# National Park Service
# Cultural Landscapes Inventory
# 2022




**Bodie Island Light Station**

**Cape Hatteras National Seashore**

**[Internal Review/Park Review/SHPO Review]**

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# Chapter 1: General

## Region

Southeast

## Park Alpha Code

CAHA

## Park Org Code

5190

## Resource Type

Cultural Landscape

## Resource Classification

Cultural Landscape

## Inventory Status

Complete

## Resource ID

550075

## Resource Name

Bodie Island Light Station

## Parent Landscape

N/A

## Parent Resource ID

N/A

## State

NC

## Park Name

Cape Hatteras National Seashore

## Cultural Landscapes in the Cultural Resources Inventory System:

CRIS is the National Park Service's database of cultural resources on its lands, consisting of archaeological sites, historic structures, ethnographic resources and cultural landscapes. The set of CRIS records for cultural landscapes is referred to as CRIS-CL. CRIS-CL records conform to a standardized data structure known as the Cultural Landscapes Inventory (CLI).

The legislative, regulatory and policy directions for conducting and maintaining the CRIS are: Section 110 of the National Historic Preservation Act, NPS Management Policies (2006), Director's Order 28 (Cultural Resources) and Director's Order 28a (Archeology).

The Cultural Landscapes Inventory (CLI)
The CLI is the data structure within CRIS used to document and evaluate all potentially significant landscapes in which NPS has, or plans to acquire any enforceable legal interest. Each CRIS-CL record is certified complete when the landscape is determined to meet one of the following:

Landscape individually meets the National Register of Historic Places criteria for evaluation; or, Landscape is a contributing element of a property that is eligible for the National Register; or, Landscape does not meet the National Register criteria, but is managed as cultural resources because law, policy or decisions reached through the park planning process.

Cultural landscapes vary from historic sites, historic designed landscapes, historic vernacular landscapes to historic ethnographic landscapes, but may also fit within more than one type. Those eligible for the National Register have significance in the nation's history on a national, state or local level, as well as integrity or authenticity.

The legislative, regulatory and policy directions for conducting and maintaining the CLI within CRIS are: *National Historic Preservation Act of 1966 (16 USC 470h-2(a)(1)). Each Federal agency shall establish…a preservation program for the identification, evaluation, and nomination to the National Register of Historic Places…of properties…*

*Executive Order 13287: Preserve America, 2003. Sec. 3(a)…Each agency with real property management responsibilities shall prepare an assessment of the current status of its inventory of historic properties required by section 110(a)(2) of the NHPA…No later than September 30, 2004, each covered agency shall complete a report of the assessment and make it available to the Chairman of the Advisory Council on Historic Preservation and the Secretary of the Interior…*

*Executive Order 13287: Preserve America, 2003. Sec. 3(c) each agency with real property management responsibilities shall, by September 30, 2005, and every third year thereafter, prepare a report on its progress in identifying…historic properties in its ownership and make the report available to the Councill and the Secretary…*

*The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act, 1998. Standard 2: An agency provides for the timely identification and evaluation of historic properties under agency jurisdiction or control and/or subject to effect by agency actions (Sec. 110 (a)(2)(A) Management Policies 2006. 5.1.3.1 Inventories: The Park Service will (1) maintain and expand the following inventories…about cultural resources in units of the national park system…Cultural Landscape Inventory of historic designed landscapes, historic vernacular landscapes,…and historic sites…*

*Cultural Resource Management Guideline, 1997, Release No. 5, page 22 issued pursuant to Director's Order #28. As cultural resources are identified and evaluated, they should also be listed in the appropriate Service-wide inventories of cultural resources.*

## Landscape Description

SIGNIFICANCE SUMMARY

The following is from the Bodie Island Light Station Cultural Landscape Report (Hitchcock 2014).

The light station is located on Bodie Island of the Cape Hatteras National Seashore in Dare County, North Carolina. The station is set back about eight- tenths of a mile from the Atlantic Ocean and one hundred yards or so from the marshy Roanoke Sound to the west. Between the shoreline and the lighthouse is NC 12, connecting the communities of Nags Head, about 11 miles to the north, and Hatteras, about 50 miles to the south. The Bodie Island Light Station encompasses a striking combination of historic resources and a near pristine marine environment.

The Bodie Island Light Station was listed on the National Register in 2003. It is significant in the areas of architecture, engineering, maritime history, and transportation. The centerpiece of the original 15-acre site is the 1872 brick tower and cast-iron lantern with an attached brick oil house/ workroom. The tower reflects a standardized design used for many first-order lighthouses, a standardization process begun by the U.S. Light-House Board after its establishment in 1852. The Bodie Island Lighthouse retains its 1871 Fresnel lens, and several contributing features remain in the historic station cultural landscape (Clifford 2002, 5-6, 17).

The period of significance is from 1872 to 1956. It begins in 1872 with the construction of the light tower, oil house, double keepers' quarters, and outbuildings, and ends in 1956 with the construction of the entrance road and parking area. The lighthouse, with its Fresnel lens in place, was a critical federal aid to national and international navigation from 1872 until 1953, when the light station was declared surplus by the USCG and acquired by the Cape Hatteras National Seashore. Development at the site ended in 1956 when the NPS completed an access road and parking area, designed by the Eastern Office of Design and Construction.

ANALYSIS AND EVALUATION SUMMARY AND CONDITION

The Bodie Island Light Station Cultural Landscape maintains integrity of location, setting, feeling, workmanship, materials, and association. The station retains a nineteenth and early twentieth-century appearance with few modifications. Landscape characteristics such as buildings and structures, spatial organization, small-scale features, and circulation reflect the period of significance and largely remain intact. The cultural landscape is in 'good' condition.

## Landscape Hierarchy Description

The Bodie Island Light Station is landscape situated within in the Cape Hatteras National Seashore, North Carolina. The national seashore extends along 80 miles of coastline of Bodie, Hatteras, and Ocracoke islands. The light station landscape retains integrity of outbuildings and features that are significant to the historic period (1872-1956). The cultural landscape includes the lighthouse, double keeper's quarters, oil house, Fresnel lens, boundary markers, NPS Road, and historic brick walks.

## Recent Condition

Good

## Subsite/Child components

N/A

## Landscape Type

Historic Vernacular Landscape

Historic Site

## Cover Page Graphic

See Cover Page.

## Site Plan(s)

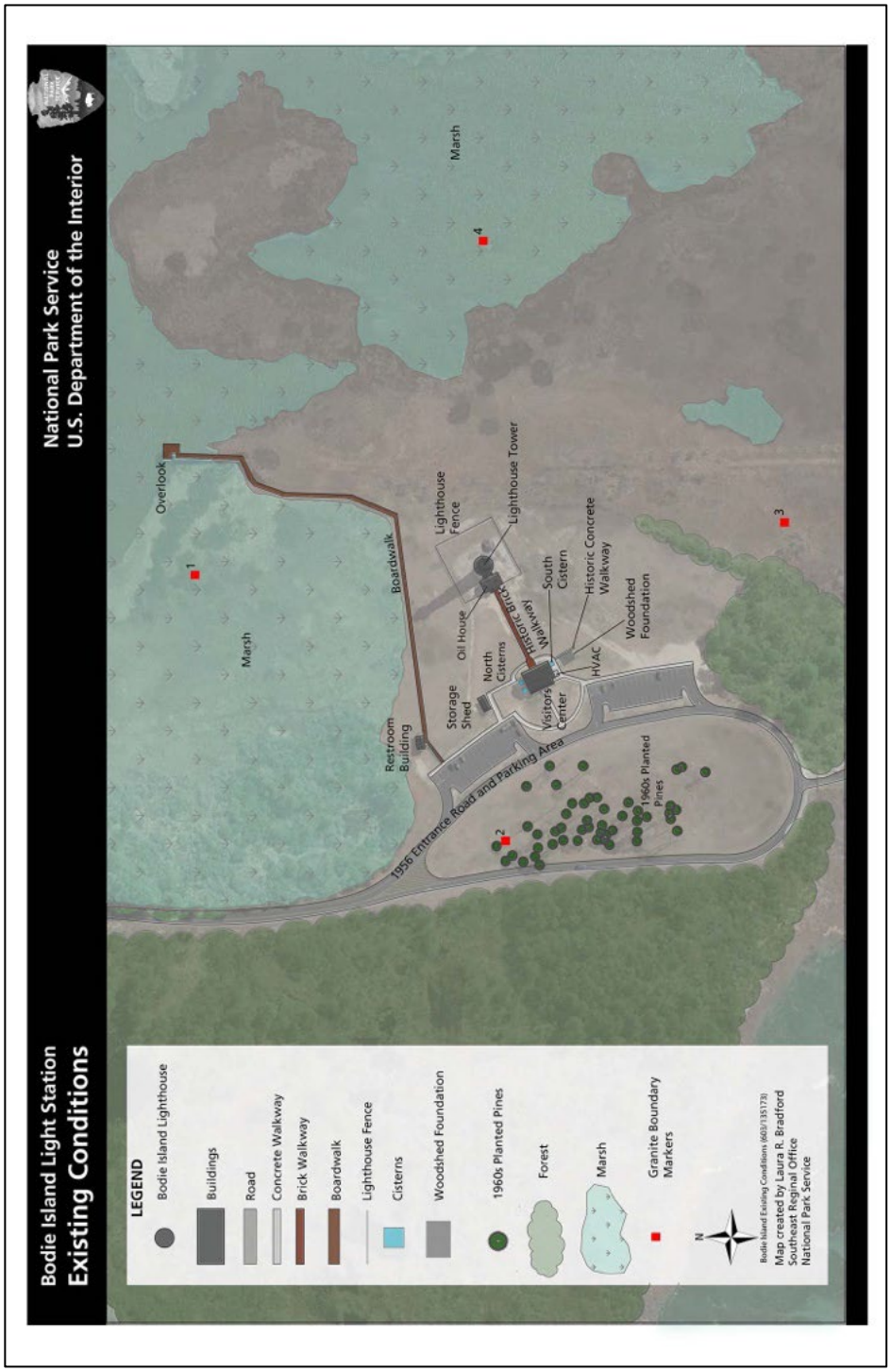



Fig 1. Bodie Island Light Station Existing Conditions (Bradford 2014).

## Hierarchy Description Graphic

N/A

## Other Names

| Seq. No. | Name | Type |
|---|---|---|
| | Bodie Island Lighthouse | Historic |
| | Body's Island Lighthouse | Historic |
| | Bodie Island Visitor Center and Lighthouse | Historic |
| | Bodie Island Light Station | Current |

# Chapter 2: Concurrence Status

## Park Superintendent Concurrence Date

09/14/2022

## Park Superintendent Concurrence

Yes

## Completion Status Explanatory Narrative

# Concurrence Graphics

United States Department of the Interior

NATIONAL PARK SERVICE
Atlanta Federal Center
1924 Building
100 Alabama Street, SW
Atlanta, GA 30303

IN REPLY REFER TO:

1.A.2. (SERO-CR)

Memorandum

To: Superintendent, Cape Hatteras National Seashore

From: Acting Chief, Cultural Resources Division, Interior Region 2

KIRSTIE HAERTEL Digitally signed by KIRSTIE HAERTEL Date: 2022.07.14 08:18:46 -04'00'

Subject: Cultural Landscape Inventories for Bodie Island Light Station and Ocracoke Light Station

We are pleased to submit the Bodie Island Light Station and Ocracoke Light Station Cultural Landscapes Inventories (CLI) for final review and signature. The CLI is an evaluated list of landscape properties in the National Park System eligible for listing in the National Register of Historic Places (NR) or that contribute to a previously-listed NR historic property. Once an independent online database, the CLI is now part of the multidisciplinary NPS Cultural Resources Inventory System (CRIS). The Bodie Island Light Station CLI was prepared through an IDIQ contract with BDS Architects and subcontractor, Historical Landscape Architect Kelsey Mork. Ms. Mork used data from the Bodie Island Light Station Cultural Landscape Report (NPS Susan Hitchcock, 2014) to create the inventory. The Ocracoke Light Station CLI was prepared by Cultural Landscapes Research Associate, Olivia Head, through a CESU Agreement with the University of Georgia. Ms. Head used data from the Ocracoke Light Station Cultural Landscape Report (NPS Susan Hitchcock, 2016). Final drafts of both inventories are located on IRMA: Ocracoke - https://irma.nps.gov/DataStore/Reference/Profile/2293942 and Bodie Island - https://irma.nps.gov/DataStore/Reference/Profile/2293941. The final, signed versions will be available on IRMA at the same locations, as well as in CRIS: https://apps.cr.nps.gov/CRIS.

In order for the CLIs to be certified in CRIS, the North Carolina State Historic Preservation Office (SHPO) needs to concur on the findings of the CLI, including the list of contributing and noncontributing landscape features. David Hasty, CLI Coordinator for the Region, will send a request to the North Carolina SHPO for concurrence on both CLIs.

In addition to SHPO concurrence, park superintendent signature is also needed to certify a CLI record. We request that you approve the CLIs using the attached form. Based on the findings of the CLIs, Ocracoke Light Station cultural landscape is in fair condition and Bodie Island Light Station cultural landscape is in good condition. If you have any questions, please contact David Hasty, IR2 CLI Coordinator. If the findings of the CLIs are agreed upon, please sign the attached approval form and return it to our office via e-mail to David Hasty at david_hasty@nps.gov.

Attachment

Interior Region 2 • South Atlantic–Gulf
Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi
North Carolina, Puerto Rico, South Carolina, Tennessee, U.S. Virgin Islands

Memo to Superintendent

**CULTURAL LANDSCAPE INVENTORY**
**CONDITION ASSESMENT CONCURRENCE SHEET – July 2022**

**Park Information**

**Park:** Cape Hatteras National Seashore
**State:** North Carolina **County:** Dare (Bodie); Hyde (Ocracoke)

**Cultural Landscape Information**

| Inventory Name | CRIS CLI ID # | Condition |
|---|---|---|
| Bodie Island Light Station | 550104 | Good |
| Ocracoke Light Station | 550073 | Fair |

**Management Category:** Should Be Preserved and Maintained

**Park Superintendent Concurrence**

Cape Hatteras National Seashore concurs with the findings of the CLIs for Bodie Island Light Station and Ocracoke Light Station, including the components of Condition and Management Category.

**Concur** _____ **Not Concur** _____

_____
**Superintendent** **Date**

**Good:** Indicates the inventory unit shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The inventory unit's cultural and natural values are as well preserved as can be expected under the given environmental conditions. No immediate corrective action is re-quired to maintain its current condition.

**Fair:** Indicates the inventory unit shows clear evidence of minor disturbances and deterioration by natural and/or human forces, and some degree of corrective action is needed within 3-5 years to prevent further harm to its cultural and/or natural values. If left to continue without the appropriate corrective action, the cumulative effect of the deterioration of many of the landscape characteristics will cause the inventory unit to degrade to a poor condition.

**Poor:** Indicates the inventory unit shows clear evidence of major disturbance and rapid deterioration by natural and/or human forces. Immediate corrective action is required to protect and preserve the remaining historical and natural values.

Signature from Superintendent

United States Department of the Interior

NATIONAL PARK SERVICE
Atlanta Federal Center
1924 Building
100 Alabama Street, SW
Atlanta, GA 30303

IN REPLY REFER TO:
1.A.2. (SERO-CR)

Renee Gledhill-Earley
Environmental Review Coordinator
North Carolina State Historic Preservation Office (NCHPO)
109 E. Jones Street MSC 4617
Raleigh, North Carolina 27699

Subject: NCHPO review and concurrence with the findings of Bodie Island Light Station Cultural Landscape Inventory at Cape Hatteras National Seashore

Dear Ms. Gledhill-Earley:

The National Park Service respectfully requests your review and concurrence on the findings of the Bodie Island Light Station Cultural Landscape Inventory (CLI), in accordance with the regulations set forth in Section 110(a)(2) of the National Historic Preservation Act (16 U.S.C. 470f), as amended (NHPA). Bodie Island Light Station is located in Cape Hatteras National Seashore in Dare County, North Carolina.

A copy of this CLI is provided via email, together with this cover letter and signature form, to Environmental.Review@ncdcr.gov. The Bodie Island Light Station CLI was prepared through a contract with BDS Architects and subcontractor, Historical Landscape Architect Kelsey Mork. Ms. Mork used data from the Bodie Island Light Station Cultural Landscape Report (NPS Susan Hitchcock, 2014) to create the inventory.

The CLI is an evaluated list of landscape properties in the National Park System considered eligible for the National Register of Historic Places or that contribute to an existing historic property. In order for CLI data to become certified, National Park Service guidance requires review and concurrence on CLI findings from the relevant State Historic Preservation Office (see attached memo). The sections most germane to SHPO review are the National Register and the Analysis and Evaluation of Integrity chapters. The National Register chapters provide information on how the existing nomination (#03000607) could be updated to more fully document the property. The Analysis and Evaluation chapters identify relevant landscape characteristics with associated landscape features, describes their evolution over time, and assesses integrity of present-day conditions. Some landscape features, such as buildings and structures, small scale features, and circulation, could be considered as countable resources. Other features, such as views and vistas, would enhance the description of the district, particularly in terms of setting, feeling, and association.

Bodie Island Light Station was listed in the National Register on July 04, 2003. The nomination describes in detail the historic buildings and structures associated with the landscape as well as



Letter to NCHPO

the small scale features. The nomination, however, lists the period of significance as 1872 to 1953 (50 years from the signing of the nomination). This is not the findings of the CLI or CLR, which extend the period to 1956. The National Register nomination also determines the road and parking area to be noncontributing feature, as well as the wood house foundation. By extending the period of significance to 1956, the CLI determines them to be contributing as part of a larger National Park Service program of park development and the last major development at the site.

With concurrence from your office, the findings become certified in the National Park Service Cultural Resources Inventory System (CRIS) database. If you have any questions about these documents, please contact David Hasty, Regional CLI Coordinator, at (404) 507-5780 or by e-mail at david_hasty@nps.gov. The attached concurrence signature form can be returned by e-mail to David Hasty.

We greatly appreciate your office's assistance with the project.

Sincerely,

KIRSTIE HAERTEL Digitally signed by KIRSTIE HAERTEL Date: 2022.07.14 08:02:34 -04'00'

Kirstie Haertel
Acting Chief, Cultural Resources Division, Interior Region 2

Attachment

Letter to NCHPO

**North Carolina Department of Natural and Cultural Resources**
**State Historic Preservation Office**
Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary D. Reid Wilson

Office of Archives and History
Deputy Secretary, Darin J. Waters, Ph.D.

August 16, 2022

David Hasty
National Park Service
1924 Building, 100 Alabama Street SW
Atlanta, GA 30303

David_hasty@nps.gov

Re: Cultural Landscape Inventory, Bodie Island Light Station, Cape Hatteras National Seashore, Dare County, ER 22-1794

Dear Mr. Hasty:

Thank you for your email of July 18, 2022, regarding the above-referenced Cultural Landscape Inventory (CLI) for the National Register-listed Bodie Island Light Station (DR0001). We have reviewed the submission and offer the following comments.

We note that CLI was thorough and well written. We agree that a case could be made to extend the period of significance of the 2003 nomination from 1953 to 1956. We concur with the findings of the CLI and understand that the identified contributing landscape features have the potential to contribute to the significance of the National Register property.

The mechanics of extending the period of significance can be done by either preparing a new nomination document or by amending the existing nomination with additional documentation. Justification for the new/extended period of significance must include the following:

1. A historic context for and the justification of the significance of the early National Park Service/National Seashore history of the Hatteras Seashore and how it relates specifically to the site.
2. A historic context for and the justification of the significance of the "Park Development Era" discussed in the report (both park-wide and site-specific).
3. A thorough discussion and demonstration of how the 1956 features would meet the National Register criteria.
4. A discussion of what additional areas of significance would be added.
5. A discussion of the impact(s) of the 1956 features on the site's/landscape's pre-1953 integrity of design, setting, and feeling. The integrity assessment in the 2003 nomination will need to be revised accordingly.
6. Many of our recent nominations require a statement regarding archaeological potential. One should be included in the revised document. The statement should address the extent of the 1992 re-grading of the site that is mentioned in the report.

**Location**: 109 East Jones Street, Raleigh NC 27601 **Mailing Address**: 4617 Mail Service Center, Raleigh NC 27699-4617 **Telephone/Fax**: (919) 814-6570/814-6898

Signature from NCHPO

We note that, should the period of significance be extended, then in the Appendix in the Cultural Landscapes Inventory, the feature contribution status for the Recreation and Interpretation features under the Land Use heading (Pages 207-208) will need to be changed from "Noncontributing" to "Contributing".

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

Renee Gledhill-Earley

for Ramona Bartos, Deputy
State Historic Preservation Officer

cc John Wood, NCHPO john.p.wood@ncdcr.gov

**Location**: 109 East Jones Street, Raleigh NC 27601 **Mailing Address:** 4617 Mail Service Center, Raleigh NC 27699-4617 **Telephone/Fax**: (919) 814-6570/814-6898

Signature from NCHPO

**CULTURAL LANDSCAPE INVENTORY**
**CONDITION ASSESMENT CONCURRENCE SHEET – August 2022**

**Park Information**

| | | | |
|---|---|---|---|
| **Park:** | Cape Hatteras National Seashore | | |
| **State:** | North Carolina | **County:** | Dare (Bodie); Hyde (Ocracoke) |

**Cultural Landscape Information**

| **Inventory Name** | **CRIS CLI ID #** | **Condition** |
|---|---|---|
| Bodie Island Light Station | 550104 | Good |
| Ocracoke Light Station | 550073 | Fair |

**Management Category:** Should Be Preserved and Maintained

**Park Superintendent Concurrence**

Cape Hatteras National Seashore concurs with the findings of the CLIs for Bodie Island Light Station and Ocracoke Light Station, including the components of Condition and Management Category.

**Concur** ☑ **Not Concur** ☐

**Superintendent Signature and Date** 9/14/2022

**Good:** Indicates the inventory unit shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The inventory unit's cultural and natural values are as well preserved as can be expected under the given environmental conditions. No immediate corrective action is re-quired to maintain its current condition.

**Fair:** Indicates the inventory unit shows clear evidence of minor disturbances and deterioration by natural and/or human forces, and some degree of corrective action is needed within 3-5 years to prevent further harm to its cultural and/or natural values. If left to continue without the appropriate corrective action, the cumulative effect of the deterioration of many of the landscape characteristics will cause the inventory unit to degrade to a poor condition.

**Poor:** Indicates the inventory unit shows clear evidence of major disturbance and rapid deterioration by natural and/or human forces. Immediate corrective action is required to protect and preserve the remaining historical and natural values.

CLI Superintendent Signature Sheet

## Revision

[enter text here]

# Chapter 3: Geographic Information

## Area (Acres)

15 Acres

## Land Tract Number(s)

[N/A]

## Boundary Description

The Bodie Island Light Station Historic District National Register boundary forms a large square demarcated by four stones that correspond to the original fifteen-acre site acquired from John and Fanny Etheridge on June 13, 1871. The U.S. Coast Guard acquired an additional 40 plus acres in 1945 for future development. The cultural landscape report is limited to a study of the Bodie Island Light Station Historic District cultural landscape. No historic resources are located on the land acquired in 1945 (Clifford 2002, 38; Hitchcock 2014, 3). The boundary points were provided in the National Register nomination as standard UTM (northing/easting) and have been converted into decimal degrees.

## Latitude/Longitude

| Seq. No. | Geo-metry | Lati-tude | Longi-tude | Geo-Datum | Eleva-tion (Meters) | Position Source | Position Accuracy | Date | Narra-tive |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Point | 35.8199 | -75.5636 | NAD83 | | | | 3/15/2022 | North Corner |
| 2 | Point | 35.8183 | -75.5654 | NAD83 | | | | 3/15/2022 | West Corner |
| 3 | Point | 35.8167 | -75.5634 | NAD83 | | | | 3/15/2022 | South Corner |
| 4 | Point | 35.8183 | -75.5615 | NAD83 | | | | 3/15/2022 | East Corner |

## Regional Landscape Context

***Physiographic***

The Outer Banks of North Carolina refer to a thin slice of land separated from the mainland by a large expanse of shallow water, comprising the Albemarle, Croatan, and Pamlico Sounds. The formation of these barrier islands began fifteen thousand years ago when the ocean level was 300 feet lower than today and North Carolina's coastline extended fifty to seventy-five miles east of its present location. Winds from the west piled up sediment to create a large dune at the easternmost edge of the continental landmass. Then, as glaciers melted and the sea level rose, the dunes became barrier islands paralleling the coastline. Although the sea continues to rise, the Outer Banks have slowly moved to the west and remained intact because of the unique combination of wind, waves, and weather (Opperman 2009, 7).

***Cultural***

American Indian occupation of coastal North Carolina emerged about 1,200 years ago. These Native American cultures at the time of white settlement were linguistically associated with either the Algonquian or Iroquoian traditions. European settlement led to the eventual disintegration of the aboriginal populations, mainly by disease and warfare. After the defeat of the Iroquoian tribes in the Tuscarora War of 1711-1714, American Indians eventually disappeared from eastern North Carolina (Hitchcock 2014, 2).

***Political***

Bodie Island is located in Dare County, a part of the Third Congressional District of North Carolina. Congress authorized Cape Hatteras as the first National Seashore in 1937, but it was another sixteen years before the park was officially established in January of 1953. On October 15, 1953, the Bodie Island Light Station property was declared surplus property by the U. S. Coast Guard and transferred to the National Park Service as part of the Cape Hatteras National Seashore. Excluded were the lighthouse and the land on which it stood, 100' on a side. On July 13, 2000, the U. S. Coast Guard transferred title of the lighthouse and approximately.22 of an acre to the NPS. In 2005, the U. S. Coast Guard transferred the Fresnel lens and the operation of the lamp as an active aid to navigation to the NPS (Hitchcock 2014,1).

## Location Map Graphic Information

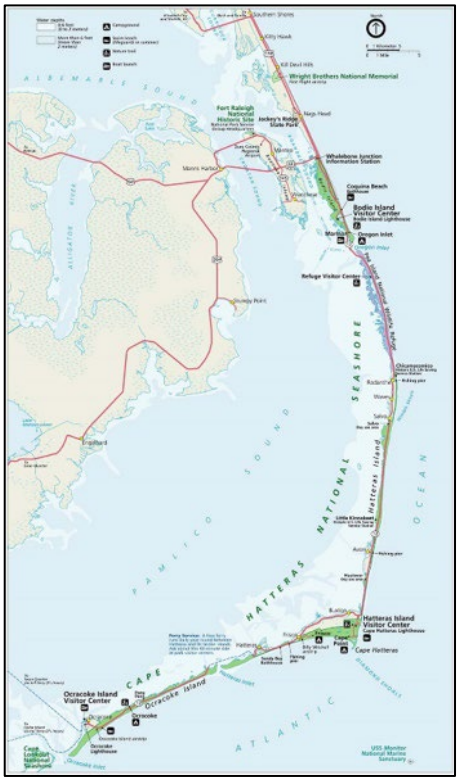



*Fig 2. Cape Hatteras National Seashore. (Harpers FerryCenter/NPS)*

## Counties and States

Dare County, North Carolina

# Chapter 4 : Management Information

## Management Category

Should be Preserved and Maintained

## Management Category Date

08/01/2022

## Management Category Explanatory Narrative

To obtain the requirements for "Must be Preserved and Maintained" a landscape needs to meet certain criterion such as being specifically listed in the enabling legislation; related to the park's legislated significance; nationally significant as defined by the National Historic Landmark criteria or serves as the setting for a nationally significant structure or object; or is less than nationally significant but contributes to the park's national significance. The Bodie Island Light Station is not mentioned in the enabling legislation of the Cape Hatteras National Seashore. This would move the landscape to the "Should be Preserved and Maintained" category. A landscape must meet all of the following criteria: inventory unit meets National Register Criteria; and the inventory unit is compatible with the park's legislated significance.

The Bodie Island Light Station is listed on the National Register of Historic Places as a nationally significant historic district and is compatible with the park's legislated significance to "set apart as a national seashore for the benefit and enjoyment of the people" (Binkley 2007, 215). The Secretary of Interior was further "authorized to accept donations of land, interests in land, buildings, structures, and other property, within the boundaries of said national seashore as determined and fixed hereunder and donations of funds for the purchase and maintenance thereof" (Binkley 2007, 216) When the park was created in 1937 the Bodie Island Light Station was still in use by the U.S. Coast Guard as a navigational beacon for ships. The light station and corresponding buildings are consistent with the intent of the park's establishment for the benefit and enjoyment of the people. The management of the landscape as a lookout (both from the light house and the boardwalk) provides a recreational outlet for visitors to view and experience the

natural systems that are preserved within the park. This is compatible with park's legislated significance.

## Management Agreements

| Management Agreement | Other Management Agreement | Management Agreement Expiration Date | Management Agreement Explanatory Narrative |
|---|---|---|---|
| | | | |
| | | | |

## Legal Interests

| Legal Interest Type | Fee Simple Reservation Expiration Date | Other Organization/Agency | Legal Interest Narrative |
|---|---|---|---|
| Fee Simple | | | The NPS acquired the Light Station from the USCG after it was declared surplus in 1953. |

## Located in a managed wilderness?

No

## Adjacent Lands Information

***Do Adjacent Lands Contribute?***

No

***Narrative***

# Chapter 5: National Register Information

## National Register of Historic Places

***Documentation Status***

Entered-inadequately documented

***Documentation Narrative Description***

A National Register of Historic Places nomination for the Bodie Island Light Station was submitted to the North Carolina State Historic Preservation Office in 2002. Upon agreement, the light station was listed on the National Register by the keeper on July 04, 2003. The nomination describes in detail the historic buildings and structures associated with the landscape as well as the small scale features. The nomination inadequately lists the period of significance as 1872 to 1953 which is not the findings of the CLI. The National Register nomination also determines the road and parking area to be noncontributing feature, as well as the wood house foundation. The CLI determines them to be contributing as part of a larger National Park Service program of park development and the last major development at the site. This CLI aims to fix these discrepancies.

***Eligibility***

Eligible – SHPO Consensus Determination

***Concurrence Eligibility Date***

08/16/2022

***Concurrence Eligibility Narrative***

[enter text here]

***Significance Level***

National

***Contributing/Individual***

Individual

***National Register Classification***

District

## Statement of Significance

The following text is from the "Bodie Island Light Station National Register Nomination Form (May 20, 2003) page 18.

The Bodie Island Light Station is eligible for listing in the National Register of Historic Places under criteria A and C. The construction of the station is directly associated with federal government efforts to provide an integrated system of navigational aids for national and international shipping on the Atlantic coast. Bodie Island Light Station also provided safe passage for maritime trade along the hazardous waters of the Outer Banks of North Carolina often referred to as the "graveyard of the Atlantic." The lighthouses on the Outer Banks, locate at Currituck Beach, Bodie Island, Cape Hatteras and Ocracoke, guided both national and international shipping plying along the coast. This national significance, explained in detail below, meets criterion A.

**CRITERION A**

**Maritime:**

The Outer Banks of North Carolina refer to a thin slice of land separated from the mainland by a vast body of shallow water, which make up the Albemarle, Croatan and Pamlico Sounds. These barrier islands extend almost the entire length of the North Carolina coast. The entire coastline of the state, more than 300 miles of shoreline, comprises more than a quarter of the total coastline of the original 13 colonies (Stick 1980, 5). Much of the North Carolina coast is relatively flat and lacking in significant landmarks so lighthouses played an important role in identifying a mariner's position both by day and night.

After the Spanish settled in the New World they soon found that then ships could return to Europe from the Caribbean more quickly by sailing north with the Gulf Stream to the general area of Cape Hatteras and then veering to the northeast for home, often saving weeks of sailing time. Later, mariners used the same route to reach the mid-Atlantic coast of the U.S. (Eshelman and Clifford 1997,12). Located off the Outer Banks, the Gulf Stream provided a trade route for ships bound for Europe or coasting up and down the East Coast. As the country's and the world's

commerce increased so did the number of shipwrecks off the Outer Banks. Dangerous shoals and reefs posed serious hazards to navigation, hi addition, the warm Gulf Stream met the cold Labrador Current offshore and created turbulence deadly to many vessels. The great numbers of lost lives and cargo prompted the area along the Outer Banks to be known as the "graveyard of the Atlantic" and it is estimated that more than 2,200 craft of various sizes and types met disaster in the vicinity of Cape Hatteras (The Ships' Bulletin 1955, 5). In an effort to protect mariners and their cargo, lighthouses were established at Ocracoke (Shell Castle) between 1800 and 1803 (Utter 1996, 3) and at Cape Hatteras in 1803. A lighthouse at Cape Lookout followed in 1812. Although the southern portion of the Outer Banks was fairly well lit, the northern portion between Cape Hatteras and Cape Henry at the entrance to the Chesapeake Bay was still dark, leading one observer to report that Bodie Island was "literally covered with wrecks" (25th Cong., 2nd Sess. House Doc. No. 41 (Serial # 322), p. 60; 25th Cong., 3rd Sess., House Ex. Doc. No. 24 (Serial # 345), p. 113).

An 1806 report from Congress captured the situation for ships along the Outer Banks:

> With the exception of Nantucket shoals, it is supposed there is no part of the American coast where vessels are more exposed to shipwreck, than they are in passing along the shores of North Carolina, in the neighborhood of these shoals. The Gulf Stream certainly approaches very near the American coast in this quarter; indeed, experienced navigators assert, that it touches Cape Hatteras shoals in its progress to the northeast, out of the Mexican gulf, and, as it turns with great rapidity hereabouts, they can place very little dependence on the ship's reckoning. Their estimated distance from land, therefore, is often found to be very erroneous, and as no soundings are to be procured within a short distance from the outer part of the shoals, it too frequently happens that shipwrecks take place; and hardly a season passes that does not afford the melancholy spectacle of stranded ships, and a great destruction of property is sure to follow: and it is fortunate, indeed, if the friendless mariner escapes with his life.

There were 27 lighthouses in the United States in 1800. These early light stations marked entrances to harbors and estuaries; but only three were located south of Cape Henry, Virginia (Eshelmen and Clifford, 1997, 13). In February 1837, "Congress directed the Secretary of the Treasury to have the coast south of Chesapeake Bay examined with an eye toward establishing lighthouses and other aids to navigation" (Holland Jr. 1967, 17). Lt. Napoleon L. Coste, commanding officer of the revenue cutter Campbell, conducted a meticulous examination of the coast from Key West northward and made numerous recommendations for the placement of lighthouses, lightships, and beacons. He considered Bodie Island "of great importance," saying, "More vessels are lost there than on any part of our coast. It is the eastern-most point of land on the coast of North Carolina, forming in fact, a cape. It is my opinion, that by the erection of a lighthouse on it, much property would be saved, and the navigation of the coast facilitated" (11th-17th Congress 1834, 521; 25th Congress, 1-6).

The Atlantic coast was and still is the principal sea lane for the shipping of goods between ports along the East coast of the United States. Before the completion of the Inland Waterway by 1940, which runs from just north of Boston, Massachusetts, to Key West, Florida, the Atlantic coast was the only means of such travel and still is for larger ships (Eshelmen and Clifford, 1997, 13).

The 1872 tower reflected a standardized design used for many first-order lighthouses built by the U. S. Lighthouse Board. The distinctive architectural features of the tower and its integral oil house, and the double keepers' quarters meet criterion C for architecture. The station and its setting retain a 19th-century and early 20th-century appearance with few modifications. The tower and the original first-order lens are nationally significant for engineering as they are among a small number of nineteenth century resources on the east coast of the United States that reflect the important accomplishments that went into the design of these tall brick structures and a large precision instrument that could project a small flame 20 miles out to sea.

**CRITERION C**

**Architecture:**

Significance as a Masonry Tower

Lighthouses reflect a variety of architectural styles and construction types that were influenced by politics, need, cost, location, and geography of the site, as well as technology available at the time of construction. After the U. S. Lighthouse Board took over the administration of the Lighthouse Service in 1852, it began to standardize lighthouse designs.

The present light station embodies a distinctive design and method of construction that typified first-order coastal lighthouse construction on the East Coast of the United States during the second half of the 19th century. Coastal lights, as opposed to harbor lights, were generally taller and used more powerful optics. The earliest materials used for lighthouse construction were wood and/or rubblestone. Later cut stone and brick were used, allowing towers increased height for better visibility. The design of the tall brick towers consisted of a double wall with a hollow space between the walls, thereby lightening the load, creating an insulation "member," and reducing the overall cost by using fewer bricks (Eshelmen and Clifford, 1997, 13).

Brick is the most popular construction material of the surviving 640 lighthouse towers in the United States approximately 200 are constructed of brick. Of those constructed of brick, approximately half are attached to another structure, generally a keepers dwelling. Two-thirds of those remaining are unattached structures and a third are integral to another structure. Most brick towers are conical in shape, although some are octagonal with a few square, cylindrical, or pyramidal. Less than 12 of the surviving brick towers are over 150 feet, with 25 over 100 feet, 43 over 75 feet, and 97 over 50 feet. Of the surviving towers of every construction type, 16 are mor than 150 feet and at least 66 are over 100 feet.

Bodie Island is one of many first-order lighthouse towers built to a similar design. The 1871 plans for the Bodie tower, signed off by the Board's Engineering Secretary, Major George H. Elliot, were used for subsequent lighthouses including the tower at St. Augustine, Florida (1874), and the one at Sand Island, Alabama (1873).

Bodie Island Lighthouse, at 164 feet tall, is considered to be a 'tall brick tower type,' a term used currently to organize lighthouses according to construction types. Tall brick towers, those over

150 feet tall, were first designed in the 1850s to support first-order Fresnel lenses, the most powerful of the seven orders of lenses being introduced by the newly formed U. S. Lighthouse Board to American lighthouses, hi tall towers, the light from these lenses could be seen up to 20 nautical miles. For the low-lying and featureless barrier islands of the Outer Banks, both the tall towers and the high powered lenses were critical to safe navigation given the shoaling and rough seas along the coast.

Of the 640 surviving lighthouses, only 17 over 150 feet in height survive. Of those seventeen, only 14 are made of brick. Other surviving tall brick towers include Absecon, New Jersey (1857); Barnegat, New Jersey (1857); Fire Island, New York (1858); Cape Romain, South Carolina (1858) Dry Tortugas (Loggerhead Key), Florida (1858); Cape Lookout, North Carolina (1859); Cape May Point, New Jersey (1859); Pensacola, Florida (1859); Cape Hatteras, North Carolina (1870); St. Augustine, Florida (1874); Currituck Beach, North Carolina (1875); Morris Island (Charleston), South Carolina (1876); and Ponce de Leon, Florida (1887).

The lighthouse, with its Fresnel lens in place, was a critical federal aid to national and international navigation from 1872-1953. Although the Bodie Island Light Station continued to be an active aid to navigation from 1953 to the present, it has been determined that the station does not meet Criterion Consideration G, and therefore the fifty-year date for Criterion A is the end of the period of significance.

The National Register nomination identifies the following as the existing resources:

There are three contributing buildings the tower with its attached oil house/workroom (IDLCS #000114), the double keepers' quarters (IDLCS #007244), and the storehouse (IDLCS #007249). The seven contributing structures are the three cisterns (IDLCS #091898), two hand pumps (IDLCS #202972 and #202818) next to two of the cisterns, the brick walkway (IDLCS # 271500) connecting the lighthouse with the keepers' quarters and the concrete walkways (IDLCS # 271501) from the brick walkway in front of the oil house to the site of an oil house south of the tower and at each end of the double keepers' quarters. The four contributing objects are the boundary markers

(IDLCS #027229, #207370, #207362, 207294). The restroom is a non-contributing building; the foundation of the wood house is a non-contributing site; and the platform supporting air conditioning units, nature viewing platform, parking lot, entrance road, wooden walks, and safety fence are all non-contributing structures.

The 2014 cultural landscape report (CLR) agrees with these findings, with the exception of the foundation of the wood house (woodshed in the CLR/CLI) and the entrance road (1956 NPS Entry Road in CLR/CLI). Both the CLR and this document find that the woodshed and 1956 NPS Entry Road are in fact contributing features to the cultural landscape. This document serves to fix the inadequately document aspects of the NR nomination by determining those two features contributing.

Period of Significance

The NR nomination lists the period of significance as 1872 to 1953. These dates correspond with the construction of the current Bodie Island Light Station (1872) and the determination of the light house as surplus by the USCG and its donation to the NPS. The period of significance for the National Register nomination is 1872-1953. According to the CLR, it was not extended past 1953 because of the fifty-year criterion for resources to be considered historic (Hitchcock 2014, 79). The CLR and this document agree with the start of the period of significance but find that it should end with the construction of the 1956 NPS Entry Road and parking lot. This was the end of development at the park and corresponds with the NPS wide development program "Park Development Era" (Hitchcock 2014, 80).

## National Register Significance Criteria

A - Associated with events significant to broad patterns of our history

C - Embodies distinctive construction, work of master, or high artistic values

## National Register Criteria Considerations

## National Register Periods of Significance (with Historic Context Themes)

| Seq. No. | Start Year/Era and End Year/Era | Historic Context Theme | Subtheme | Facet |
|---|---|---|---|---|
| | 1872 CE-1956 CE | Developing the American Economy | Shipping and Transportation | Ships, Boats, Lighthouses, and Other Structures |

## National Register Areas of Significance

| Seq. No. | Category | Subcategory (only for Archeology and Ethnic Heritage) | Narrative |
|---|---|---|---|
| | ARCHITECTURE | | |
| | ENGINEERING | | |
| | MARITIME HISTORY | | |
| | TRANSPORTATION | | |

## NRIS Information

| Seq. No. (R) | NRIS Name (R) | NRIS ID (R) | NRIS URL (R) | Other Name | Primary Certification Date (R) |
|---|---|---|---|---|---|
| | Bodie Island Light Station | 03000607 | https://npgallery.nps.gov/NRHP/AssetDetail/b1ca9938-5327-45ba-8dae-6fb806313fa7 | | 07/04/2003 |

## State Register Documentation

| Seq. No. (R) | Identification Number | Name | Listed Date | Narrative |
|---|---|---|---|---|
| N/A | | | | |
| | | | | |

## National Historic Landmarks

| Status | Theme | Contributing | NHL ID | NHL URL | Date |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| N/A | | | | | |
| | | | | | |

***Statement of Significance for National Historic Landmark***

[enter text here]

## World Heritage Site

| Status | Category | WHS ID | WHS ID URL | Date |
|---|---|---|---|---|
| N/A | | | | |
| | | | | |

***Is Resource within a designated National Natural Landscape?***

[enter selection here]

# Chapter 6: Chronology & Physical History

## Chronology

| Seq. No. | Major Event | Major Event Narrative | Start Year of Event | Start Era | End Year of Event | End Era |
|---|---|---|---|---|---|---|
| | Settled | Late Woodland cultures in North Carolina emerge. | 800 | CE | 1520 | CE |
| | Established | First contact is made with the Europeans. | 1520 | CE | 1520 | CE |
| | Settled | The first settlement of Roanoke Island was established. | 1587 | CE | 1590 | CE |
| | Altered | The Iroquoian tribes are defeated in the Tuscarora War. | 1711 | CE | 1714 | CE |
| | Established | Hundreds of ships are using Ocracoke Inlet as a trade route. | 1750 | CE | 1750 | CE |
| | Built | Cape Hatteras and Ocracoke lighthouses constructed. | 1803 | CE | 1803 | CE |
| | Built | Cape Lookout Lighthouse constructed. | 1812 | CE | 1812 | CE |
| | Built | The first Bodie Island Lighthouse was completed, and its lights displayed. | 1848 | CE | 1848 | CE |
| | Abandoned | The first Bodie Lighthouse was abandoned and razed due to a poor foundation that was beyond repair. | 1858 | CE | 1858 | CE |
| | Built | The second Bodie Island Lighthouse was completed with a light that was visible 15 miles away. | 1859 | CE | 1859 | CE |
| | Destroyed | The lighthouse was destroyed by retreating Confederate troops. | 1861 | CE | 1861 | CE |
| | Land Transfer | John B. Etheridge, former lighthouse keeper, sold 15 acres of land to the Light-House Board for the third Bodie Island Lighthouse. | 1871 | CE | 1871 | CE |
| | Built | Construction of the third Bodie Island lighthouse is started with temporary structures on the site. | 1871 | CE | 1872 | CE |
| | Built | The keeper's quarters and oil house, are constructed. | 1872 | CE | 1872 | CE |
| | Established | On October 1st the light is exhibited for the first time. | 1872 | CE | 1872 | CE |
| | Built | Woodshed is located on the site. | 1893 | CE | 1893 | CE |
| | Built | Bodie Island Club built a clubhouse near the station. | 1893 | CE | 1893 | CE |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Built | Sheet Metal Oil House constructed when kerosene replaced lard oil as the fuel for the light. | 1896 | CE | 1896 | CE |
| | Built | A stable is located on the site. | 1897 | CE | 1897 | CE |
| | Altered | A new cistern is constructed and repairs are made to structures, walkways, and the fence. | 1900 | CE | 1900 | CE |
| | Developed | The Bodie Island Club impounded an area of almost 150 hectares in the early 1900s by diking and flooding a portion of the marsh with floodgates constructed on inlets near the clubhouse. | 1900 | CE | 1910 | CE |
| | Altered | A report lists a stable, two storehouses, two privies, three cisterns, a chicken house, a one acre garden, and fence on site. | 1909 | CE | 1909 | CE |
| | Built | A shed is built on the site. | 1920 | CE | 1920 | CE |
| | Damaged | A hurricane damaged the Lighthouse Pond floodgates in 1933, and they were not repaired at that time. | 1933 | CE | 1933 | CE |
| | Altered | A project to build artificial barrier dunes from the Virginia line to Ocracoke Inlet was begun using Works Progress Administration (WPA) was started. | 1934 | CE | 1938 | CE |
| | Established | The Cape Hatteras National Seashore was authorized on August 11, 1937. | 1937 | CE | 1937 | CE |
| | Altered | The Bodie Island Light Station became an unmanned light, lit by an electric generator. | 1939 | CE | 1939 | CE |
| | Built | A ten-foot right-of-way is noted on site plan for the Coast Guard. | 1940 | CE | 1940 | CE |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Altered | Coast Guard site plan shows a cistern, privy, and storehouse northwest of the keepers' dwelling linked by a walkway; a privy, two storehouses, and cistern southeast of the keepers' dwelling are linked by walkways. A walkway also connects the keepers' dwelling and light tower/oil house; the plan also denotes a fence around the walk. There are two small areas enclosed by fences northeast (with storage shed) and southeast of the light tower outside the fence line. | 1944 | CE | 1944 | CE |
| | Expanded | The Light Station site increased by a little more than forty acres. | 1945 | CE | 1945 | CE |
| | Moved | The two original frame storehouses, one northwest of the keepers' quarters and one southeast of the keepers' quarters were sold, moved, and made into cottages. | 1945 | CE | 1945 | CE |
| | Established | Cape Hatteras National Seashore Recreational Area established. | 1953 | CE | 1953 | CE |
| | Land Transfer | On October 15, 1953, the U. S. Coast Guard declared the 56 plus acre Bodie Island Light Station property surplus and transferred it to the National Park Service as part of the Cape Hatteras National Seashore Recreation Area. | 1953 | CE | 1953 | CE |
| | Built | The entry road and parking area is constructed, connecting the light station to North Carolina 12. | 1956 | CE | 1956 | CE |
| | Planted | 21,000 pine seedlings were planted to help prevent erosion on the islands of the Outer Banks. | 1957 | CE | 1957 | CE |
| | Built | The NPS erected an observation platform on the site of the former detached oil house. A nature trail from the platform led to the marsh. | 1962 | CE | 1962 | CE |
| | Excavated | Drainage ditches are dug in three areas of the landscape to help control mosquitos. | 1963 | CE | 1963 | CE |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Restored | The roof and front door of the oil house had been replaced. | 1977 | CE | 1977 | CE |
| | Built | Security fence was installed at the bottom of the spiral stairs and one window replaced in the lower level. | 1984 | CE | 1984 | CE |
| | Restored | Repair work is completed on the Double Keepers' Quarters, including the restoration of the west front walk alignment. | 1990 | CE | 1992 | CE |
| | Built | Restroom built north of the double keepers' quarters. | 1992 | CE | 1992 | CE |
| | Restore | High levels of lead paint prompted the U. S. Coast Guard to repair and repaint the lighthouse. | 1997 | CE | 1997 | CE |
| | Land Transfer | On July 13, 2000, the U. S. Coast Guard transferred the lighthouse and approximately .22 of an acre the NPS. | 2000 | CE | 2000 | CE |
| | Established | The Bodie Island Light Station was listed in the National Register of Historic Places in July 2003. | 2003 | CE | 2003 | CE |
| | Damaged | On August 9, two cast-iron pieces fell from the gallery level, resulting in the closure of the base of the tower to visitors and an expansion of the size of the fence around the lighthouse. | 2004 | CE | 2004 | CE |
| | Altered | The U. S. Coast Guard transferred the Fresnel lens and the operation of the lamp as an active aid to navigation to the NPS. | 2005 | CE | 2005 | CE |
| | Built | A new boardwalk with observation tower that begins at the edge of the north parking area and travels out into the marsh and the water beyond was installed. | 2010 | CE | 2010 | CE |
| | Restored | Repair and replacement of ironwork as well as repair of masonry and stone, repair of floors and other interior treatments, lead paint abatement, painting, and installing new handrails and a fire suppression system occurred. | 2009 | CE | 2010 | CE |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Established | The park opened the lighthouse for climbing in April. | 2013 | CE | 2013 | CE |
| | Removed | Incompatible, noncontributing pines are removed from the center of the traffic loop. | 2013 | CE | 2013 | CE |
| | Commemorated | Interpretive waysides are installed at the site. | 2018 | CE | 2018 | CE |
| | Rehabilitated | Standing water issues are alleviated in the cisterns with installation of French drains. | 2020 | CE | 2020 | CE |

## Physical History

### *Geological History*

The Outer Banks of North Carolina refer to a thin slice of land separated from the mainland by a large expanse of shallow water, comprising the Albemarle, Croatan, and Pamlico Sounds. The term "banks" is a topographic term that refers to a series of undersea sand bars or "sand banks," as they were called in the earliest references such as John Lawson's *A New Voyage to Carolina*.

Scientists generally agree that sea level during the past one-half million years has alternated between periods of interglacial conditions when continental ice melted causing shorelines to advance inland across the Continental Shelf and periods of glaciation when water was withdrawn from the seas and stored as glacial ice causing shorelines to move seaward. When the last period of glaciation ended between 14,000 and 18,000 years ago, the ocean level was 300 feet lower than today, and North Carolina's coastline extended 50 to 75 miles east of its present location.

When this change from glacial to interglacial conditions occurred, glaciers melted and sea level began rising. Winds from the west piled up sand to create a large dune at the easternmost edge of the continental landmass. Wave action reworked sediment that was moved along the shore, and seas broke through the dune ridge, flooding low areas in back of the dunes to form lagoons or sounds. Waves, currents, and winds transformed the dunes into long chains of barrier islands paralleling the coastline from New England to Texas (Dolan and Lins 1986, 11-13; Oppermann 2009, 1).

Vegetation stabilized the Outer Banks when sufficient rainfall removed the salinity from the sand and pushed the underlying saltwater table downward and to the sides so that a large pocket of fresh water was formed beneath the banks. Seeds carried in the air or transported by shore birds took hold. Grasses anchored the sand, which allowed shrubs to survive. Finally, cedar, pine, and live oak, mixed with dense grape vine, covered areas that had once been bare sand beach (Stick 1958, 2-3; Lawson 1709, 68).

Native American Occupation

The Late Woodland cultures in coastal North Carolina emerged about 1,200 years ago. These indigenous cultures at the time of white settlement were linguistically associated with either the Algonquian or Iroquoian traditions. Shell and grit-tempered pottery, horticulture supplemented by hunting and gathering, burial ossuaries, bow-and-arrow technology, and palisaded villages typify these cultures.

Contact with Europeans occurred around 1520. The Algonquin tribes included the Pasquotank, Yeopim, Poteskeet, Chowanoc, Machapunga, Bay or Bear River, Pamlico, Hatteras, Neusioc, and possibly the Coree. They lived in an area extending from the Virginia border southward to Bogue Inlet and from the Outer Banks as far inland as present Plymouth, Washington, and New Bern.

Tribes associated with the Iroquoian tradition were the Tuscorora and the Meherrin. The more powerful and warlike Tuscorora lived just to the west of the Algonquin tribes. The Meherrin were confined to the east bank of the Chowan River.

European settlement led to the eventual disintegration of the aboriginal populations, mainly by disease and warfare. An epidemic in 1695 devastated the Pamlico and the Chowanoc were wiped out by war in 1677. By the eighteenth century, the only Native Americans living permanently on the Outer Banks were the Hatteras Indians, whose villages were in the wooded area west of Cape Hatteras. After the Tuscarora War of 1711-1715, Indians eventually disappeared from eastern North Carolina (U.S. Army Corps of Engineer 1986, 2-2).

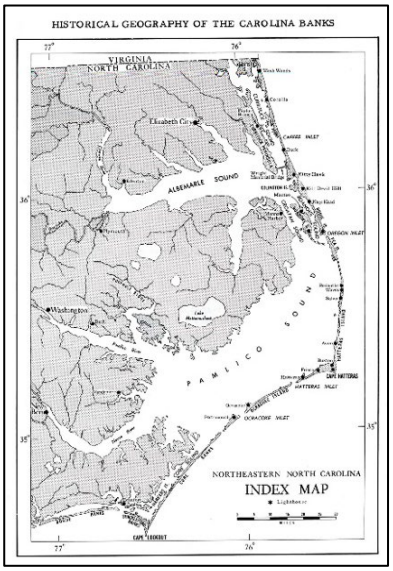



Fig 2.1. The Outer Banks of North Carolina (Reprinted from Historical Geography of the North Carolina Outer Banks).

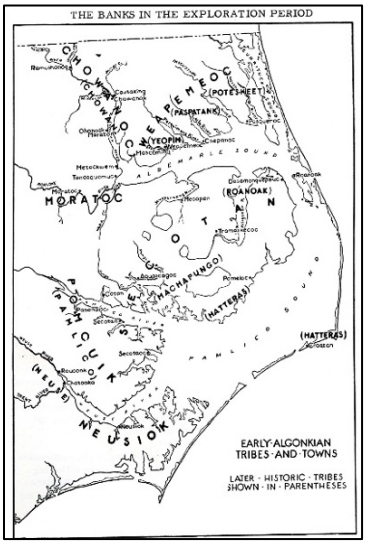



Fig 2.2. Early Algonquin tribes and towns (Reprinted from Historical Geography of the North Carolina Outer Banks).

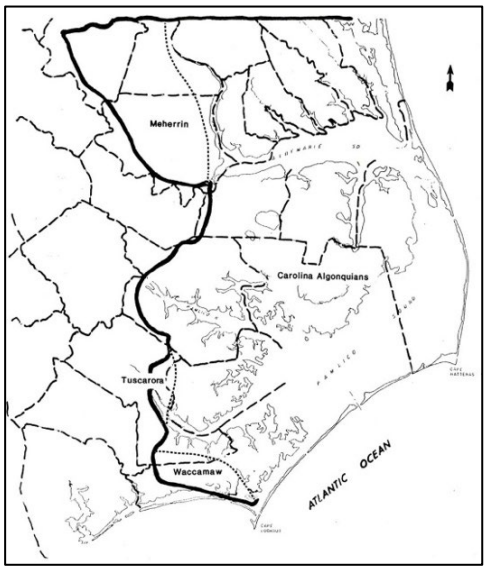



Fig 2.3. Historically known aboriginal groups of Eastern North Carolina. (Reprinted from Cultural Resource Studies Eastern North Carolina Above Cape Lookout).

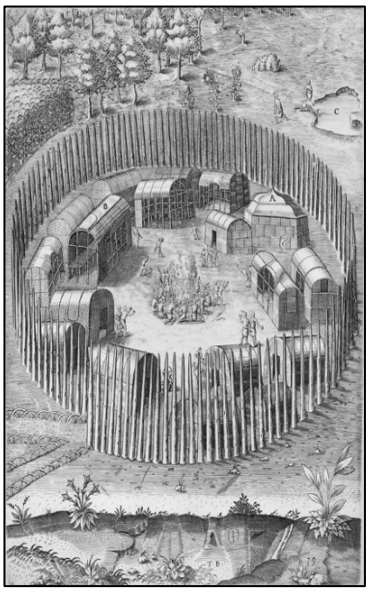


Fig 2.4. The Indian Village of Pomeiooc, Theodor de Bry's engraving of John White watercolor, c. 1590. (Courtesy of the John Carter Library at Brown University).

***European Exploration and Permanent Settlement of the Outer Banks***

The Outer Banks were first explored by Giovanni da Verrazzano's 1524 expedition for the French, who mistook the North Carolina sounds on the other side of the land mass for the Pacific Ocean. In 1584, a reconnaissance voyage for Sir Walter Raleigh's English venture landed above Cape Hatteras, commanded by Captains Arthur Barlowe and Philip Amadas. Captain Barlowe described the natural systems of the Outer Banks in 1584:

> Wee viewed the lande about us, being … very sandie, and lowe towards the water side, but so full of grapes, as the very beating, and surge of the Sea overflowed them, of which we founde such plenty … that I thinke in all the world the like aboundance is not to be founde.
>
> We passed from the Sea side towardes the toppes of those hils … being but of meane height, and from thence wee behelde the Sea on both sides to the North, and to the South, finding on ende any of both waies. This lande laye stretching it selfe to the West, which after wee founde to be but an Island of twentie leagues long, and not above sixe miles broade. Under the banke or hill, whereon we stoode, we behelde the vallies replenished with goodly Cedar trees, and having discharged our harquebushot, such a flocke of Cranes (the most part white) arose under us, with such a crye redoubled by many Ecchoes, as if an armie of men had showted all together.
>
> This island had many goodly woods, full or Deere, Conies, Hares, and Fowle, even in the middest of Summer, in incredible abundance … [and] the highest, reddest Cedars of the world. (Stick 1958, 14-15)

The colonists of a 1587 settlement on Roanoke Island led by John White were discovered missing when he returned with a supply ship in 1590. The mystery of their disappearance, except for the words "Croatoan" carved on a post at the entrance to the palisade and "Cro" on a tree, has never been solved. White assumed the clues referred to Croatoan Island (now Hatteras Island), but he

was unable to persuade his party, who feared the treacherous nature of the coast, to sail to Croatoan Island. White was forced to return to England without looking for the settlers, known as the "Lost Colony.

Permanent settlement did not begin until the mid-seventeenth century, when fur trappers, Indian traders, and planters from Virginia's southern frontier moved into the area. Indian habitation of the Outer Banks at the time of white settlement was sparse, and some used the area only for seasonal hunting. The Hatteras Indians lived in a town on the sound side of Cape Hatteras. Francis Yeardley of Virginia sponsored a group that visited Indians on Roanoke Island in 1654 and bought land in eastern North Carolina. A fur trading post operated by Nathaniel Batts is recorded on the Comberford Map of 1657 at the western end of Albemarle Sound (Stick 1958, 12-21; Dunbar 1958, 8-11, 16-19; U.S. Army Corps of Engineer 1986, 2-4).

The first land grant was issued by the Lords Proprietors in 1663, following receipt of their royal charter, to Sir John Colleton who set up a plantation on Colington Island. Other large land grants held by absentee landowners followed, but many more who sought smaller parcels were of more modest means. Most chose the wooded hammocks on the sound side of the island, where their building sites were clustered near sloughs and creeks and where they found protection from strong winds and high tides (Stick 1958, 22-25; Dolan and Lins 1986, 18; Dunbar 1958, 105).

A lack of deep-water ports and navigable tributaries such as those found in Virginia and South Carolina retarded the commerce and prosperity of North Carolina. Accessing the ports that the colony did possess to reach small river settlements and plantations required sailing through treacherous inlets along the Outer Banks and across shallow sounds. Some felt that these limitations were actually helpful in time of war. Early explorer and naturalist John Lawson commented:

> the Difficulty of that Sound to Strangers, hinders them from attempting any Hostilities against us; and at the same time, if we consider the Advantages thereof, nothing can appear to be a better situation, than to be fronted with such

> a Bulwark, which secures us from our Enemies. (Stick 1958, 2; Lawson 1709, 175; McNamara 2012).

Before 1700, most settlers located between Roanoke and Currituck Inlets. They lived in small, scattered settlements with fenced gardens and free-ranging livestock. They were sustained by fishing, grazing stock, farming, and whaling. Most had migrated from Virginia and were joined by a few shipwreck survivors. The Outer Banks had a reputation as a refuge for Virginia outlaws and runaway slaves, but most settlers were small landholders trying to get foothold in the new colony. The death of the infamous pirate, Blackbeard, at Ocracoke Inlet in 1718 signaled the end of large-scale piracy and paved the way for the settlement of the lower Outer Banks. The shallow inlets and channels made resident pilots who helped navigate ships of commerce a necessity.

The shoaling and eventual closing of both Roanoke and Currituck Inlets led to a shift in maritime traffic to Ocracoke Inlet, seventy-five miles south. By 1750, hundreds of ships were using Ocracoke Inlet as a trade route, and by the 1770s, the two largest communities on the Outer Banks were located there—the town of Portsmouth on the south side and Pilot Town or Ocracoke Village on the north (Stick 1958, 12-26, 42; Dunbar 1958, 26-28; Dolan and Lins 1986, 18).

By the time North Carolina became a state in 1789, about 1,000 permanent residents lived on the Outer Banks. The economy of the Federal period was not that different from colonial times. Garden patches largely accounted for "farming" in the region. In 1810, it was noted of the Portsmouth area that "the soil is not used for agricultural purposes, more than in Gardens & the raising of a few sweet potatoes, for the growth of which article, it appears to be particularly well adapted." In the 1850 census, there were two farmers at Portsmouth, none on Ocracoke and Hatteras Islands, eleven on the North Outer Banks, and eighteen on Roanoke Island. The 1860 census showed no farmers on Portsmouth, Ocracoke, and Hatteras, but twenty-six on the North Banks and thirty-nine on Roanoke Island. Prominent agriculturist Edmund Ruffin observed in 1856:

> Roanoke Island, (which, however I did not see, because of accidental delays in the water trip,) … is very productive, and especially in potatoes and garden vegetables. (Dunbar 1958, 30-31)

Slave ownership was not widespread except for large landowners. The 1850 census showed 503 slaves for the entire Outer Banks, with 168 on Roanoke Island far exceeding any other location. Records indicate that children of free black William Meekins owned 140 acres at Cape Hatteras and 50 acres at "Kinnakeet Banks" in the late 1700s (Stick 1958, 73, 89; Impact Assessment Inc., 2005, 14).

The lack of depth of Ocracoke Inlet eventually led to the ascendency of Hatteras Inlet in the years leading up to the Civil War. In the 1850 census, there were 57 pilots living at Ocracoke and Portsmouth and only 11 at or near Hatteras Inlet. By 1860, Hatteras Inlet, with about 35 pilots, had about 8 more pilots than Ocracoke Inlet. By 1880, there were 26 pilots at Hatteras and none at Ocracoke.

Before the Civil War, fishing had become the most prominent occupation according to the 1850 and 1860 census, with the job title "fisherman" and "mariner" far exceeding any other category. The isolated setting and its dangers required a self-sufficient and independent minded people, who grew their own food, caught their own fish, put up their own houses, and built and sailed their own boats. These same people would be called upon to man the lighthouses and life-saving stations of the Outer Banks (Dunbar 1958, 29-35; Stick 1958, 72-77).

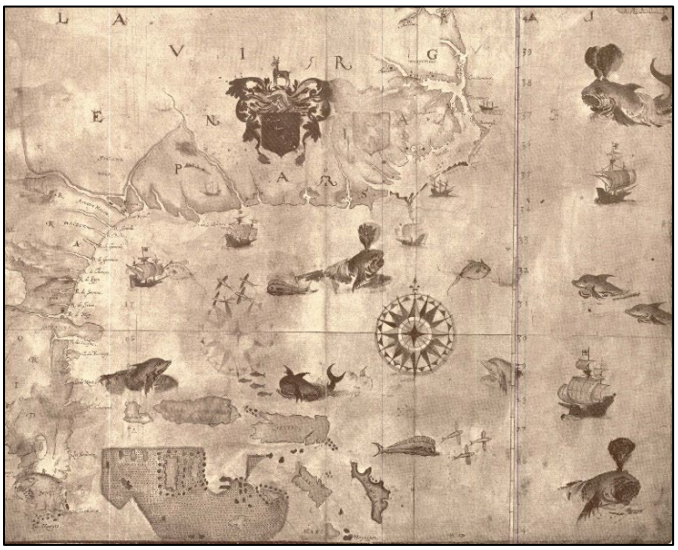


Fig 2.5. John White water-color drawing from 1584 exploratory trip. (Courtesy of State Archives of North Carolina)




Fig 2.6. Portion of Comberford map of 1657 south of Albemarle Sound. (Courtesy of State Archives of North Carolina)




Fig 2.7. Collett map of 1770 (Courtesy of State Archives of North Carolina)




Fig 2.8. Moll map of 1730. (Courtesy of State Archives of North Carolina).

***Bodie Island***

The origin of the name Bodie Island is unclear but it was apparently in use by 1709, when John Lawson's A New Voyage to Carolina first mentioned the name in print, referring to English rabbits: "I was told of several that were upon Bodies Island by Ronoak, which came from that Ship of Bodies; but I never saw any." The name also appears on Moll's 1730 "Map of the Province of Carolina" (see Figure 10).

Known at various times as Body's Island, Bodies Island, Body Island, Micher Island, and Cow Island, its land mass in the 1770s extended from Roanoke Inlet at the north end, nine and one-half miles south. Roanoke Inlet began to shoal and eventually closed around 1811, joining the land now known as Bodie Island to the land to the north. An 1846 hurricane opened Oregon Inlet, severing the lower part of the island. Nonetheless, the name continues to this day for the land that straddles both sides of the inlet (Oppermann 2009, 8; Lawson 1709, 128).

Lawson describes several inlets through the barrier islands that have since been closed by storms, and his journal gives a glimpse of the Outer Banks as they were in the early 1700s. He describes Roanoke Inlet:

> Ronoak Inlet has Ten Foot Water, the Course over the Bar is almost W. which leads you thro' the best of the Channel. This Bar, as well as Carrituck, often shifts by the Violence of the N.E. Storms, both lying expo'd to those Winds. Notwithstanding which, a considerable Trade might be carry'd on, provided there was a Pilot to bring them in; for it lies convenient for a large Part of the Colony, whose Product would very easily allow of that Charge; Lat. 35 deg. 50 min. (Lawson 1709, 68)

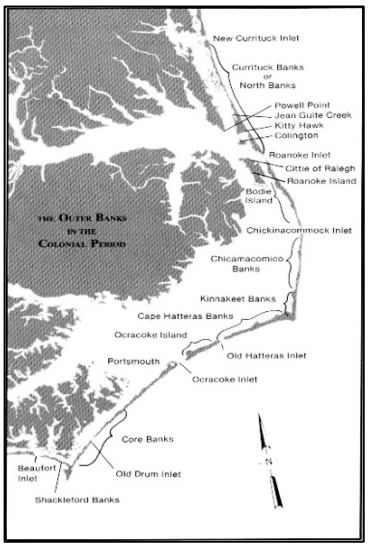



Fig 2.9. The Outer Banks in the Colonial Period (Reprinted from Historical Geography of the North Carolina Outer Banks)

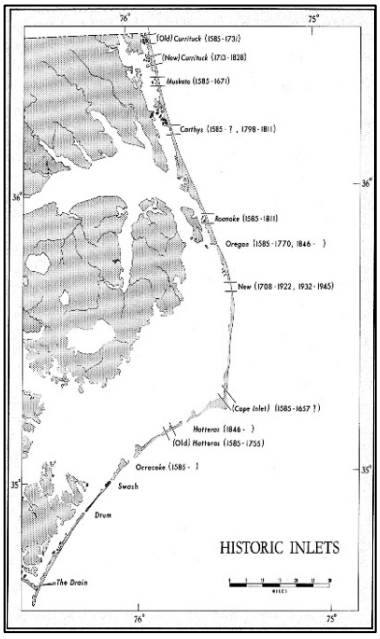



Fig 2.10. Historic Inlets (Reprinted from Historical Geography of the North Carolina Outer Banks).

***The Graveyard of the Atlantic***

Secretary of the Treasury Alexander Hamilton has been credited with declaring the ocean off the Outer Banks "the Graveyard of the Atlantic" for the extraordinary number of ships buried there. The Labrador Current that increased the speed of sailing ships also brought them perilously close to the shifting sand bars of the Outer Banks. If they did not veer east out to sea at Bodie Island, notorious Diamond Shoals awaited them. Once grounded, ships were soon torn apart by the turbulent waters, their crews doomed without assistance. Historian David Stick vividly describes the sea conditions: "the northbound Gulf Stream and the cold currents coming down from the Arctic run head-on into each other, tossing their spumy spray a hundred feet or better into the air and dropping sand and shells and sea life at the point of impact." Mariners then had to avoid the opposite-flowing Gulf Stream, a maneuver called "threading the needle" (Stick 1958, 1; Oppermann 2009, 8; Shelton-Roberts 2010, 2-3).

In 1789, Congress created the U.S. Lighthouse Establishment, operated under the Department of the Treasury, which became the federal lighthouse authority. Aids to navigation were needed, and the Department of the Treasury built a series of lighthouses to protect mariners and their cargo. Beginning with Ocracoke and Cape Hatteras in 1803 and Cape Lookout in 1812, these towers protected the southern portion of the Outer Banks but left the area to the north of Cape Hatteras without a light, leaving Bodie Island "literally covered with wrecks." It was not until the 1830s that attention was finally directed toward Bodie Island.

In February 1837, the Secretary of the Treasury selected Lieutenant Napoleon L. Coste to examine the coast south of Chesapeake Bay. Coste made numerous recommendations for the placement of lighthouses, lightships, and beacons and considered Bodie Island "of great importance." He stated:

> More vessels are lost there than on any other part of our coast. It is the eastern-most point of land on the coast of North Carolina, forming, in fact, a cape. It is

my opinion, that, by the erection of a lighthouse on it, much property would be saved, and the navigation of the coast facilitated.

Coast surveys eventually chose light station sites about forty miles apart so that a passing ship picked up the next light on its bow before losing one on its stern (Oppermann 2009, 9; Shelton-Roberts 2010, 8; Holland Jr. 1967, 17).

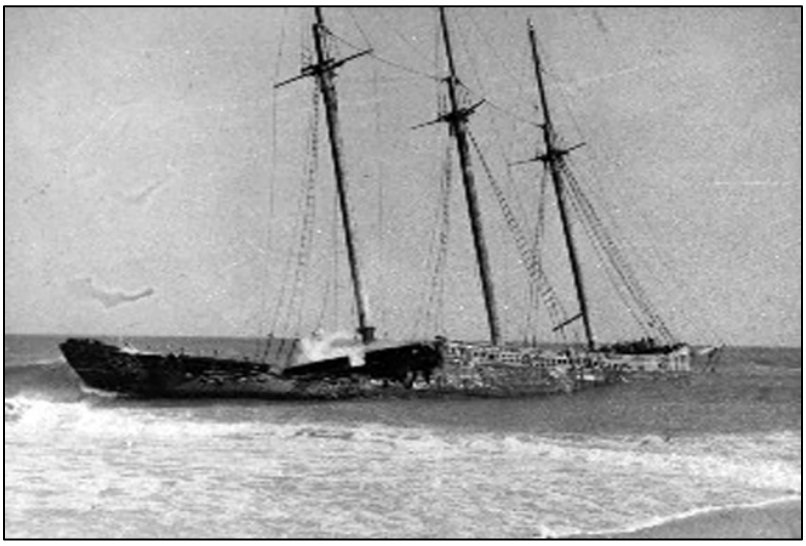


Fig 2.11. Wreck of an unknown schooner. (CAHA Collection)

***Building the Bodie Island Lighthouse, 1837-1872***

Light Station Components (Excerpt from the draft National Register of Historic Places Multiple Property Documentation form "Light Stations of the United States." (1992, 31-36).

The term "light station" refers to the tower as well as any support buildings. Light stations initially consisted of a light tower, a dwelling, a garden site, a place to store oil, and maybe a chicken house and shelter for a milk cow. The increased complexity of operation, with the

introduction of the more sophisticated Fresnel lens in the 1850s, brought about a need for more personnel, which in turn required additional housing and other support buildings such as workshops, cisterns and water catchment basins, storage buildings, garages, radio buildings, boathouses and tramways, among others. By the 1920s and 1930s, however, the majority of light stations had electric service, reducing the number of staff necessary to operate the station. As ancillary buildings at many stations were rendered useless, the makeup of the light station began to change. In the 1960s, the automation of many light stations led to the surplussing or demolition of many obsolete, yet historic buildings.

The tower served principally as a support for the lantern that housed the light. The earliest materials used for lighthouse construction were wood and/or rubblestone. Later cut stone and brick were used, allowing towers to reach an increased height for better visibility. The lantern was typically a cast-iron enclosure surrounded by an exterior stone or cast-iron gallery with railing. Access to the lantern at the top of the tower was via stone, wood, or cast-iron stairs that either wound around a central column or spiraled along the interior sides of the tower walls (a few had straight sets of stairs that ran from landings around the tower interior). Windows in the tower were positioned to provide daylight onto the stairs. For taller towers, landings were provided at regular intervals. The top landing ended at the watch room where the keeper on duty ensured the optic was functioning properly. The lantern room above was usually reached via a ladder.

Second in importance to the light tower, dwellings for light keepers and their families were generally in the early days simple, 1½-story wooden or stone structures. Since lighthouses had only one keeper, there was only one dwelling. After 1852, the newly appointed Light-House Board assigned more keepers to light stations, and living accommodations became larger. The Light-House Board published books of drawings that served as templates for quarters, which could be single, double, triple, or even quadruple dwellings that reflected the prevailing architectural styles, adaptations to geographical conditions, or regional tastes. Complaints by keepers concerning lack of privacy for their families finally persuaded the Light-House Board not to build tri-plex housing. By 1913, the Lighthouse Service stressed that “recent practice favors

detached houses, insuring greater privacy, and giving better opportunity for yards and gardens." By this time, the Light-House Board had a standardized design for keepers' dwellings.

Before the use of kerosene, oil was often stored in the lighthouse. Some lighthouse towers were constructed with attached oil room and workroom structures that were generally one-story masonry buildings with gable roofs with modest detailing. By 1890, all but a few lighthouses were using kerosene. The volatile nature of the illuminant necessitated the construction of separate oil houses, which were usually built of fireproof materials such as brick, stone, iron plate, and concrete. Congress issued a series of small appropriations for the construction of separate oil houses at each light station. Installation of these buildings began in 1888 and completed about 1918. Oil houses were simple and functional, usually with a gabled or pyramid roof. When oil was no longer required, the building was converted to another use, often storage. Many onshore stations had separate frame or masonry storehouses where provisions, spare parts, and other items could be stored. Some light stations received government-built barns where horses and perhaps a milk cow could be sheltered. With the coming of the automobile, light stations began to include garages. These buildings were simple, standard garage structures with up to three bays. Many barns were converted to garages. The privy at onshore stations was a simple building usually constructed of wood, although some had detailing to match the keeper's quarters.

All light stations needed water. Some stations used wells. Often, water collection systems that collected rainwater from the roof of buildings and channeled the water into gutters and downspouts to pipes going to water reservoirs provided water for drinking and washing. Where the underground water level was too high, a light station may have wooden water storage tanks aboveground.

A number of light stations had tramway tracks running from landings to the light station. The tramways were principally used to unload supplies and equipment from the lighthouse tender.

The First Bodie Island Lighthouse

On March 3, 1837, Congress appropriated $5,000 to build a lighthouse on Pea Island, just south of Bodie. Captain Charles W. Skinner, tasked with examining the site, felt that Bodie Island would be a better location because the vast majority of the vessels came from the north and passed close to the land to avoid the Gulf Stream. In addition, land would be cheaper, and it would be easier to get construction materials to the site. Collector of Customs Thomas H. Blount disagreed, arguing that a lighthouse on Pea Island would be "secure from the storms … and much more comfortable for the keeper" (Holland Jr. 1967, 17-18; Oppermann 2009, 13).

Based on Captain Skinner's recommendation, Stephen Pleasonton, Fifth Auditor of the Department of the Treasury, decided the following year to locate the lighthouse on Bodie Island, and Blount was instructed to purchase the land. Skinner felt that four acres would be adequate for a lighthouse, keeper's dwelling, and vegetable garden.

A series of complicated land transactions and inadequate funding delayed the construction of the lighthouse, prompting Blount's appeal to Congress in 1843:

> …I presume the reason why it has not been commenced is that the appropriation was insufficient and will require one of the first class [lights]. There is no part of the Coast of the U.S. which requires a Light House more than Body's island—'tis' in the direct route of all going North or South & of all foreign vessel bound into the Chesapeake, & when there during the last summer, there were fifteen wrecks in sight at one place, & within the last month, a Brig bound into Norfolk was wrecked there worth more than would have built the light house.
>
> You will excuse my calling your attention to this subject, but many of your constituents have suffered and will continue to do so unless a light is placed there, & not only yours but the north are, from their owning more shipping than the south, still more interested. (Blount 1843, 23)

Congress made an additional appropriation in 1847, and Pleasonton advertised in the National Intelligencer on May 15, 1847, for a contractor to build a brick tower and a wood dwelling for the keeper. Francis A. Gibbons of Baltimore, who later became a prominent lighthouse builder on the West Coast, won the contract.

Concerns about the foundation of the first lighthouse arose early in the construction process when questions surfaced about Captain Skinner's finding of a "good stiff clay" after digging two feet down. Rather than clay, a local resident reported the soil as mud with only a thin layer of sand, which would require piles to support the lighthouse structure. Apparently the matter was never resolved, and construction went forward without intervention. The first Bodie Island Lighthouse was completed and its light displayed in early 1848. The station consisted of a brick tower on the south side of Oregon Inlet, an unpainted wood single dwelling, a 2,000-gallon brick cistern, and two privies (Holland Jr. 1967,20-26).

Within two years of completion, uneven settling of the brick foundation caused the tower to be one foot out of plumb and canted eastward. Fifth Auditor Pleasonton wanted the problem fixed and authorized an estimate to straighten the tower. The lighthouse keeper supervised the work, which an "experienced mechanic" carried out, although it is not known exactly what was done. By 1851, the light tower needed extensive repair work, mainly to the lighting apparatus, which was most likely thrown out of kilter by the leaning tower. By 1858, the poor foundation was beyond repair, and the original tower was abandoned and eventually razed (Holland, 23; Roberts 2010, 5; Clifford, 24).

The Second Bodie Island Lighthouse

In 1852, Congress replaced Pleasonton with a nine-member Light-House Board. In 1858, the Light-House Board requested and received $25,000 to build a new lighthouse with a third order Fresnel lens, an upgrade from the first tower, which was lighted with Argand reflector lamps. French physicist Augustin Fresnel devised a lens in 1822 that used prisms to refract light to the center of the lens, where it was concentrated into a powerful beam. The Fresnel lens became the standard adopted by the Light-House Board, replacing the less powerful reflector lamps.

In order to avoid foundation problems, the Light-House Board assigned topographical engineer Lorenzo Sitgreaves to assist with site selection and supervise construction. Plans called for a stone foundation to rest on piles. Masons erected a brick tower reaching eighty feet surmounted with a lantern containing a third order Fresnel lens that flashed every ninety seconds. Completed in 1859, a mariner could see the light for a distance of fifteen miles. As the new lens required two people for operation, the Light-House Board constructed a new dwelling for the new assistant keeper, and the keeper's house was repaired (Holland, 23-33, Oppermann 2009, 11).

During the Civil War, the strategic value of the North Carolina Outer Banks was coveted by both sides. After North Carolina seceded from the Union in May 1861, a series of forts was built along the Outer Banks to protect the inlets and sounds. Union forces attacked the forts, and retreating Confederate troops destroyed the Bodie Island Lighthouse tower to prevent Union troops from using it as a lookout. Apparently the lens was not destroyed, as Light-House Board records indicate that its Fresnel lens was shipped to the Lighthouse Inspector in New York in 1862.

Upon inspection of the lighthouse site after its destruction, the engineer assigned to the wartime 4th and 5th Lighthouse District found the tower in ruins but the dwelling undamaged. The Light-House Board chose not to restore the light, as the Cape Hatteras Light had already been put back into operation. For the duration of the Civil War, 120 miles of hazardous coast between Cape Hatteras and Cape Henry was without navigational aid (Holland Jr. 1967, 32-36; Roberts 2010, 9; Oppermann 2009, 14).

The Third Bodie Island Lighthouse

Although initial recommendations after the Civil War were to replace the Bodie Island Lighthouse with one further up the coast, the Light-House Board eventually decided to return to Bodie Island. Because Oregon Inlet had moved to within 400 yards of the previous lighthouse, the Light-House Board sought a new location one-and-one half miles north of the first two sites on the north side of Oregon Inlet. They acquired land from John B. Etheridge, a former keeper of

the first Bodie Island Lighthouse. Etheridge acquired 240 acres of land by grant from the state of North Carolina in 1860. He sold 15 acres to the Light-House Board on June 13, 1871.

> The new site is 1½ nautical miles north of Oregon Inlet, ¾ mile from the Atlantic and 3/8 mile from Roanoke Sound. It is protected on the west by Roanoke Island from the action of storms tending to drive the waters of Pamlico Sound towards the sea. It is a square piece of land 15 acres in extent, and was purchased of John B. Etheridge and wife, June 13, 1871, for $150. The character of the soil is sandy and unfit for cultivation, but by covering it with marsh mud some slight crops could be raised.

Before construction on the tower could begin, temporary support structures to house workers and materials were needed, including temporary storage buildings, workmen's quarters, and a wharf. The Lighthouse Engineer for the Fifth District, Captain Peter C. Hains, sent Dexter Stetson to supervise the project, which started in the middle of June, 1871 (Oppermann 2009, 23). The crews used materials from temporary structures being taken down at the Cape Hatteras Light Station, where construction was coming to an end. The Hatteras tramway reemerged on Bodie Island, where supplies loaded on the tram were led to the construction site by a mule. In early August 1871, Captain Hains reported on the temporary structures to the Light-House Board, including:

> a blacksmiths' shop, a store house for cement, engine room, stable and carpenters shop. A temporary building for an office and quarters is nearly completed. Two scows for landing supplies have been commenced and nearly finished. An embankment on which to lay the railroad track where it crosses the marsh has been thrown up. The most of the material used in these temporary structures is that taken from Cape Hatteras.

Crews constructed a pier to hold a derrick for off-loading ships. Three Baltimore firms provided most of the materials: Nicholas M. Smith supplied the brick, Andrews and Johnson supplied the

dressed granite, and McClenahan & Brothers supplied the foundation granite. Paulding, Kemble & Co. of West Point Foundry, New York, supplied the iron work (Oppermann 2009, 23-24; Holland Jr. 1967, 38-39).

In order to ensure a sound foundation, the construction crew placed a wood grillage laid in two courses at the bottom of a pit seven feet deep, upon which they laid large granite blocks. Courses of rubble block grouted with hydraulic Portland cement raised the foundation an additional five feet. On this foundation was placed the base of the tower, consisting of cut granite on the outside and rubble set cement on the inside (Clifford, 27; Roberts 2010, 10; Holland Jr. 1967, 37-39).

Work began on the keepers' quarters in May 1872. Hains informed Stetson that the structure was to face the light tower. Since there was no road to the station until the 1920s, this spatial arrangement made sense. By mid-August, Hains reported that the "tower and keepers' dwelling are now well advanced toward completion." The November monthly report stated:

> [Carpenters] have been engaged in getting out material for and completing back piazza of the keeper's dwelling; making and putting down main steps and three pairs of end steps to piazza; laying two wooden walks, leading from the dwelling to wood-house and privies; building a double privy; reboarding and fitting up the carpenter shop for use as a wood house; … and hanging two gates; [illeg.] putting up various fastenings on dwelling house, sheds, etc.
>
> The blacksmith has been employed in putting flashing on piazzas, setting holes in dwelling walls for piazza ceiling strips, building two wooden platforms as cisterns; … putting ladder rods under piazza, and assisting in whitewashing fence, taking down cement shed …. (Oppermann 2009, 25)

The third Bodie Island Lighthouse was a brick tower rising 156 feet from the mean high water mark to the focal point of the light. The Light-House Board classified a "tall brick tower type" that measured over 150 feet as a first-order lighthouse, a term used to organize lighthouses

according to construction types. Its alternating bands of black and white were a daymark used by mariners between sunrise and sunset to identify lighthouses located near each other and similar in shape (Hatteras and Bodie for example). These unique patterns of contrasting colors could be easily recognized during daylight. Fifth District Engineer Peter Hains designed the daymark system. The cast-iron lantern held a first-order Fresnel lens that exhibited a fixed white light that could be seen for over 18 nautical miles manufactured by Barbier and Fenestre in Paris, France, in 1871 (Clifford 6, 9, 31; Roberts 2010, 20, 30).

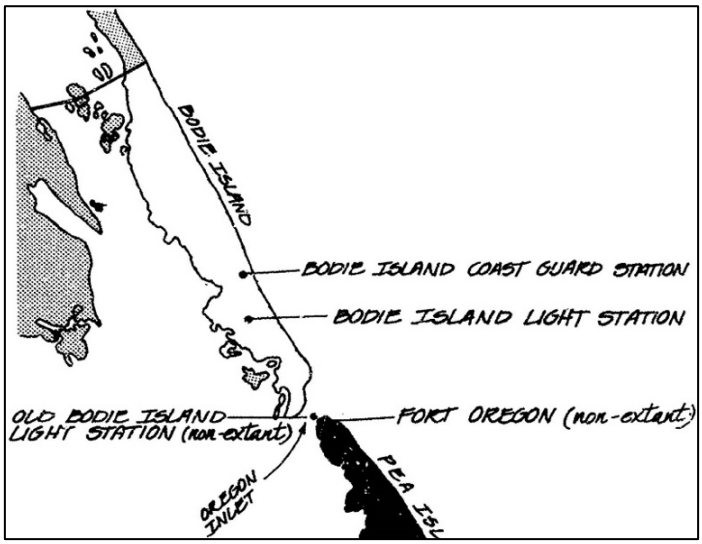



Fig 2.12. Map of current and old locations, 1985. (Denver Service Center etic 603/25001A detail)

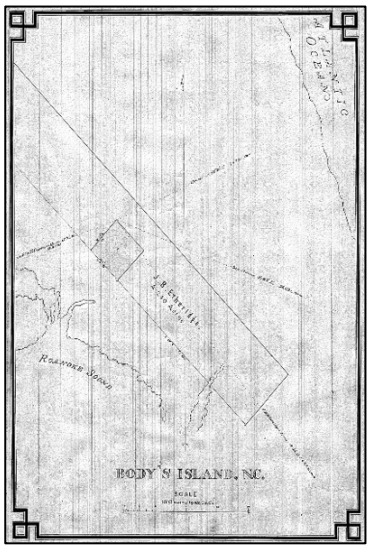



Fig 2.13. Etheridge land plat, 1871. (CAHA Collection)




Fig 2.14. Bodie Island Light Station, 1893. (CAHA Collection).

***Operation of the Light Station, 1872-1910***

The light station exhibited its light for the first time on October 1, 1872. Hains pointed out that the lighthouse would "supply a want long felt by the commerce of the country, as may be readily

seen from the number of wrecks that have been strewn along the beach … for twenty miles to the south and the same distance north of the lighthouse" (Holland Jr. 1967, 36-42; Oppermann 2009, 24-25).

An accident that caused considerable damage to the lighthouse lens occurred on October 29, 1872, when a flock of wild geese flew into the tower and seriously damaged the lens. To prevent a recurrence, a screen was installed to protect the glass portion of the lantern. Lightning also proved to be a problem, as the interior spiral stairway acted as a lightning rod, resulting in small cracks on the interior wall of the tower. In 1884, the Light-House Board finally approved the installation of a cable inside the tower that would run from the lantern to a cast iron plate buried in the ground.

In the summer of 1893, Herbert Bamber, Lighthouse District Superintendent of Construction, surveyed the light station and produced a detailed site plan and a series of photographs. These show the spatial order of the light station, dominated by a central northeast to southwest axis aligned with the brick tower/oil house, the double keepers' quarters, and the brick walk that connected them. Cisterns flanked the keepers' quarters. A storehouse and woodshed sat southeast of the keepers' quarters and another storehouse sat northwest of the keepers' quarters. A wooden fence enclosed this portion of the light station, with privies just on the outside of the fence, more or less lined up with the outbuildings on either side. In fact, all of the outbuildings were on axis with the keepers' quarters at this time. East of the house is a "driven well." Also just outside the fence on the north edge of the property sat some kind of unpainted storage shed (Oppermann 2009, 40).

Telephone service came to Bodie Island in 1898. The War Department decided that national defense could be served if several lighthouses on the North Carolina and Virginia coasts were tied into existing lines connecting Life Saving Stations on the Outer Banks (Holland Jr. 1967, 42-46).

As the century ended, the Light-House Board agreed a new keeper's quarters was needed, and in 1899 explained the appropriation request:

> The present dwelling at the station is too small for the accommodation of the keeper and two assistants, and it is impossible for the keepers to have their families reside at the station for the lack of proper and sufficient accommodations; this does not tend to make the keepers contented, and to take the interest in the Station necessary to maintain it in the best condition.

Failed attempts at securing the funding derailed the project and no action was ever taken (Oppermann 2009, 29-30).

The substitution of mineral oil (kerosene) for the original lard oil as fuel for the light brought about the construction of a sheet metal oil house in 1896. In 1897, Keeper Peter G. Gallop wanted to build a stable where he could keep a horse and cart to help haul supplies from the wharf. He submitted a sketch of the station showing his proposed location for the stable outside the fence line behind the south privy. The sketch shows the general spatial layout of the site, with the tower and keepers' quarters at right angles to the storage buildings and privies. Brick walkways from the keepers' dwelling run northeast to southwest; wooden walkways run southeast to northwest. Missing from the plan is the woodshed, although on the 1893 plan the woodshed was shown near Gallop's proposed stable site.

The enclosing fence is shown with gates at several locations on the periphery of the site, including three at the east edge opening into three large rectangular garden plots. Keepers were encouraged to cultivate the land associated with onshore stations. The 1897 plan is the only one found that shows a garden for growing food. Exactly what was grown in the garden is unknown. Later reports indicate that the garden was not a success. The area east of the garden plots is labeled "Bogs."

In 1900, extensive repairs were made to the keepers' quarters and other station structures. This work included constructing a new cistern and replacing fencing and walkways. Records indicate the Light-House Board gave permission for a stable in 1897, but another request for a stable, as well as a chicken house, was made in 1902. A 1909 report listed a stable as among the buildings at the station, which also included one storehouse west (north) of the keepers' quarters, one storehouse east (south) of the keepers' quarters, two privies, three cisterns, one chicken house, a one-acre garden, and the enclosing wood fence. No site plan is known to have accompanied the report. A 1909 site plan that accompanied a request to build another keeper's quarters and additional outbuildings shows a similar layout of the site as shown on the 1893 site plan. Funding problems prevented construction of this proposed group of buildings (Oppermann 2009, 29-30, 41-42).

Bodie Island Lighthouse Pond

Throughout the latter part of the nineteenth century, sportsmen from the North began to establish clubs along the Outer Banks. Three were located on Bodie Island: The Bodie Island Club, the Goosewing Club, and the Lone Cedar Club. The Bodie Island Club acquired the sound end of the island in 1904 and built a clubhouse near the light station. The pond at the light station is a freshwater pond noted on the 1893 site plans as a shallow pond of three inches. The Bodie Island Club impounded an area of almost 150 hectares in the early 1900s by diking and flooding a portion of the marsh with floodgates constructed on inlets near the clubhouse. Club superintendent Nathaniel Gould directed the construction work that created a much deeper pond to improve habitat for waterfowl and provide hunting space for club members (Firth 1987, 12-13; Boone 1988, 11; Stratton and Hollowell 1040, 9).

Children who lived at the light station remembered rowing a small skiff into Lighthouse Pond.

> There is a large fresh water pond in back of the lighthouse, about ½ wide and 3 miles long. It was man made by constructing a dam across two creeks. There were gates in the dams to control the height of the water. It was owned by the hunting club, except a very small section on lighthouse property. It was prime

hunting there during the winter when the ducks and geese were flying. It was also a fine place for us kids to play in an old skiff we had and as the water wasn't deep we were safe from drowning. (Roberts 2010, 14; Gaskill 2007, 41).

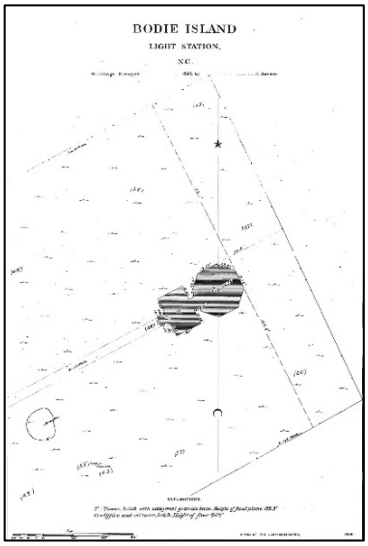



Fig 2.15. Bamber site plan B, 1893. (CAHA Collection)

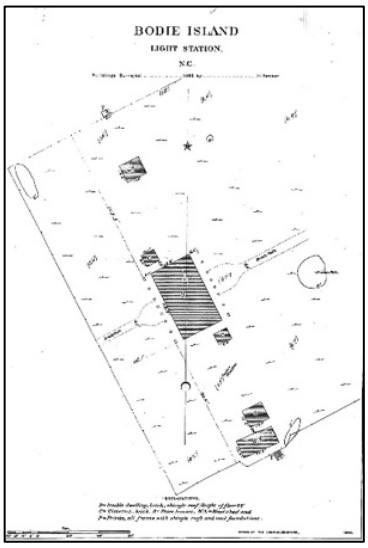



Fig 2.16. Bamber site plan C, 1893. (CAHA Collection)



Fig 2.17. Bodie Island Light Station, 1893. (CAHA Collection)

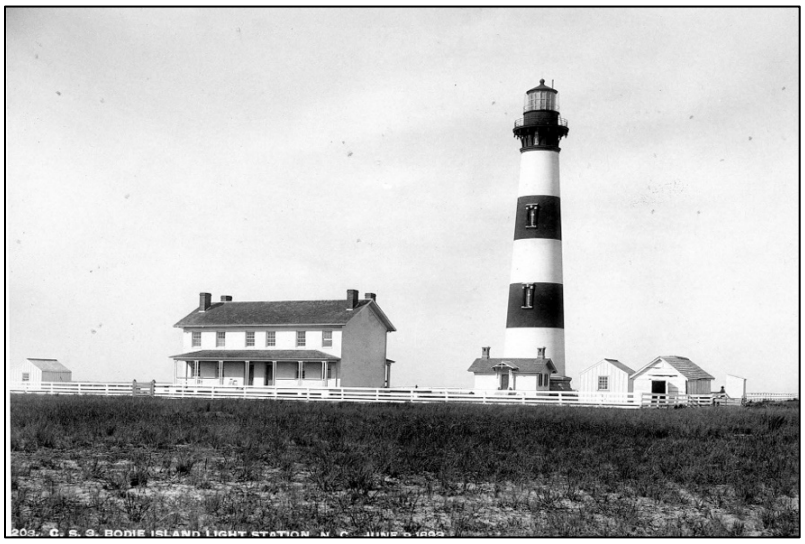


Fig 2.18. Bodie Island Light Station, 1893. (CAHA Collection)

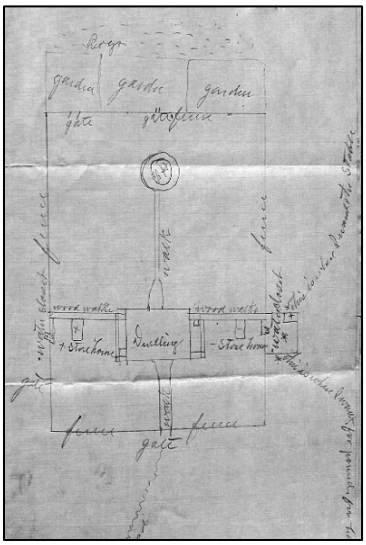



Fig 2.19. 1897 plan. (CAHA Collection)

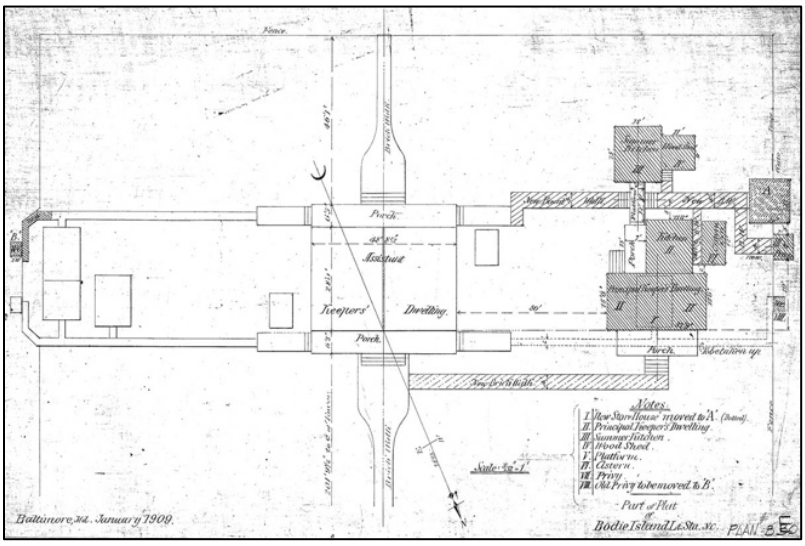



Fig 2.20. 1909 plan. Note direction of north arrow. (CAHA Collection)




Fig 2.21. View of the Bodie Island Club looking south from the lighthouse, c. 1930. (CAHA Collection)



Fig 2.22. Bodie Island Lighthouse Pond with lighthouse in the background, 1954. (CAHA Collection)

***U.S. Bureau of Lighthouses, 1910-1939***

In 1910, Congress dissolved the Light-House Board and created in its place the civilian U.S. Bureau of Lighthouses under the Department of Commerce. The legislation referred to the bureau as the Lighthouse Service, its more commonly known name.

Beginning in 1919, Vernon Lloyd Gaskill, Sr. took over as Principal Keeper, a position he retained until 1939. During these years, the life of the keepers and their families was little changed from earlier times. Cisterns that stored rain water were the only source of fresh water. Families used an outside hand pump as well as one at the kitchen sink to draw water for cooking, baths, and washing dishes or clothes. Before the automobile, travel once on the island was often by horse cart. Privies were still used, although the Lighthouse Service installed a bathtub and plumbing to pump water to the bathroom in the 1930s (Roberts 2010, 14).

In 1934, a project to build artificial barrier dunes from the Virginia line to Ocracoke Inlet was begun using Works Progress Administration (WPA), Civilian Conservation Camp (CCC), and National Youth Administration (NYA) labor authorized under the New Deal policies of President Franklin D. Roosevelt. This work was directed by the NPS before the establishment of the Cape Hatteras National Seashore and used sand fences to raise a line of barrier dunes. By 1938, multiple lines of fences had been erected at Oregon Inlet with additional fencing on the ocean side of Lighthouse Pond. Assistant Director of the NPS, H. Earl Weatherwax, described the rationale for this project:

> We must not only correct the devastation which had been going on for more than a century (storms, grazing, etc.), but during the progress of the work must adopt measures for the protection of the coastal community against tidal inundation by both sound and sea. (Stroh 1982, 1)

The Cape Hatteras National Seashore was authorized on August 11, 1937. In 1938, the Department of the Interior inquired if the light station land was to be declared surplus, as the acreage was a prime target for inclusion in the park (Holland Jr. 1967, 50-52; Oppermann 2009, 30-32, 43).



Fig 2.23. View of light station across Bodie Island Lighthouse Pond, 1959. (CAHA Collection)

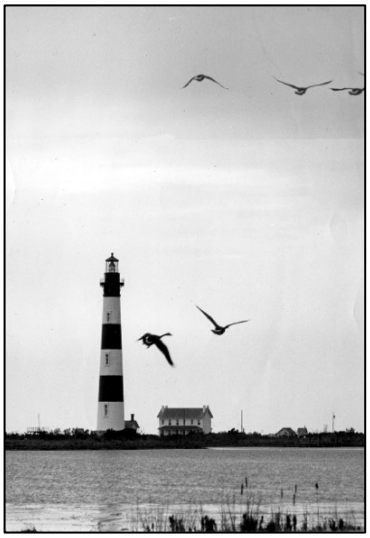


Fig 2.24. View of light station across Bodie Island Lighthouse Pond, 1962. (CAHA Collection)

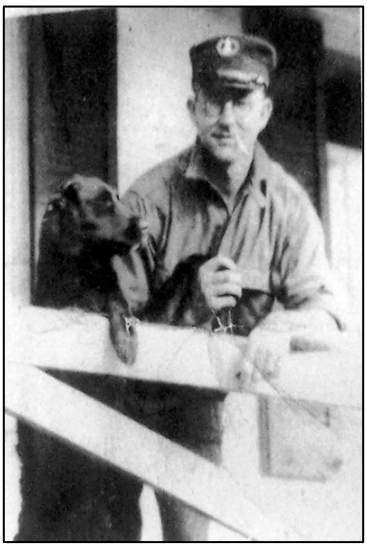


Fig 2.25. Vernon Gaskill on the porch of the double keepers' quarters, undated. (CAHA Collection)



Fig 2.26. Visitors at the light station on a horse cart, c. 1925. (The Outer Banks History Center, Manteo, NC, Edna Evans Bell Collection)

***Bodie Island Lighthouse Pond***

A hurricane damaged the Lighthouse Pond floodgates in 1933, and they were not repaired at that time. The Bodie Island club's use declined in the 1930s after the passage of laws shortening the shooting season, lowering the bag limit, and restricting the types of batteries, guns, and decoys that could be used. The condition of the pond in the late 1930s was probably similar to that on Pea Island, whose manager described the newly established Migratory Waterfowl Refuge:

> With the dikes all broken we have no means of controlling the water. The refuge may be dry one week and flooded the next week. North and northeast winds blow the water away, draining the ponds and marshes, and cause them to go dry, that is, if the winds blow from this direction for several days. On the other hand, if the winds blow southwest or west, water is blown to the refuge filling the ponds and marshes. Therefore, we have been entirely dependent upon the winds for water on the refuge, which of course makes very poor conditions. (Firth 1987, 14, 18).

In 1934, the North Carolina Beach Erosion Control Project began with a dune building program at Nags Head. Its objective was to build a line of dunes from the Virginia line to Ocracoke Inlet using Works Progress Administration (WPA), Civilian Conservation Camp (CCC), and National Youth Administration (NYA) labor authorized under the New Deal policies of President Franklin D. Roosevelt. This work was directed by the NPS before the establishment of the Cape Hatteras National Seashore and used sand fences to raise a line of barrier dunes. By 1938, work on Bodie Island was nearing completion on the ocean side of the Lighthouse Pond, and the dunes were planted with American beach grass (Ammophila breviligulata). Behind the dunes, seedlings of approximately 20,000 loblolly pine, black locust (Robinia pseudoacacia), and dogwood (Cornus florida) were planted between Whalebone Junction and Lighthouse Pond. America's entry into World War II in 1941 suspended the program until 1954. After the establishment of the Cape Hatteras National Seashore, bulldozers that could obtain immediate dune mass and height replaced sand fences.

***U.S. Coast Guard, 1939-1953***

[In 1939, the Lighthouse Service was incorporated into the USCG. A major change to the operation of the light station occurred the following year, when the USCG transferred two keepers and operated the lighthouse by an electric generator with a timer. With the transfer of the two keepers, the Nags Head Lifeboat Station attended the light. In 1941, the candlepower of the light was reduced from 160,000 to 13,000.

The USCG undertook a survey of the site in 1940. Unchanged is the spatial relationship of the light tower/oil house and the double keepers' dwelling. Although the three cisterns remain in their original locations, the other outbuildings are slightly different. Northwest of the dwelling are a privy (outside the fence), garage, shed, and two cisterns. Southeast of the dwelling are a cistern, woodshed (this may have only been its concrete foundation), garage, and privy (now inside the fence). The garages correspond to the storehouses listed in the 1909 report. The shed was built around 1920. Southeast of the light tower are two outbuildings, one still labeled "oil house" despite its use as a generator building at this time. A fence encloses the complex. Although walkways are not shown, a ten-foot right-of-way enters the site from the southwest (probably from the road) and tracks the north cisterns before making a jog and turning northeast along the brick walkway that joins the keepers' dwelling and light tower.

A more detailed 1944 USCG site plan shows a cistern, privy, and storehouse northwest of the keepers' dwelling linked by a walkway; a privy, two storehouses, and cistern southeast of the keepers' dwelling are linked by walkways. A walkway also connects the keepers' dwelling and light tower/oil house; the plan also denotes a fence around the walk. There are two small areas enclosed by fences northeast (with storage shed) and southeast of the light tower outside the fence line. The use of these areas is unknown. Not shown is the 1896 oil house, although images from 1944 indicate that one still existed at this time (see Figure 3.40) (Oppermann 2009, 43; Clifford 12-14; Hartramph 2004, 27).

During World War II (WWII), the U. S. Navy used the lighthouse as a lookout tower. Lurking German submarines were a constant worry. Unobstructed views in all directions on a barrier island made the tower a valuable strategic resource.

The size of the light station increased by a little more than forty acres in 1945 when the USCG acquired additional acreage west of the light station for future development. A "steel tower" and a "power hut" were the only features noted on a USCG plot of the acreage. After WWII, the two original frame storehouses, one northwest of the keepers' quarters and one southeast of the keepers' quarters were sold, moved, and made into cottages (Holland Jr. 1967, 50; Hartramph 2004, 27; Clifford 14; Oppermann 2009, 31-32).

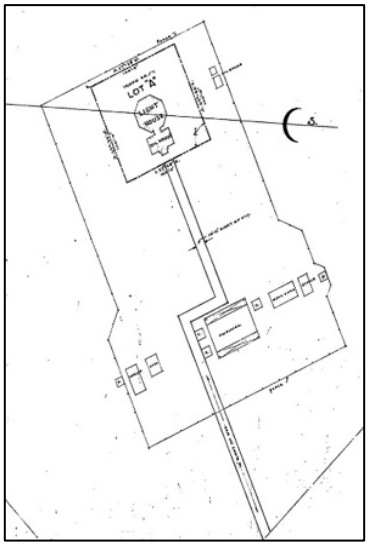


Fig 2.27. 1940 plan. (CAHA Collection)

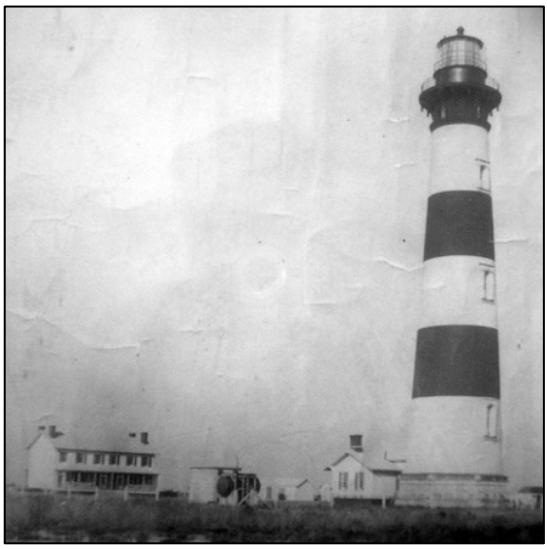


Fig 2.28. Bodie Island Light Station, 1935. (CAHA Collection)

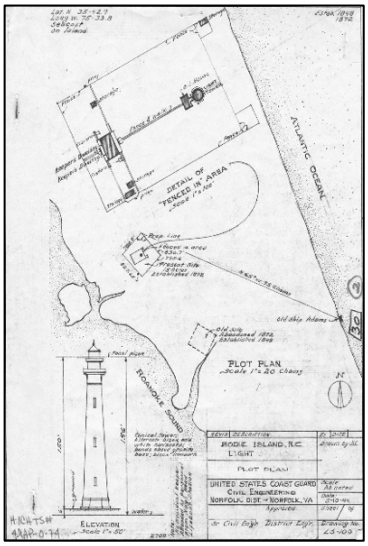



Fig 2.29. Plot plan, 1944. (CAHA Collection)

***National Park Service, 1953-Present***

Congress had authorized Cape Hatteras as the first National Seashore in 1937, but it was another sixteen years before the park was officially established in January of 1953. On October 15, 1953, the USCG declared the 56 plus-acre Bodie Island Light Station property surplus and transferred it to the NPS as part of the Cape Hatteras National Seashore Recreation Area.

Excluded was the land on which the lighthouse stood, 100' on a side. In October 1953, the lighthouse's electrical source was converted from generator to commercial power, leaving the existing generator for emergency power only. Work in 1963 included a new lamp changer, a new generator and flashers installed, and the candlepower increased to 80,000 (Oppermann 2009, 32; Hartramph 2004, 27-28).

The Bodie Island Coast Guard Station was the location of the Cape Hatteras National Seashore headquarters from 1954 until headquarters were moved back to Roanoke Island in 1966. The "Ash Wednesday Storm" of March 1962, one of the strongest storms of the twentieth century, convinced NPS staff that administrative offices should not remain on Bodie Island, which was directly exposed to the sea. Weather conditions on Roanoke Island were far better for staff during the winter, in addition to many more services being available including an airport at Manteo (Binkley 2007, 130, 163-68).

NPS Development Plans

The NPS began development plans for Cape Hatteras National Seashore shortly after its establishment in January 1953. The USCG transferred 56.37 acres of the Bodie Island Light Station to the NPS in October 1953. 1954 plans from the Eastern Office of Design and Construction outlined two variations of development at the light station based on the axial spatial order of the site. Although this was a transitional time for NPS planning between the end of the Park Development Era in 1941 and the beginning of Mission 66 in 1956, the plans reflect the design aesthetic characteristic of the Park Development Era with straight lines and axial geometry. Both plans submitted for the station called for a primary axis running through the center of the site aligned with the light tower, brick walkway, and double keepers' quarters, the latter of which

was to be converted to a natural history museum. Both variations included two privies flanking the double keepers' quarters to be used as exhibit space, scuppernongs planted on either side of the brick walkway, and a waterfowl overlook on the marsh side of the site. Vistas to Roanoke Sound and the Atlantic Ocean were possible through the windswept topography. Both included parking areas symmetrically laid out around the central axis but differed in their layout of the access road. One version laid out the parking area around a loop road that circled back out of the site. Another version included a proposed road to Oregon Inlet continuing past the station with turnoffs into the parking area (CAHA Collection 5602, Accession 359, Folder 4).

The NPS chose to construct the version with the loop road as seen in images from 1956 but retained the surviving outbuildings without constructing the proposed site features around the central axis. Aerial images from 1955 show that when the parking area was laid out, three outbuildings were still on site. The original brick walkway connecting the double keepers' quarters and the oil house/light tower remained, but at some point, a new wooden walkway running north to south changed the approach to the double keepers' quarters on the west, which had always been axially aligned with the brick walk on the east elevation.

Plans for the double keepers' quarters called for the structure to be converted to a "Museum of Natural History," which required significant changes to the interior. Major exterior changes were limited to the porches. By the 1960s, it was also being used as a visitor center (Oppermann 2009, 33-36).

Mission 66

[In January 1956, NPS Director Conrad Wirth outlined Mission 66, a ten-year park development program aimed at upgrading the conditions and meeting the demands of the postwar era. The primary Mission 66 plans for Bodie Island were recreational facilities at Coquina Beach, located directly across the island, completed in 1956. Developed as a day use area, facilities included shade structures designed to resist wind and storm damage. It was eventually decided that a separate visitor center for Bodie Island was not needed after the Cape Point visitor center's construction on Hatteras Island (Binkley 2007, 130, 163-168).

By 1962, the NPS had erected an observation platform on the site of the former detached oil house. A nature trail from the platform led to the marsh. Images from the 1960s show two wood stave tanks over the woodshed foundation, which were shown on the 1954 plans for the keepers' quarters. By 1969, two of the outbuildings (the privies shown in National Geographic image) had been removed. The NPS retained the 1920s storehouse. An image from 1977 shows a small shed-roofed building east of the back porch of the double keepers' dwelling and an image from the 1980s shows a larger building adjacent to the woodshed foundation, whose dates of construction and uses are unknown. Their use and date of demolition are unknown (Hartramph 2004, 28).

Site Development 1990-Present

The double keepers' quarters underwent a massive repair campaign from 1990 to 1992 that addressed several issues and restored the alignment of the west front walk. The NPS re-graded the site, took up the NPS-era wooden north-south walkway, and constructed a universally accessible concrete walk and wooden ramp that followed the alignment of the original brick walk, disguising its true purpose as a wheelchair ramp. On the porch, a beveled wood board served as a reducer to provide a wheelchair-negotiable change in grade from porch deck to building interior. Also part of this project was the construction of a wooden HVAC enclosure (Firth 1987, 17-18; Oppermann 2009, 37).

The NPS added a new restroom building north of the double keepers' quarters in 1992. In 2010, a new boardwalk with observation tower that begins at the edge of the north parking area and travels out into the marsh and the water beyond was installed by the State of North Carolina and donated to the NPS.

Transfer of the Lighthouse to the NPS

In 1972, the USCG and the NPS began discussions about allowing public access to a portion of the inside of the lighthouse. These talks led to a 1973 agreement calling for the NPS to make some required safety modifications for the protection and safety of the visitor. A use permit for visitation in place by 1976 was apparently only for the grounds around the lighthouse. NPS

historical architect John C. Garner, Jr. noted that the spiral stairs were not supported between landings and that there was "considerable movement when traversed." A group of engineers and NPS personnel met on site in October 1976 and concluded that the structure was unsafe for public use (Hartramph 2004, 29-30). Beginning in 1983, a series of inspections by different parties identified numerous deficiencies in the light tower and oil house. The deterioration of the lighthouse and the lack of preventive maintenance arose from a misunderstanding between the USCG and the NPS about who was responsible for maintaining the structure. The 1994 USCG inspector noted that the grounds of the light station and the associated outbuildings, owned by the NPS, were well cared for. In 1996, the Commander of the USCG Group Cape Hatteras noted that "structural deterioration at Bodie Island Light is making the light unsafe for personnel to maintain the light gallery and optics."

In 1994, the Outer Banks Lighthouse Society formed to aid in the preservation of the buildings and artifacts of the lighthouses in the area. They asked for a structural evaluation of the Bodie Island Lighthouse in 1996 by Alden and Associates of Reading, Pennsylvania, who concluded that the structural integrity of the tower might be in doubt (Hartramph 2004, 29-30).

High levels of lead paint prompted the USCG to repair and repaint the lighthouse in 1997. Also included were replacement of windows, repointing of interior brickwork, installation of steel covers for the damaged stair treads, and other repairs. The Outer Banks Lighthouse Society funded another report on the condition of the lighthouse in 1997, carried out by Cullen Chambers of the Tybee Island Historical Society. The chief concern was the condition of the metal parts, particularly those of the deck supporting the lantern and surrounding galleries and ornamental ironwork. The report warned of falling metal parts, which got the attention of the NPS, who cordoned off the area around the lighthouse to protect visitors from falling debris (Hartramph 2004, 34-45).

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On July 13, 2000, the USCG transferred the lighthouse and approximately .22 of an acre to the NPS. This transfer did not include the Fresnel lens, as the USCG considers lighthouse lenses personal property rather than real property. The lens remained the property of the USCG, managed by the USCG Curator. The NPS installed a wooden board fence around the lighthouse to prevent injury from falling metal from the platform at the top (Superintendent's Annual Report 2000, 6; Bodie Island Lighthouse Lens 2005).

In 2001, the Outer Banks Lighthouse Society paid International Chimney Corporation to inspect failing ironwork and other damaged areas. Following a National Register nomination written by Candace Clifford in 2002, the Bodie Island Light Station was listed in the National Register of Historic Places in July 2003. In 2004, the Outer Banks Lighthouse Society sponsored an inspection of the first-order Fresnel lens and sought to keep the lens in place until lighthouse restoration. On August 9, two cast-iron pieces fell from the gallery level, resulting in the closure of the base of the tower to visitors and an expansion of the size of the fence around the lighthouse. In 2005, the USCG transferred the Fresnel lens and the operation of the lamp as an active aid to navigation to the NPS (Roberts 2010, 21).

Following the completion of a historic structure report for the lighthouse/oil house and preservation/rehabilitation plans, the North Carolina Department of Cultural Resources concurred in 2007 with a determination of no adverse effect, provided that the number of stair treads replaced did not exceed 21. The NPS sought federal funding in 2007 and 2008 but failed to receive any. The federal Omnibus Budget Bill of 2009-2010 included long-awaited funding ($3 million) for repair and replacement of ironwork as well as repair of masonry and stone, repair of

floors and other interior treatments, lead paint abatement, painting, and installing new handrails and a fire suppression system. The NPS received an additional $2.5 million in fiscal year 2012 and completed the project in December 2012.

The NPS opened the lighthouse for climbing in April 2013 "officially" for the first time in its history. According to John Gaskill, son of Keeper Vernon Gaskill, visitors were allowed to tour the lighthouse during this father's tenure from 1919 to 1940 if they could get there, but few could navigate driving the beach before roads were built. According to NPS historian Doug Stover, the USCG left the door unlocked so that locals could climb the tower, and the NPS opened the doors, as staffing was available, so that visitors could look inside. Visitation will be limited to 380 climbers per day, who will be charged a special amenity fee. It is proposed that the lighthouse will be open from March through December (CAHA Collection 5602, Accession 359, Folder 2).

After the writing of the CLR, the park implemented several treatment recommendations. In 2013, the nonnative pines were removed from the center of the traffic loop. In 2017, a five-year adaptive management plan utilizing a combination of aerial and hand spraying in the spring and fall each year to control and eradicate Phragmites australis was initiated. The following year interpretive waysides were established, and in 2020 French drains were installed to alleviate standing water in the cisterns.

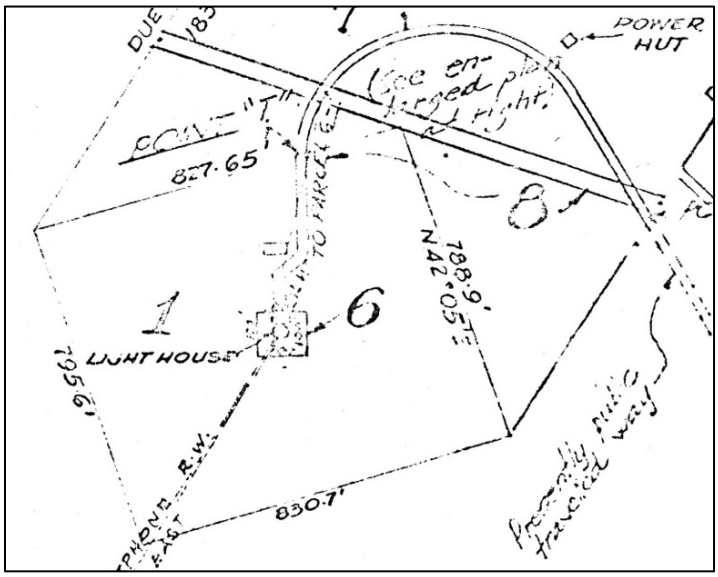



Fig 2.30. USCG plot showing light station parcel (1) and parcel to be retained by the USCG (6), 1953. (Taken from History of the Bodie Island Light Station)

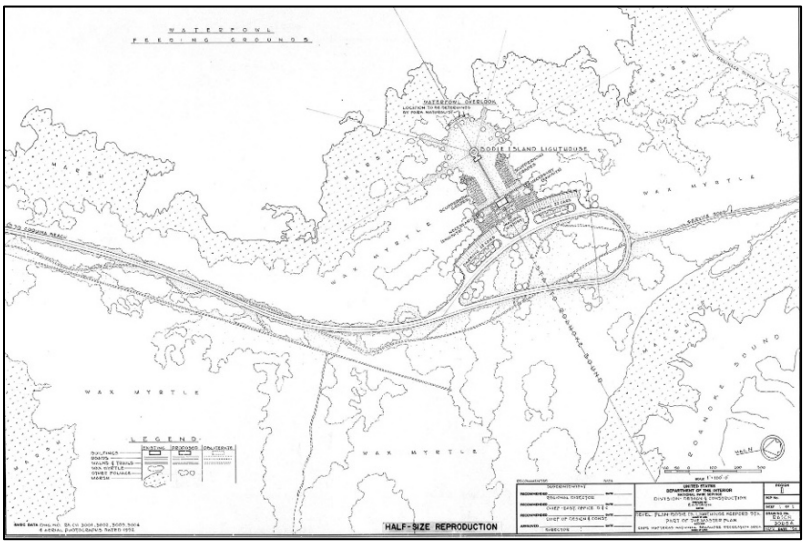



Fig 2.31. NPS Development Plan for Bodie Island Light Station, 1954. (Denver Service Center etic 603/3005A)



Fig 2.32. View of the newly constructed parking area and loop road, 1955. (CAHA Collection)



Fig 2.33. View of the light station from the loop road, 1957. (CAHA Collection)

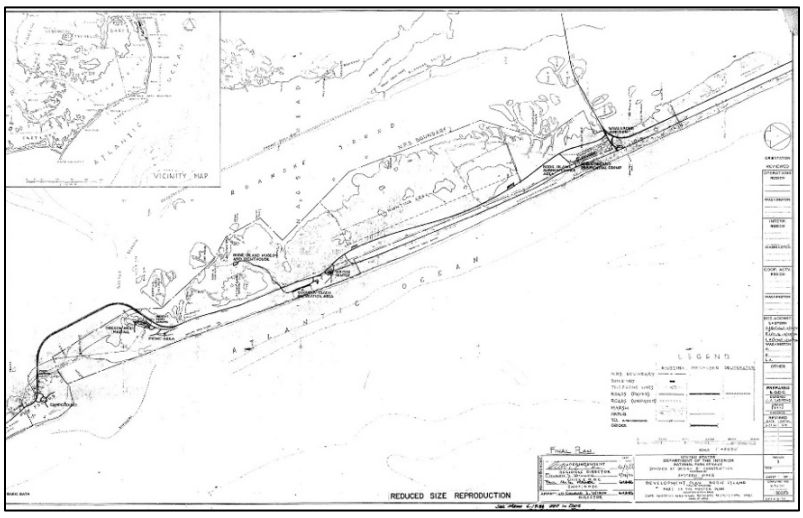



Fig 2.34. Development Plan – Bodie Island, 1956. (Denver Service Center etic 603/3030)



Fig 2.35. Shade structures at Coquina Beach, 1956. (CAHA Collection)



Fig 2.36. Observation platform, 1962. (CAHA Collection)



Fig 2.37. Wood stave tanks, 1956. (CAHA Collection)

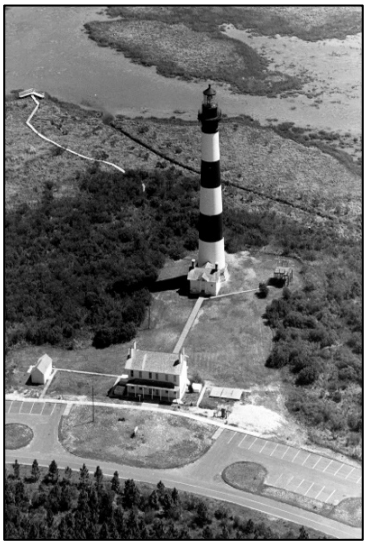


Fig 2.38. Aerial view showing privies and stave tanks removed, undated. (The Outer Banks History Center, Manteo, NC, Aycock Brown Collection)



Fig 2.39. Image showing shed behind the double keepers' quarters, 1977. (CAHA Collection)



Fig 2.40. Image showing a shed near the woodshed foundation, c. 1980s. (CAHA Collection)



Fig 2.41. The site under construction, 1990. (SERO Collection)



Fig 2.42. Double keepers' quarters with wooden ramp, 1996. (SERO Collection)



Fig 2.43. Bodie Island Lighthouse, 1996. (SERO Collection)



Fig 2.44. View of Bodie Island Lighthouse in July 2012. (SERO Collection)

# Chapter 7: Uses

## Functions and Uses

| Seq. No. (R) | Major Category (R) | Category (R) | Use/ Function (R, if exists) | Historic (Yes/No) | Current (Yes/No) | Primary (Yes/No) |
|---|---|---|---|---|---|---|
| | Domestic | Multiple Dwelling | Family Duplex | Yes | No | Yes |
| | Government | Government Office | Visitor Contact (Visitor Center) | No | Yes | Yes |
| | Defense | Coast Guard Facility | Light Station | Yes | No | No |
| | Landscape | Natural Area | Dune | Yes | Yes | Yes |
| | Landscape | Natural Area | Wetland | Yes | Yes | Yes |
| | Landscape | Natural Area | Body of Water | Yes | Yes | No |
| | Transportation | Water-Related | Lighthouse | Yes | Yes | Yes |

## Public Access

***Public Access***

Unrestricted

***Public Access Narrative***

[enter text here]

## Associated Ethnographic Groups

| Seq. No. (R) | Ethnographic Group [Select from drop down pick list.] | Current (Yes/No) | Historic (Yes/No) |
|---|---|---|---|
| | N/A | | |
| | | | |

***Ethnographic Study Status:***

[enter selection here]

***Ethnographic Narrative:***

[enter text here]

# Chapter 8: Analysis & Evaluation

## Analysis and Evaluation Summary

### LANDSCAPE CHARACTERISTICS

The Bodie Island Light Station possess eleven landscape characteristics which include views and vistas, buildings and structures, natural systems and features, spatial organization, small-scale features, vegetation, land use, circulation, cultural traditions, constructed water features, and topography.

The four most relevant landscape characteristics within the landscape include spatial organization, buildings and structures, topography, and natural systems and features. The topography and natural systems and features provided the need for a lighthouse and determined the siting of the structure. The spatial organization and buildings and structures reflect the historic uses of the site and the designs of the light-house board and U.S. Coast Guard. For example a character-defining feature of the Bodie Island Light Station is the axial relationship of the light tower, oil house, double keepers' quarters, storehouse, and cisterns. The layout of the site was consistent with other light stations of the day, where a clustering of support buildings facilitated easy access. The design of the 1956 entrance road has achieved significance in its own right. The original design was characteristic of earlier Park Development Era layouts, and as was often the case, the more formal parts of the design were never implemented.

### INTEGRITY

Landscapes possessing integrity have the ability to convey historical significance through extant landscape features and characteristics. The effort to determine a landscape's significance according to National Register criteria focuses on seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. The persistence of these qualities as they apply to the landscape determines whether the landscape retains enough of its important features to convey its historically significant appearance or associations.

The following is from the CLR (2014) 87-92:

Location

The location of the Bodie Island Light Station on the north side of Oregon Inlet is unchanged. Two earlier light station sites were lost to the encroaching sea on the south side of the inlet. The site was chosen because a light station at Oregon Inlet was critical to navigating the dangerous shoals of the "Graveyard of the Atlantic." The location of the site, complemented by its remote setting, reflects the character of the landscape during the period of significance. Because of the flat topography and lack of identifiable landmarks in such a remote location, lighthouses helped mariners determine their position both by day and night. The buildings and structures are in their original locations. The historic circulation features are essentially in their historic alignments. The site retains a high degree of integrity of location.

Setting

The physical environment surrounding the site includes both natural systems and cultural land use patterns. The isolated setting today retains an undeveloped, naturalistic appearance with few modifications. A communications tower can be seen in the far distance next to the Herbert Bonner Bridge, although the bridge's low profile does not detract from the setting. With the area surrounding the station protected from development, the historic setting retains a high level of integrity.

Design

The present light tower embodies a distinctive design and method of construction that typified first-order coastal lighthouses (those measuring over 150 feet) on the East Coast of the United States during the second half of the nineteenth century. Measuring 164 feet from ground level to the tower to the top of the ventilator ball, Bodie Island is a first-order lighthouse built to a similar design. The Light-House Board used the 1871 plans for the Bodie tower, signed off by the Engineering Secretary, Major George H. Elliot, for subsequent lighthouses including the tower at St. Augustine, Florida (1874), and Sand Island, Alabama (1873). The site retains a high level of design integrity.

Materials

Brick is the most popular construction material of the surviving 640 lighthouse towers in the United States. In addition to brick, other historic building materials used in the construction of the Bodie Island Light Station were granite, iron, copper, bronze, wood, and later concrete for walkways in the 1920s. Plantings at the site historically have been limited to native vegetation. Garden plots located at the rear (east) of the station were noted as being unprofitable in early reports. Many of the planted pines in the ellipse and along the entrance road in the 1960s have been lost over the years to storms and are non-contributing.

Pedestrian circulation materials are different from those used historically in some cases. At the visitor center/bookstore, four sections of concrete walk (two at the east porch and two at the west porch) survive from the period of significance. Another remnant that linked the oilhouse/light tower with the sheet metal oil house survives. The material of the original brick walkways has not changed. All other walkways were changed from wood to concrete in fiscal year 2011 to prevent buckling after storm events. Vehicular circulation was unpaved before the construction of the 1956 entrance road and parking lot, which has remained asphalt. No historic fencing materials survive, although the non-contributing fence around the lighthouse is constructed of wood.

Repair work undertaken during the 1990-92 building campaign replaced materials in kind. Restoration work completed in December 2012 to the light tower and oil house repaired and replaced materials in kind. Overall, the Bodie Island Light Station retains a high level of integrity of materials.

Workmanship

Although its design integrity remained intact, the preservation of the Bodie Island Lighthouse was threatened until funding was secured for its restoration in the 2009-2010 Omnibus Budget Bill. The deteriorative effects of time, the harsh marine environment, and the corrosion of original cast-iron elements resulted in significant damage to historic fabric. Contractors completed

restoration work on schedule in December 2012 in preparation for opening the lighthouse for climbing in April 2013. Overall, the light station retains a high level of integrity of workmanship.

Feeling

The Bodie Island Light Station retains integrity of feeling. Although the vegetation has changed since the building of dunes in the 1930s, Bodie Island still retains a wild, undeveloped character reminiscent of the nineteenth century when lighthouses were being built along the Outer Banks of North Carolina to protect coastal shipping. There are no modern intrusions, except for a restroom building and HVAC enclosure that do not undermine the ability of the site to convey the feeling of a nineteenth-century light station.

Association

Integrity of association remains high for the Bodie Island Light Station. The Fresnel lens and the operation of the lamp as an active aid to navigation remained under the jurisdiction of the USCG until 2005, when it was transferred to the NPS. Now that the restoration work to the light tower and oil house is completed, the first-order Fresnel lens will be returned and relighted, providing a tangible link to the maritime history of the Outer Banks and its relationship with the USCG. One objective of repairs to the visitor center/bookstore that occurred in 1990-92 was using the building fabric to tell the story of the building's former use as living quarters for the lighthouse keepers.

Summary

Integrity of location, setting, feeling, workmanship, materials, and association remain high. The station retains a nineteenth and early twentieth-century appearance with few modifications.

## Landscape Characteristics and Features

***Natural Systems and Features***

Natural systems and features are the natural aspects that have influenced the development and physical form of the landscape, and can include geology, geomorphology, hydrology, ecology, climate, and native vegetation.

**Historic Condition:**

The Outer Banks of North Carolina refer to a thin slice of land separated from the mainland by a large expanse of shallow water, comprising the Albemarle, Croatan, and Pamlico Sounds. The formation of these barrier islands began fifteen thousand years ago when the ocean level was 300 feet lower than today and North Carolina's coastline extended 50 to 75 miles east of its present location. Winds from the west piled up sediment to create a large dune at the easternmost edge of the continental landmass. Then, as glaciers melted and the sea level rose, the dunes became barrier islands paralleling the coastline. Although the sea continues to rise, the Outer Banks have slowly moved to the west and remained intact because of the unique combination of wind, waves, and weather (Oppermann 2009, 7).

**Post-Historic and Existing Conditions:**

These forces of nature, combined with human activities on these islands, have resulted in the development and constant change of beach, dune, grassland, shrub thicket, and salt marsh habitats throughout the islands. Each of these habitats supports a great variety of wildlife, some commonly observed and some not so easily spotted. Although many of the plants and animals are common to eastern North Carolina, the Seashore does also support several threatened and endangered species, such as the piping plover and loggerhead sea turtle.

The estuaries and sounds behind the barrier islands are among the richest and most productive ecosystems known. Nurseries, shelter, and food are provided for many species of fish, shellfish, and wildlife.

Inlets

By protruding so far into the Atlantic, the Outer Banks are particularly vulnerable to hurricanes and storms that continually resculpt the fragile landscape. Inlets are formed when storm surge

and high waves drive water across the islands to the sounds. As the seawater moves into areas of progressively lower topography, channels form and may erode to the depths that permit a reverse flow (sound to sea) during ebb tide. Most such inlets are temporary features that only last a few days. Historical records dating from 1585 document more than 24 different inlets cutting across the Outer Banks at various times. Geographic formations indicate that almost half of the Outer Banks has been covered by inlets at one time or another (Hartramph 2004, 7; Dolan 1986, 8).

Sand Dunes

All mid-Atlantic barrier islands have dunes of various sizes landward of the beach, formed when sand particles are transported by wind across the beach face and deposited within the overwash flats and vegetated zones, which trap and stabilize the sediment. A characteristic island configuration is: a broad beach, a dune field, overwash terraces, and a fringing marsh on the sound side of the island.

During the 1930s and late 1950s, stabilization efforts focused on the construction of sand fences to control these forces of nature. Trapped wind-blown sand formed an unbroken chain of barrier dunes, which were planted with vegetation to further stabilize them. Consequently, all but the most severe storm overwashes were contained seaward of the barrier dunes. Stabilized dunes differ from natural dune systems in changed vegetation patterns that results when the stabilized dune line stops overwash and salt spray and enables vegetation, which usually grows farther away from the natural beach, to survive on its backslope. Shrub thickets 10 to 15 feet high have rapidly progressed seaward especially on Bodie Island. Before dune stabilization, only a few shrubs grew in the sand flats near the light station. By 1979, this same area was covered with a dense growth of shrubs, as was the entire center of the island (Dolan 1986, 26, 35-36).

Soils

The USDA Soil Conservation Service considers the soil type Duckston fine sand to be nearly level, poorly drained soil occurring on flats and in slight depressions. Areas are irregular in shape

and range from 5 to 50 acres in size. This soil is occasionally flooded by storm tides for brief periods. It is exposed to varying amounts of salt spray, depending on the proximity to the ocean.

Duckston is classified mainly as habitat for wildlife. It is not suitable for cropland or woodland because of exposure to salt spray, the hazard of flooding, and lack of adequate drainage outlets. Also present are small areas of Conaby, Corolla, Newhan, and Osier soils. Corolla soils are on low knolls, and Newhan soils are on the higher knolls. Conaby soils are on flats and in troughs and depressions, and Osier soils are along marshes and in depressions (Tant 1986, 11-24) (.

Flora

The ecological zonation of Cape Hatteras National Seashore is resultant in part due to nature and in part due to human activity. The most important landscape altering activities by humans were: (1) early efforts at mosquito control and waterfowl management, which involved excavation of drainage ditches and construction of water control structures; and (2) construction and vegetative stabilization of primary dunes along the length of the Seashore (http://www.nps.gov/caha/naturescience/plants).

Fauna

Reptiles are a significant component of the native biodiversity in virtually every natural terrestrial and freshwater habitat in the southeastern United States. Despite being often overlooked, reptiles are vital components of southeastern ecosystems. They can serve important roles as both predators and prey, forming critical trophic links in many ecosystems, and can serve as indicators of environmental integrity. According to recent investigations of reptile occurrences on the Outer Banks, 59 species of reptiles have been documented in Dare County, North Carolina, since 1588. Of these, 32 species of reptiles have been documented at Cape Hatteras National Seashore. Some coastal birds nest in colonies on the open beach. Safety comes in numbers, providing protection from potential predators. Colonial nesting waterbirds at Cape Hatteras include the least tern, common tern, gull-billed tern, and black skimmer (http://www.nps.gov/caha/naturescience/animals).

Climate Change (Jones and Dalton 2012, 8-11)

Observed Climate Change

Long-term temperature records in the southeast show that average annual temperatures have not significantly changed during the last century; however, since 1970 average annual temperature has increased 2°F. Annual temperature increases in the Caribbean since 1970 have been about 1.5°F. During this time period the greatest changes in average annual temperature occurred during the winter months and the number of freezing days per year decreased. Precipitation records (1901-2007) indicate a regional reduction in rainfall in the summer, winter, and spring from 10 to 25%; however, precipitation increased during the fall by as much as 30%. Precipitation patterns are also changing, with the intensity of storms and the occurrence and severity of droughts increasing since 1970.

An increase in sea surface temperature since 1970 has been accompanied by an increase in the destructive potential of Atlantic hurricanes that make landfall in the Southeast region, although changes in the frequency of landfalling hurricanes has not been established. Summer wave heights have increased along parts of the U.S. Atlantic coastline since 1975, attributed to the increase in tropical storm intensity in the Atlantic Basin.

Projected Climate Change. Temperature projections indicate continued warming in all seasons across the southeast along with an increase in the rate of temperature increase through 2099. Projected rates of warming are twice the rates of temperature increases experienced in the southeast since 1975, with the greatest temperature increases projected to occur during the summer months. The number of days with peak temperatures over 90°F are predicted to increase at a greater rate than average temperature. Temperature projections vary based on emission scenarios, with lower emissions scenarios projecting an average temperature increase of about 4.5°F by 2080, while a higher emissions scenario projects an average annual temperature increase of about 9°F, including a 10.5°F increase in summer, and a much higher heat index for the southeastern United States. In the Caribbean, temperature is predicted to increase by about 4°F by 2080, somewhat below the global average. Climate models also project a continuing decline in days below freezing across the entire region during the coming decades.

Sea surface temperature is projected to increase globally as the oceans absorb increasing heat energy from corresponding projected annual air temperature increases. Tropical storm and hurricane activity is likely to increase in the Atlantic hurricane formation region with global warming as a function of globally observed higher sea surface temperatures. If the intensity of Atlantic tropical storms increases, southeastern ecosystems will likely be exposed to higher peak wind speeds, rainfall intensity, storm surge, and wave heights.

Climate models provide divergent results for future average annual precipitation for most of the southeast and Caribbean; however, data suggests that southeastern states will tend to have less rainfall in winter, spring, and summer and precipitation in the Caribbean is expected to decline by about 12%. Because corresponding predicted temperature increases will lead to increased evapotranspiration, moisture deficits and droughts are likely to continue.

Predicted average annual temperature increases will warm oceans and increase the rate that land ice melts. Global average mean sea levels are expected to increase up to 2 feet or more by 2100. Increasing the rate and magnitude of sea-level rise has serious implications for low-lying southeastern coastal wetlands and barrier islands. Many coastal environments along the South Atlantic and Gulf of Mexico coastal margins are experiencing land surface subsidence due to factors such as groundwater withdrawals, changes in sediment delivery via rivers, and the drainage of soils for coastal development. Even if hurricanes do not increase in intensity, an increase in mean sea level will amplify coastal inundation and erosion during hurricane landfall. There are currently 5,000 square miles of dry land within 2 feet of mean sea-level in the coastal areas of the continental United States. While the majority of this land is currently undeveloped, coastal development in the southeast is predicted to increase more than any coastal region in the United States, and any terrain within a few feet above mean sea level could be inundated; just a 2-foot rise in sea level would inundate an area the size of Massachusetts and Delaware.

Currently, sea levels are rising at 0.07 inches per year. Predictions of future sea-level rise through 2100 are between 0.6 to 2 feet. Impacts of rising sea levels include coastal erosion; coastal

inundation (including wetlands); increased storm surge; loss of habitat, property, and cultural resources; and degradation of surface and groundwater quality. Highly productive coastal wetland ecosystems, which provide habitat for many species, act as filters to improve ground and surface water quality, provide an economic base for many coastal communities, offer recreational opportunities, and protect local areas from flooding, are particularly vulnerable to sea-level rise. The most likely increase in sea-level rise for the Outer Banks in the next century is estimated to be from 1.6 feet to 3.3 feet according to a 1995 EPA report. A study prepared by the Virginia Institute of Marine Science suggests that even small changes in sea-level rise over the next 100 years show a rapid increase in the amount of salt marsh lost to open water and that increases of 3.3 feet or higher would result in large scale losses of salt marshes in the Cape Hatteras National Seashore area (Perle 1996, 43-61).

A study to determine the impact of sea-level rise on cultural resources was funded in 2013. A 2011 study by Lautzenheiser, Bamann, and Gosser documented the disappearance of archaeological sites through coastal erosion in North Carolina. The authors attempted to revisit six prehistoric archaeological sites along the sound side of the Outer Banks, the mainland, and on Roanoke Island. Five of these six sites have been adversely impacted by coastal erosion and rising sea levels. Increasing erosion forced the NPS to move the Cape Hatteras Lighthouse further inland in 1999 (Dawson and Wilson 2012,10-11).

*Landscape Features:*

**Feature Name**: Inlets
**Feature Contribution:** Contributing

**Feature Name**: Sand Dunes
**Feature Contribution:** Contributing

**Feature Name**: Soils
**Feature Contribution:** Contributing

**Feature Name**: Flora

**Feature Contribution:** Contributing

**Feature Name**: Fauna

**Feature Contribution:** Contributing

***Spatial Organization***

Spatial organization is the three-dimensional organization of physical forms and visual associations in a landscape, including the articulation of ground, vertical, and overhead planes that define and create spaces.

**Historic Condition:**

The spatial organization at the Bodie Island Light Station reflected a landscape pattern of support buildings clustered around the lighthouse characteristic of other light stations with tall towers. A rectilinear arrangement centered around a central northeast to southwest axis that was aligned with the brick tower/oil house, the double keepers' quarters, and the brick walk that connected them. Until a road was built in the 1920s, the east façade of the double keepers' quarters, which faced the brick tower/oil house, was referred to as the "front." A secondary northwest-southeast axis flanking the double keepers' quarters aligned support buildings and cisterns. A wooden fence enclosed the station and walkways connected the various buildings on site.

**Post-Historic and Existing Conditions:**

The station is set back about eight-tenths of a mile from the Atlantic Ocean to the east and one hundred yards or so from the marshy Roanoke Sound to the west. NC 12, which connects the communities of Nags Head about 11 miles to the north and Hatteras about 50 miles to the south, parallels the shoreline. A NPS access road branches off just to the north of the station and circles west and then southward to paved parking areas on the east side of the entrance road. Off Island Hunt Club Road is an unpaved road that leads to a boat dock for Off Island, where the modern

Hunt Club is located. Old Dike Trail is a public walking path branches off to the east of Off Island Hunt Club Road.

Seventy-one parking spaces currently flank the NPS bookstore/visitor center (formerly the double keepers' quarters). Overflow parking is currently on a grassed area of the entrance road, although some visitors park along the curb of the southern section of the entrance road. From the parking area, visitors typically enter the bookstore/exhibit space or use paved walkways to circulate about the station. Paved walks connect all resources of the site and a boardwalk leads out to the marsh and overlook.

The 15-acre station is dominated by the 164-foot brick lighthouse with its bands of black and white and its attached brick oil house. An original brick walkway links the tower and attached oil house and the NPS bookstore/visitor center. The axial layout of the site is preserved by the surviving walkways, now paved in concrete. On the north side of the keepers' quarters, one historic outbuilding dating to around 1920 and two cisterns survive; on the south side a cistern and the foundation of a 1930 woodshed remain.

The footprint of the spatial layout of the site survives much as it was when documented by Bamber in 1893. The Bamber site plan shows the axial relationship of the light tower/oil house, double keepers' quarters, and outbuildings. The principal loss has been the original outbuildings that provided support for the site.

*Landscape Features:*

**Feature Name**: Spatial pattern of the Lighthouse and Support Buildings/Structures
**Feature Contribution:** Contributing

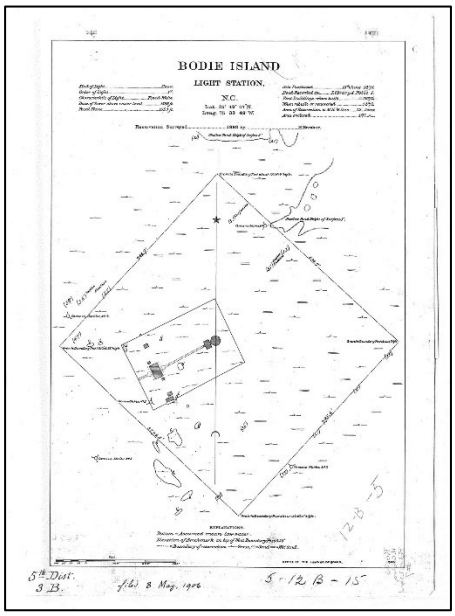



*Fig 3.1. Bamber site plan, 1893. (CAHA Collection)*

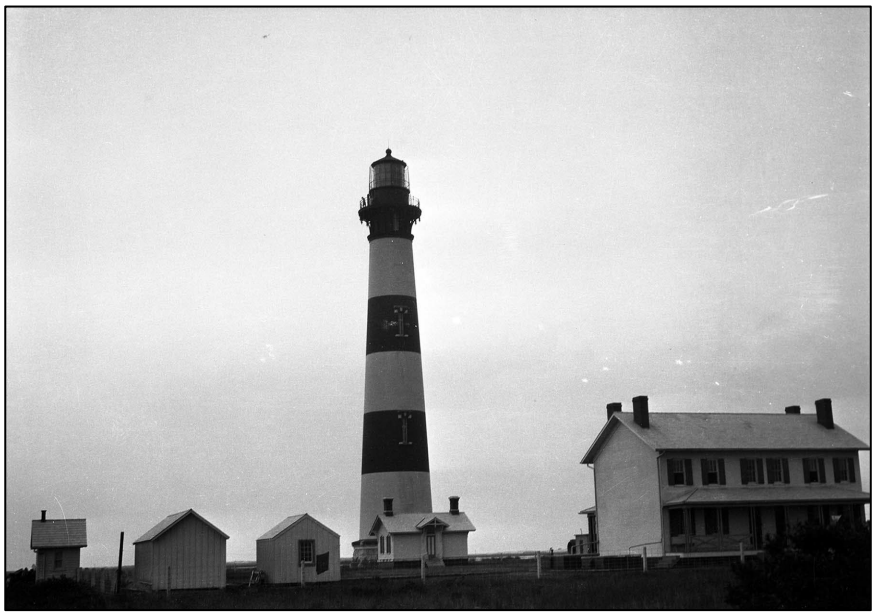


*Fig 3.2. Bodie Island Light Station, c. 1928. (The Outer Banks History Center, Manteo,*



*Fig 3.3. Overflow parking along the curb, 2012. (SERO Collection)*



*Fig 3.4. Bodie Island Light Station, 2012. (Chuck Liddy, 2012)*

### *Land Use*

Land uses are the principal activities in a landscape that form, shape, and organize the landscape as a result of human interaction.

**Historic Condition:**

Because of the need for navigational aid north of Cape Hatteras, the Lighthouse Service built a series of light stations on this section of Bodie Island beginning in 1848. As a result, lighthouse keepers and their families lived at the Bodie Island Light Station until 1940. In 1939, the Lighthouse Service was incorporated into the USCG. A major change to the operation of the light occurred the following year, when the Bodie Island Light Station became an unmanned light, lit by an electric generator operated by timer. On October 15, 1953, the Bodie Island Light Station property was declared surplus by the USCG and transferred to the NPS as part of the Cape Hatteras National Seashore. The USCG continued to operate the lighthouse as a navigational aid until 2005, at which time the first-order Fresnel lens was transferred to the NPS.

**Post-Historic and Existing Conditions:**

Current land uses include recreation, interpretation, law enforcement, and maintenance. With the completion of the work on the lighthouse, its use as a navigational aid returned in 2013.

*Landscape Features:*

**Feature Name**: Navigational Aid

**Feature Contribution:** Contributing

**Feature Name**: Maintenance

**Feature Contribution:** Contributing

**Feature Name**: Recreation

**Feature Contribution:** Noncontributing

**Feature Name**: Interpretation

**Feature Contribution:** Noncontributing

**Feature Name**: Law Enforcement

**Feature Contribution:** Noncontributing

#### *Cultural Traditions*

Cultural traditions are the practices that have influenced the development of the landscape in terms of land use, patterns of land division, building forms, stylistic preferences, and the use of materials.

**Historic Condition:**

From the earliest times of permanent settlement, fishing was a primary occupation on the Outer Banks. The use of small boats and local modifications in gear became Outer Banks folkways, largely because of the shallowness of the sounds. Light keepers and lifesavers became increasingly important after the Civil War, and this was especially true on Bodie Island, which had no villages but had both a light station, a lifesaving station, and later a Coast Guard station.

**Post-Historic and Existing Conditions:**

Since the 1953 establishment of Cape Hatteras National Seashore, the NPS has come to be neighbor, friend, and nemesis to residents of the Outer Banks. On the one hand, Bankers are thankful that the federal government has protected much of the Outer Banks from commercial development. On the other hand, they resent some of the management policies and practices that the NPS has imposed on their lives. Nevertheless, the historic sites, artifacts, and natural areas that the NPS maintains are of deep symbolic significance to the villagers and provide tangible links to their not-too-distant past.

In 2001, the NPS, describing eight villages as "living exponents of the human history and maritime cultures" of Hatteras and Ocracoke Islands, called for an ethnographic and ethnohistorical study to better understand the neighboring communities along the Cape Hatteras National Seashore. The study, Ethnohistorical Description of the Eight Villages Adjoining Cape Hatteras National Seashore and Interpretive Themes of History and Heritage, was published in 2005. One goal of this project was to develop a description of social and cultural change, particularly pertaining to the interpretive theme of "seashore living and a fishing economy." The cyclical nature of various fisheries has an impact on island life, as do major fisheries policy shifts. Among features that remain constant is the region's vulnerability to "Mother Nature," including Hurricane Isabel that devastated Hatteras village in 2003 and Hurricane Irene, whose storm surge destroyed a 900-foot section of NC 12, stranding hundreds of residents and workers and cutting off tourist access to the area (Impact Assessment, Inc., 2-4).

### *Topography*

Topography is the three dimensional configuration of the landscape surface characterized by features (such as slope and articulation) and orientation (such as elevation and solar aspect).

**Historic Condition:**

Topographic changes are part of the cultural geography of the Outer Banks of North Carolina, where the opening and closing of inlets, which permit water to flow through the banks between the ocean and the sound, is commonplace. Over the years, at least six different inlets have been located between the present day Bodie Island Lighthouse and Rodanthe approximately 17 miles

to the south. The instability of this landscape has resulted in the reshaping of the size and even the location of Bodie Island over the years (Stick 1958, 277). The land now known as Bodie Island has not been an island since about 1811 when Roanoke Inlet closed. Oregon Inlet was subsequently opened by an 1846 hurricane, further confusing geographic identity. With the cutting of the Oregon Inlet, the lower part of the island was severed.

At the time of statehood in 1789, the Outer Banks featured areas of dense woods that stretched almost to the sea in some places interspersed with low and barren stretches of "bald beaches," which usually marked the sites of former inlets. In striking topographic contrast were the high, windswept sand dunes, constantly changing shape with the direction of prevailing longshore currents (Stick 1958, 77, Dolan 1986, 4).

Changes in the outline of the island are evident in a 1915 U. S. Coast Survey. Since it opened in 1846, Oregon Inlet has moved steadily to the south as a result of the south shore being cut away and the north shore building up. This action washed away the sites of the early Bodie Island lighthouses, and the inlet is now located where they once stood.

Bodie Island Light Station
A 1909 report of the station described the topography:

> Between station and boat landing. Sandy in places but mostly low and marshy. Between station and ocean deep muddy ponds - NW and N of station low flat borrow sands - SE and Slow sandy hillocks and creeks.
>
> Starting from boat landing to station about half the way is low and very muddy – as it is covered with water almost every flood tide. The other half is sandy, covered with a coarse grass. (Opperman 2009, 29; Hartramph 2004).

Bodie Island was called the "flats" in the 1930s for its flat, sandy expanses. Nor'easters caused flooding across the island from the ocean to Roanoke Sound. Storms from the opposite direction

caused flooding from the sound to the ocean and often returned the island to its pre-storm width (Stroh 1982, 2).

**Post-Historic and Existing Conditions:**

Barrier Islands

A typical cross section of a natural barrier island shows several characteristic features. Storm waves and tides carried sand and shells from the beach face to form a broad berm that slopes gently toward the interior of the island. This wide, bare berm serves as a buffer zone in which the wave energy of a moderate storm can be dissipated. Small dunes form on the berm between storms. Behind the wide berm is a zone of low, irregular dunes. Storm tides carry sand into the interior of the island through the depressions between dunes. The dunes form as sand accumulates around salt marsh cordgrass (Spartina patens) and sea oats (Uniola paniculata). Behind the dunes, storms leave a series of overwash terraces. The distribution of plants found on these flats depends on the elevation of each terrace above sea level. Broad salt marshes border the sound side of the barrier island.

Stabilized barrier islands have an altered beach, dune, and marsh morphology. The most striking difference, other than the artificial barrier dune system, is a much narrower beach width. The stabilized dune line stops storm overwash and salt spray, allowing plants that usually grow farther away from the natural beach to survive on the back slope (Dolan 1986, 33-35).

Flat Terrain

The Light-House Board sited the station back from the sea to ensure that it was sited away from the eroding inlet and placed it halfway between the ocean and sound. Both former sites are underwater in Oregon Inlet (Shelton-Roberts 2010, 10). The soil is sandy and the water table is high, typically just a few feet below grade. Site elevation is low, just three feet above sea level. Regrading of the light station site in 1992 addressed drainage problems, especially around the double keepers' quarters. After completion of the lighthouse restoration project in December 2012, the grounds were graded and seeded (Oppermann 2009, 37, 51; Tant 1986, 11-24).

The flat, windswept topography of the light station landscape is a character-defining feature. Because of the flat topography and lack of identifiable landmarks in such a remote location, lighthouses helped mariners determine their position both by day and night. The contrast between the flat topographic features of the site and the lighthouse rising to 164 feet is also a character-defining feature.

Constructed Barrier Dunes

Erosion control was a primary component of Mission 66 work at Cape Hatteras. It was intended to carry on the work begun by the Works Progress Administration and the Civilian Conservation Corps in the 1930s and 1940s. With the assistance of the North Carolina Highway Department, the NPS installed thousands of feet of snow fencing, created tens of thousands of cubic yards of dunes, and planted thousands of square feet of grass to protect the park and the state highway from erosion and storm damage.

On Bodie Island, workers used tractor-driven mechanical grass planters near Coquina Beach. An experiment set up before the "Ash Wednesday" storm of 1962, however, showed massive change, with its large barrier dune eroded over 100 feet from the ocean, and park officials became increasingly concerned about the efficacy of their techniques.

A series of scientific reports in the 1970s concluded that barrier dunes constructed since the 1930s had actually contributed to a loss of up to 150 feet of beaches and had dramatically altered the ecological and topographical characteristics of the Outer Banks. In 1973, the NPS embraced an entirely new management plan based on the principle that permanent structures in a natural beach setting were unsustainable and that important historic resources might require relocation. This new policy led the NPS to end artificial dune maintenance on park property on Bodie Island in 1982 (Brinkley 2007, 174-179, 201-203; Stroh 1982, 2).

Mosquito ditches

In 1960, the NPS developed a mosquito control program that included constructing a series of impoundments and drainage systems plus filling small areas in the salt marshes. Only parts of

this program were undertaken on Bodie Island in order to preserve the pristine marsh ecology. In 1963, drainage ditches were dug in three areas: the flats between NC 12 and Hatteras Road, the high marsh north of the Goosewing Club dikes, and the low marshes beside the sound near the lighthouse. The Lighthouse Pond impoundment was restored and new ditches dug to drain the margins of the area towards the pond (Firth 1987, 18).

The mosquito ditches are not being actively managed. The NPS has discussed removing the ditches and allowing the area to revert to natural conditions. A project of this magnitude would require partnering with other groups.

*Landscape Features:*

**Feature Name**: Barrier Island
**Feature Contribution:** Contributing

**Feature Name**: Flat Terrain
**Feature Contribution:** Contributing

**Feature Name**: Constructed Barrier Dunes
**Feature Contribution:** Noncontributing

**Feature Name**: Mosquito Ditches
**Feature Contribution:** Noncontributing



*Fig 3.5. Aerial view of the topography of the station, 1960. (CAHA Collection)*



*Fig 3.6. Fence construction along the Outer Banks, 1938. (CAHA Collection)*



*Fig 3.7. Grass planting on Pea Island, 1957. (CAHA Collection)*




*Fig 3.8. Workers planting grass using tractor near Coquina Beach, 1959. (CAHA Collection)*



*Fig 3.9. Mosquito control pond, 1963. (CAHA Collection)*

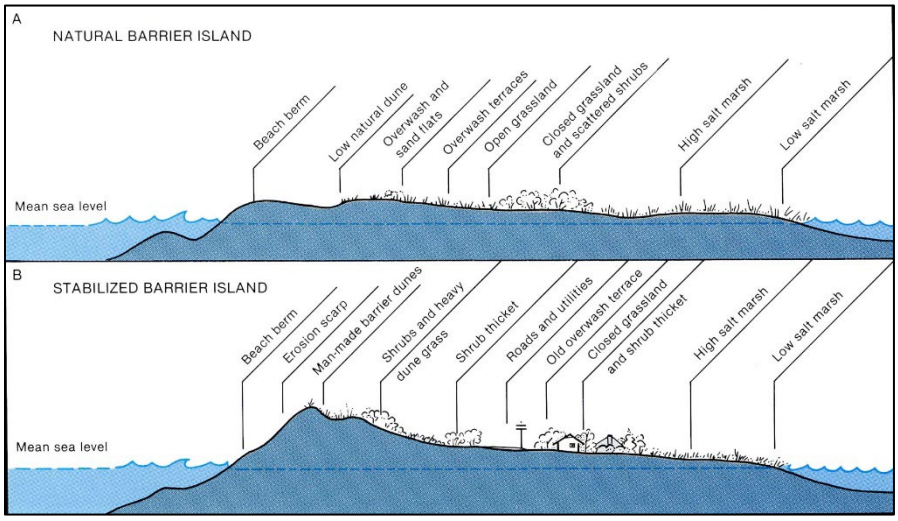



*Fig 3.10.. Barrier island cross section before and after dune stabilization. (Reprinted from The Outer Banks of North Carolina, USGS Professional Paper 1177-B)*



*Fig 3.11. NC 12 and barrier dunes across Bodie Island Pond, 2012. (SERO Collection)*



*Fig 3.12. Topography of the site after completion of lighthouse restoration, 2013.*



*Fig 3.13. Bodie Island Lighthouse Pond, 2012. (SERO Collection)*

***Vegetation***

Vegetation includes deciduous and evergreen trees, shrubs, vines, groundcovers, and herbaceous plants and plant communities, whether indigenous or introduced in the landscape.

**Historic Condition:**

A comparison of aerial photographs shows a significant increase in shrub and tree cover from 1934 to 1974. Around Lighthouse Pond in 1934, shrub savanna occupied 25.9 hectares of the slopes of the sand hills on the sound side of the lighthouse. By 1952, the shrub zone had extended over 105.9 hectares surrounding the pond and became denser along the tracks between the lighthouse and Hatteras Road. A 1944 aerial indicates that much of this increase in the shrub zone had already taken place.

Natural Vegetation

The 1849 U. S. Coast Survey of Bodie Island showed extensive grassy sand flats with interior pockets of wetlands and marshes beside the sound on the south end of the island. Trees are shown in three locations north of the future lighthouse station site. There is no evidence there were ever woods comparable to those at Nags Head and Kitty Hawk. Images from the 1893

survey showed a grassy sand flat with no vegetation above knee height. A 1915 U. S. Coast Survey mapped the vegetation in far less detail than the 1849 survey, with no differentiation between sand flats and grassy areas. Ian Firth interviewed several people for his 1987 report "Vegetation Changes on Bodie Island" to get a sense of the conditions there during the 1920s. All remembered sparse vegetation and low shifting dunes, with wax myrtles on sand hills in the vicinity of the light station that were low enough to keep the views unobstructed across the island (Firth 1987, 5, 21).

Lawn

Historic images show a site devoid of trees and shrubs (see Figure 48). In 1928, keeper Vernon L. Gaskill, Sr. reported that one of his duties was to "keep grass cut on lawn." His son, John, and Julian Austin, Jr., son of assistant keeper Julian H. Austin, Sr., also remembered being tasked with keeping the grass cut around the tower and keepers' dwelling. They never cultivated any grass, just mowed it within the lighthouse fence. (Clifford 2002, 32; Roberts 2010,14; Gaskill 2007, 42; Bodie Island Vegetation and Animals).

Pines

John Gaskill recalled the stand of pines to the south as far back as the 1920s; his father believed they were there much earlier (Clifford 2002, 32; Roberts 2010,14; Gaskill 2007, 42; Bodie Island Vegetation and Animals).

Garden Plots

Three garden plots at the light station were documented in the 1897 sketch that accompanied the keeper's request to build a stable. The garden was one acre in size and located at the rear of the site. The garden was described in a 1909 report of the light station as being "unprofitable" with "attempts … made to grow shrubbery, but the salt tides destroyed it in every instance." Apparently, amending the soil as originally suggested by the Light-House Board was not enough to overcome site conditions. John Gaskill confirmed that the garden was a failure, as the soil was too sandy. He stated that assistant keeper Bill Etheridge tried "several times but I don't think he had much luck with it." Growing food in such a remote location would have supplemented what

the keepers received by tender (Opperman 2009, 42, Firth 1987, 6; Bodie Island Light House Buildings 2-3).

Grazing Stock

By 1846, livestock had been grazing the Outer Banks for at least 150 years, although no early descriptions of stock raising on Bodie Island have been found. In the 1920s, a large number of cattle, sheep, and horses remained on Bodie Island. The best grazing was found in the marshes, especially those near Oregon Inlet, where winds from the southwest made insects less troublesome. Stock sometimes had to graze on wax myrtle and yaupon when grasses were not available.

The Bodie Island Club fenced the area around Lighthouse Pond after 1904, but conflict with stock owners made it difficult to maintain them. The fence that enclosed the light station, first seen in the 1893 survey, continued to exclude stock throughout the light station's history. The numbers of stock declined in the early 1930s after the passage of the 1935 North Carolina Stock Law, which banned free range stock on the Outer Banks between Caffey's Inlet and Hatteras Inlet (Firth 1987, 9-11)

Burning Marshes

The practice of burning the marshes to facilitate grazing and hunting is an old one mentioned in John Lawson's A New Voyage to Carolina. Waterfowl hunters and muskrat trappers burned the marshes of the Outer Banks to freshen forage for game. Bankers remembered the marshes on Bodie Island being burned in the 1920s and early 1930s. A policy of fire suppression began in the 1930s after the removal of free range stock from Caffey's Inlet and Hatteras Inlet. Blackneedle rush and Jesuit's bark were also reduced in favor of salt meadow cordgrass, saltgrass, bullrush, and bushy seaside tansy, which represents a more historically accurate species composition and provides better forage for wildlife (Firth 1987, 11; Lawson 1709, 128).

**Post-Historic and Existing Conditions**:

Lawn

Between 1954 and 1956, the NPS returned the site to a lawn of grass around the tower and outbuildings that was regularly maintained (Firth 1987, 23; Clifford 2000, 5). As of 2012, the immediate grounds of the station are a choppy mix of Bermuda grass, clover, and other forbs surrounded on three sides by pines and to the east by Bodie Island Lighthouse Pond, extending from the station to the main beach road. There are no ornamentals planted on the grounds.

Woody Plants

The various construction and drainage projects undertaken after the establishment of the park have increased the spread of woody species. Shrubs, dominated by wax myrtle, invaded areas historically vegetated by grasses and forbs. Between 1952 and 1974, the increase expanded further to 151.7 hectares or 35% of the total area. Draining the area between NC 12 and the old Hatteras Road resulted in a dense thicket of shrubs. The excavation of mosquito control ditches left spoil piles that shrubs colonized (Firth 1987, 20-25; Dolan 1986, 35-36; Stroh 1982, 1-3, 10-11).

The embankment carrying NC 12 is a place for the growth of woody species, but mowing keeps this growth largely in check. The shrub thickets along the road are the most likely to be affected by storm damage if the barrier dunes are breached. For example, in 2011, Hurricane Irene caused Bodie Island to be inundated by saltwater, thus killing off some of the less salt-tolerant woody vegetation.

The native vegetation within the station includes wax myrtle (*Myrica cerifera*), yaupon (*Ilex vomitoria*), greenbrier (*Smilax spp.*), eastern baccharis (*Baccharis halimifolia*), redbay (P*ersea borbonia*), plum (*Prunus sp.*) blueberry (*Vaccinium corymbosum*), muscadine (*Vitus rotundifolia*), Virginia creeper (Parthenocissus quinquefolia), climbing hempvine (*Mikania scandens*), erect centella (*Centella erecta*), and other groundcover species.

Marsh

The marsh vegetation that lines most of the western shoreline north and south of the boardwalk is dominated by salt marsh cordgrass (*Spartina patens*), black needle-rush (*Juncus roemerianus*),

narrowleaf cat-tail (*Typha angustifolia*), saltgrass (*Distichlis spicata*), and a large population of Olney's threesquare (*Schoenoplectus americanus*). Small, slightly elevated mounds are scattered among the marsh. These low mounds support species of plants that appear to be less tolerant of frequent flooding. Two Significantly rare species, salt marsh spikerush (*Eleocharis halophila*) and beaked spikerush (*Eleocharis rostellata*), co-occur on one such mound at the base of an interpretive sign on the north side of the boardwalk, along with common species such as marsh fern (*Thelypteris palustris*), Virginia creeper, poison ivy (*Toxicodendron radicans*) and wax myrtle. These mounds occur commonly within the marsh, and the composition of each mound probably results from a combination of niche specialization and stochastic processes related to colonization events and survivorship (Cape Hatteras National Seashore Natural Heritage Area Registry, 2011).

Constructed Barrier Dunes

The artificial barrier dunes protected the interior of the island from the impacts of salt spray, sand movement, and overwash, encouraging succession towards shrub and tree communities with a decrease in the area of sand flats and marsh. The expansion of the shrub community was primarily at the expense of the cordgrass communities. Before the dunes were stabilized, a few shrubs grew in the drifting sand near the lighthouse.

The 1962 Ash Wednesday Storm damaged 75% of the dunes along the seashore. On Bodie Island, the erosion of the beach was thought to equal that of the previous twenty-five years. Reconstruction work continued through 1963, but a reevaluation of the program resulted in a new management policy to allow natural barrier island dynamics to occur (Firth 1987, 15-17). By 1979, this same area was covered with a dense growth of shrubs, as was the entire center of the island.

Vegetative cover on the beach and dunes is variable, depending on the amount of exposure to wave and wind action. Many of the plant species found in these areas are well-adapted to these harsh conditions. On the upper beach, vegetation cover is a sparse (20% cover) monoculture of American searocket (*Cakile edentula ssp. edentula*). Seabeach amaranth (*Amaranthus pumilus*), a federally-listed threatened species, may occur here. Vegetative cover on dune slopes ranges from

sparse to dense (30-80% cover) patches of some easily recognizable species, including seaoats (*Uniola paniculata*), shore little bluestem (*Schizachyrium littorale*), salt marsh cordgrass, largeleaf pennywort (*Hydrocotyle bonariensis*) and firewheel (*Gaillardia pulchella*), lanceleaf greenbrier (*Smilax smallii*), and prickly pear cactus (*Opuntia pusilla*).

Phragmites

*Phragmites australis,* or common reed, is thought to be one of the most widespread plants on Earth and is found in marsh systems world-wide. It is an erect perennial grass that remains standing through all seasons and is fairly easily recognized by its plume-like inflorescences. Several clonal stands of common reed have invaded Bodie Island. Its establishment in the wetlands along the Atlantic coast is detrimental to native systems. It forms monospecific stands, reducing salt marsh community diversity and habitat quality (Davison 1986, 20).

The infestation is not manageable with the park's limited staff and budget at this time. The infestation is so large that it will require aerial herbicide spraying. However, NCDOT has agreed to treat fifty plus acres of Phragmites monoculture around the Lighthouse Pond for five consecutive years. Otherwise, the park is seeking funding to treat some of the smaller patches and at the very least keep Phragmites from spreading beyond current boundaries.

Tree Stands

Between 1956 and 1961, workers planted 21,000 pine seedlings. In 1961, the superintendent reported the receipt of 100,000 loblolly and slash pines (*Pinus elliottii*). 11,500 eastern red cedar (*Juniperus virginiana*) and bald cypress (*Taxodium distichum*) were also planted on Bodie Island. The pines have been reduced over the years by various storms.

Vegetation Management Practices

Burns

Prescribed fire has been used as a management tool for controlling shrub invasion. There were some prescribed burns on Bodie Island in the early 1970s and then more in the 1980s. The NPS

recently began prescribed burning again on Bodie Island, with the thought that fire may provide the disturbance necessary to reduce shrub coverage. In 2012, the NPS burned 600 acres of the south end of the island and 600 acres of the north end of the island. The area around the lighthouse was burned in February 2012, and the NPS is monitoring vegetation to see how it responds over time. The Cape Hatteras National Seashore Fire Management Plan was undergoing revision in 2013.

Although useful in the modification of areas colonized by shrubs, fire cannot replace salt water overwash to re-establish pre-1930 vegetation patterns. Fire does not eliminate woody species, but temporarily reduces their cover, whereas salt water often kills woody species. Fire generally increases soil fertility, whereas overwash increases soil salinity, which is unfavorable to many species.

*Landscape Features:*

**Feature Name**: Lawn

**Feature Contribution:** Contributing

**Latitude:** [enter text here]

**Longitude:** [enter text here]

**CRIS-HS Resource name:** [enter text here]

**CRIS-HS Resource ID:** [enter text here]

**FMSS Record Type:** Asset

**FMSS Record Number:** 232386

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Marsh

**Feature Contribution:** Contributing

**Feature Name**: Woody Plants

**Feature Contribution:** Contributing

**Feature Name**: Trees Stands

**Feature Contribution:** Noncontributing

**Feature Name**: Phragmites

**Feature Contribution:** Noncontributing

**Feature Name**: Constructed Barrier Dunes

**Feature Contribution:** Noncontributing

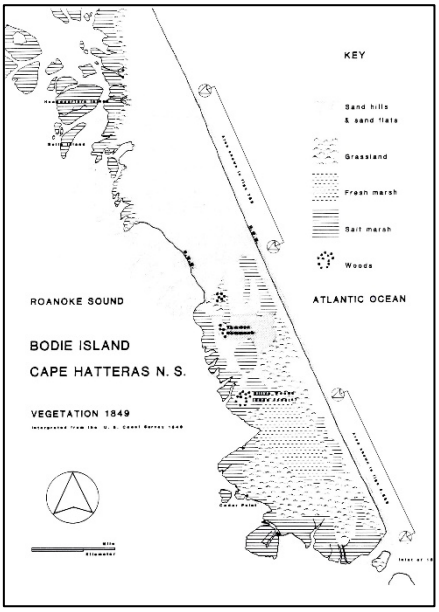



*Fig 3.14. Vegetation in 1849. (Taken from Vegetation Changes on Bodie Island)*



*Fig 3.15. Looking south from the light station, c. 1928. (The Outer Banks History Center, Manteo, NC, Meekins Collection)*




*Fig 3.16. Aerial image of the site, 1944. (CAHA Collection)*

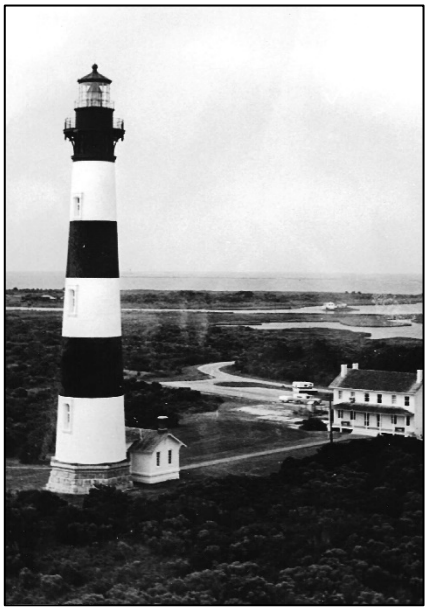


*Fig 3.17 1950s view of light station. Note vegetation growing up to mown areas. (Outer Banks History Center, Manteo, NC, Aycock Brown Collection)*

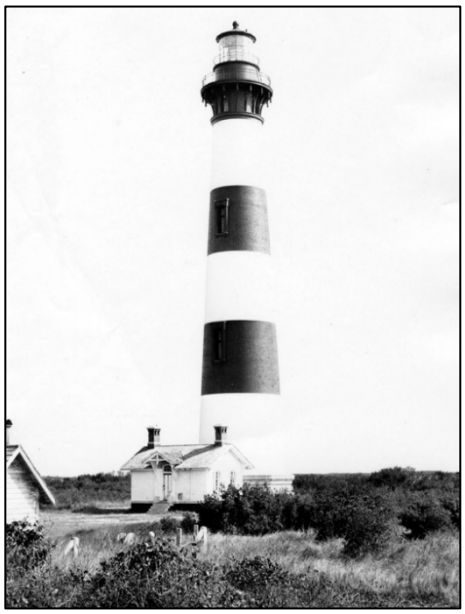


*Fig 3.18. Successional vegetation at the light station, 1954. (CAHA Collection)*



*Fig 3.19. View from the light tower looking back to the dwelling, 1954. (CAHA Collection)*



*Fig 3.21. Aerial view of the site before pines were planted, 1956. (CAHA Collection)*



*Fig 3.22. 1950s aerial of Bodie Island. Note increase in shrub vegetation to the west. (CAHA Collection)*



*Fig 3.23. Expansion of the shrub community into the marsh, 1963. (CAHA Collection)*



*Fig 3.24. Aerial image showing pines planted by NPS and successional vegetation, 1969. (CAHA Collection)*



*Fig 3.24. Aerial view of the site after pines were planted, 1969. (CAHA Collection)*



*Fig 3.25. Turfgrass at the Bodie Island Light Station, 2013. (SERO Collection)*



*Fig 3.26. Pines north of the station and Bodie Island Lighthouse Pond, 2012. (SERO Collection)*



*Fig 3.25. Pines planted in the parking ellipse, 2012. (SERO Collection)*



*Fig 3.26. Marsh vegetation with pines in the background, 2012. (SERO Collection)*



*Fig 3.27. Controlled burn, 2012. (CAHA Collection)*



*Fig 3.28. Phragmites growing up to the margins of the boardwalk, 2012. (SERO Collection)*

***Circulation***

Circulation refers to the spaces, features, and applied material finishes that constitute systems of movement in a landscape.

**Historic Condition:**

Walkways

An 1893 site plan shows brick walkways laid out in an axial arrangement linking the front door of the oil house, the double keepers' quarters, and the front gate. The brick was left over from the tower construction.

In 1897, the Light-House Board authorized 360 feet of old walkway to be relaid and 2,200 square feet of new wood walkways. The walkways appear on an 1897 site plan that shows the brick walks extending from the front and rear of the double keepers' quarters and wood walks flanking the dwelling and linking it with outbuildings on either side. These boardwalks would have been needed to traverse the sandy topography of the site (Oppermann 2009, 41).

A 1909 survey map shows the walkways unchanged. In 1911, an inspector reported that rotten boards had been cut out of the walks in front of the cisterns and replaced with Georgia pine. Walkways of this material would have needed repair or replacement at regular intervals. John Gaskill recalled that the path down to the boat landing was initially grass. "Later Daddy got a boardwalk built from the high ground down to the land, but that was a long time getting there." A 1921 "Estimate of Cost of Proposed Works" proposed removing the wooden boardwalks and replacing them with 4-inch-thick, 3-foot-wide cement walks (Bodie Island Lighthouse Buildings, 2-3).

Roadways

Unpaved Road

Access to Bodie Island was by boat only until the 1920s, when an unpaved road of sorts was first in use. Getting to the island from the north required using the main road to Whalebone Junction (now US 158) and then following sandy ruts along the shoreline at low tide. In the 1940s, paved roads first connected some of the villages on Hatteras Island. A road was completed south from Whalebone to the ferry at Oregon Inlet, and in late 1952, a road was built through Pea Island to the village of Hatteras. A 1945/1953 survey and aerial images from 1936 and the 1940s show that from the Hatteras Road an unpaved sandy road led to the light station and continued south to the Bodie Island Club. (Oppermann 2009, 25; Binkley 2007, 58; Roberts 2010, 15; Gaskill 2007, 34; Hartramph 2004, Appendix).

Station Road

A double-track drive entered the station from the unpaved road. Images taken in 1955 just after the construction of the road and parking area show the two track drive into the site still extant (see Figure 34) (Oppermann 2009, 25; Binkley 2007, 58; Roberts 2010, 15; Gaskill 2007, 34; Hartramph 2004, Appendix).

**Post-Historic and Existing Conditions:**

Brick Walkway

The historic brick walkway, which links the visitor center/bookstore with the oil house, was repaired in 1992 work. The damaged sections consisted of bricks whose bond had been broken by unknown circumstances and had fallen below the original installation grade. The brick walk at two different heights posed a safety issue for visitors and also provided the opportunity for loose historic bricks to be removed. All bricks were numbered, photographed, and documented before removal for cleaning of excess mortar. Broken bricks were replaced with brick removed from the crawl space under the visitor center/bookstore or with Williamsburg Brick that was specially manufactured for the project. After bricks were cleaned, new mortar that consisted of six parts sand, three parts lime, and one part grey Portland cement was mixed and used to form a correct elevated bed and to bond the bricks. All bricks were soaked in water before being laid and were placed in their original location according to documentation (Perrot 1992).

Historic Concrete Walkways

At grade, there are four sections of concrete walk (two on the east and two on the west) that are historic, constructed to connect the porches of the double keepers' quarters with the historic outbuildings. A remnant of a historic concrete walk also remains that connected the light tower/oil house with the previously existing sheet metal oil house southeast of the tower. Remnant walkway from double keepers quarters to non-extant privy location.

1956 Entry Road

The NPS built an access road and parking area in 1956 following the alignment of the unpaved road. Vehicles enter the site from NC 12, entering the site from the south then turn east into the parking area where 71 parking spaces flank the NPS bookstore/visitor center. The road was widened, restriped, and repaved in fiscal year 2012 to bring it up to modern standards.

Parking

After construction of the parking area in 1956, the NPS installed a new section of wooden walk to bring visitors to the natural history museum from the parking spaces, creating an approach that had never been there historically. The design of the parking area created circulation problems for the site because of the need for walkways that did not seem compatible with the historic

character of the site. Even after the NPS installed a wooden ramp and a walkway that mimicked the alignment of the original brick walk shown on historic maps, new walks were needed to make the connection with the parking area. In 2011, the NPS replaced all wooden walks with concrete walks because of buckling after bad storms.

Modern Concrete Walkways

A curved section of walk was then needed to connect the west end of the new axial walkway with the two sections of the parking area. The construction date of the southwest walkway that links the building and the parking area is unknown. It does not show up in HABS images from 2001.

All other sections of concrete date from fiscal year 2011, when the NPS replaced wooden walkways and an existing concrete walkway with brushed concrete. This change eliminated a problem with buckling of the wood after bad storms. The NPS maintained the alignment of the pathways when the switch occurred, except for the addition of a new triangular section near the west elevation of the visitor center.

Universally Accessible Ramp

In 1992, the NPS replaced the non-historic section of wooden walk that brought visitors to the entrance of the visitor center/bookstore from the parking lot with a wooden ramp that provided ADA access to the building and a walk that mimicked the original alignment of the non-extant brick walk (west) shown on historic maps.

Boardwalk and Overlook

At some point an additional concrete walk was constructed to connect the tower and the sheet metal oil house, which was replaced with an observation platform. From there a nature trail lead out to the marsh. The extant portion of the nature trail began at the edge of the marsh, where a boardwalk led out to a viewing area. In 2010, the NPS installed a new boardwalk with observation tower that begins at the edge of the north parking area and travels out into the marsh and the water beyond (Opperman 2009, 42-43).

Off Island Hunt Club Road

Off Island Hunt Club Road is an unpaved road that leads to a boat dock for Hunt Club members. The road is accessed through a gate just south of the NPS access road.

Old Dike Trail

Old Dike Trail is a public walking path used for various recreational activities that branches off to the east of Off Island Hunt Club Road.

*Landscape Features:*

**Feature Name**: Historic Brick Walkway

**Feature Contribution:** Contributing

**Latitude:** [enter text here]

**Longitude:** [enter text here]

**CRIS-HS Resource name:** [enter text here]

**CRIS-HS Resource ID:** [enter text here]

**FMSS Record Type:** Asset

**FMSS Record Number:** 1461589

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Historic Concrete Walkways

**Feature Contribution:** Contributing

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**CRIS-HS Resource name:** [enter text here]

**CRIS-HS Resource ID:** [enter text here]

**FMSS Record Type:** Asset

**FMSS Record Number:** 1464321

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Remnant walkway from Lighthouse going to southeast

**Feature Contribution:** Contributing

**Latitude:** [enter text here]

**Longitude:** [enter text here]

**CRIS-HS Resource name:** [enter text here]

**CRIS-HS Resource ID:** [enter text here]

**FMSS Record Type:** Asset

**FMSS Record Number:** 1464610

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Remnant walkway from Double Keepers' Quarters to non-extant privy location

**Feature Contribution:** Contributing

**Latitude:** [enter text here]

**Longitude:** [enter text here]

**CRIS-HS Resource name:** [enter text here]

**CRIS-HS Resource ID:** [enter text here]

**FMSS Record Type:** Asset

**FMSS Record Number:** 1464611

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: 1956 Entrance Road

**Feature Contribution:** Contributing

**Latitude:** [enter text here]

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**CRIS-HS Resource name:** [enter text here]

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**FMSS Record Type:** Location

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**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Modern Concrete Walkways

**Feature Contribution:** Noncontributing

**Latitude:** [enter text here]

**Longitude:** [enter text here]

**CRIS-HS Resource name:** [enter text here]

**CRIS-HS Resource ID:** [enter text here]

**FMSS Record Type:** Asset

**FMSS Record Number:** 1464614

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Universally Accessible Ramp

**Feature Contribution:** Noncontributing

**Feature Name**: Boardwalk and Overlook

**Feature Contribution:** Noncontributing

**Feature Name**: Off Island Hunt Club Road

**Feature Contribution:** Noncontributing

**Feature Name**: Old Dike Trail

**Feature Contribution:** Noncontributing



*Fig #3.29. Visitors sitting on a concrete walkway, c. 1925. (The Outer Banks History Center, Manteo, NC, Edna Evans Bell Collection)*

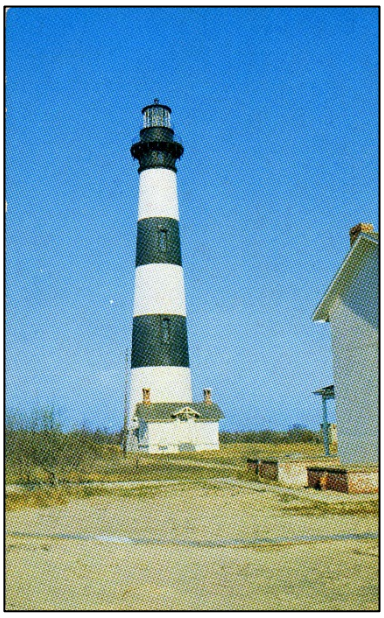


*Fig 3.30. Undated postcard of the site showing concrete and wooden walks c. 1960. Note sheet metal oil house in the background. (The Outer Banks History Center, Manteo, NC)*



*Fig 3.31. Wooden walkway, 1959. (CAHA Collection)*



*Fig 3.32. Aerial view of the station showing layout of walkways, 1969. Note observation platform and nature trail. (CAHA Collection)*

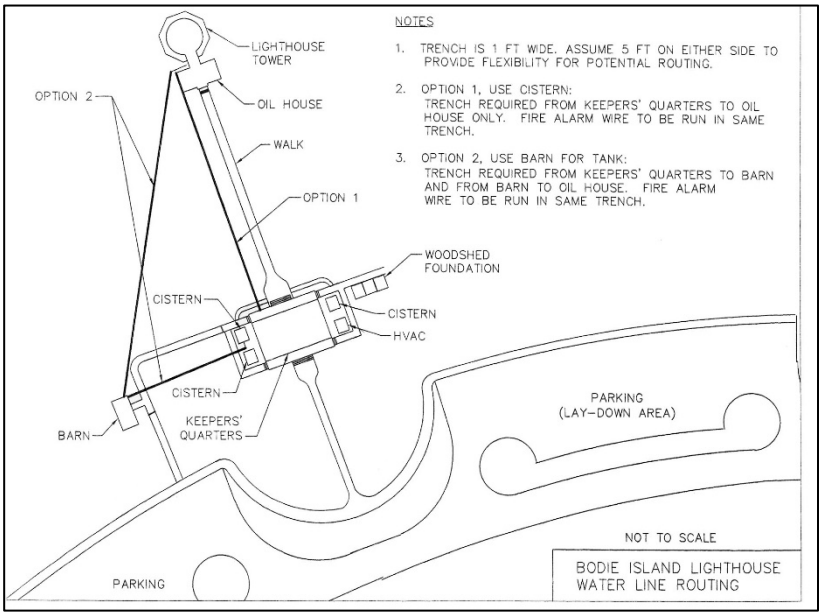



*Fig 3.33. Water line routing plan that shows layout of walkways, c. 1992. (CAHA Collection)*



*Fig 3.34. View of the walkways, 2009. Note southwest walk. (CAHA Collection)*

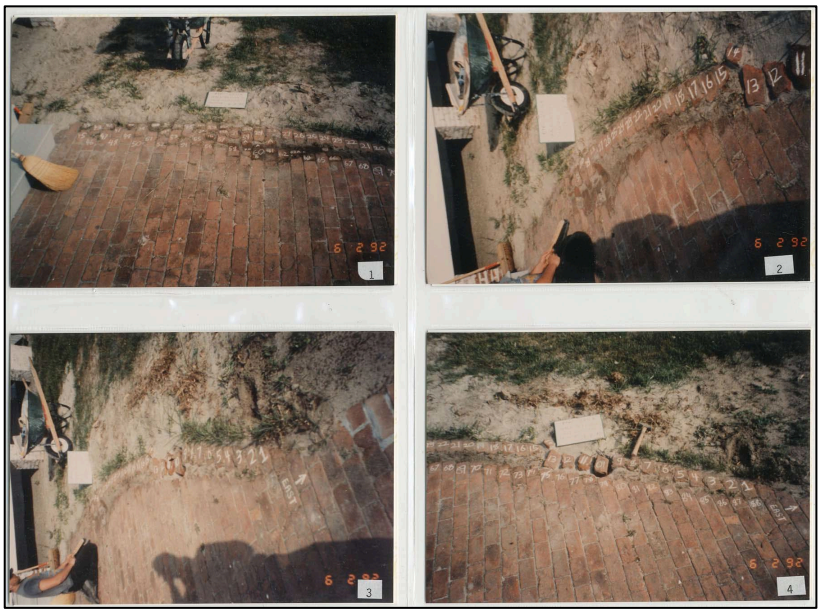


*Fig 3.35. Repair work done on historic brick walkway, 1992. (SERO Collection)*



*Fig 3.36. Boardwalk with observation tower, 2012. (CAHA Collection)*



*Fig 3.37. New section of concrete walkway, 2012. (SERO Collection)*



*Fig 3.38. 1936 aerial view. Note road into the station. (CAHA Collection)*



*Fig 3.39. 1944 aerial image of the station. Note double-track drive. (CAHA Collection)*

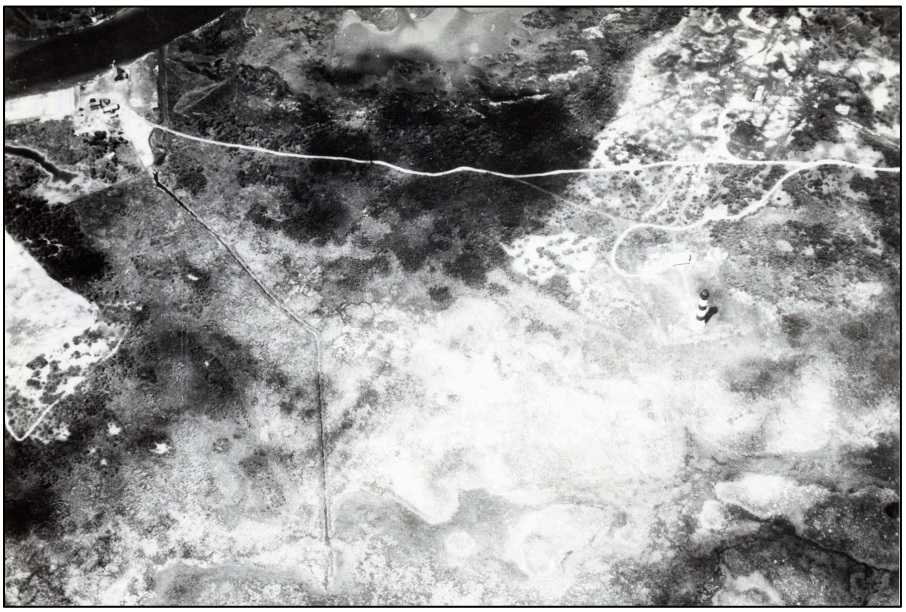


*Fig 3.40. 1947 aerial image. Note road into the station and layout of the road that continued to the Bodie Island Hunt Club. (CAHA Collection)*

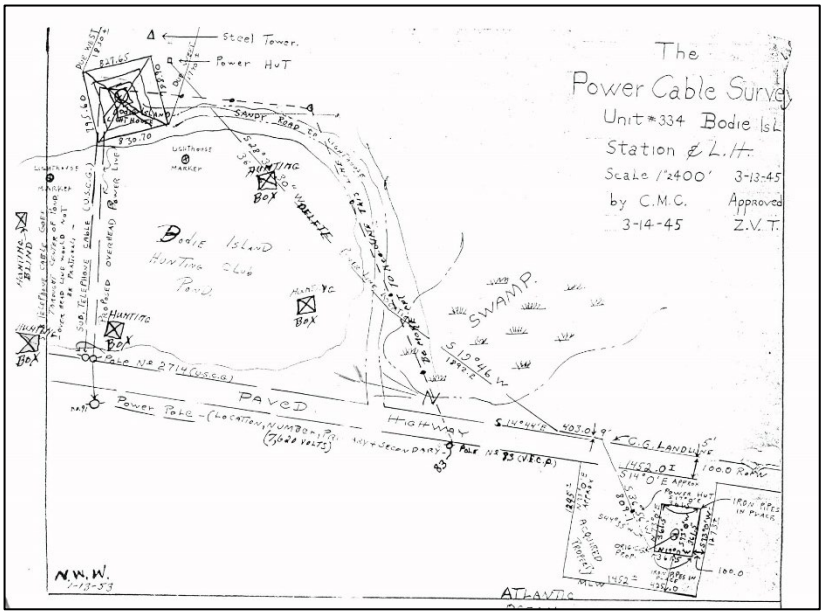



*Fig 3.41. Power Cable Survey. Note road into the station. (Bodie Island Lighthouse HSR appendix)*



*Fig 3.42 Parking area loop road, 2013. (SERO Collection)*



*Fig 3.43. Gate to Off Island Hunt Club Road, 2012. (SERO Collection)*



*Fig 3.44. Visitor approach from parking lot via modern concrete walk, 2013. (SERO Collection)*




*Fig 3.45. Section of historic concrete walkway, 2012. (SERO Collection)*



*Fig 3.46. Section of historic concrete walkway, 2012. (SERO Collection)*



*Fig 3.47. Section of historic concrete walkway, 2012. (SERO Collection)*



*Fig 3.48. Historic concrete path to woodshed foundation, 2012. (SERO Collection)*



*Fig 3.49. Historic path to the site of the sheet metal oil house, 2013. (SERO Collection)*



*Fig 3.50. Historic brick walk and 2011 concrete walks, 2012. (SERO Collection)*



*Fig 3.52. Boardwalk installed by the State of North Carolina, 2012. (SERO Collection)*

***Buildings and Structures***

Buildings are elements constructed primarily for sheltering any form of human activity in a landscape, while structures are elements constructed for functional purposes other than sheltering human activity.

**Historic Condition:**

The Light-House Board classified lighthouses according to their position and use. Primary coast lights were located at the most prominent points along the coast. The Light-House Board believed that lights on prominent points should be at least 150 feet above mean sea level. The more important the classification, the larger the order of lens used. First-order lenses provided the largest range; sixth-order provided the smallest. The Light-House Board also developed a system with different numbers of flashes at timed intervals, as well as use of color (Clifford and Clifford 2000, 78).

Bodie Island Lighthouse

The first Bodie Island Lighthouse (1848) was a tower 54 feet tall, crowned by a lantern 10 feet in diameter with 14 Argand lamps. Its design was a flashing signal achieved by completing a revolution every three minutes. It suffered from a poor foundation that eventually damaged the lighting apparatus, which was probably thrown out of kilter by the leaning tower. Although repaired in 1851, the newly created Light-House Board replaced the Argand lamp in 1854 with a fourth-order Fresnel lens with a fixed white light, varied by red and white flashes. Foundation defects led to the abandonment and eventual razing of the first lighthouse (Holland 1961, 26-32).

The second Bodie Island Lighthouse (1859) was a white brick tower rising 80 feet crowned by a lantern with a third-order Fresnel lens that revolved, flashing every ninety seconds. Retreating Confederate troops destroyed the light tower in 1862, but the lens was saved and shipped to New York (Holland 1961, 35, Roberts 2010, 9).

The current lighthouse is a brick tower with octagonal, rough-cut granite base and gallery and a primarily cast-iron lantern room constructed in 1872. The tower section is a symmetrical, tapering cylinder painted black and white. There are nine windows in the shaft section of the lighthouse,

each with a granite casing. Five windows are recessed in the shaft section and are encased by raised brick and stone arched frames on the exterior. Two windows are located in the black stripes and face west towards the keepers' quarters, and three windows are located in the white stripes and face east. Four windows directly under the lantern face north, south, east, and west. The tower is topped by a cast-iron polygonal (sixteen-sided) lantern that houses a first-order Fresnel lens. Three rows of glass panes, 16 per row, surround the lens, separated by vertical wrought-iron posts finished with bronze and horizontal bronze sash bars. The lantern is capped with a copper-sheet roof and copper ventilator ball surmounted by a bronze pinnacle with a platinum tip. Eight iron rods protrude from the roof and connect to an iron spider that secures the top of the lens. The distance from ground level to the top of the ventilator ball is 164.4 feet.

The lantern has two decks. The lower deck, referred to as the "watch room gallery" on the plans, consists of iron plates supported by sixteen cast-iron brackets. The iron gallery deck area is protected by an iron railing. The brackets are seated on a brick ledge covered with cast-iron, which is called a belt course. The upper deck, referred to as the "lantern gallery" on the plans, is accessible from the lens area. This deck is also surrounded by a wrought-iron railing and a cornice below it.

In 1883, the Light-House Board changed illuminants from the original lard oil to mineral oil (kerosene) and the following year installed regular kerosene lamps. The low flash point of the kerosene led to the construction of an oil storage building separate from the lighthouse in 1896. In 1912, they introduced an incandescent oil vapor lamp as the principal source of light. In 1932, electrification of the lighting apparatus occurred using two generators and a large battery. At this time, the light changed from a fixed light to a flashing one (Holland 1961, 49-50; Gaskill 2007, 34).

A major project to repaint the tower began in 1934. At the request of Keeper Gaskill, the Commissioner of Lighthouses agreed to let him hire local labor to complete the work. John Gaskill described the process they used to paint the tower over the years. He noted that painting was done from the "top down" and that the most difficult part was painting underneath the balcony and the roof of the tower.

During the USCG operation of the lighthouse, commercial electric power replaced two original Kohler generators in 1953. The light tower was repaired and painted several times over the years of the USCG's tenure. Replacement of the gallery railings occurred in 1964 (Hartramph 2004, 26-28; Gaskill 2007, 35).

In 1973, the USCG signed an agreement with the NPS to allow public access to a portion of the interior of the lighthouse, provided that the NPS made some safety modifications to the tower, including rebuilding and modifying the gallery structure by installing additional railing and repairing, replacing, and restoring existing railing. Additionally, the NPS would maintain other elements of the tower and oil house open to the public. By 1977, the roof and front door of the oil house had been replaced. By 1981, inspection reports noted an increasing number of maintenance items and structural concerns.

In 1984, a security fence was installed at the bottom of the spiral stairs and one window replaced in the lower level. In 1989, the U. S. Army Corps of Engineers undertook the first of a series of inspections to the lighthouse. They found the tower and oil house to be in generally good condition structurally but noted deterioration of the ornamental iron work of the exterior edge of the lantern gallery. Later in 1989, the USCG reported that the electrical wiring needed to be inspected and replaced as needed, and the work was apparently completed in 1992, although several of the tower stairs were damaged by falling conduit.

The inspector for the 1992 report described the lighthouse as being "in the worst shape out of any that I inspected on this trip." Years of deferred maintenance and harsh coastal conditions had finally caught up with the Bodie Island Lighthouse, yet it was years before any repair work was undertaken. Finally in 1997, the lighthouse was repaired and repainted, but nothing was done to address the deteriorated ironwork (Hartramph 2004, 29-45).

Additional reports in 1997 and 2000 affirmed the findings of earlier studies and warned of potential falling debris from the support system of the gallery deck. The NPS took ownership of

the lighthouse in 2000. As a first step towards preservation and rehabilitation, the NPS initiated development of a historic structure report (HSR) in 2002. Findings of the physical investigation and review of historic documents indicated that substantial repair of the cast-iron components was necessary to retain both the structural and historic integrity of the building. Additionally, repairs to the windows, doors, historic ventilating system, masonry, marble finishes, and minor architectural components of both the lighthouse and oil house were needed (Gladhill-Earley 2007; "Bodie Light House Restoration Project;" Roberts 2010, 21).

Two cast-iron pieces fell from the gallery level in 2004, closing the base of the tower to visitors. Preservation/rehabilitation studies and plans were completed in 2006, and the North Carolina Department of Cultural Resources concurred in 2007 with a determination of no adverse impact, provided that the number of stair treads replaced did not exceed 21. Federal funding requests failed the next two years.

Congress finally appropriated $3.1 million in the 2009-2010 Omnibus Budget Bill for repair and replacement of ironwork as well as repair of masonry and stone, treatment of floors, and other interior treatments. Funds had already been secured for restoration of the first-order Fresnel lens. Work stopped in 2009 when metal braces supporting the gallery and lantern decks were discovered to be cracked and had to be replaced before any other work could move forward. The NPS received an additional $1.89 million in 2012 and completed the project in December (Roberts 2010, 21).

Oil House

The Oil House is a one-story, side gabled brick building with granite details constructed in 1872 that is attached on the west to the light tower. The front (west) elevation has a Stick-styled, cantilevered, gabled roof supported by three brackets over the front stoop. Over the front door is a 3/3 transom light. Flanking the front door is a pavilion-like projection of brick. Below a water table of cut stone is an inset brick base. The north and south elevations feature two 4/6 light windows, two crawl space vents, and the same water table and brick base as the west elevation.

The roof is pierced by two inset brick chimneys. The hall connection to the light tower features one 4/6 light window approximately centered on the wall (north and south elevations).

A workroom was located to the left (north) where the keeper kept the station log and other records. An oil room was located to the right (south) where fuel was stored until the conversion to kerosene, which necessitated the construction of a new oil house a safe distance from the tower (Clifford 2002, 10). There is little documentation as to maintenance on the oil house before acquisition by the NPS. Although the building originally had a wood shingle roof, John Gaskill recalled that the building never had wooden shingles during his father's tenure, so it is likely the change from wooden shingles occurred around or before 1920. It appears that roofs were routinely replaced without documentation in reports. Workers scraped and painted the oil house in 1959 and again in 1963. By November of 1977, the USCG had replaced the main entrance door and reroofed the building with asphalt shingles. Repainting occurred in 1978.

The biennial 1984 inspection report noted termite damage to the door and window frames and the ceiling of the oil house. Repair work began in 1986. In 1989, the U. S. Army Corps of Engineers inspected the tower and oil house and reported water damage to the interior of the building probably caused by deteriorated chimney flashing or bricks. A 1996 inspection requested by the Outer Banks Lighthouse Society noted the same water damage, as well as rotted roof sheathing. The report mentioned a cementitious coating applied over the brick that needed repair. A 1997 inspection by Cullen Chambers reported widespread dry rot on exterior wood elements (Hartramph 2004, 28-44, Appendix).

Funding to rehabilitate or replace the marble floor, roof, windows and framing of the oil house and to replace asphalt roof shingles with historic wood shingles was included with the appropriations for the recent lighthouse restoration.

Double Keeper's Quarters

The first keeper's quarters was described in 1858 as a 1½-story frame house with unpainted "natural" wood shingles. Inside were five rooms to serve a keeper's family. Although it survived

the Civil War, when a new site was chosen for the third tower on the opposite side of the inlet, the Light-House Board sold the land in 1873.

Work on the double keepers' quarters began in 1872 to house the principal keeper and assistant keepers and their families. Built in 1872, the two-story, side gabled roof duplex was built to house the principal keeper and assistant keepers and their families. It is constructed of brick laid in a 1:6 common bond with brick jack arch lintels at doors and windows. Symmetrical fenestration features two levels of six bays. The original windows remain in place. Two original doorways, with their original doors and transoms, are at the two first-floor center bays of each elevation. Spanning the first level of each long elevation is an open porch. The two gable ends have no fenestration, but each has a pair of inset brick chimneys. Wood shingles cover the hip roof of each porch and the gable roof.

On April 4, 1872, District Engineer Hains wrote Major George H. Elliott, Engineering Secretary of the Light-House Board:

> Have you any particular plans for keepers dwelling at Body's Island, NC? I would suggest that as it is extremely expensive to make repairs in this locality, it would be advisable to build the dwelling of permanent material—as brick. This would afford additional safely against fire. I am having a tracing made of keepers dwelling for First Order Light-houses from Plate 85-V,VI and VII-Volume ?? of Drawings published by Light-House Board.

Apparently, Hains felt that the plans submitted by the Light-House Board were too "elaborate and costly" and submitted his own plans traced from old Light-House Board drawings. The plans show a two-story, side-gabled brick house with six bays of six-over-six windows on the upper story, and a corresponding six bays on the lower level with the two center bays used as entrances. A full-front porch rests on piers, and four interior end chimneys pierce the roof. Front stairs are the width of the two interior hallways. Front and back elevations appear identical with the exception of porch steps. At the back, two narrower sets of steps are centered not on the

entrance doors, but roughly on the inner kitchen window of each apartment. Lattice screening was to span the spaces between the porch's foundation piers.

1893 photographs of the keepers' quarters, the earliest known images of the site, suggest that elements of the 1872 plans may have been changed in the first two decades or more likely were omitted before construction. Although the 1872 elevations show the six fenestration bays evenly spaced, the 1893 photographs show the arrangement as found today, with the two central bays closer together. The 1872 floor plans also show the arrangements as built, giving further credence that the changes were considered before actual construction.

A closer look reveals that the spacing of the doorways is different on the two elevations. The doorways of the east elevation, towards the light tower, are closer together than those on the west façade. The reason for this is not known. In a letter of May 5, 1872, District Engineer Hains wrote to Mr. Dexter Stetson, "Sir: your suggestion relative to changing the positions of the doors and windows in the keepers dwelling is approved, and you are authorized to make them" (Oppermann 2009, 24-26).

The 1872 design of the porch also differs from the 1893 photographs. The original design depicts the house with the nine bays of porch delineated by square 4" x 4" posts with simple square 6" x 6" bases and capitals. The nine bays are evenly spaced, but show no correlation with the six bays of the house. The porch is topped by a shed roof.

In the photographs, both porches are covered by hipped roofs rather than the shed roof shown in the 1872 plans; the porches are divided into six bays rather than nine; and both porches have an X-braced railing while the 1872 plans show none. Also of interest are the paired posts on the 1893 photograph of the back porch rather than the single posts shown in 1872 plans. Detail of the front posts is unclear in the photographs.

According to the 1872 plans, front steps were to be wide and centered at the entrance bays with two narrower sets of steps at the back. The 1893 photographs show both front and back steps

with the same wide center stair rather than the two smaller sets of steps at the back, although this detail is somewhat obscured by a fence in the photograph. A 1933 photograph also shows a single set of back steps, wide and centered.

Another change may have been the porch's side steps. In the 1872 plans, no side steps were present, yet District Engineer Hains' letter of August, 1872 reports "putting down main steps and three pairs of end steps to the piazza." The fourth set apparently was added before 1909 when a site plan shows side steps on both porches extending to narrower walkways to existing buildings.

Other elements of the 1872 plans appear never to have been built, including a paneled frieze across the front of the building and a scroll-sawn corner bracket, which are absent in 1893 and later photographs and a 1954 elevation (Oppermann 2009, 26-27).

Major repairs to the dwelling occurred in 1900. The shingle roofs were "renewed," screening replaced at doors and windows, and plaster cracks pointed in six rooms and the halls. Other repairs were to rotting porch members and window sills. Repairs were made to brickwork and woodwork throughout the house, and new exterior shutters were added.

A 1909 site plan shows the desired layout of a new keeper's quarters and several new outbuildings, as well as identifying "new brick walks" and specifying the locations of two buildings to be moved (see Figure 21). Rising funding costs apparently derailed the project, and the dwelling was never built. An unpaved road built in the 1920s reversed the arrangement of the keepers' quarters, with the west façade considered the front (Oppermann 2009, 29-31).

Sheet Metal Oil House

The low flashpoint of kerosene necessitated a detached oil storage building, which was built in 1896. A 1909 report described the building as 10 x 16 feet, constructed of brick and iron, and located 50 feet southeast of the tower. A 1921 Estimate of Cost of Proposed Works stated that the existing oil house had been removed and "all serviceable material" used in the construction of a concrete house. John Gaskill described it as concrete with a metal door and stated: "Later they

built a tank and piped the kerosene inside the house from the tank." Its use changed in 1932 to a generator building when Bodie's lighting apparatus was converted to electricity. After the conversion of the keepers' quarters to a natural history museum in 1954, the generator building was no longer needed. The NPS replaced it with an observation platform (Oppermann 2009, 40, 43; Hartramph 2004, 25; Holland 1967, 46; Clifford 2002, 15; Bodie Island Lighthouse Buildings, 2-3).

Cisterns

Rainwater, collected off the roof of the double keepers' quarters, was fed by galvanized gutters into cisterns on the north and south corners of the dwelling each with a capacity of 2,500 gallons. An 1898 inspection trip showed that one of the two cisterns constructed in 1872 needed to be replaced.

This work apparently occurred in 1900, when monthly reports described the building of a new cistern, pump, and gutter system. The cistern dimensions were 8 x 9 ½ feet in plan. A new hand pump was installed with a wooden base and a trough for carrying off the waste water and an overflow pipe put in and holes cut for ventilating the cistern. To feed the cistern, new galvanized gutters were installed on the porches, new spouting put up for conducting the water from the dwelling to the cistern, and brick gutters laid to carry the water from the spouting on the porches.

In 1911, the Light-House Board Inspector reported that rotten boards had been replaced in the walks in front of the cisterns. Other work included replacing the downspouts and cutoffs (Holland 1967, 46; Oppermann 2009, 41-42).

It can be seen in photographs from the late 1920s (see Figure 48) and early 1930s and is identified on the 1940 site survey as "garage." It is also sometimes referred to as the "pony barn."

Stable

In 1897, Keeper Gallop requested a stable that he proposed to build outside the fence beyond the south privy. Records indicate the Light-House Board gave permission, but another request for a stable, as well as a chicken house, was made in 1902. A 1909 report listed a stable and a chicken house as among the buildings on the site. It is not known when these disappeared (Oppermann 2009, 41; Bodie Island Lighthouse Buildings, 1).

Woodshed

The woodshed sat southeast of the keepers' quarters on the 1893 site plan. It is missing from the 1897 plan, although on the 1893 plan the woodshed was shown near Gallop's proposed stable site.

A woodshed with a concrete floor was built in 1930 with its east side left open for easy access. Knowing the power of ocean winds, Keeper Gaskill advised against the open side. His advice was ignored, and a major hurricane destroyed the structure in 1933, leaving only the concrete foundation still present today (Gaskill 2007, 31; Oppermann 2009, 42).

Privies

Two privies were shown on the 1893 light station plan on the northwest and southeast margins of the enclosed site (see Figures 18-20). Improvements occurred in 1900, when the engineer wrote: "The fronts of the water closets have been repaired, new base boards put on, and flaps made, fitted and hinged on the outsides of the buildings." Hinged flap-doors were put on the back of privies for cleaning out the deep pits (Oppermann 2009, 42).

Privies were periodically rebuilt, with the last privies dating to 1921, and were used throughout the occupancy of the keepers' quarters (see Figure 48). They appear in images of the station as late as 1962 and show the surviving privy was painted blue (Oppermann 2009, 40-43; Clifford 2002, 15; Bodie Island Lighthouse Buildings, 2).

Pier

A landing was located about one-half mile west of the station. Workers built a 12′ x 12′ pier in 1871 to hold a derrick for off-loading ships. Light Service tenders could then pull up to the pier and use the derrick to unload building materials. In 1909, there was only a landing, no wharf noted (Holland 1967 40; Clifford 2002, 15; Hartramph 2004, Appendix).

**Post-Historic and Existing Conditions:**

Bodie Island Lighthouse (LCS# 00114)
In December 2012, the NPS completed a multi-year lighthouse restoration project for repair and replacement of ironwork as well as repair of masonry and stone, treatment of floors, and other interior treatments. Since the Fresnel lens had to be disassembled and taken to ground level in order to protect it during the lighthouse restoration project, it was also restored. Except for one weekend in 1988, the lighthouse will be opened to the public for climbing for the first time in its history in April 2013.

Repairs to the stair treads completed in 1997 included metal plates installed over the damaged stair treads. According to the 2002 historic structure report, these metal plates did not meet the criterion for "repairing in kind." In a compliance letter of January 30, 2006, the North Carolina State Historic Preservation Office (SHPO) responded to a Value Analysis study and stated that the metal staircase appeared to be almost completely intact with minor repairs consisting of a few metal plates attached over the damaged treads. They questioned "the inherent risk of causing further damage in tread replacement" and suggested having custom plates made to attach over the damaged treads where possible. The NPS's response was that only 30 treads had been identified for replacement. Applying a plate to the top of the tread would result in uneven riser heights and violate life safety codes. The Value Analysis study recommended replacing the cracked treads with new treads cast to the original detail. In a subsequent letter, the North Carolina SHPO agreed to the replacement of 21 stair treads. However, they were still concerned about the possibility of additional breakage of surrounding and intact portions of the historic stair. Reid Thomas, Restoration Specialist in the North Carolina SHPO Eastern Office, inspected stair tread removal testing on October 30, 2008, and found the contractor was able to carefully

take apart a section of the original iron stair to remove a cracked tread. The North Carolina SHPO was satisfied with the results and concurred that replacement of the remaining cracked treads would not have an adverse impact on the lighthouse.

As a stop gap measure to prevent failing pieces of ironwork intact prior to restoration, the iron lantern room deck was held together by cables and chicken wire. The canopy, or top of the lantern room, was tied down by cables to keep it from blowing off in high winds, which are common at a height of 165 feet. Ill-fitting windows that allowed moisture to penetrate had damaged interior and exterior cast-iron window casings and surrounds. As a temporary fix, workmen blew foam into cracks in an attempt to keep outside moisture from causing further damage. After removal of these stop gap measures, the cast-iron was reworked or, in cases where the metal was too corroded, replaced. Any replacement of the windows was consistent with the original windows.

Cast-iron pieces chosen for restoration were melted down at a foundry, and a spectrometer tested for the correct ratio of carbon, silica, and iron. After correcting any imbalance, the foundry recast the components. Workmen on site used sandblasting, repair, and repainting to rehabilitate the lantern deck and safety handrails.

Restoration of the first-order Fresnel lens was done to exacting standards by lens conservators and volunteers. The entire lens system was relocated to an offsite NPS location, and was reinstalled in early 2013 before the lighthouse officially reopened in April.

Oil House (LCS #000114)
In 1975, the NPS installed a wood shingle roof. In 1990, the NPS repaired the building and modified the interior to serve as the electrical hub of the light station complex, including sistering the floor joists, replacing a section of sill, completing minor floor repair, replacement of window sash with four-light fixed sashes and repair of the double doors and board-and-batten siding. The building was also raised about a foot and set on eight brick piers on concrete pads (Oppermann 2009, 36, 43; Clifford 2002, 12, 14).

In December 2012, the NPS completed a major rehabilitation project that included the marble floor, roof, windows, and framing. Wood shingles used historically replaced asphalt composition shingles.

Double Keepers' Quarters (LCS # 007244)

After the acquisition of the light station by the NPS in 1953, plans for the keepers' quarters called for the building to be converted into a natural history museum. Although major alterations occurred to the interior, the only significant changes to the exterior were to the porches. Single posts replaced the existing paired posts, four exterior doors were rehung and a screen door installed at each, new gutters were to be added as needed, certain downspouts replaced, and new splash blocks set. All sets of steps were retained. Work on the building ended in 1955.

Images taken in the 1960s and 1970s indicate that few changes occurred after the 1950s. Roof replacement occurred in 1975. The State Historic Preservation Office documented the building in 1974 and 1981 and photographs show no significant changes. Its use changed to a visitor center in the 1960s (Oppermann 2009, 33-36).

Over the years the building fell into disrepair. During a massive repair campaign of 1990-92, the NPS addressed three principal objectives. The first was to correct the considerable maintenance deficiencies of the building. The NPS made extensive repairs to the wood framing and installed additional masonry foundation piers. Work also included: a new wood shingle roof; galvanized steel gutters and downspouts; repair to the open porches, including cinder block infill added to the west porch foundation; and upgrades to the electrical and mechanical systems.

Used as a visitor center since the 1960s, a project from 1990-92 included significant repair work that addressed structural integrity issues. The building is a contributing feature of the historic landscape.

The second objective was to use the building fabric itself to tell the story of the building's former use as living quarters for the lighthouse keepers. The third objective was to facilitate universal

accessibility. Re-grading of the site along the west side of the building and constructing a new wood plank walk on a gradual rise to connect the site's walkway to the building's open porch provided a wheelchair ramp that resembles an historic feature, disguising its true purpose. On the porch, a beveled wood board serves as a reducer to provide a wheelchair-negotiable change in grade from porch deck to building interior (Oppermann 2009, 36-39).

Today the double keepers' quarters serves as the visitor center/bookstore. Work to convert the building to its current use occurred from 1990 to 1992 and included significant repair work that addressed the poor structural integrity of the building. In 1999 and 2011, Hurricanes Floyd and Irene flooded the visitor center/bookstore. The building is in good condition and was painted in 2012.

Cisterns (LCS # 091898)

Three cisterns constructed between 1872 and 1900 remain at the site. One southeast of the visitor center/bookstore measures 9′6″ x 8′2″ with the top 2′4″ above grade. One northeast of the visitor center measures 11′3″ x 8′2″ with the top 3″ above grade. The third cistern at the northwest corner of the visitor center measures 9′7″ x 8′4″ with the top 2′5″ above grade. Today, two of the cisterns (southeast and northwest) are still connected to the gutter system, which is causing deterioration and staining of the brick, especially in the northwest cistern. A section of the overflow valve of the southeast cistern is broken.

Storehouse (LCS # 007249)

A one-story, frame building with board-and-batten exterior and a cedar shake side-gabled roof and open eave/cornice constructed in 1920. Front (S) elevation has double vertical wood panel door; other three sides have four-light fixed sashes. It rests on brick piers. Since 1992, it has served as the central distribution facility for electrical power to the light station. The structure received a new roof and was painted in 2010. It is in good condition.

The building is a contributing feature of the historic landscape.

Woodshed (Non longer extant)

South of the south-side cistern is the poured concrete foundation of the woodshed constructed in 1930. Height above grade is about 1'0". The interior subdivision of rooms can be determined by imprints on the top of the slab.

Sheet Metal Oil House (No longer extant)

In the 1960s, the NPS replaced the sheet metal oil house with an observation platform and a nature trail with a small wooden deck (see Figures 72, 81, and 98). According to George Perrot, the observation platform was no longer there in 1973.

Mechanical System Enclosure

Mechanical system enclosure on the south side of the visitor center/bookstore near the west corner is an enclosure for mechanical equipment constructed during the 1990-1992 site improvements. The base of the perimeter wall is brick construction of a similar appearance to the three cisterns. A louvered enclosure without a cover sits atop the base.

Restrooms

A board-and-batten-sided public restroom building constructed in 1992 is located north of the storehouse. Although it sits outside the historic district, its design was modeled on the storehouse.

*Landscape Features:*

**Feature Name**: Bodie Island Light House

**Feature Contribution:** Contributing

**Latitude:** 35.820337461381264

**Longitude:** -75.56334143326002

**CRIS-HS Resource name:** Bodie Island Lighthouse and Oil House

**CRIS-HS Resource ID:** 000114

**FMSS Record Type:** Location

**FMSS Record Number:** 28923

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Oil House

**Feature Contribution:** Contributing

**Latitude:** 35.820337461381264

**Longitude:** -75.56334143326002

**CRIS-HS Resource name:** Bodie Island Lighthouse and Oil House

**CRIS-HS Resource ID:** 000114

**FMSS Record Type:** Location

**FMSS Record Number:** 229422

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Double Keepers' Quarters

**Feature Contribution:** Contributing

**Latitude:** 35.820072882404936

**Longitude:** -75.56400375522523

**CRIS-HS Resource name:** Bodie Island Light Station Keepers' Quarters

**CRIS-HS Resource ID:** 007244

**FMSS Record Type:** Location

**FMSS Record Number:** 28924

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Cisterns

**Feature Contribution:** Contributing

**Latitude:** [enter text here]

**Longitude:** [enter text here]

**CRIS-HS Resource name:** Bodie Island Light Station Cisterns (Batch)

**CRIS-HS Resource ID:** 091898

**FMSS Record Type:** Location

**FMSS Record Number:** 28927

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Storehouse

**Feature Contribution:** Contributing

**Latitude:** 35.82034258338159

**Longitude:** -75.56417171127634

**CRIS-HS Resource name:** Bodie Island Light Station Storehouse

**CRIS-HS Resource ID:** 007249

**FMSS Record Type:** Location

**FMSS Record Number:** 28926

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Woodshed – Concrete Foundation

**Feature Contribution:** Contributing

**Latitude:** [enter text here]

**Longitude:** [enter text here]

**CRIS-HS Resource name:** [enter text here]

**CRIS-HS Resource ID:** [enter text here]

**FMSS Record Type:** Asset

**FMSS Record Number:** 1464309

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Woodshed Foundation Step

**Feature Contribution:** Contributing

**Latitude:** [enter text here]

**Longitude:** [enter text here]

**CRIS-HS Resource name:** [enter text here]

**CRIS-HS Resource ID:** [enter text here]

**FMSS Record Type:** Asset

**FMSS Record Number:** 1464311

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Mechanical System Enclosure

**Feature Contribution:** Noncontributing

**Feature Name**: Restrooms

**Feature Contribution:** Noncontributing

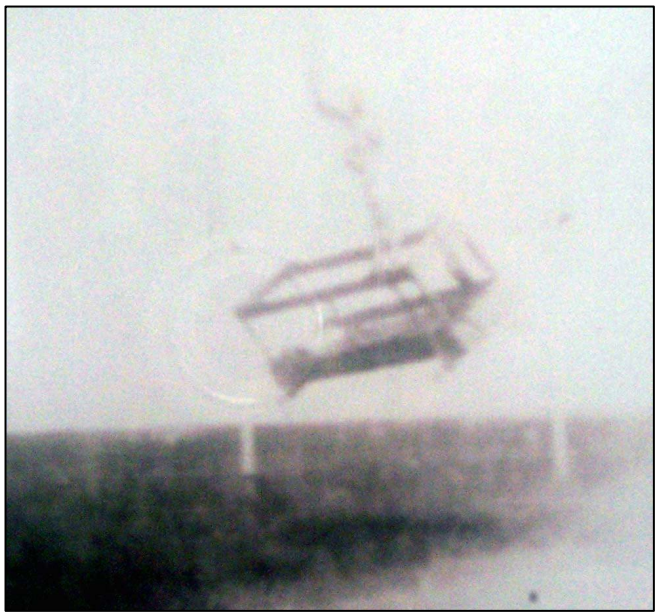


*Fig 3.53. Box used to paint light tower, 1938. (CAHA Collection)*

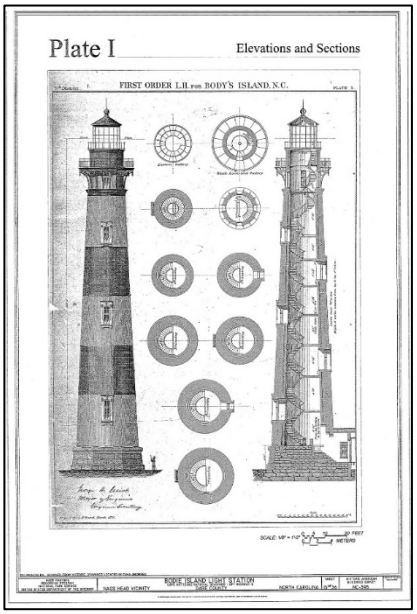



*Fig 3.54. Light tower plan, 1871. (CAHA Collection)*




*Fig 3.55. Light tower, 1893. (CAHA Collection)*

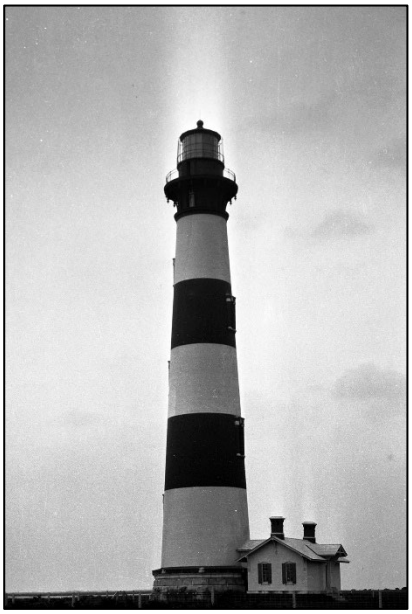


*Fig 3.56. Light tower and oil house, c. 1928. (The Outer Banks History Center, Manteo, NC, Meekins Collection)*



*Fig 3.57. Light tower, 2001. (HABS NC-395-5)*



*Fig 3.58. Bodie Island Lighthouse, 2013. Note climbers on the lantern. (SERO Collection)*

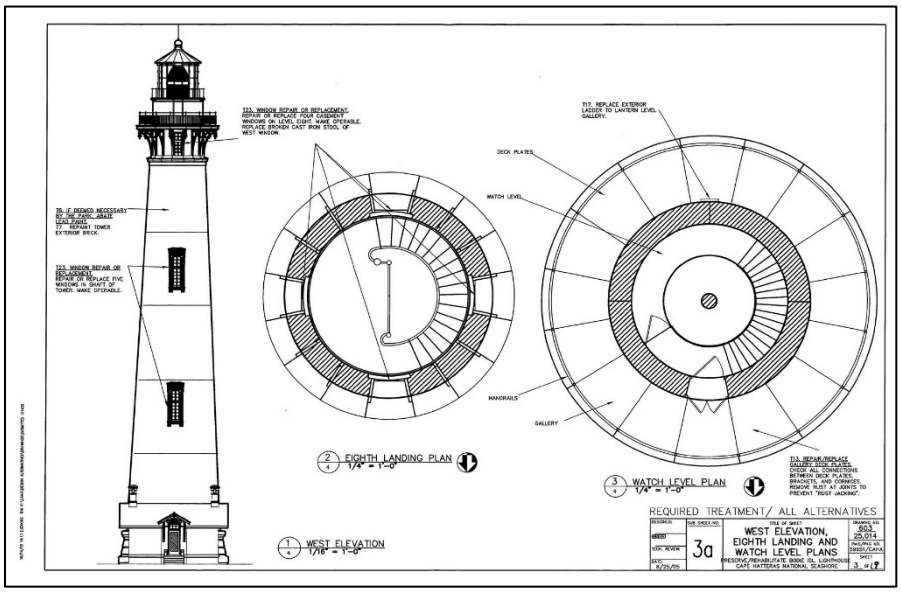



*Fig 3.59. Light tower treatment plan, 2005. (Denver Service Center etic 604/25014)*

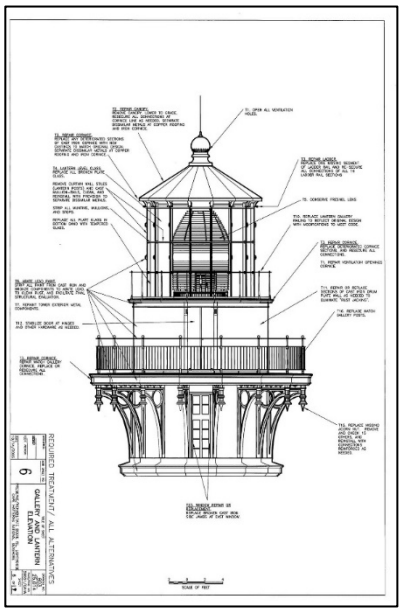



*Fig 3.60. Lantern treatment plan, 2005. (Denver Service Center etic 604/25014)*

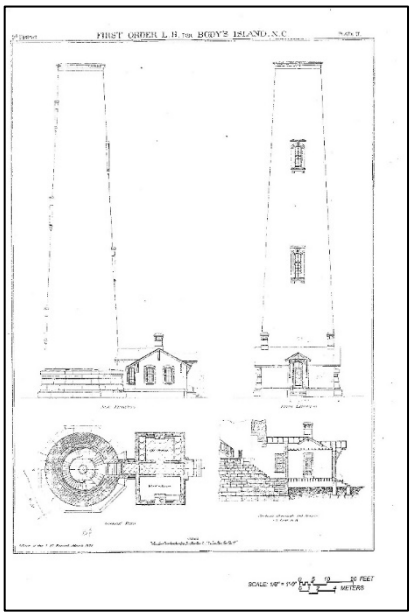



*Fig 3.61. 1871 plan. (CAHA Collection)*



*Fig 3.62. Oil house, 1893. (CAHA Collection)*



*Fig 3.63. Oil house, 1948. Note garage and storehouse in background. (CAHA Collection)*




*Fig 3.64. Oil house, 1964. Note observation platform to the right. (CAHA Collection)*



*Fig 3.65. Oil house, 1996. (SERO Collection)*

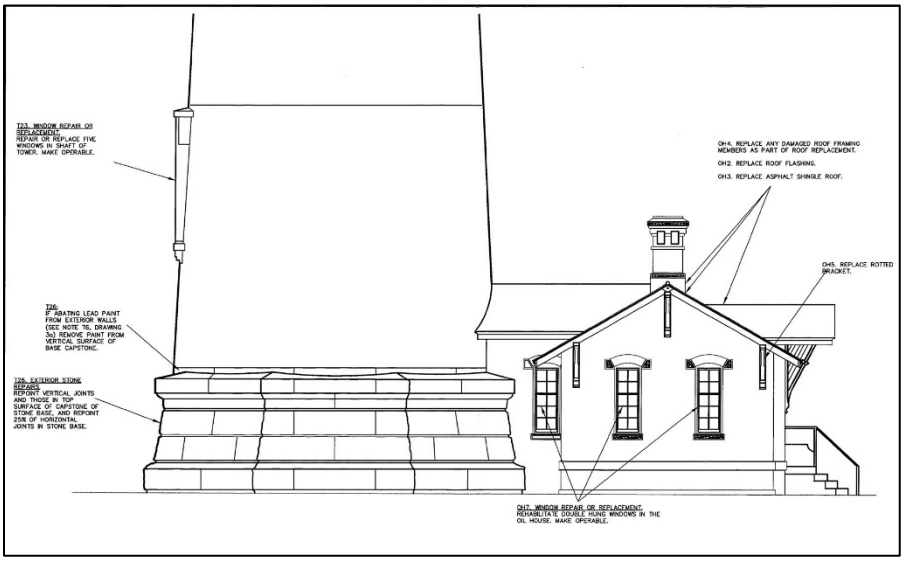



*Fig 3.66. Oil house treatment plan, 2005. (Denver Service Center etic 603/25014)*

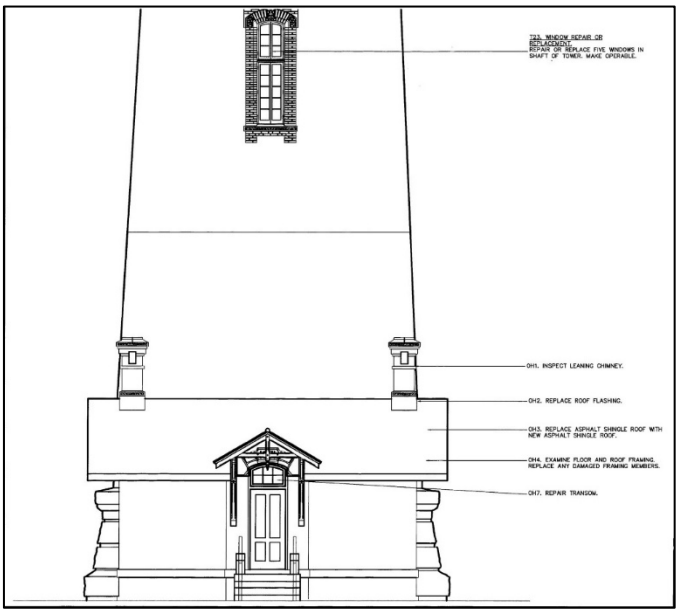



*Fig 3.67. Oil house treatment plan, 2005. (Denver Service Center etic 603/25014)*



*Fig 3.68. Double keepers' quarters plan, 1872. (CAHA Collection)*




*Fig 3.69. Double keepers' quarters, possibly a 1920s reproduction of one of the Bamber photographs. (CAHA Collection)*




*Fig 3.70. Plans for Museum of Natural History, 1954. (Denver Service Center 603/2032)*



*Fig 3.71. Double keepers' quarters, 1957. (CAHA Collection)*



*Fig 3.72. Double keepers' quarters, 1966. (CAHA Collection)*



*Fig 3.73. Double keepers' quarters, 1971. (CAHA Collection)*



*Fig 3.74. Double keepers' quarters during repair work, 1990. (SERO Collection)*



*Fig 3.75. Double keepers' quarters, 2001. (HABS NC-385-27)*



*Fig 3.76. Sheet metal oil house, 1944. (CAHA Collection)*



*Fig 3.77. North cisterns, 1990. (SERO Collection)*



*Fig 3.78. South cistern, 1990. (SERO Collection)*



*Fig 3.79. Storehouse to the far left of image, 1933. (CvAHA Collection)*



*Fig 3.80. Storehouse, 1957. Note privies still standing. (CAHA Collection)*



*Fig 3.81. Storehouse before rehabilitation, 1990. (SERO Collection)*

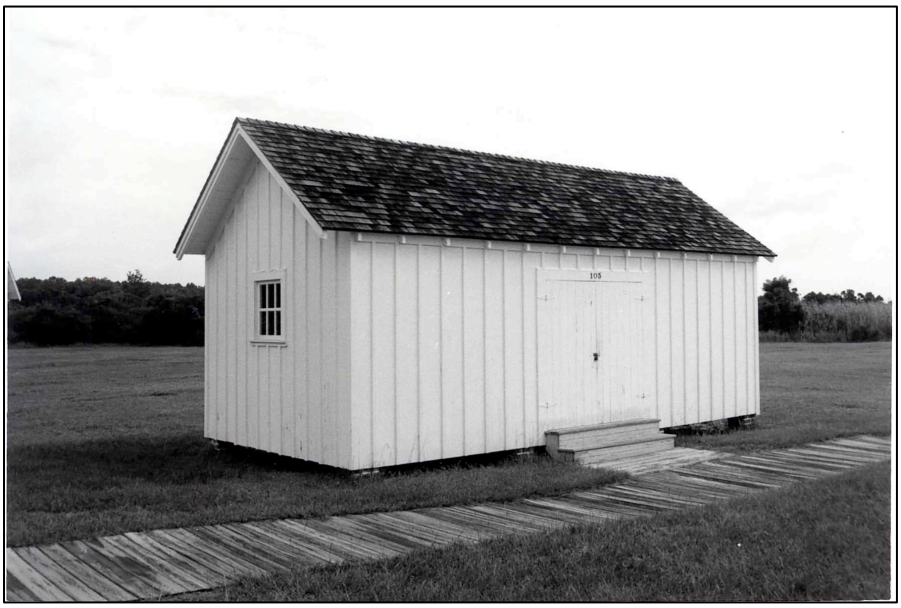


*Fig 3.82. Storehouse after rehabilitation, 1996. (SERO Collection)*



*Fig 3.83. Woodshed foundation, 1990. (SERO Collection)*



*Fig 3.84. Privy in an undated postcard of the site. Note blue color. (The Outer Banks History Center, Manteo, NC)*



*Fig 3.85. Enclosure for mechanical equipment, 2001. (HABS image NC-395-28)*



*Fig 3.86. Light Station and Oil house under rehabilitation, 2012. (SERO Collection)*



*Fig 3.87. Southeast cistern, 2012. (SERO Collection)*



*Fig 3.88. Northwest cistern, 2012. (SERO Collection)*



*Fig 3.89. Storehouse, 2012. (SERO Collection)*



*Fig 3.90. Woodshed foundation, 2012. (SERO Collection)*



*Fig 3.91. Restroom building, 2012. (SERO Collection)*




*Fig 3.92. Double keepers' quarters, 2012. (SERO Collection)*

***Views and Vistas***

A views is the expansive and/or panoramic prospect of a broad range of vision that may be naturally occurring or deliberately contrived. A vista is a controlled prospect of a discrete, linear range of vision, which is deliberately contrived.

**Historic Condition:**

Historically views would have been open across the station, which had no vegetation other than grass and a few wax myrtles except in the garden plots. Views out of the light tower would have been unobstructed to the sound and ocean with no development other than the Bodie Island Hunt Club and the Lifesaving and USCG Stations.

**Post-Historic and Existing Conditions:**

In the 1960s, development at Coquina Beach would have been visible from the top of the lighthouse. The 1988 installation of VHF-FM Hi-Level Site Communication Antenna by USCG on the watch gallery railing of the lighthouse impacted views of the tower. The North Carolina Department of Cultural Resources objections were to the visual impacts of the power cables to the lighthouse. The NPS removed this antenna in 1995 (Hartramph 2004, 34; Stover 2013).

Views from the light station are nearly pristine in all directions but are not unobstructed. Pines planted by the NPS in the 1960s in the parking ellipse and along the entrance road are partially obstructing views to Roanoke Sound to the west. Stands of pines planted by the NPS beyond the parking ellipse and to the north and south and shrub thickets that grew up on Bodie Island after construction of artificial barrier dunes in the 1930s are also blocking views that would once have been open.

Views beyond NC 12 to the Atlantic Ocean on the east are blocked by artificial barrier dunes. A distant view of power lines can now be seen along NC 12 to the east. Pines block distant views of Nags Head. Views from the top of the lighthouse are expansive and include the sound to the west, the Atlantic Ocean to the east, and distant views of Nags Head.

One of the best views of the light station is from the boardwalk leading out to the observation tower looking back into the station. From this vantage point, the entire station can be seen with the visitor center/bookstore in the background. Another important site line is from the visitor center/bookstore to the lighthouse. During the historic period, this was the main axis of the station.

Two communications towers can be seen from the light station. A Navy tower is scheduled to be replaced by satellite communications in the future. A USCG tower will remain as part of the Homeland Security system. Views of the Navy tower from within the station are partially blocked by the stand of trees north of the station. The USCG tower can be seen in the far distance next to the Herbert Bonner Bridge.

*Landscape Features:*

**Feature Name**: Views of Lighthouse Pond and the marsh
**Feature Contribution:** Contributing

**Feature Name**: Views of Albemarle Sound
**Feature Contribution:** Contributing

**Feature Name**: Views to the station from the Bodie Island Pond
**Feature Contribution:** Contributing

**Feature Name**: Views in all directions from the top of the Lighthouse
**Feature Contribution:** Contributing

**Feature Name**: Views along primary northeast-southwest axis linking Tower to Double Keeper's Quarters
**Feature Contribution:** Contributing

**Feature Name**: Views northwest-southeast axis flanking the Double Keepers' Quarters

**Feature Contribution:** Contributing

**Feature Name**: Views of the pines planted in the 1960s in the Parking Ellipse

**Feature Contribution:** Noncontributing

**Feature Name**: Views of the Restroom building

**Feature Contribution:** Noncontributing

**Feature Name**: Views of Phragmites

**Feature Contribution:** Noncontributing



*Fig 3.93. View from the gallery of the light tower, 1955. (CAHA Collection)*



*Fig 3.94. Pines in parking ellipse and entrance road, 2012. (SERO Collection)*



*Fig 3.95. Pines north of the light station, 2012. (SERO Collection)*



*Fig 3.96. View of Lighthouse Pond and NC 12 to the east, 2012. (SERO Collection)*



*Fig 3.97. View of light station from boardwalk, 2012. (SERO Collection)*



*Fig 3.99. Coast Guard tower, 2012. (SERO Collection)*



*Fig 3.100. Navy tower, 2012. (SERO Collection)*



*Fig 3.101 Comparison of the view to the sound from the 1930s (top) and from 2009 (bottom). (CAHA Collection)*

***Constructed Water Features***

Constructed water features are built features and elements that utilize water for aesthetic or utilitarian functions in the landscape.

**Historic Condition:**

The Bodie Island Lighthouse Pond is a large pond (nearly 1 mile long and 0.5 mile wide) with an extensive shoreline bordered by brackish marsh vegetation. The Bodie Island Club created this pond in the early 1900s by placing a dam on a small outlet stream to Pamlico Sound, one of which is located on the west side of the road to the Bodie Island Club boat ramp (Boone 1988, 11). The damming of the pond allowed for a much deeper water source to improve habitat for waterfowl and provide hunting space for club members

**Post-Historic and Existing Conditions:**

Bodie Island Lighthouse Pond

The pond currently has no functioning water control structures so that natural systems can function unimpeded. The NPS is not managing the water level, and water fluctuations are based essentially on precipitation and evaporation rates. The pond itself is slowly being reduced in size as various marsh plants expand into the edges of the pond, and shrub growth is increasing in the marsh. Over time, the pond may gradually be converted to a marsh through natural succession. In 2011, the Lighthouse Pond and marsh was designated to the N.C. Registry of Natural Heritage Areas.

*Landscape Features:*

**Feature Name**: Bodie Island Lighthouse Pond

**Feature Contribution:** Contributing

***Small-Scale Features***

Small-scale features are elements that provide detail and diversity for both functional needs and aesthetic concerns in the landscape.

**Historic Condition**:

Fencing

Fencing on the Outer Banks would probably have been picket, brush, or post-and-rail. Bankers rarely used Virginia or worm fences, which were so popular on the mainland but required more wood and space. As late as 1870, 96 percent of the rural fences in North Carolina were worm fences (Dunbar 1958, 126).

A wooden board fence enclosed 1.92 acres of the station, shown on the 1893 site plan. Images taken at the same time show the fence to be a post-and-rail fence. On May 1, 1900, the lighthouse engineer reported:

> About 1200 lineal feet of new fence has been built; containing 152 posts, 7200 feet of rails and caps and 160 battens on the posts. Three new gates have been made and two old gates fitted, hung, and fastenings put on, and the fence whitewashed.

In 1925, the station acquired a more practical wire and concrete post fence of 1,380 linear feet. According to a 1921 estimate of the work to be done, it was to be 47-inches-high with concrete posts 16 feet apart with one 10-foot double drive gate and three 3-foot single walk gates. John Gaskill recalled that the fence was a heavy galvanized wire fence painted with Portland cement to preserve it. The fence is visible in several historic images of the site (see Figures 19, 20, 30, 48, 63, 64, 70, 77, and 84) (Oppermann 2009, 40-44; Clifford 2000, 15; Bodie Island Lighthouse Buildings, 2).

Boundary Markers

Four granite boundary markers, probably installed when the property was acquired in 1871, correspond to the corner markers on the 1893 site plan (Clifford 2002, 13).

**Post-Historic and Existing Conditions:**

Cistern Pumps (LCS # 202972)

Two hand pumps on white painted brick pedestals are located on the northeast and southeast sides of the visitor center/bookstore. Each cistern pump is comprised of a 2-foot, 2-inch-tall,

battered concrete pedestal upon which is mounted an iron, hand-operated water pump. A large opening transects the pedestal, originally allowing access to the main water pump pipe (since removed). The cistern pumps are in good condition. Maintenance crews paint the metal handle and base as needed.

Boundary Markers (LCS # 207229 north; 207370 west; 207362 south; 207294 east)
Four granite stones mark the corners of the original boundary of the fifteen-acre site. Each boundary marker is approximately 10" x 10" wide and 3-4' high with no markings. The east marker is in fair condition. The other three markers are in good condition.

National Register of Historic Places Plaque
A National Register of Historic Places plaque from 2003 is mounted on a metal base that mimics the lighthouse. It sits at the edge of the north section of the parking area.

Trashcans
Aggregate stone trashcans flank the side porch steps to the visitor center/bookstore.

Fencing
The site was described as "open ground" in the Cullen Chambers report of 1997. In 2000, the NPS cordoned off and then enclosed the area around the lighthouse with a four-rail wooden board fence for visitor protection. After an incident of falling debris in 2004, the NPS expanded the fence. The larger station remained unfenced (Hartramph 2004, 48; Superintendent's Annual Report 2000).

*Landscape Features:*

**Feature Name**: Cistern Pumps
**Feature Contribution:** Contributing
**Latitude:** [enter text here]
**Longitude:** [enter text here]

**CRIS-HS Resource name:** South Cistern Pump, Bodie Island Light Station; North Cistern Pump, Bodie Island Light Station

**CRIS-HS Resource ID:** 202972; 1138270

**FMSS Record Type:** Asset

**FMSS Record Number:** 1464612

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Boundary Marker (north)

**Feature Contribution:** Contributing

**Latitude:** 35.82188857784823

**Longitude:** -75.56327490167061

**CRIS-HS Resource name:** Boundary Marker # 1, Bodie Island Light Station

**CRIS-HS Resource ID:** 207229

**FMSS Record Type:** Asset

**FMSS Record Number:** 1464613

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Boundary Marker (west)

**Feature Contribution:** Contributing

**Latitude:** 35.820284275375585

**Longitude:** -75.56506795919742

**CRIS-HS Resource name:** Boundary Marker # 2, Bodie Island Light Station

**CRIS-HS Resource ID:** 207370

**FMSS Record Type:** Asset

**FMSS Record Number:** 1464613

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Boundary Markers (south)

**Feature Contribution:** Contributing

**Latitude:** 35.81873401196454

**Longitude:** -75.5630312242033

**CRIS-HS Resource name:** Boundary Marker # 3, Bodie Island Light Station

**CRIS-HS Resource ID:** 207362

**FMSS Record Type:** Asset

**FMSS Record Number:** 1464613

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: Boundary Markers (east)

**Feature Contribution:** Contributing

**Latitude:** [enter text here]

**Longitude:** [enter text here]

**CRIS-HS Resource name:** Boundary Marker # 4, Bodie Island Light Station

**CRIS-HS Resource ID:** 207294

**FMSS Record Type:** Asset

**FMSS Record Number:** 1464613

**Is FMSS Record Exact Match?:** Yes

**Associated CRIS-AR Resource ID:** [enter text here]

**Feature Name**: National Register of Historic Places Plaque

**Feature Contribution:** Noncontributing

**Feature Name**: Trashcans

**Feature Contribution:** Noncontributing

**Feature Name**: Fencing

**Feature Contribution:** Noncontributing



*Fig 3.102. Fencing around the light station. (The Outer Banks History Center, Manteo, NC, Edna Evans Bell Collection)*

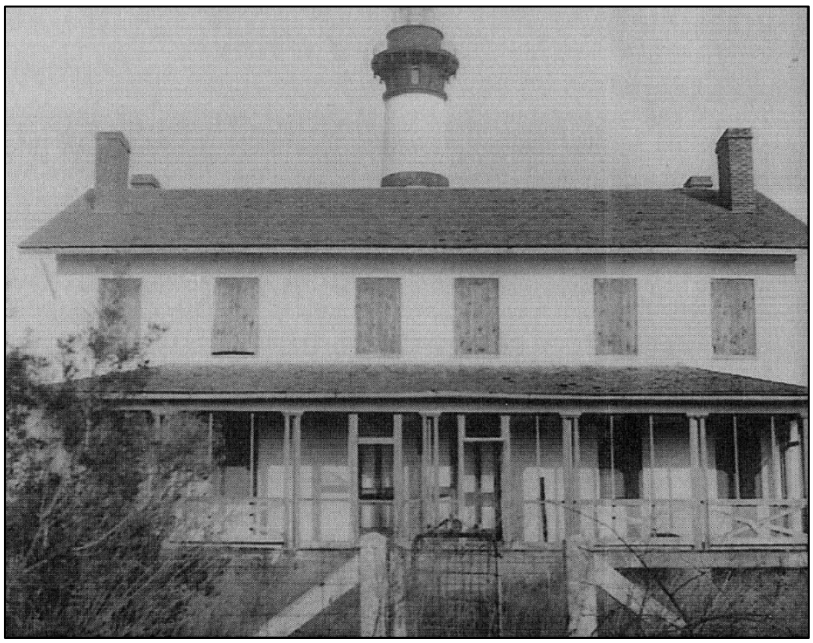


*Fig 3.103. Front gate and fence, early 1950s. (Taken from John Gaskill Remembers)*



*Fig 3.104. Cistern pumps on the southeast side (left) and northeast side (right) of the visitor center/bookstore, 2012. (SERO Collection)*



*Fig 3.105. North boundary marker. (LCS# 207229)*



*Fig 3.106. East boundary marker. (LCS# 207362)*



*Fig 3.107. South boundary marker. (LCS# 207294)*



*Fig 3.108. West boundary marker. (LCS# 207370)*




*Fig 3.109. National Register plaque, 2012. (SERO Collection)*



*Fig 3.110. Aggregate stone trashcan, 2012. (SERO Collection)*



*Fig 3.111. Four-rail wooden fence around the lighthouse, 2012. (SERO Collection)*

***Archeological Sites***

Archeological sites are the locations of ruins, traces, or deposited artifacts in the landscape and are evidenced by the presence of either surface or subsurface features. Only sites identified in approved National Register documentation are identified in this report.

**Post-Historic and Existing Conditions:**

An archeological survey conducted in 2006 prior to the design of a fire suppression system in the oil house concluded that no archeological resources would be affected. No unique, intact cultural deposits were located during the survey that would require additional excavations prior to the installation of a fire suppression system (Kidd 2006).

# Chapter 9: Condition Assessment

## Assessment Interval:

6

## Condition

***Condition:***

Good

***Condition Date:***

03/18/2022

***Primary Inspector Name:***

[opt. enter name here]

***Profession/Credentials:***

[opt. enter selection here]

***Narrative:***

The Bodie Island Light Station is currently in 'good' condition. The landscape has undergone alterations that have affected the overall condition of the historic character of the site. The addition of concrete walkways connecting the parking area to the Double Keeper's Quarter and other outlying buildings have created circulation patterns that were not there historically. The addition of the constructed barrier dunes alters the natural vegetation of the site and, in some cases, the views. The pines, however, that were once an modern impact on the site in terms of vegetation and views have been removed. The preservation of the spatial organization, building and structures, native vegetation, pond, historic circulation, and boundary markers continue to convey the historic landscape. A cultural landscape report was completed in 2014 proposing treatment for the landscape. With CLR recommendations followed for French drains around the cisterns, interpretive waysides, and pine removal, the cultural landscape has moved from 'fair' to 'good' condition. Continued implementation of CLR treatment recommendations would help maintain that condition.

## Impacts

| Seq. No. | Type | Impact Type – Other | Internal Source? | External Source? | Narrative | Date Identified |
|---|---|---|---|---|---|---|
| | Vegetation/Invasive Plants | | Yes | | The phragmites are an invasive plant that is hard for the park to maintain. | 03/18/2022 |
| | Removal/Replacement | | Yes | | The removal of historic structures after the period of significance has impacted the landscape, as well as the addition of buildings such as the bathrooms, though they are compatible with the landscape. | 03/18/2022 |
| | Inundation/Sea Level Rise | | | | There is an increase in flooding events on the site, leading to damage to vegetation, as well as features on the site such as boardwalks. | |

# Chapter 10: Treatment

## Stabilization Measures

| Stabilization Measure Narrative (R) | Stabilization Cost (R) | Stabilization Cost Date (R) | Estimate Level (R) | Cost Estimator (R) | Cost Narrative |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

## Approved Treatments

| Type | Com-pleted | Approved Treatment Doc. | Doc Date | Narrative | Approved Treatment Cost | Cost Date | Estimate Level | Estimat or | Cost Narrative |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| | | | | | | | | | |

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## Supplemental Information

| Seq. No. | Supplemental Information Title | Supplemental Information Narrative |
|---|---|---|
| | | |
| | | |

# Appendix

## Landscape Features

| Seq. No. | Feature Name | Feature Contri-bution | CLI Feature ID | Latitude | Longitude | CRIS-HS Resource Name | CRIS-HS Resource ID | FMSS Record Type | FMSS Record Number | FMSS Exact Match? | CRIS-AR ID |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Natural Systems and Features | | | | | | | | | | |
| | Inlets | Contributing | | | | | | | | | |
| | Sand Dunes | Contributing | | | | | | | | | |
| | Soils | Contributing | | | | | | | | | |
| | Flora | Contributing | | | | | | | | | |
| | Fauna | Contributing | | | | | | | | | |
| | Spatial Organization | | | | | | | | | | |
| | Spatial pattern of the Lighthouse and Support Buildings/Structures | Contributing | | | | | | | | | |
| | Land Use | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| | Navigational Aid | Contributing | | | | | | | | | |
| | Maintenance | Contributing | | | | | | | | | |
| | Recreation | Noncontributing | | | | | | | | | |
| | Interpretation | Noncontributing | | | | | | | | | |
| | Law Enforcement | Noncontributing | | | | | | | | | |
| | Topography | | | | | | | | | | |
| | Barrier Island | Contributing | | | | | | | | | |
| | Flat Terrain | Contributing | | | | | | | | | |
| | Constructed Barrier Dunes | Noncontributing | | | | | | | | | |
| | Mosquito Ditches | Noncontributing | | | | | | | | | |
| | Vegetation | | | | | | | | | | |
| | Lawn | Contributing | | | | | | Asset | 232386 | Yes | |
| | Marsh | Contributing | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| | Woody Plants | Contributing | | | | | | | | | |
| | Trees Stands | Noncontributing | | | | | | | | | |
| | Phragmites | Noncontributing | | | | | | | | | |
| | Constructed Barrier Dunes | Noncontributing | | | | | | | | | |
| | Circulation | | | | | | | | | | |
| | Historic Brick Walkway | Contributing | | | | | | Asset | 1461589 | Yes | |
| | Historic Concrete Walkways | Contributing | | | | | | Asset | 1464321 | Yes | |
| | Remnant walkway from Lighthouse going to southeast | Contributing | | | | | | Asset | 1464610 | Yes | |
| | Remnant walkway from Double Keepers' Quarters to non-extant privy location | Contributing | | | | | | Asset | 1464611 | Yes | |
| | 1956 Entrance Road | Contributing | | | | | | Location | 28930 | Yes | |
| | Modern Concrete Walkways | Noncontributing | | | | | | Asset | 1464614 | Yes | |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| | Universally Accessible Ramp | Noncontributing | | | | | | | | | |
| | Boardwalk and Overlook | Noncontributing | | | | | | | | | |
| | Off Island Hunt Club Road | Noncontributing | | | | | | | | | |
| | Old Dike Trail | Noncontributing | | | | | | | | | |
| | Buildings and Structures | | | | | | | | | | |
| | Bodie Island Light House | Contributing | | 35.820337461381264 | -75.56334143326002 | Bodie Island Lighthouse and Oil House | 000114 | Location | 28923 | Yes | |
| | Oil House | Contributing | | 35.820337461381264 | -75.56334143326002 | Bodie Island Lighthouse and Oil House | 000114 | Location | 229422 | Yes | |
| | Double Keepers' Quarters | Contributing | | 35.820072882404936 | -75.56400375522523 | Bodie Island Light Station Keepers' Quarters | 007244 | Location | 28924 | Yes | |
| | Cisterns | Contributing | | | | Bodie Island Light Station Cisterns (Batch) | 091898 | Location | 28927 | Yes | |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| | Storehouse | Contributing | | 35.82034258338159 | -75.56417171127634 | Bodie Island Light Station Storehouse | 007249 | Location | 28926 | Yes | |
| | Woodshed – Concrete Foundation | Contributing | | | | | | Asset | 1464309 | Yes | |
| | Woodshed Foundation Step | Contributing | | | | | | Asset | 1464311 | Yes | |
| | Mechanical System Enclosure | Noncontributing | | | | | | | | | |
| | Restrooms | Noncontributing | | | | | | | | | |
| | Views and Vistas | | | | | | | | | | |
| | Views of Lighthouse Pond and the marsh | Contributing | | | | | | | | | |
| | Views of Albermarle Sound | Contributing | | | | | | | | | |
| | Views to the station from the Bodie Island Pond | Contributing | | | | | | | | | |
| | Views in all directions from the top of the Lighthouse | Contributing | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| | Views along primary northeast-southwest axis linking Tower to Double Keeper's Quarters | Contributing | | | | | | | | | |
| | Views northwest-southeast axis flanking the Double Keepers' Quarters | Contributing | | | | | | | | | |
| | Views of the pines planted in the 1960s in the Parking Ellipse | Noncontributing | | | | | | | | | |
| | Views of the Restroom building | Noncontributing | | | | | | | | | |
| | Views of Phragmites | Noncontributing | | | | | | | | | |
| | Constructed Water Features | | | | | | | | | | |
| | Bodie Island Lighthouse Pond | Contributing | | | | | | | | | |
| | Small-Scale Features | | | | | | | | | | |

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| | Cistern Pumps | Contributing | | | | South Cistern Pump, Bodie Island Light Station; North Cistern Pump, Bodie Island Lighthouse | 202972; 1138270 | Asset | 1464612 | Yes | |
| | Boundary Marker-North | Contributing | | 35.8218885 7784823 | -75.56327430 167061 | Boundary Marker # 1, Bodie Island Light Station | 207229 | Asset | 1464613 | Yes | |
| | Boundary Marker-West | Contributing | | 35.8202842 75375585 | -75.56506795 919742 | Boundary Marker # 2, Bodie Island Light Station | 207370 | Asset | 1464613 | Yes | |
| | Boundary Markers-South | Contributing | | 35.8187340 1196454 | -75.56303122 42033 | Boundary Marker #3, Bodie Island Light Station | 207362 | Asset | 1464613 | Yes | |
| | Boundary Markers-East | Contributing | | | | Boundary Marker #4, Bodie Island Light Station | 207294 | Asset | 1464613 | Yes | |

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| | National Register of Historic Places Plaque | Noncontributing | | | | | | | | | |
| | Trashcans | Noncontributing | | | | | | | | | |
| | Fencing | Noncontributing | | | | | | | | | |