit the Boston Harbor Islands.
  - Relate the idea of stewardship to other contexts/situations.
3. Journal Reflection. Ask students to reflect once more in their journals on the following question:
  - How should these islands be used?

### Resources and Materials

- The National Park Service: Who We Are  
<http://www.nps.gov/legacy>
- Criteria for Parklands  
<http://www.nps.gov/legacy>
- The Park: Renewal and Reconnection  
[http://www.bostonislands.com/manage/manage\\_park\\_themes\\_renewal.html](http://www.bostonislands.com/manage/manage_park_themes_renewal.html)
- *Boston Harbor Seaside Educator's Guide*. Boston, MA: New England Aquarium. 2000.

## Appendix A

The following are descriptions of the natural, cultural and social history of selected Boston Harbor Islands to use to determine specific connections to your curriculum.

### **Bumpkin Island** [DCR ( Massachusetts Department of Conservation and Recreation)]

Thirty-five acres in area, Bumpkin Island was used by fishing and farming people from the 1600s. It was farmed until 1682, when its owner, Samuel Ward, donated it to Harvard College. The island was apparently used as a place to dry fish and farm in the 1800s, and in 1901 a hospital for paraplegic children was located on top of the islands' drumlin. In 1917, the U.S. Navy was given use of the island and built barracks for some 1300 sailors there the next year; the 58-building complex was razed after the war.

The stone foundations of a farmhouse, the ruins of the children's hospital, and a derelict orchard remain today as evidence of the human uses of the island. There are twelve campsites, three picnic areas, hiking trails, and wooded areas but no potable water on the island.

Bumpkin has a dock and is served by the water shuttle. The island is owned by the state and managed by the DCR ( Massachusetts Department of Conservation and Recreation).

### **Deer Island**

Deer Island's human history is nearly as varied as that of Long Island. Nearly a mile long and 210 acres in area, it is the second-largest island in the harbor. Farmed in the 1700s, it is said to have acquired its name from the fact that mainland wolves drove deer to the island across Shirley Gut, a channel that was filled in 1936. Hunters thus favored the island from an early time, at least until Colonial-era lumbering left the island largely deforested. During King Philip's War (c. 1675), Deer Island was used as an internment camp for American Indians captured in the war. The island was fortified in World War II.

In the early 19<sup>th</sup> century Deer Island was a popular summer resort, but an 1847 outbreak of smallpox prompted the creation of a quarantine hospital here. In 1858, this facility became the House of Reformation, for delinquent young boys; in 1896 it was again reconstituted as the Suffolk County House of Corrections. Used until just recently, the facility was relocated to the South Bay area to accommodate the current expansion of the Massachusetts Water Resources Authority (MWRA) sewage treatment plant.

The MWRA plant is the most recent of a series of wastewater facilities that have been located on the island since 1889. In that year, a sewage pumping station was installed next to the House of Reformation. By the 1950s, the station was modified to treat sewage, and in 1968 the Metropolitan District Commission (MDC), predecessor agency to MWRA, expanded the facility to serve as the main treatment plant for the 43 cities and towns embraced by the authority. When the Boston Harbor Project was initiated in 1985, Boston transferred ownership of Deer Island to MWRA. The Deer Island facility will be the largest sewage treatment plant in New England when construction is complete in 2001.

Connected by land to the town of Winthrop, Deer Island consisted of two drumlins. The one in the center of the island was leveled for the first treatment plant; in the current expansion, the hill was shifted to the north side of the island to create a buffer that would mitigate the impacts of plant construction and operation. From this hill, visitors to the islands will once again be able to see the town of Winthrop. Ring-necked pheasants, red-winged blackbirds, and other songbirds populate the island.

**Gallop's Island** [DCR ( Massachusetts Department of Conservation and Recreation)]

**(No visits are permitted right now due to asbestos contamination.)**

Just west of George's and Lovell's islands, Gallop's Island is named for Captain John Gallop and was farmed in the 1700s and early 1800s. The 16-acre island, comprised of a high drumlin surrounded by shrubs and trees, was in the 1830s a popular summer resort with an inn and restaurant, whose trade was perhaps enhanced by the island's romantic association with pirates. Harbor historian Edward Rowe Snow claimed that the pirate Long Ben Avery buried a fabulous treasure of diamonds on the island. Just north of Gallop's on Nix's Mate (a channel marker that once was an island), pirates are said to have been hung from chains before being buried as a warning against illegal maritime activity.

Gallop's Island's resort years ended in 1866 when it became first a Civil War camp, and then the new site of the quarantine station that had earlier operated on Deer Island. Then, in 1916, the United States Public Health Service established an immigration station on the island to process thousands of immigrants entering the United States through Boston. During the Second World War, a U.S. Maritime Radio School occupied Gallop's Island; foundations of both can still be seen. In 1947, the federal government sold the island at public auction, and for some time it served as a dump for building debris.

Gallop's is served by the water shuttle. A public dock is open during the summer season. The island features a sandy beach and visitors find impressive views of Boston Light and the city skyline from its grassy bluffs. There are trails, picnic areas, and composting toilets, but no water is available.

**George's Island** [DCR ( Massachusetts Department of Conservation and Recreation)]

Granted to James Pemberton in the 1600s, George's Island is significant largely for its strategic location, just south of the main ship channel in Boston Harbor and just north of the shipping channel known as Nantasket Roads. Its position may explain why the 28-acre island became a federal property in 1825 and why, eight years later, Fort Warren was built on it.

Today, the island is largely occupied by the fort, a partially restored National Historic Landmark. During the Civil War, Union soldiers were trained here and Confederate soldiers imprisoned. Historian Edward Rowe Snow has asserted that Fort Warren "has more memories of the Civil War days than any other place in New England." Another historian has claimed that soldiers working on the fort's parade ground invented the lyrics to "John Brown's Body." Set to the tune of a popular hymn, the song was so popular among Union troops that President Lincoln is alleged to have asked Julia Ward Howe to write a patriotic poem to the same melody, what became "The Battle Hymn of the Republic."

Today, George's Island is the centerpiece of the 16 islands that form Boston Harbor Islands State Park. Seven miles from downtown Boston, the island contains the park's visitor center, a large dock, picnic grounds, and a gravel beach. It is operated for the state by the DCR, Massachusetts Department of Conservation and Recreation and accessible by passenger ferry from Long Wharf and Quincy).

**Grape Island** [DCR ( Massachusetts Department of Conservation and Recreation)]

Native Americans are said to have favored the tidal flats of this 50-acre island for shellfishing. Archeologists have discovered middens on Grape Island. Known for its abundant grapes in Colonial times, the island was the site of a Revolutionary skirmish known as the Battle of Grape Island.

Just 500 yards from the mainland at Weymouth, the island is essentially two large drumlins, one of them more than 70 feet above sea level, with widely different topography at each end. One flat-topped drumlin ends in rock outcroppings at the northern end; the southern end is a gradual slope with tidal salt marshes and swimming beaches. This low-lying southern end features a thick cover of bayberry and blackberry shrubs that support a large population for songbirds. There are also wooded areas and excellent views of the mainland; thus the island is popular with runners and hikers. Grape Island offers picnic areas, campsites, trails, and the remains of a farmhouse, and it is accessible by water shuttle during the summer season.

**Little Brewster** (U.S. Coast Guard)

This four-acre island is best known as the home of Boston Light (1716), the first lighthouse to be built in the United States and the last to be staffed. A National Historic Landmark, the lighthouse flew the Union Jack each time it sighted an approaching ship – signal to observers at Castle Island that the city should prepare its defenses. Today, Boston Light can be seen 27 miles away in clear weather. Three years after Boston Light was built, the colony installed a cannon on the island whose shot would guide ships in distress during thick fog. This cannon, the first fog signal in the Coast Guard, has recently been restored and returned to the small Coast Guard museum in the base of the lighthouse.

Variouly known as Lighthouse of Beacon Island, Little Brewster has a rugged shore of cliffs, ledges, and beach. The ocean-facing side of the island is eroding significantly. At low tide, a sandbar connects the small island to Great Brewster. On the island are the lighthouse keeper's three-bedroom house, a structure housing a 250-gallon cistern, two other small buildings, and a pier. Access is seasonal by guided tours.

**Lovell's Island** [DCR ( Massachusetts Department of Conservation and Recreation)]

Locate one-and-a-half miles from Deer Island and separated from Gallop's Island by the shipping channel called The Narrows, this 62-acre island is named for Captain William Lovell, an early settler of Dorchester. Used for agriculture in its earliest days, the island is best known for the shipwreck of the 74-gun French warship *Magnifique* that occurred off its inner shore in the 1700s. Lovell's Island was fortified before and during the First World War. Four gun batteries that predate the war and other military structures from the wartime outpost Fort Standish remain on the island.

Accessible by private boats and by public water shuttle from George's Island, Lovell's offers a supervised swimming beach, boat and fishing piers, picnic grounds, walking trails, permit camping, and public restrooms. It also features salt marshes, woods, meadows, and dunes.

Peddock's Island [DCR ( Massachusetts Department of Conservation and Recreation)]  
The third-largest (188 acres) of the Boston Harbor Islands, Peddock's Island is a quarter of a mile from Hull across Hull Gut. It has the longest shoreline of any island in the harbor and is composed of five drumlins connected by sand or gravel bars called tombolos. It is one of few harbor islands to yield evidence of possible prehistoric habitation: in the late 1960s, a summer resident digging in her garden unearthed a male skeleton that carbon dating established to be 4,100 years old. It is the oldest skeleton ever found in New England. Peddock's, unlike nearly every other island in Boston Harbor, remains inhabited; it is the only one with a year-round population (albeit small; only two people live here), and numerous families still summer on Peddock's, even though it has no telephones or electricity. There is still a chapel on the island.

In 1634, when it was granted to Charlestown, Peddock's Island had been used by farmers. But its proximity to the mainland gave it a prominent military role. It is said to have been the site of a patriot infantrymen's raid on a Loyalist farm; 800 cattle and sheep were confiscated from the island farm and taken to the mainland. In 1776, some 600 Patriot militiamen were stationed on the island to guard the harbor against the return of British troops.

In 1900, the federal government built Fort Andrews on Peddock's Island; it is likely eligible for the National Register. Today, 26 structure, including guardhouses, prisoner-of-war barracks, stables, a gymnasium, and a firehouse, stand in various states of disrepair on an 88-acre site on the island's east head.

The island, with its fort, is owned by the state and managed by [DCR ( Massachusetts Department of Conservation and Recreation)], and features varied environments. On its east head are dense woods of maple, pine, apple, cottonwood, and birch. A popular sand spit beach with dunes, beach plums, and wild roses is in the middle of the island, and on the west end is a salt marsh with marsh grass, cattails, and milkweed. Camping is allowed by permit only, and people use the island for hiking and sightseeing. It has modest visitor facilities, including public toilets, and is accessible by public vessel.

### **Rainsford Island (City of Boston)**

Owned by the City of Boston, Rainsford Island is 11 acres composed of a large east head and small west head connected by a sand spit. It was named for one of the earliest recorded settlers, Edward Rainsford, who had a farm there as early as 1636. In 1737, a facility to quarantine persons with smallpox and other infectious diseases was moved there from Spectacle Island, and hundreds of victims are thought to have been buried in the island's cemetery. The quarantine facility operated as needed until 1852, and when no communicable disease afflicted Boston and its environs an inn was permitted to operate on Rainsford.

In 1852, the Commonwealth purchased the quarantine hospital with an eye toward creating an almshouse; then, in 1866, the City of Boston bought the facility and converted it into a municipal poorhouse. After the Civil War, a number of veterans lived on the island until their transfer to the

Soldiers Home in Chelsea in the 1880s. The island then became a home first for female paupers and then for delinquent boys. This last incarnation, the Suffolk School for Boys, was closed in the 1920s and its students transferred to reformatories in Shirley, Westborough, and other towns.

Rainsford Island today is largely open field with a small stand of hardwoods on its east head (a drumlin) and slate outcroppings, relatively rare on the harbor islands, on the west head. There are ruins of its many institutions and perhaps also of a fishing village that existed for a time on the island. It offers two curving fine-gravel beaches, but the constant pounding of ocean and northeastern winter storms has created a major erosion control problem. It is accessible to private boats. No water is available, and all trash must be carried off the island.

**Spectacle Island** [DCR ( Massachusetts Department of Conservation and Recreation and City of Boston)]

Just west of Long and southeast of Castle Island, Spectacle Island got its name because its two drumlins, East and West Spectacle, are connected by a sandbar; at low tide, the island resembled a pair of eyeglasses. The 97-acre island was privately owned and used for agriculture in the 1660s, but in 1717 it became the site of a quarantine hospital for victims of infectious disease. Twenty years later the hospital was moved to Rainsford Island, and Spectacle became a summer resort with tow hotels (and illegal gambling) in the 19<sup>th</sup> century. After 1857, this island was also the site of a factory that rendered dead horses for horsehair, hides, glue stock, bones, and neatsfoot oil.

The island's fortunes took another odd turn in the 1950s, when the City of Boston purchased it and began to fill its sandbar with municipal trash. The fill reached a depth of 70 feet before the dump was abandoned in 1959, and it gave the island its saddle shape. Discussion of possible future uses of the island was, for a time, tabled because of the need to stabilize the landfill and the island's seriously eroded eastern cliffs. With the announcement of plans to build a third tunnel under Boston Harbor to Logan International Airport and to depress the city's Central Artery, Spectacle was designated to receive fill from harbor dredges. The island's basic shape has once again been modified by the closing and capping of a former landfill and the creation of the highest peak in Boston Harbor. The island will feature a visitor center, marina, two sandy beaches, five miles of pathways, and 360-dree views of the city and the harbor. The island is planned to be open to the public in the future. It is now jointly owned by the city of Boston and the state, manage by [DCR ( Massachusetts Department of Conservation and Recreation).

**Thompson Island** (Thompson Island Outward Bound Education Center)

One of two privately owned islands in the group (World's End is the other), Thompson Island is the site of the earliest documented European use of these islands. French traders had used the island, and in 1626 David Thompson built a post there to trade with the Neponset Indians. In 1833, the Boston Asylum for boys was moved to the island, and in 1835 the asylum merged with the Boston Farm School Society to become the Boston Farm and Trade School. The vocational and farming emphasis of the school survived until the middle of this century, when a new academic curriculum stimulated another change of name to Thompson Academy.

At 157 acres, one of the larger harbor islands, Thompson has a drumlin and a moraine; oak, linden, tamarack, maple, sumac, and birch trees; open fields with a variety of wildflowers and

berry bushes, a pond; and 50 acres of saltwater marshes. A number of songbirds and shorebirds nest or roost on the island.

Today, owned and operated by Thompson Island Outward Bound Education Center, Thompson Island fulfills a vital educational role for children and adults from Boston and the surrounding metropolitan area. It is the site of an Outward Bound program for inner-city youth that strives to bring together students of varying race, ethnicity, and class in an ambitious outdoor learning program. An estimated 32,000 people visit Thompson Island each year. The campus includes a residence hall housing 150 persons, an auditorium, a gymnasium, dining and conference areas, environmental study areas, a challenge adventure course, and trails. Thompson Island has a beach of more than 300,000 square feet, public bathrooms, boat and fishing piers, and a visitor information and education center; it is accessible by its own boat service.

## **Appendix B**

The following information can be used to help you integrate the natural and cultural history of the Islands into a study of Native Americans, Geology, Ecosystems, the Civil War, or the American Revolution. The locale, their natural history, and their long-standing cultural history, that extends long before European settlement, gives the Boston Harbor Islands lasting value. Through a study of any of these topics, we hope that stewardship of the region will become a common public purpose.

### **Native Americans and the Boston Harbor Islands**

#### **Island Use**

- Archaeological evidence shows that Native Americans have lived on or used the islands for at least 8000 years.
- Different cultural groups using the islands likely included the Moswetuset, Mashpee, Wampanoags and the Nipmuks.
- Prior to European contact Native Americans lived on the islands from early spring to late autumn.
- During the thousands of years of Indian use, the natural environment was sustained and a deep connection was developed between Native Americans and the islands.
- Native Americans fished in harbor waters and cleared fields and parts of the forest to plant crops of corn, beans, and squash. They also gathered wild berries and other plants for food and medicine, and hunted animals and fowl. According to the remains that have survived to modern times, the most common animals on the islands were deer, cod, and softshell clams.
- Archeological evidence indicates that Native Americans used the islands for tool manufacturing and also for social and ceremonial activities.
- In 1626, Thompson Island was a Native American trading post.
- Deer Island was one of several islands used for internment camps for Native Americans during King Philip's War. (See description below.)

#### **Interactions between Native Americans and Euro-American Settlers**

- When English settlers arrived, Native Americans still regarded the islands as their home and remained until Euro-American settlers started encroaching on their land.
- Beginning in 1675 American colonists engaged in a major war with the Native Americans. It came to be known as King Philip's War. (King Philip was the name the English called Metacom, the Wampanoag sachem.)

- King Philip's War had far-reaching and long-lasting effects on Native American communities in the region and on the relations between Native Americans and Europeans.
- As the Native American resistance intensified, and more colonial villages were attacked and burned, the English fear of the Native Americans grew.
- The significance of the islands during the period of King Philip's War is not due to battles fought there but because of the forced removal of Native Americans to the islands.
- Prior to the start of the war a number of "praying towns" had been established within Massachusetts Bay where natives were tolerant of, and living amongst, their European neighbors. As colonial settlements expanded, many Native Americans were displaced to the Indian praying villages and towns.
- During the winter of 1675-76, the Massachusetts Bay Colony decreed that the inhabitants of the "praying towns," such as Natick, be relocated. On October 30, 1675, a large body of Christian Indians was forced in shackles to the Charles River and, on three vessels, transported to islands in the harbor. The majority of those relocated were taken to Deer Island where they were incarcerated.
- Later some Native Americans were forced to other islands, probably Peddocks Island, Long Island, and one of the Brewster islands.
- Accounts vary widely as to how many Native Americans were removed to the islands. Historians, using written records, give the range as between 500 and 1,100. Some Native Americans now believe that traditional (non-Christian) Native Americans were not counted by the Colonists and so the numbers were much higher. Historical records indicate that as many as one-half of Native Americans died of starvation, exposure, and lack of appropriate medicines in what has been called a concentration camp. The General Court of Massachusetts, referring to Native Americans on the islands, proclaimed "that none of the sayd indians shall presume to goe off the sayd islands voluntarily, uponn payne of death . . . ."
- After the war, those who survived the island internment continued to face dire relations with the colonies.
- Records indicate that the colonial government sold some Native Americans into slavery, or indentured them to English families. Other praying Indians, who were released, moved into and strengthened Christian Native American settlements.
- Praying Indians also dispersed to other Native communities including the Nipmucks, Nipmucs, Wampanoags, and Abenakis (Penobscots) and to communities farther south, west, and north in Canada.
- The scope of King Philip's War extended west, beyond the Berkshire Mountains, south to Long Island Sound, and north into present-day Maine. However, the events referenced above

are those most directly associated with Boston Harbor Islands. The island focus stems from the park's enabling legislation which highlights the importance of understanding the history of Native American use and involvement with the islands, and calls for protecting and preserving Native American burial grounds, particularly those connected with King Philip's War.

- This Congressional recognition of the importance of Native American history and of King Philip's War has raised public awareness around these topics. It has also raised park managers' sensitivity to the complex issues surrounding the management and interpretation of island resources associated with Native American use of the islands. This recognition and awareness complements a broad range of federal and state initiatives to protect Native American sacred, cultural, and historic sites in collaboration with Indian tribes. The establishment of the park has also brought a new focus for tribes with cultural affiliation to the islands and their resources. Paramount among the many concerns expressed by Native American people is that any burial grounds or sacred sites be protected and treated with respect by all.
- Presently, Native Americans return to Deer Island every year in October to solemnly commemorate their ancestors' suffering.

## **Geology and The Boston Harbor Islands**

### **Island Formation**

- Boston Harbor is part of the Boston Basin, a topographic lowland underlain by sedimentary layers deposited at the end of the Precambrian time.
- Where bedrock is exposed (Calf Island, the Brewsters, and small islands near Hingham), it is a shaly to slaty formation called Cambridge Argillite which was deposited on the muddy floor of an ocean dating back some 570 million years.
- In the past 100,000 years, two separate periods of Pleistocene glaciation formed the hills that cap most islands of Boston Harbor and created the local drainage system, consisting of the Charles, Mystic, and Neponset watersheds.
- The cores of many harbor islands are drumlins. Drumlins are glacier-formed, asymmetrical, elongate masses of till formed into smooth-sloped hills on the Boston Basin lowlands. In profile, they look like upside-down teaspoons.
- As the climate warmed and the glacier receded from the Boston area some 15,000 years ago, the melting of glacial ice raised the level of the ocean, eventually creating this section of the basin and isolating the islands.
- Drumlins may occur as scattered single hills, or in so-called "swarms." The Boston Harbor Islands are a geological rarity, part of the only drumlin swarm in the United States that intersects a coastline. This "drowned" cluster of about 30 of more than 200 drumlins in the

Boston Basin are not all elongate in shape, as most other drumlins are (molded in the direction of glacial flow). Geologists believe the islands illustrate two separate periods of glacial action. Many of the islands have more than one drumlin.

### **Shaping of the Islands**

- Natural coastal processes continue to reshape the island landforms, from sea level rise (as part of climate changes) to northeast storms.
- Rates of erosion on the islands can be dramatic. In general, the highest rates of beach erosion occur along beaches facing north and east, which are the dominant directions for winds and seas in these storms. The shifting shores of Thompson Island illustrate this process of erosion and sedimentation.
- Human use of the islands also effects erosion by removal of vegetative cover promoting erosion, or by structures built to prevent erosion.

### **Geology of Specific Islands**

- Every island within the park, except for those composed largely of bedrock, has beach areas lining portions of its shores.
- The beaches generally most attractive to recreational users in the park are found on Spectacle (recently replenished), Long, Lovells, and Gallops islands and are primarily sandy and possess comparatively few biological resources.
- Rocky beaches, however, such as at Peddocks, provide excellent habitat for invertebrates and the animals that feed on them.
- Small barrier beaches have been identified on portions of Great Brewster, Gallops, Peddocks, Bumpkin, Long, Rainsford, and Thompson islands.
- Two islands within the park, Lovells and Long, have dunes. Lovells has the more extensive dune system, whereas Long Island's dunes are in one discrete area on its southern shore.
- At 188 acres, Peddock's is one of the largest, most diverse islands in the harbor. With the longest shoreline of any harbor island, Peddock's is composed of four headlands, connected by sand or gravel bars called tombolos.
- The slate bedrock (underlying the entire harbor region) is visible as an outcrop on the bluff at Grape Island. Bedrock is also exposed on Calf Island, the Brewsters, and small islands near Hingham.

### **Boston Harbor Islands Ecosystems**

Boston Harbor is an “estuary” system where the salt water of Massachusetts Bay mixes with fresh water from three rivers: the Charles, the Mystic, and the Neponset. The harbor shores include six of Boston's neighborhoods (East Boston, Charlestown, North End, Fort Point, South Boston, and Dorchester) and seven other municipalities: Hull, Hingham, Weymouth, Quincy,

Chelsea, Revere, and Winthrop. Although it has extensive development on its edge, the estuary provides valuable habitat for wildlife, a nursery for marine organisms, water filtration, and flood control.

The Boston Harbor Islands support complex natural communities adapted to coastal and island life. The islands and surrounding estuary have been home to a rich diversity of plant and animal life for millennia.

### **Wetland and Aquatic Marine Vegetation and Wildlife**

- The Boston Harbor Islands provide shelter and food-rich habitats for marine birds, mammals, fishes and invertebrates, as well as nurseries for their young.
- Much of the Gulf of Maine fauna can be found in Boston Harbor, especially around the Brewsters.
- The once-plentiful eelgrass is the only type of seagrass now present in Boston Harbor. It is now confined to only four isolated areas, the largest of which is near the south coast of Bumpkin Island. Seagrass beds are critical wetlands components of shallow coastal ecosystems where they hold sediment, providing food and cover for a great variety of animals.
- Salt marshes, the most highly productive ecosystems in the world, are dominated by saltwater cordgrass and provide habitat for many marine organisms. More than 50 percent of the state's salt marshes have been filled. The largest remaining salt marshes on the islands are found on Thompson and Snake islands. Smaller brackish marshes have been identified on Calf, Grape, Lovells, and Peddocks. Mud flats, which generally occur on the periphery and at the expanding edges of salt marshes, are found on Raccoon, Snake, and Thompson islands.
- Lobsters, crabs, and clams inhabit submerged portions of the islands. Mussels and barnacles cling to the intertidal zone. Jellyfish live in the surrounding waters. Several species of fish including striped bass, bluefish, and winter flounder, live in waters surrounding the islands. Little Brewster, Nixes Mate, Shag Rocks, and other islands characterized by bedrock outcroppings contain rocky intertidal communities of rockweed and barnacles.
- Harbor seals haul out on some of the outer islands. Because their feeding grounds or migratory routes are nearby, humpback, fin, minke, and North Atlantic right whales and white-sided and striped dolphins are potential, though rare, visitors, as are harbor porpoises.

### **Terrestrial Wildlife**

- The diversity of upland and marine habitats provides good nesting and feeding opportunities for a number of bird species. Field surveys have identified more than 100 bird species including gulls, terns, herons, ducks, geese, hawks, plovers, sandpipers, doves, owls, woodpeckers, and perching birds.

- During migration, large numbers of shorebirds use the mudflats and salt marshes around the harbor, while transient hawks and songbirds use the more remote islands. In late fall and winter great flocks of waterfowl gather in the harbor waters.
- A few species of terrestrial mammals, including exotic species, occur throughout the islands. These include cottontail rabbits, raccoons, skunks, gray squirrels, mice, muskrats, voles, and Norway rats. Some species have been known to devastate populations of small vertebrates and nesting birds.
- Eastern garter snakes, Northern brown snakes, and Eastern smooth green snakes are known to live on the islands.
- Dozens of Great Black-Backed and Herring gulls nest on Gallops Island each spring.
- Sea gulls may seem numerous today. But, in the 1800s gulls were hunted almost to extinction for their feathers. Apple and pear trees remain on Bumpkin from the island's agricultural past.
- Hundreds of Brant, a small goose, stop on George's Island each spring and Snowy owls have been seen there during the winter.
- Lovell's Island has a large population of European hares, introduced during the 1940s and 1950s.
- Little Brewster and nearby Shag Rocks offer roosting sites for Cormorants that fish the waters nearby; Cormorants are sometimes called Shags in Britain.
- Tidal flats at World's End attract thousands of migrating shore birds each autumn.
- Marshes on Thompson Island serve as a nursery for fish and shellfish and a stop-over for migrating shore birds in the spring and fall.

### **Upland Vegetation**

- The flora of the islands reflects a long history of human alteration, including introduction of a large number of invasive exotic species.
- It is thought that the islands' drumlins were covered with mature forests of hemlock, maple, oak, pine, and hickory, which were cleared to support agriculture and pasturage, and to supply firewood for fuel. In addition, the construction of the islands' massive fortifications severely disrupted much of the native flora.
- Thorough documentation of the characteristics of the terrestrial environment is just beginning, but successional species including aspen, pine, birch, and white poplar are clearly evident on most of the islands.

- Native Americans farmed the land as did the colonial settlers. The remnants of attempts at subsistence farming are evident in the appearance of apples, pears, grapes, chives, garlic, asparagus, and horseradish.
- Today, patches of undisturbed native flora are rare on the islands. The vegetation on most of the islands is dominated by grasses and sumac.
- The owners of Worlds End and Thompson Island have continued to manage expansive grasslands that are part of the cultural landscape. Worlds End and Thompson Island have communities of mixed oak forest; on Thompson they cover approximately one-tenth of the island.

### **Protected Species**

- The park protects six rare species including four protected bird species (Least Tern, Northern Harrier, Common Tern and Barn Owl) and two protected plant species (Sea-beach Dock and American Sea Blite).
- The U.S. Fish and Wildlife Service reports several federally listed endangered and threatened species of fish, turtles, birds, and mammals near or in coastal waters of Massachusetts, but not known to be found among the Boston Harbor Islands. There are no island species on the federal list.

## **The Civil War and the Boston Harbor Islands**

### **Fort Warren**

- The partially restored Fort Warren, an impressive granite Third System fortification designated as a National Historic Landmark, has stood on George's Island as a major defensive post for the protection of the harbor in every conflict from the Civil War through World War II.
- Fort Warren was built between 1834 and 1860 of massive blocks of Quincy granite.
- During the Civil War, Union soldiers were trained at Fort Warren and Confederate soldiers were imprisoned there.
- Fort Warren is said to be inhabited by "The Lady in Black," the ghost of a prisoner's wife.
- Historian Edward Rowe Snow has asserted that Fort Warren "has more memories of the Civil War days than any other place in New England."
- Another historian has claimed that soldiers working on the fort's parade ground invented the lyrics to "John Brown's Body." Set to the tune of a popular hymn, the song was so popular among Union troops that President Lincoln is alleged to have asked Julia Ward Howe to write a patriotic poem to the same melody, what became "The Battle Hymn of the Republic."

### **Gallops Island**

- Gallops Island quartered the Mass 54th Colored Regiment during the Civil War. Their story was later immortalized in the movie "Glory."

## **The American Revolution and the Boston Harbor Islands**

- The Boston Harbor Islands played an important strategic role during the Revolutionary War.
- Used by farmers since 1634, Peddock's Island's proximity to the mainland ensured a prominent military role for the island. Said to be the site of a patriot infantrymen's raid on a Loyalist farm, Peddock's also saw over 600 patriot militiamen stationed on the island in 1776 to guard the harbor against the return of British troops.
- Grape Island never hosted any military fortifications, though in 1775 it was a site of a skirmish over hay during the Revolutionary War. This skirmish is known as the Battle of Grape Island.
- Boston Light, located on Little Brewster, was largely destroyed by the British when they evacuated Boston at the close of the Revolutionary War, but was rebuilt in 1783.