



# State of the Park Report

## Fort Raleigh National Historic Site North Carolina



2016



# Executive Summary

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The mission of the National Park Service (NPS) is to preserve unimpaired the natural and cultural resources and values of national parks for the enjoyment, education, and inspiration of this and future generations. NPS Management Policies (2006) state that “The Service will also strive to ensure that park resources and values are passed on to future generations in a condition that is as good as, or better than, the conditions that exist today.” As part of the stewardship of national parks for the American people, the NPS has begun to develop State of the Park reports to assess the overall status and trends of each park’s resources. The NPS will use this information to improve park priority setting and to synthesize and communicate complex park condition information to the public in a clear and simple way.

The purpose of this State of the Park report is to:

- Provide to visitors and the American public a snapshot of the status and trend in the condition of a park’s priority resources and values;
- Summarize and communicate complex scientific, scholarly, and park operations factual information and professional opinions using non-technical language and a visual format;
- Highlight park stewardship activities and accomplishments to maintain or improve the State of the Park;
- Identify key issues and challenges facing the park to help inform park management planning.

The Purpose of Fort Raleigh National Historic Site (FORA) is the preservation and interpretation of the first English colony in the New World, and the history of the Native Americans, European Americans, and African Americans who lived on Roanoke Island, North Carolina.

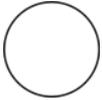
Significance statements express why the park unit’s resources and values are important enough to warrant national park unit designation. FORA is significant because:

- The park protects and preserves the site where English explorers attempted to create England’s first colonial settlement in the New World (as well as the birthplace of Virginia Dare, the first English child born in the New World), preserves archeological evidence of these efforts, and provides for ongoing archeological efforts to resolve the mystery of the Lost Colony of 1587.
- The park is the site of the first sustained interaction between Native Americans and the English; this interaction resulted in the first written cultural/ethnographic information on the Algonquian people and the first English-language documentation of the North Carolina coastal region.
- The park is home to *The Lost Colony* theatrical production, the nation’s first and longest running symphonic drama, produced and performed by Roanoke Island Historical Association since 1937, on the very site of the first English Colony in the New World.
- The park surrounds and partners with The Elizabethan Gardens, an internationally-known botanical organization that expands Fort Raleigh National Historic Site’s English colonial themes with replicated 16th-century English gardens.
- Fort Raleigh National Historic Site interprets the Civil War Battle of Roanoke Island and the Roanoke Island Freedmen’s Colony, a refuge established for and built by 3,500 former slaves during and after the U.S. Civil War until 1867. The Freedmen’s Colony is listed as a National Underground Railroad Network to Freedom site.
- The park preserves the site of early wireless radio experiments (including the first quality wireless transmission and reception) by Reginald Fessenden on the north end of Roanoke Island between 1901 and 1902.
- The park, as a unit of the National Park System, is an active educational resource offering unique opportunities for visitors and educational groups to learn about past and present island geology and ecology, environmental stewardship, and preservation of natural and cultural resources.
- The park has a Significant Natural Heritage Area (SNHA) within its boundaries: Fort Raleigh Maritime Forest Register SNHA.
- The park was listed on the National Register of Historic Places in 1966.

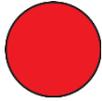
The summary table, below, and the supporting information that follows, provide an overall assessment of the condition of priority resources and values at FORA based on scientific and scholarly studies and professional opinion. The internet version of this report, available at <http://www.nps.gov/stateoftheparks/park/fora>, provides additional detail and sources of information about the resources summarized in this report, including references, accounts on the origin and quality of the data, and the methods and analytical approaches used in the assessments. Reference conditions that represent “healthy” ecosystem parameters, and regulatory standards (such as those related to air or water quality) provide the rationale to describe current resource status. In coming years, rapidly evolving information regarding climate change and associated effects will inform our goals for managing park resources, and may alter how we measure the trend in condition of park resources. Thus, reference conditions, regulatory standards, and/or our judgment

about resource status or trend may evolve as the rate of climate change accelerates and we respond to novel conditions. In this context, the status and trends documented here provide a useful point-in-time baseline to inform our understanding of emerging change, as well as a synthesis to share as we build broader climate change response strategies with partners.

The Status and Trend symbols used in the summary table below and throughout this report are summarized in the following key. The background color represents the current condition status, the direction of the arrow summarizes the trend in condition, and the thickness of the outside line represents the degree of confidence in the assessment. In some cases, the arrow is omitted because data are not sufficient for calculating a trend (e.g., data from a one-time inventory or insufficient sample size).

Condition Status		Trend in Condition		Confidence in Assessment	
	<b>Warrants Significant Concern</b>		<b>Condition is Improving</b>		<b>High</b>
	<b>Warrants Moderate Concern</b>		<b>Condition is Unchanging</b>		<b>Medium</b>
	<b>Resource is in Good Condition</b>		<b>Condition is Deteriorating</b>		<b>Low</b>

## State of the Park Summary Table

Priority Resource or Value	Condition Status/Trend	Rationale
<b>Natural Resources</b> <a href="#">web</a> ▶		
<b>Air Quality</b>		Overall air quality warrants significant concern and is relatively unchanged. Scenic views are often obscured by air pollution-caused haze; however visibility is improving. Average natural visual range during 2010–2014 was reduced from about 97 nautical miles (nm) (without the effects of pollution) to about 43 nm. Ozone sometimes reaches levels that can make breathing difficult for sensitive groups and cause injury to ozone-sensitive plants. Some vegetation communities and surface water in the park may be susceptible to nutrient enrichment effects of excess nitrogen deposition. Airborne toxics, including mercury, can deposit with rain or snow and accumulate in birds, mammals, amphibians, and fish, resulting in reduced foraging efficiency, survival, and reproductive success. Air quality indicator condition status and trend (where available) are determined by using the latest 5 and 10 year data sets, respectively ( <a href="#">NPS-ARD 2016</a> ).
<b>Geologic Features and Processes</b>		The entire shoreline of Fort Raleigh National Historic Site on the northern and western ends of Roanoke Island is affected by currents, storms, tides, and winds associated with Roanoke, Albemarle, and Croatan Sounds in both easterly and westerly directions. Shoreline erosion is dramatically apparent. Shoreline erosion has been slowed or stopped in armored segments, but many wooden bulkheads and older groins are failing. The NPS intends to study shoreline conditions and develop emergency stabilization recommendations to control rapid, soundside shoreline erosion that poses an immediate threat to culturally significant sites in the national historic site.

Priority Resource or Value	Condition Status/Trend	Rationale
Plant and Wildlife Communities		English ivy and wisteria are the primary non-native invasive species spreading into the park from surrounding areas. Other species such as <i>phragmites</i> and Chinese privet are present as well. The NPS has worked in recent years to map and treat exotic plants in the park.
Dark Night Sky		A photic environment is described as the physical amount and character of light at a particular location, irrespective of human perception. The NPS Night Sky Program characterizes a park's photic environment by measuring both anthropogenic and natural light. Anthropogenic Light Ratio (ALR) is a measure of light pollution calculated as the ratio of median Anthropogenic Sky Glow to average Natural Sky Luminance. ALR for Fort Raleigh National Historic Site is 0.93, which is a moderate condition. Trend is neutral based on slow five-year population growth of Kill Devil Hills (2%) and Nags Head (1%).
Acoustic Environment		All sound resources, whether audible or not, are referred to as the <i>acoustic environment</i> of a park. The quality of the acoustic environment affects park resources including wildlife, cultural resources, the visitor experience, and landscapes. The condition of the acoustic environment is assessed by determining how much man-made noise sources contribute to the acoustic environment through the use of a national noise pollution model. This measure is referred to as the <i>mean acoustic impact level</i> . Impact is measured in A-weighted decibels (dBA). The mean acoustic impact level at the park is 5.0 dBA, meaning that the condition of the acoustic environment warrants significant concern. Overall, long-term projected increases in ground-based and aircraft traffic indicate a deteriorating trend in the quality of acoustic resources at this location.
<b>Cultural Resources</b> <span style="float: right;"><a href="#">web</a> ▶</span>		
Archeological Resources		FORA possesses 17 currently recognized archeological sites collectively spanning the entire breadth of known prehistoric occupation for North Carolina, the 16th-century English colonization of Roanoke Island, as well as substantial remains dating to the 18th through early 20th centuries. All 17 sites are recorded as being in Good condition; however, it has been more than 5 years since the majority of sites have had their conditions assessed with a number of sites likely to have suffered at least some minor shoreline erosion since the assessment. Additionally, only 6% (1 of 17) of the park's currently recognized sites have sufficient documentation to evaluate their potential for listing on the National Register.
Cultural Anthropology		To date, there has been no documented ethnographic overview and assessment conducted at the site. Such a study would provide a more nuanced understanding of living people and communities and their knowledge of natural and cultural resources and associations with the park historically and presently. This park has a diversity of associated communities. Their knowledge of tangible and intangible resources can be drawn upon through engagement with descendants or through application of other ethnographic methods. The ethnographic process would expand interpretations of the park, which could help expand visitorship.
Cultural Landscapes		A Cultural Landscape Inventory (CLI) was completed in 2010 that documented the park's cultural landscape. Its Condition Assessment was varied, but overall was rated as fair. A determination has not been made as to whether the cultural landscape is a fundamental or other important resource. Cultural landscapes are not adequately documented in the existing National Register documentation, and the CLI does not provide treatment recommendations.

Priority Resource or Value	Condition Status/Trend	Rationale
Historic Structures		The park is a National Historic Site and includes a reconstructed earthwork. The research and reconstruction of the earthwork started in 1935 and completed in 1950.
History		The park's Administrative History was published in 2003 and a Historic Resource Study was conducted in 1999. All five of the park's historic structures are on the List of Classified Structures, and National Register documentation is fairly recent and adequate.
Museum Collections		One hundred percent of the park's museum collection storage facilities are in good condition. Accession and deaccession files are consistently maintained with hard copy files and in the NPS Interior Collection Management System (ICMS). The park needs to identify Natural History collections and archives created through permitting, resource management projects, and Inventory and Monitoring projects.
<b>Visitor Experience</b> <a href="#">web</a> ▶		
Number of Visitors		The total of 289,885 visitors in 2015 was 3.7% higher than the 5-year average of 279,653 visitors for 2010–2014.
Visitor Satisfaction		Based on the standard visitor satisfaction survey conducted each year, the percentage of visitors satisfied in 2015 was 98.0%, compared to the average of 92.4% for the previous five years and 92.9% for the previous ten years.
Interpretive and Education Programs – Talks and Special Events		The park is actively working to achieve the goals outlined in the <a href="#">Long-Range Interpretive Plan</a> . The park provides a fairly well-rounded interpretive program with focus on expanding education programs in the future, all of which is dependent on staffing levels.
Interpretive Media – Brochures, Exhibits, Signs, and Digital Media		New visitor center exhibits were installed in 2013. The park installed new wayside exhibits on park grounds in 2015 and is connecting with new audiences by implementing the Outer Banks Group Social Media Plan.
Scenic Resources		The park's scenic landscape is representative of primitive Roanoke Island vegetation types. Park scenic views include sound and water views and forested hiking trails. However, urban encroachment is a threat to the park's scenic views as development continues in the surrounding area.
Accessibility		Many park facilities provide Americans with Disabilities Act (ADA) compliant access to visitors. A comprehensive accessibility assessment is needed to identify areas for improvement in order to meet standards as fully as possible. All visitor center audio-visual media are fully ADA compliant. The park's website has included visit planning information in Spanish since 2012; however, the park's newspaper and exhibits are only available in English. There is opportunity to provide some of this access through the mobile app currently under development.

Priority Resource or Value	Condition Status/Trend	Rationale
Safety		Park staff dedicated to public safety activities (safety manager and park law enforcement rangers) monitor and respond to visitor safety incidents. Park staff regularly conducts visitor safety assessments. The park works closely with local emergency services agencies to manage incidents and ensure staff and visitor safety. The park's Law Enforcement staff is trained for handling Emergency Response including law enforcement and emergency medical incidents. Regular risk management educational messages are shared with staff and volunteers. The park recently implemented a robust employee safety program with a proactive approach to providing engaging and effective training opportunities for employees and volunteers with the aim of increasing awareness and reducing risks. The park has identified additional staff training needed and is developing a program to ensure appropriate safety training for all staff.
Partnerships and Volunteers		The park has many partnerships that contribute to visitor experiences and park operations including government entities and non-profit organizations. The park's relationship with the Roanoke Island Historical Association, producers of <i>The Lost Colony</i> , began with Fort Raleigh National Historic Site's enabling legislation and continues to date. The park's cooperating association, Eastern National, provides educational retail sales in the park's visitor center. The park also has an agreement with the First Colony Foundation for continued archeological work at the park. The number of volunteer hours has increased over the past five years. The addition of a dedicated full-time volunteer coordinator for the Outer Banks Group in 2014 has greatly helped to professionalize this program. There is an untapped potential for increasing the number of volunteers.
<b>Park Infrastructure</b> <a href="#">web</a> ▶		
Overall Facility Condition Index		The overall Facility Condition Index for 83 assets for 2015 is 0.030, which is Good based on industry and NPS standards. However, some facilities, such as the park's water treatment plant and associated infrastructure, are in poor condition, which contributed to an overall rating of fair in this report.

## Summary of Stewardship Activities and Key Accomplishments to Maintain or Improve Priority Resource Condition

The list below provides examples of stewardship activities and accomplishments by park staff and partners to maintain or improve the condition of priority park resources and values for this and future generations:

### Natural Resources

- The North Carolina Natural Heritage Program designated a Significant Natural Heritage Area that recognizes the Maritime Evergreen Forest community at the park (one of the best remaining examples in the region) and the state-listed rare butterfly population it supports. The registry process was completed in 2014.

### Cultural Resources

- The park has established partnerships with Roanoke Island Historical Association, Outer Banks History Center, Freedmen's Colony Association, and First Colony Foundation.
- Developed Museum Collection Hurricane Plan for Fort Raleigh museum collection.
- In process of identifying FORA Archeological Resources at risk by completing a five-year strategic archeological operation assessment to identify resources that are threatened by erosion and sea level rise.
- Renewed five-year agreement between FORA and First Colony Foundation to continue archeological field work at FORA in search of Sir Walter Raleigh's Roanoke settlements.

### **Visitor Experience**

- Through the partnership with the Roanoke Island Historical Association, *The Lost Colony* continues as the longest-running outdoor, symphonic drama in the United States.
- In 2013, the park completed the renovation of the Lindsay Warren Visitor Center, including new exhibits on a complete range of interpretive themes that engage modern audiences, are fully ADA compliant, and provide multiple perspectives.
- The park continues to complete and install wayside exhibits on the grounds that will greatly aid visitor's understanding of the earthwork, Thomas Hariot Trail, other park stories, and provide a much-needed orientation function.
- In 2010, park staff completed the park's Long-Range Interpretive Plan. The completion of this plan provided direction for park interpretive service improvements, such as growing an active social media presence, adopting national standards as laid out by the NPS Interpretive Development Program, and competing successfully for wayside exhibit funding.

### **Park Infrastructure**

- Rehabilitated the Visitor Center and the Outer Banks Group headquarters buildings.
- Reduced the park footprint by demolishing and removing six facilities.
- Upgraded the Waterside Theatre Gazebo facility to meet the codes of an assembly type facility. Work included installing ADA ramps, replacement of the electrical system, installation of fire suppression, and the installation of doors. Rehabilitated the women's dressing facilities in the Waterside Theatre complex.
- Installed night sky friendly, energy efficient trail lights at the paved walkways and solar panels at the Visitor Center.

# Key Issues and Challenges for Consideration in Management Planning

Fort Raleigh National Historic Site was established by Secretarial Order on April 5, 1941, to preserve land declared to be of national significance as a portion of the exploration and attempted colonial settlement in North America chartered to Sir Walter Raleigh by Queen Elizabeth I between 1587 and 1591. The park contains approximately 513 acres that protect and preserve known portions of England's first New World settlements from 1584 to 1590. Today, the park also preserves and interprets the history of the Native Americans, European Americans, and African Americans who have lived on Roanoke Island. The park's recently renovated visitor center interprets the Carolina Algonquian, Elizabethan, and Civil War eras, and contains artifacts from each of these eras that have been uncovered during on-site archeological digs. Additionally, the park interprets the wireless technology experiments of Reginald Fessenden that took place in the early 1900s. Since 1941, the park has maintained an agreement with the Roanoke Island Historical Association to continue the annual presentation of *The Lost Colony* in the Waterside Theatre on park grounds. This production is a dramatic commemoration of the stories of England's first attempted settlement in America.

Park staff will continue to work towards preserving the park's resources while managing for high-quality visitor experiences. Park managers will focus on the following topics over the coming years:

## Partnerships and Community Relationships

The park intends to build and strengthen community relations, recognizing the importance of community, history, and local cultures in effectively managing the park's resources and enhancing visitor experiences.

## Science Informing Management

The park plans to improve the quality, quantity, and breadth of scientific data used for management and decision-making.

## Workforce Leadership Development

Park management will focus on developing and improving leadership skills within the park's workforce including: building and maintaining a safety culture; building trust, transparency, and credibility throughout the organization; providing hands-on opportunities for staff to grow skills and careers; and mentoring staff on team and project management.

## National Park Service Experience

The park will actively work to enhance the National Park Service experience for park visitors including: strengthening the park's identity as a unit of the National Park Service; providing more and enhanced visitor experiences; and proactively engaging youth.

# Chapter 1. Introduction

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The purpose of this State of the Park report for Fort Raleigh National Historic Site (FORA) is to assess the overall condition of the park's priority resources and values, to communicate complex park condition information to visitors and the American public in a clear and simple way, and to inform visitors and other stakeholders about stewardship actions being taken by park staff to maintain or improve the condition of priority park resources for future generations. The State of the Park report uses a standardized approach to focus attention on the priority resources and values of the park based on the park's purpose and significance, as described in the park's Foundation Document or General Management Plan. The report:

- Provides to visitors and the American public a snapshot of the status and trend in the condition of a park's priority resources and values.
- Summarizes and communicates complex scientific, scholarly, park operations factual information, and expert opinion using non-technical language and a visual format.
- Highlights park stewardship activities and accomplishments to maintain or improve the state of the park.
- Identifies key issues and challenges facing the park to inform park management planning.

The process of identifying priority park resources by park staff and partners, tracking their condition, organizing and synthesizing data and information, and communicating the results will be closely coordinated with the park planning process, including natural and cultural resource condition assessments and Resource Stewardship Strategy development. The term "priority resources" is used to identify the fundamental and other important resources and values for the park, based on a park's purpose and significance within the National Park System, as documented in the park's foundation document and other planning documents. This report summarizes and communicates the overall condition of priority park resources and values based on the available scientific and scholarly information and expert opinion, irrespective of the ability of the park superintendent or the National Park Service to influence it.

The Fort Raleigh National Historic Site is located on the north end of Roanoke Island, situated between the coastal mainland of northeastern North Carolina and Bodie Island, one of the barrier islands known as the Outer Banks. The national historic site's authorized boundary contains 512.93 acres.

The State of North Carolina deeded Fort Raleigh State Park on the north end of Roanoke Island to the United States on July 14, 1939. The Secretarial Order of April 5, 1941, established Fort Raleigh National Historic Site to preserve land declared to be of national significance as a portion of the colonial settlement or settlements established in America by Sir Walter Raleigh between 1587 and 1591. The Order also recognized the agreement made between the Roanoke Island Historical Association and the United States for annual presentation of Paul Green's symphonic drama, *The Lost Colony*, in the open-air amphitheater at the national historic site.

Today, more than 70 years after the 1941 Secretarial Order, this public/private partnership continues with Roanoke Island Historical Association managing all aspects of *The Lost Colony* production while the National Park Service owns and maintains the Waterside Theatre, *The Lost Colony* administrative building, and all of the other support buildings, facilities, paths, and parking areas.

The Purpose of FORA is to preserve and interpret the first English colony in the New World, as well as the history of the Native Americans, European Americans, and African Americans who lived on Roanoke Island, North Carolina.

Significance statements express why the park unit's resources and values are important enough to warrant national park unit designation. Fort Raleigh National Historic Site is significant because:

- The park protects and preserves the site where English explorers attempted to create England's first colonial settlement in the New World (as well as the birthplace of Virginia Dare, the first English child born in the New World), preserves archeological evidence of these efforts, and provides for ongoing archeological efforts to resolve the mystery of the Lost Colony of 1587.
- The park is the site of the first sustained interaction between Native Americans and the English; this interaction resulted in the first written cultural/ethnographic information on the Algonquian people and the first English-language documentation of the North Carolina coastal region.
- The park is home to *The Lost Colony* theatrical production, the nation's first and longest running symphonic drama, produced and performed by Roanoke Island Historical Association since 1937, on the very site of the first English Colony in the New World.
- The park surrounds and partners with The Elizabethan Gardens, an internationally-known botanical organization that expands Fort Raleigh National Historic Site's English colonial themes with replicated 16th-century English gardens.
- Fort Raleigh National Historic Site interprets the Civil War Battle of Roanoke Island and the Roanoke Island Freedmen's Colony, a refuge established for and built by 3,500 former slaves during and after the U.S. Civil War until 1867. The Freedmen's Colony is listed as a National Underground Railroad Network to Freedom site.

- The park preserves the site of early wireless radio experiments (including the first quality wireless transmission and reception) by Reginald Fessenden on the north end of Roanoke Island between 1901 and 1902.
- The park, as a unit of the National Park System, is an active educational resource offering unique opportunities for visitors and educational groups to learn about past and present island geology and ecology, environmental stewardship, and preservation of natural and cultural resources.
- The park has a Significant Natural Heritage Area (SNHA) within its boundaries: Fort Raleigh Maritime Forest Register SNHA.
- The park was listed on the National Register of Historic Places in 1966.



Map of the Park

# Chapter 2. State of the Park

The State of the Park is summarized below in four categories—Natural Resources, Cultural Resources, Visitor Experience, and Park Infrastructure—based on a synthesis of the park’s monitoring, evaluation, management, information programs, and expert opinion. Brief resource summaries are provided below for a selection of the priority resources and values of the park. Clicking on the [web](#) ► symbol found in the tables and resource briefs below will take you to the internet site that contains content associated with specific topics in the report.

The scientific and scholarly reports, publications, datasets, methodologies, and other information that were used as the basis for the assessments of resource condition are referenced and linked throughout the report and through the [internet version of this report](#) that is linked to the NPS [IRMA data system](#) (Integrated Resource Management Applications). The internet version of each report, and the associated workshop summary report available from the internet site, provide additional detail and sources of information about the findings summarized in the report, including references, accounts on the origin and quality of the data, and the methods and analytical approaches used in data collection and the assessments of condition. Resource condition assessments reported in this State of the Park report involve expert opinion and the professional judgment of park staff and subject matter experts involved in developing the report. This expert opinion and professional judgment derive from the in-depth knowledge and expertise of park and regional staff gained from their being involved in the day-to-day practice of all aspects of park stewardship and from the professional experience of the participating subject matter experts. This expert opinion and professional judgment utilized available factual information for the analyses and conclusions presented in this report. This State of the Park report was developed in a park-convened workshop.

The status and trends documented in Chapter 2 provide a useful point-in-time baseline measured against reference conditions that represent “healthy” ecosystem parameters, or regulatory standards (such as those related to air or water quality). We also note that climate change adaptation requires us to continue to learn from the past, but attempting to manage for conditions based on our understanding of the historical “natural” range of variation will be increasingly futile in many locations. Thus, these reference conditions, and/or our judgment about resource condition or trend may evolve as the rate of climate change accelerates and we respond to novel conditions. Our management must be even more “forward looking,” to anticipate plausible but unprecedented conditions, also recognizing there will be surprises. In this context, we will incorporate climate considerations in our decision processes and management planning as we consider adaptation options that may deviate from traditional practices.

## 2.1. Natural Resources

Air Quality  <a href="#">web</a> ►			
Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Visibility	Haze Index		Visibility warrants significant concern. This status is based on NPS Air Resource Division benchmarks and the 2010–2014 estimated visibility on mid-range days of 8.1 deciviews (dv) above estimated natural conditions of 7.6 dv (higher values represent poorer visibility). Data from the Swanquarter, NC visibility IMPROVE (Interagency Monitoring of Protected Visual Environments) monitoring site indicate that during the 2005–2014 decade, the trend in visibility improved on both the 20% clearest days and 20% haziest days, resulting in an overall improving visibility trend. The degree of confidence in the visibility status and trend at Fort Raleigh NHS is high because of the nearby visibility monitor (IMPROVE Site ID: SWAN1, NC; <a href="#">NPS-ARD 2016</a> ).

## Air Quality (continued)

[web](#) ▶

Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Ozone	Human Health: Annual 4th-highest 8-hour concentration		Human health risk from ground-level ozone warrants moderate concern. This status is based on NPS Air Resource Division benchmarks and the 2010–2014 estimated ozone concentration (4th highest 8-hour average) of 68.1 parts per billion (ppb). Ozone is a respiratory irritant, causing coughing, sinus inflammation, chest pains, scratchy throat, lung damage, and reduced immune system functions. Children, the elderly, people with existing health problems, and active adults are most vulnerable. The degree of confidence in the status of human health risk from ground-level ozone is medium, because estimates are based on interpolated data from more distant ozone monitors ( <a href="#">NPS-ARD 2016</a> ).
	Vegetation Health: 3-month maximum 12-hour W126		Vegetation health risk from ground-level ozone warrants moderate concern. This status is based on NPS Air Resource Division benchmarks and the 2010–2014 estimated W126 metric of 8.4 parts per million-hours (ppm-hrs). The W126 metric relates plant response to ozone exposure during daylight hours over the growing season. There are several ozone-sensitive plants in the park including: red maple ( <i>Acer rubrum</i> ), sweetgum ( <i>Liquidambar styraciflua</i> ), loblolly pine ( <i>Pinus virginiana</i> ), dogwood ( <i>Cornus florida</i> ), and Virginia creeper ( <i>Parthenocissus quinquefolia</i> ) ( <a href="#">NPSpecies 2016</a> ). The degree of confidence in the status of vegetation health risk from ground-level ozone is medium, because estimates are based on interpolated data from more distant ozone monitors ( <a href="#">NPS-ARD 2016</a> ).
Deposition	Nitrogen Wet Deposition		Wet nitrogen deposition warrants significant concern. This status is based on NPS Air Resources Division benchmarks and the 2010–2014 estimated wet nitrogen deposition of 3.9 kilograms per hectare per year (kg/ha/yr). The degree of confidence in the wet nitrogen deposition status is medium, because estimates are based on interpolated data from more distant deposition monitors ( <a href="#">NPS-ARD 2016</a> ).  Excess nitrogen can also cause invasive exotic plant species to grow faster and out-compete native vegetation adapted to low nitrogen levels (Blett & Eckert 2013; Bobbink et al. 2010). Furthermore, the estimated total nitrogen deposition (wet plus dry) is above the minimum ecosystem critical loads for some park vegetation communities, suggesting that lichen and forest vegetation are at risk for harmful effects ( <a href="#">NADP-TDEP 2014</a> ; <a href="#">Pardo et al. 2011</a> ).

## Air Quality (continued)

[web](#) ▶

Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
<p style="text-align: center;"><b>Deposition (continued)</b></p>	<p>Sulfur Wet Deposition</p>		<p>Wet sulfur deposition warrants moderate concern. This status is based on NPS Air Resources Division benchmarks and the 2010–2014 estimated wet sulfur deposition of 2.7 kilograms per hectare per year (kg/ha/yr). The degree of confidence in the wet sulfur deposition status is medium because estimates are based on interpolated data from more distant deposition monitors (<a href="#">NPS-ARD 2016</a>). Acidification effects can include changes in water and soil chemistry that impact ecosystem health.</p>
	<p>Mercury/Toxics Deposition</p>		<p>Mercury/toxics deposition warrants significant concern. Given landscape factors influence the uptake of mercury in the ecosystem, the status is based on estimated wet mercury deposition and predicted levels of methylmercury in surface waters. The 2011–2013 wet mercury deposition was high at the park, estimated to be 9.8 micrograms per square meter per year (<a href="#">NPS-ARD 2016</a>) and the predicted methylmercury concentration in park surface waters is very high, estimated to be 0.34 nanogram per liter (<a href="#">USGS 2015</a>). Values for both wet deposition and predicted methylmercury were compared to NPS Air Resource Division benchmarks to determine the significant concern status. The degree of confidence in the mercury/toxics deposition status is low, because wet deposition and methylmercury concentration estimates are based on interpolated or modeled data as there are no park-specific studies examining contaminant levels in species or species groups from park ecosystems.</p> <p>High mercury concentrations in birds, mammals, amphibians, and fish can result in reduced foraging efficiency, survival, and reproductive success. Elevated levels of mercury in humans can affect the brain, kidneys, and reproductive function. Wet and dry deposition can lead to mercury loadings in water bodies, where mercury may be converted to a bioavailable toxic form of mercury, methylmercury, and bioaccumulate through the food chain. Wetlands, especially those rich in organic matter, are important sites for methylmercury production.</p>

## Geologic Features and Processes



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Shoreline Change	Shoreline Erosion		<p>The entire shoreline of Fort Raleigh National Historic Site on the northern and western ends of Roanoke Island is affected by currents, storms, tides, and winds associated with Roanoke, Albemarle, and Croatan Sounds in both easterly and westerly directions. Shoreline erosion is dramatically apparent.</p> <p>Much of north end of Roanoke Island has been armored with a combination of rock revetments, wooden bulkheads, groins, and breakwaters. Shoreline erosion has been slowed or stopped in armored segments, but many wooden bulkheads and older groins are failing. Shoreline erosion adjacent to some structures, especially east of the rock revetment at Dough Cemetery, has increased although specific rates have not been measured.</p> <p>The NPS intends to study shoreline conditions and develop emergency stabilization recommendations to control rapid, soundside shoreline erosion that poses an immediate threat to culturally significant sites in the national historic site.</p>

## Plant and Wildlife Communities



[web](#) ▶

Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Invasive and Nuisance Species	Exotic Plants		<p>English ivy and wisteria are the primary non-native invasive species spreading into the park from surrounding areas. Other species such as <i>phragmites</i> and Chinese privet are present as well. The NPS has worked in recent years to map and treat exotic plants in the park.</p>

## Resource Brief: Natural Heritage Areas

Significant Natural Heritage Areas (SNHAs) are defined by the North Carolina Natural Heritage Program as areas that “possess natural values justifying recognition by the State as an outstanding part of the natural heritage of North Carolina” (NCNHP 2014). The Nature Preserves Act of 1985 establishes SNHA Registry Agreements as a mutual understanding between landowners and the North Carolina Department of Environment and Natural Resources to “protect outstanding examples of the natural diversity occurring in



**Live oaks are an important component of the Fort Raleigh Maritime Forest SNHA.**

[2012](#)). The 161 acres designated in the registry as “restoration area” contains a large area of successional pine forest that is beginning to recover to Maritime Evergreen Forest. Restoration of this area, either by active management or by allowing natural succession to occur, would lead to a larger, more viable occurrence of this rare community type. By entering into a registry agreement with the North Carolina Natural Heritage Program, NPS is committing to maintaining the natural character and integrity of the significant vegetative community and the species it supports at FORA.

North Carolina and preserve unique and unusual natural features.” NPS staff works closely with the NCNHP to facilitate SNHA registries and is dedicated to protecting these areas from artificial alterations and allowing natural processes to operate unhindered.

NPS completed a Registry Agreement with NCNHP for designation of 181 acres of FORA as the Fort Raleigh Maritime Forest SNHA (NCNHP 2014). This SNHA includes 20 acres of “primary area,” which contains a mature example of a Maritime Evergreen Forest community which is recognized as “one of the best remaining examples of this rare community type in this part of the state.” Salt spray is “a major environmental influence on these communities, and is generally indicated by a distinctly streamlined canopy” ([Schafale 2012](#)). The vegetation in the FORA maritime forest is dominated by a combination of live oak, laurel oak, eastern red cedar, and loblolly pine. A population of the North Carolina Significantly Rare giant swallowtail butterfly also occurs in the primary area ([LeGrand](#)

### Dark Night Sky



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
<b>Anthropogenic Light</b>	Anthropogenic Light Ratio (ALR) — Average Anthropogenic Sky Glow: Average Natural Sky Luminance		A photic environment is described as the physical amount and character of light at a particular location, irrespective of human perception. The NPS Night Sky Program characterizes a park’s photic environment by measuring both anthropogenic and natural light. ALR is a measure of light pollution calculated as the ratio of median Anthropogenic Sky Glow to average Natural Sky Luminance. ALR for Fort Raleigh National Historic Site is 0.93, which is a moderate condition. Trend is neutral based on slow five year population growth of Kill Devil Hills (2%) and Nags Head (1%).

# Resource Brief: Night Sky Resources at Fort Raleigh National Historic Site

The night sky has been a source of wonder, inspiration, and knowledge for thousands of years. Unfettered night skies with naturally-occurring cycles of light and dark are integral to ecosystem function as evidenced by the fact that nearly half the species on earth are nocturnal. The quality of the nighttime environment is relevant to nearly every unit of the NPS system as the nighttime photic environment and its perception of it by humans (the lightscape) are both a natural and a cultural resource and are critical aspects of scenery, visitor enjoyment, and wilderness character.

## Condition and Functional Consequences

Night sky quality at Fort Raleigh National Historic Site is moderate with an ALR of 0.93. This is considered a moderate condition for non-urban parks. At the light levels observed from Fort Raleigh the Milky Way is visible, but has typically lost some of its detail and is not visible as a complete band. Zodiacal light (or “false dawn,” which is faint glow at the horizon just before dawn or just after dusk) is rarely seen. Anthropogenic light likely dominates light from natural celestial features and shadows from distant lights may be seen.

## Assessment

One way the NPS Natural Sounds & Night Sky Division (NSNSD) scientists measure the quality of the photic environment is by measuring the median sky brightness levels across a park and comparing that value to average natural night sky luminance. This measure, called the ALR, can be directly measured with ground based measurements, or modeled when these data are unavailable. The geographic information system model, calibrated to ground based measurements in parks, is derived from the 2001 World Atlas of Night Sky Brightness, which depicts zenith sky brightness (the brightness directly above the observer). Anthropogenic light up to 200 kilometers from parks may degrade a park’s night sky quality, and is considered in the neighborhood analysis. This impact is illustrated in the corresponding ALR map with a 200km ring around the park center.

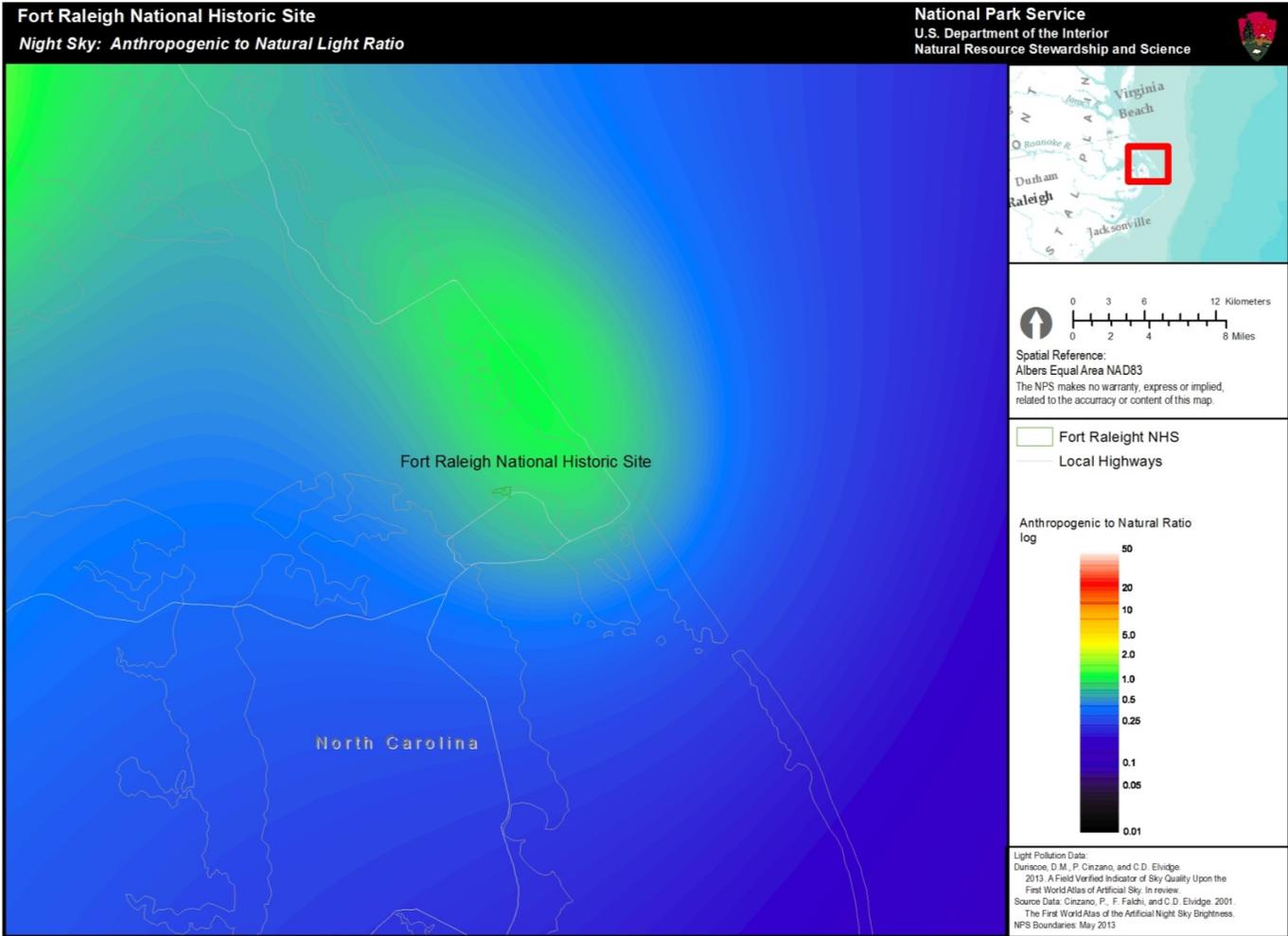
The ALR thresholds are applied spatially to the park. For both urban and non-urban parks, the designated condition (green, amber, red) corresponds to the ALR level that exists in *at least half of* (median condition) the park’s landscape (see table below). Thus it is probable that a visitor will be able to experience the specified night sky quality. It is also probable that the majority of wildlife and habitats found within the park will exist under the specified night sky quality. For parks with lands managed as wilderness, the designated condition is based on the ALR level that exists in more than 90% of the wilderness area.

## Criteria for Impact

Two impact criteria were established to address the issue of urban and non-urban park night sky resources. Parks within urban areas, as designated by the U.S. Census Bureau, are considered less sensitive to the impact of anthropogenic light and are assessed using higher thresholds of impact. Parks outside of designated urban areas are considered more sensitive to the impact of anthropogenic light and are assessed using lower thresholds of impact. According to the U.S. Census Bureau, Fort Raleigh National Historic Site is categorized as non-urban, or more sensitive (U.S. Census Bureau 2010). Learn more in the document [Recommended Indicators of Night Sky Quality](#), and the NPS Natural Sounds & Night Skies Division [website](#).

## Thresholds for Level 1 and 2 Parks

Indicator	Threshold for Level 1 Parks – Non-Urban	Additional Threshold for Areas Managed as Wilderness	Threshold for Level 2 Parks – Urban
Anthropogenic Light Ratio (ALR) – Average Anthropogenic All-Sky Luminance: Average Natural All-Sky Luminance	ALR < 0.33 (<26 nL average anthropogenic light in sky) <i>At least half of park area should meet this criteria</i>	ALR < 0.33 (<26 nL average anthropogenic light in sky) <i>At least 90% of wilderness area should meet this criteria</i>	ALR < 2.00 (<156 nL average anthropogenic light in sky) <i>At least half of park area should meet this criteria</i>
Light flux is totaled above the horizon (the terrain is omitted) and the anthropogenic and natural components are expressed as a unitless ratio	ALR 0.33–2.00 (26–156 nL average anthropogenic light in sky) <i>At least half of park area should meet this criteria</i>	ALR 0.33–2.00 (26–156 nL average anthropogenic light in sky) <i>At least 90% of wilderness area should meet this criteria</i>	ALR 2.00–18.00 (156–1404 nL average anthropogenic light in sky) <i>At least half of park area should meet this criteria</i>
The average natural sky luminance is 78 nL	ALR > 2.00 (>156 nL average anthropogenic light in sky) <i>At least half of park area should meet this criteria</i>	ALR > 2.00 (>156 nL average anthropogenic light in sky) <i>At least 90% of wilderness area should meet this criteria</i>	ALR > 18.00 (>1404 nL average anthropogenic light in sky) <i>At least half of park area should meet this criteria</i>



Created by NPS Natural Sounds & Night Skies Division and NPS Inventory and Monitoring Program MAS Group on 20160329

Regional view of anthropogenic light near Fort Raleigh National Historic Site. White and red represents more environmental influence from artificial lights while blues and black represent less artificial light. This scale shows local context and how local artificial lighting can alter the natural environment. While Fort Raleigh National Historic Site may be influenced by artificial light it still maintains more naturalness than surrounding areas and serves as a harbor of dark skies.

## Acoustic Environment



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Acoustic Impact Level	A modeled measure of the noise (in decibels adjusted or dBA) contributed to the acoustic environment by man-made sources.		The condition of the acoustic environment is assessed by determining how much noise man-made sources contribute to the environment through the use of a national noise pollution model. The mean acoustic impact level at the park is 5.0 dBA, meaning that the condition of the acoustic environment warrants significant concern. Overall, long-term projected increases in ground-based ( <a href="#">Federal Highway Administration 2013</a> ) and aircraft traffic ( <a href="#">Federal Aviation Administration 2010</a> ) indicate a deteriorating trend in the quality of acoustic resources at this location. Confidence in condition is considered high due to the availability of 2011 acoustic monitoring results (McFarland 2015).

## Resource Brief: Acoustic Environment at Fort Raleigh National Historic Site

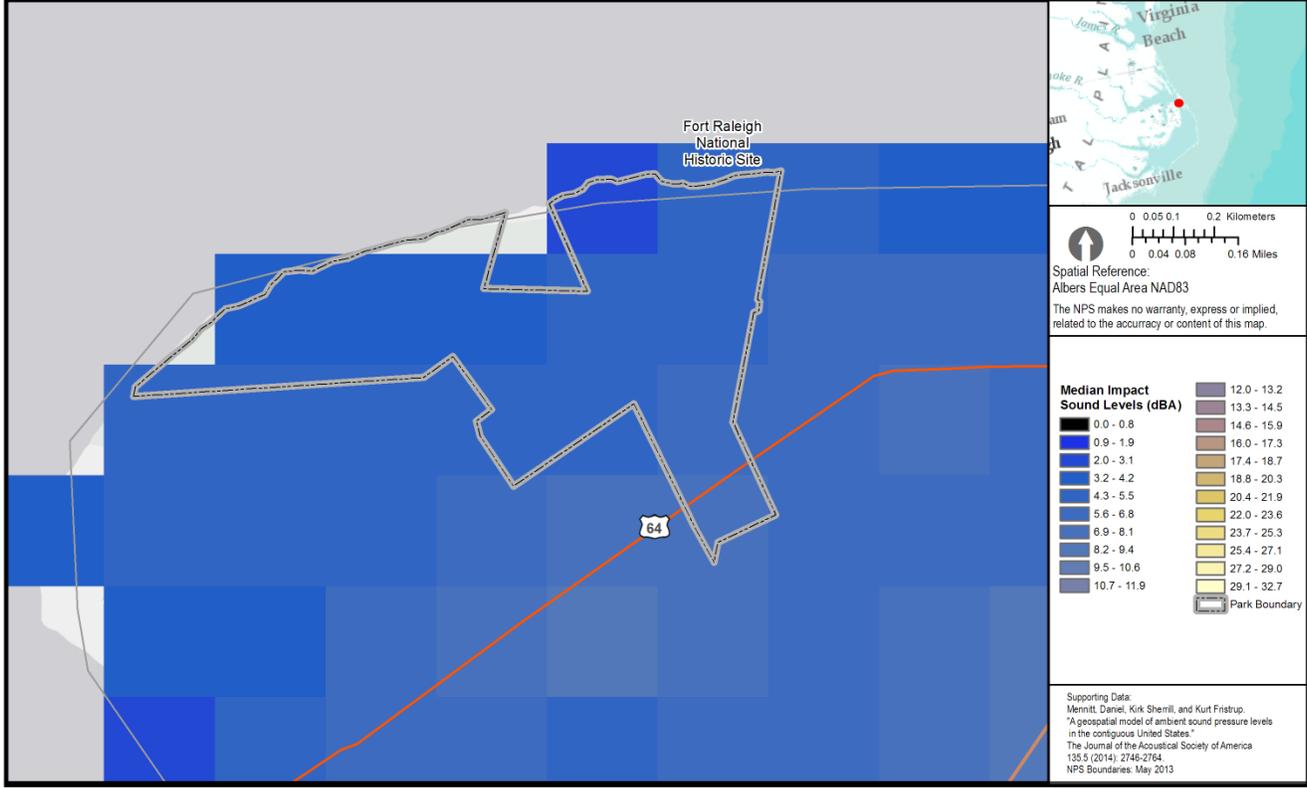
To characterize the acoustic environment, the National Park Service has developed a national model of noise pollution (Mennitt et al. 2014). This model predicts the increase in sound level due to human activity on an average summer day. The model is based on measured sound levels from hundreds of national park sites and approximately 100 additional variables such as location, climate, vegetation, hydrology, wind speed, and proximity to noise sources such as roads, railroads, and airports. The model reveals how much quieter parks would be in the absence of human activities. The quality of the acoustic environment affects visitor experience and ecological health. Acoustic resource condition, both natural and cultural, should be evaluated in relation to visitor enjoyment, wilderness character, ecosystem health, and wildlife interactions. Learn more in [Recommended indicators and thresholds of acoustic resources quality](#), the figures below, and the NPS Natural Sounds and Night Skies Division [website](#). In 2011, long-term acoustical measurements were gathered at two sites in the park. These measurements are summarized in a report that is available [online](#).

### Criteria for Condition Status/Trend

For State of the Park Reports, NPS has established acoustic standards (green, amber, red) and two sets of impact criteria for urban parks and non-urban parks. A park's status (urban or non-urban) is based on data from the U.S. Census Bureau (U.S. Census 2010). Parks outside designated urban areas typically possess lower sound levels, and exhibit less divergence between existing sound levels and predicted natural sound levels. These quiet areas are highly susceptible to subtle noise intrusions. Park units inside designated urban areas typically experience more interference from noise sources. The park is located in a non-urban area, so condition thresholds for non-urban parks are listed in the table below. Just as smog limits one's ability to survey a landscape, noise reduces the area in which important sound cues can be heard. Therefore, thresholds in the table are also explained in terms of listening area.

### Condition thresholds for the acoustic environment in non-urban parks

Indicator	Threshold (dBA)
Acoustic Impact Level  A modeled measure of the noise (in dBA) contributed to the acoustic environment by man-made sources.	Threshold $\leq 1.5$ <i>Listening area reduced by <math>\leq 30\%</math></i>
	1.5 < Threshold $\leq 3.0$ <i>Listening area reduced by 30–50%</i>
	3.0 < Threshold <i>Listening area reduced by &gt; 50%</i>



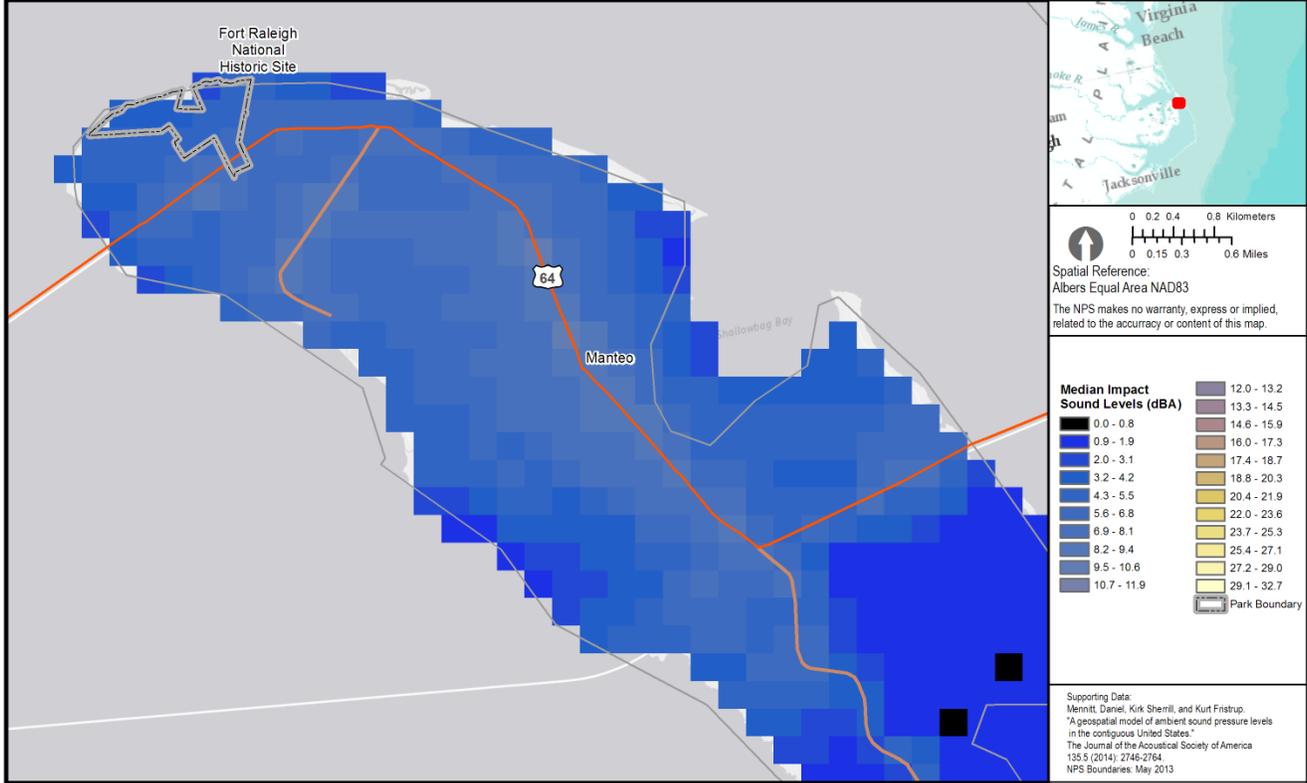
NPS Natural Sounds & Night Skies Division and NPS Inventory and Monitoring Program MAS Group 20150930

**Map of predicted acoustic impact levels in the park for an average summer day. The color scale indicates how much man-made noise increases the sound level (in A-weighted decibels, or dBA), with 270 meter resolution. Black or dark blue colors indicate low impacts while yellow or white colors indicate greater impacts. Note that this graphic may not reflect recent localized changes such as new access roads or development.**

**Fort Raleigh National Historic Site**

*Acoustical Environment: Predicted sound levels (average summer day)*

National Park Service  
U.S. Department of the Interior  
Natural Resource Stewardship and Science



NPS Natural Sounds & Night Skies Division and NPS Inventory and Monitoring Program MAS Group 20150930

**Map of predicted acoustic impact levels in the park and the surrounding area for an average summer day. The color scale indicates how much man-made noise increases the sound level (in A-weighted decibels, or dBA), with 270 meter resolution. Black or dark blue colors indicate low impacts while yellow or white colors indicate greater impacts. Note that this graphic may not reflect recent localized changes such as new access roads or development.**

## 2.2. Cultural Resources

Archeological Resources  <a href="#">web</a> 			
Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
<b>Knowledge</b>	Sufficient research is conducted to understand the relationship of the park's archeological resources to the historic contexts for the park.		Extensive excavations have been carried out at sites pertaining to the park's primary enabling legislation, which is the Elizabethan period settlement at the FORA site. These have demonstrated 16th-century construction of the Gans metallurgical assay facility and the FORA earthwork. The excavations have also demonstrated 16th-century use of the area by native Algonquians, 19th-century occupation by the Dough family, and 1930s Works Progress Administration (WPA) park development. Elsewhere in the park, archeological research has linked the park's other 16 known sites to prehistoric Native Americans; a variety of 19th-century sites including residences, a cemetery, tar kiln, and road trace; a Civil War era military encampment and freedmen's colony, and the 1930s WPA facility at Camp Wirth. Potential historical contexts for all known sites have been proposed in the park's Archeological Overview and Assessment, but more archeological research, guided by an Archaeological Science and Research Plan, is needed to better delineate and evaluate the full nature of prehistoric and 19th-century occupation on Roanoke Island.
	Scope of archeological resources in the park is understood and a determination has been made whether or not they are a fundamental or other important resource.		Archeological resources are identified in the Fort Raleigh Foundation Document as a Fundamental Resource and Value. Except for some well-tested FORA sites, the park's archeological resources have been identified primarily on the basis of pedestrian survey and shovel testing along with extensive historical research. Consequently, the sites are understood to some degree, but have not been fully excavated in order to evaluate their full extent, archeological integrity, and research potential (i.e., archeological significance).
<b>Inventory</b>	Percentage of park intensively surveyed.		Over one-fifth (21.6%) of the park has been surveyed to current NPS standards. More of the park is being surveyed by The First Colony Foundation (park partner). An Archeological Resources Study was completed in 2011.
	Percentage of archeological resources with complete, accurate, and reliable documentation (a completed State site form).		Formal site documentation has been prepared for 53% (9) of the park's 17 recorded sites. Insufficient work has been done to delineate the full extent of the 8 remaining sites, which include five Civil War era encampment/forts, a 20th-century trash pit, a late 19th-century homestead, and a 19th-century historic road trace.

## Archeological Resources (continued)

[web](#) ▶

Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Documentation	Percentage of known sites with adequate National Register documentation.		Only 6% (1 of 17) of the park's currently recognized sites have sufficient documentation to evaluate their potential for listing on the National Register.
	Research results are disseminated to park managers, planners, interpreters, and other NPS specialists and incorporated into appropriate park planning documents.		An Archeological Overview and Assessment has been completed that thoroughly documents archeological research carried out in the park prior to 2010 and is readily available in both bound and digital formats. Research carried out by the First Colony Foundation since 2010 has been widely publicized, but not yet published in reports or academic journals.
Certified Condition	Percentage of archeological resources certified as complete, accurate, and reliable in the Archeological Sites Management Information System (ASMIS) in good condition.		All 17 (100%) of the park's currently recognized sites are recorded as being in Good condition. However, it has been more than 5 years since the majority of sites have had their conditions assessed with a number of sites likely to have suffered at least some minor shoreline erosion. Erosion may be more significant for some areas of the park—the Dough Cemetery, North Shore, and Camp Wirth sites, as well as The Elizabethan Gardens, which is a private inholding, are all very susceptible to erosion.

### Resource Brief: 16th-Century Copper Necklace

In 2008, the First Colony Foundation, a park partner, excavated an area near the Thomas Hariot Trail that uncovered artifacts associated with Sir Walter Raleigh's colonization efforts and Algonquian habitation on Roanoke Island in the late sixteenth century. Artifacts recovered in this area include sizeable pieces of Algonquian tobacco pipes and pottery, fragments of French ceramic flasks and a metallurgist's crucible, Venetian white glass trade beads, wrought nails, and an entire necklace of copper squares that was likely the elaborate personal ornament of a Roanoke Indian.



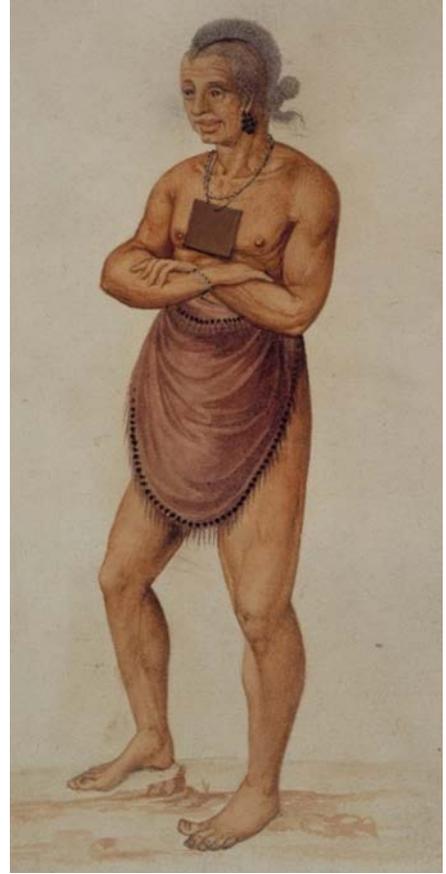
The Native American copper necklace, discovered in situ, consists of thirteen diamond-shaped plates that were made from continental European copper and were strung together on short, knotted cords, which have now rotted away. There is evidence that the necklace was contained in a leather pouch when it was hidden, lost, or discarded. English explorers and colonists carried copper to trade with Indians in coastal North Carolina and Virginia. For these Indian groups, copper was highly prized and represented high status. This necklace may have belonged to a Roanoke Indian who had acquired it through trade.

First Colony Foundation Photo: Thirteen diamond-shaped copper plates discovered in situ



**Above:** The copper necklace following conservation treatment. NPS Photo.

**Right:** Hulton, Paul. America 1585, The Complete Drawing of John White (Chapel Hill: UNC Press 1984) Watercolor 'A Chief Herowan.' Roanoke Indian (possibly Chief Wingina) wearing a copper plaque suspended from a thong symbolizing his status.



# Cultural Anthropology



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
<b>Knowledge</b>	Sufficient research is conducted to understand the relationship of the park's ethnographic resources to the historic context(s) for the park.		The park needs an Ethnographic Overview and Assessment, a required baseline document, to provide information on people with traditional and/or historic ties to specific park areas. Ethnographic projects identify culturally sensitive areas and/or issues in order to develop and implement culturally appropriate resource management strategies. In the case of FORA, this could include underrepresented groups and communities, such as women and Native Americans, with ties to the park that have not been directly interpreted.
<b>Inventory</b>	Appropriate studies and consultations document resources and uses, traditionally associated people, and other affected groups, and cultural affiliations.		Native American, African American, and European American communities all have significant connections to FORA; however, no documented ethnographic overview and assessment exists for the park. Other cultural resource documents provide a foundation for understanding people and communities associated with the park, but do not provide the depth and nuance that a cultural anthropological focus would reveal. There is also evidence of significant Civil War activity on the island that may need to be evaluated.
<b>Documentation</b>	Resources eligible for the National Register of Historic Places as traditional cultural properties are identified.		No documented ethnographic overview and assessment exists for the Park and traditional cultural properties have not been identified.
	Research results are disseminated to park managers, planners, interpreters, and other NPS specialists and incorporated into appropriate park planning documents.		No documented ethnographic overview and assessment exists for the Park. Other cultural resource documents provide a foundation for understanding people and communities associated with the Park, but do not provide the depth and nuance that a cultural anthropological focus would reveal.

## Resource Brief: The Carolina Algonquians

Much of what we know about the Carolina Algonquian culture on the eve of English colonization can be attributed to scientist Thomas Harriot (or Hariot) and artist John White. Harriot and White were chosen by Sir Walter Raleigh to document the natural resources and native Algonquian culture during the 1585 expedition to Roanoke Island. In his widely-read *A Brief and True Report of the New Found Land of Virginia*, Harriot gave a detailed and perceptive account of the Carolina Algonquians' social structure, customs, clothing, crafts, agricultural methods, and religious beliefs. Harriot also taught himself the Algonquin language and became the liaison between the settlers and the native people of the area.



Hulton, Paul. *America 1585, The Complete Drawing of John White* (Chapel Hill: UNC Press 1984) Watercolor 'Theire sitting at meate'

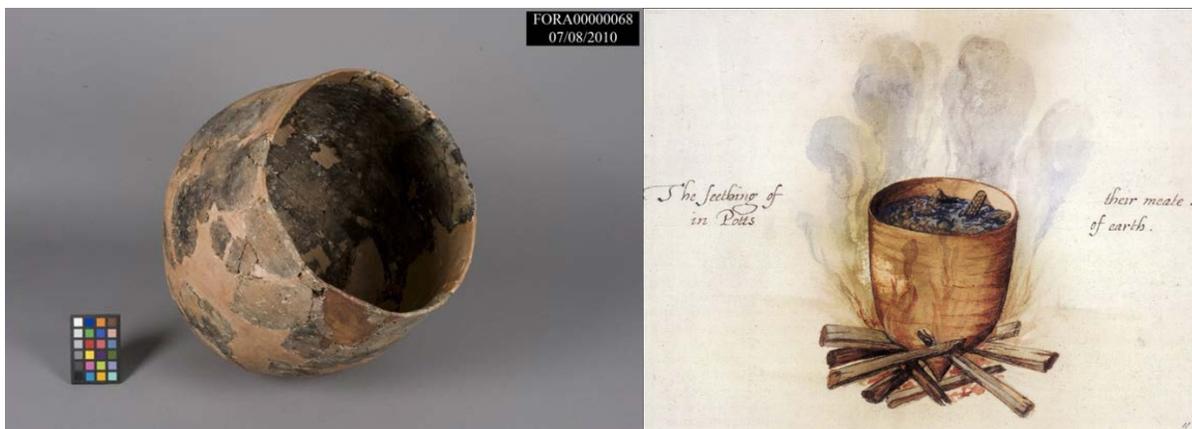
John White's illustrations complemented Harriot's text, recording the features, styles, and daily pursuits of the Algonquian people with detail and sensitivity. White's drawings portray the Native Americans as neither savages nor noble innocents, but as members of a culture adapting in harmony to its environment and worthy of attention and respect. White gained the confidence of the villagers that he quietly observed, recording not only their ceremonies, but also their routine activities: fishing, canoe-making, farming, and eating. Here, they eat boiled maize on a reed mat. Harriot observed "They are very sober in their eating, and consequently very long lived because they do not oppress nature."



Engraving by Francis Delaram in R.C. Staiger, *Thomas Harriot Science Pioneer* (New York: Clarion Books 1998)

## Resource Brief: Native American Conoidal Vessel with Mammiform Base

The Carolina Algonquian maintained a viable culture for nearly 1,000 years in the region settled by Sir Walter Raleigh's colonists. Pottery shards are the most common type of Algonquian artifacts found during archeological excavations at Fort Raleigh and the remains of three clay pots have been discovered. This shell tempered clay vessel was restored from 130 pottery shards found in the earthwork ditch. The pointed base of this large clay pot was buried in the sand and coals of the fire for more efficient heating. Pots were kept simmering all day and night on the fire in the center of the house, with additional items thrown in as they were procured—vegetables (maize, beans, pumpkin), herbs and roots, fish and meat—and people ate when they were hungry.



Left: Native American clay pot. NPS Photo; Right: Hulton, Paul. *America 1585, The Complete Drawings of John White* (Chapel Hill: UNC Press 1984) Watercolor 'The seething of their meate. in Potts of earth'

# Cultural Landscapes



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
<b>Knowledge</b>	Sufficient research exists to understand the relationship of the park's cultural landscapes to the historic context(s) for the park.		The 2010 Cultural Landscape Inventory provided a comprehensive overview of the historic contexts of the park. The park does not yet have a Cultural Landscape Report.
	Scope of cultural landscapes in the park is understood and a determination has been made whether or not they are a fundamental or other important resource.		The 2010 Cultural Landscape Inventory described the scope of the cultural landscapes in the park; the landscape is not considered a fundamental resource or value.
	Adequate research exists to document and preserve the cultural landscape's physical attributes, biotic systems and uses when those uses contribute to historical significance.		The 2010 Cultural Landscape Inventory does not provide treatment recommendations for the cultural landscape. A Cultural Landscape Report is needed.
<b>Inventory</b>	Percentage of landscapes eligible for the National Register in the Cultural Landscapes Inventory (CLI) with certified complete, accurate, and reliable data.		One hundred percent of the landscapes eligible for the National Register were inventoried in the 2010 Cultural Landscape Inventory and the North Carolina State Historic Preservation Office (NCSHPO) concurred on the significance of the cultural landscape.
<b>Documentation</b>	Percentage of cultural landscapes with adequate National Register documentation.		FORA was listed in the National Register in 1978 and the nomination was updated in 1999. A number of contexts, criteria, and periods of significance of the property's cultural landscape are not adequately documented in the existing National Register documentation and should be updated to reflect the information from the Cultural Landscape Inventory.
<b>Certified Condition</b>	Percentage of cultural landscapes certified as complete, accurate, and reliable in the Cultural Landscapes Inventory (CLI) in good condition.		A Cultural Landscape Inventory was completed in 2010 with an overall condition of fair. None of the cultural landscapes that meet these criteria were listed as in good condition.

## Cultural Landscapes (continued)

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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
<b>Certified Condition (continued)</b>	Percentage of Maintained Landscapes (historic) in the Facility Management Software System (FMSS) with a Facility Condition Index (FCI) indicating good condition.		One hundred percent of the maintained landscape FCI's indicate good condition.

## Resource Brief: Cultural Landscapes

Fort Raleigh National Historic Site and associated cultural landscape is located on the northern end of Roanoke Island in Dare County, North Carolina. Roanoke Island is located between the mainland of North Carolina and the barrier islands known as the North Carolina Outer Banks. The park is located approximately three miles north of the town of Manteo and eight and one-half miles northwest of the town of Wanchese. Roanoke Sound forms the park's northern boundary and is visible from several areas of the park.

FORA is accessible from U.S. Highway 264, which intersects the property at the south end. U.S. Highway 264 and U.S. Highway 64 are the primary roads from the mainland to the northern portion of the Outer Banks and since the 1920s the principal route to Roanoke Island. An access road off U.S. Highway 264 leads to the administrative offices, visitor center, and parking lot. A paved pathway leads visitors to the reconstructed earthwork, an early commemorative marker, and the Waterside Theatre. Additional features include a park roadway leading to the maintenance facilities, park quarters, and the Dough Cemetery—a graveyard for members of the Dough family who once owned property now included within the National Historic Site.



**Earthwork at Fort Raleigh National Historic Site**

The park retains a park-like quality with forest cover, wetlands, and landscaped grounds as well as asphalt drives and parking facilities. Most of the National Historic Site is wooded, but there are open expanses including areas in the vicinity of the Waterside Theatre, the visitor center, the reconstructed earthwork, and the western edge of the park near the Dough Cemetery. The park partners with the Roanoke Island Historical Association (RIHA), which produces the outdoor drama *The Lost Colony*. The Park owns and maintains the Waterside Theatre facilities. There is a separate entrance to the Theatre from the parking lots for the nightly presentation of the play, which is produced seasonally. Also located within the park is The Elizabethan Gardens. The Elizabethan Gardens property is owned by RIHA and leased to the Garden Club of North Carolina, which is responsible for its management.

Features of the cultural landscape at the National Historic Site are part of the two periods of significance listed in the National Register nomination. Although there is no physical evidence above ground of the settlements in 1584, 1585–1586, 1587, and 1590 (the first period of significance), archeological resources potentially remain, that date to this period of attempts at permanent settlements. The work of archeologist Ivor Hume and Nick Lucchetti at the site in 1991–1995 supported the hypothesis that the original settlement site is now offshore, beneath the sound.



**Entrance Gates to reconstructed Fort Raleigh**

The second period of significance is listed as 1860–1953. During this period, focus was brought to the preservation and commemoration of the site. The years 1896, 1930s, and 1947–1953 were identified as specific dates of importance and correlate with the development of significant man-made site features that enhanced the interpretive value of the landscape. Those features of the landscape today include the Raleigh Colony/Virginia Dare Monument, the Waterside Theatre, interpretation of the “Cittie of Raleigh,” interpretation of the Harriot/ Gans Workshop (also referred to as the “outwork” or “science center”), the Thomas Harriot Trail, The Elizabethan Gardens, the memorials of Franklin D. Roosevelt’s (FDR’s) speech in the Park and his attendance at the twenty-third performance of *The Lost Colony*, restoration of natural vegetation, erosion control measures at Dough Cemetery and Waterside Theatre, reconstructed earthwork based on archeological studies performed by Jean C. Harrington, and the Freedmen’s Colony interpretation and First Light of Freedom Memorial Monument.

A third period of significance is associated with Mission 66 development at the Park from 1963–1966. At this time the Visitor Center, Outer Banks Group Support Office (formerly the Cape Hatteras Group Headquarters), the plaza and walk complex adjacent to these buildings, *The Lost Colony* Activities Building, the four staff residences on Pear Pad Road, and the restroom building and generator rooms near the Outer Banks Group Support Office were constructed.

## Resource Brief: Dough Cemetery

The Dough Cemetery is the only existing remnant of the Dough homestead on the north end of Roanoke Island. The family homestead included a house built in the early 19th century, several acres of farmland, and a cemetery. In 1894 the Roanoke Colony Memorial Association purchased the Dough homestead (containing approximately 250 acres) for \$1,300. For another \$200 W. T. Dough and his wife sold the association the ten acres of farmland on the north end of the island containing the “Old Fort Raleigh tract.”

In the mid-1960s, the main house, wash house, and other outbuildings associated with the Doughs were removed and the area developed for the Waterside Theatre parking lot. The one-acre Dough Cemetery is located off the maintenance road leading to the northwestern portion of the park near employee housing and the edge of the Roanoke Sound. The cemetery contains eight known graves, with the dates of death on the stone markers ranging from 1866 to 1906. One of the grave sites includes a raised brick table inset with a marble plaque and an upright headstone. The NPS maintains the graveyard, allows access to it for members of the family, and permits burials of the descendants of the Dough family.



**Dough Cemetery at Fort Raleigh NHS.  
NPS Photo.**

# Historic Structures



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
<p><b>Knowledge</b></p>	<p>Historic Structures are identified and evaluated using historical contexts.</p>		<p>The FORA Resource Study was completed in 1999. The park needs a Historic Structure Report completed for the evaluation of the earthwork. The FDR marker, the 1896 Roanoke Colony Memorial Association monument, the Franklin Delano Roosevelt theatre marker, and the Dough Cemetery headstones all need condition assessments and treatment documents for long term management and planning.</p>
	<p>Adequate research exists to document and preserve the historic structure's physical attributes that contribute to historical significance.</p>		<p>An NPS archeologist documented field work and fort reconstruction from 1947–1950 in a report titled <i>Search for the Cittie of Raleigh</i>. The FORA Historic Resource Study was completed in 1999. A Historic Structure Report with treatment recommendations is needed for long-term management and planning for the earthwork.</p>
<p><b>Inventory</b></p>	<p>Percentage of historic structures eligible for the National Register in the List of Classified Structures (LCS) with accurate, complete, and reliable data.</p>		<p>One hundred percent (four of four) listed properties are the Reconstructed Earthwork Fort, the 1896 Roanoke Colony Memorial Association Monument, the Franklin Delano Roosevelt Marker, and FDR Theatre Marker.</p>
<p><b>Documentation</b></p>	<p>Percentage of historic structures with adequate National Register documentation.</p>		<p>One hundred percent (four of four) listed properties have adequate National Register documentation. The park was listed in the National Register in 1978 and the documentation was updated in 1999.</p>
	<p>Research results are disseminated to park managers, planners, interpreters, and other NPS specialists and incorporated into appropriate park planning documents.</p>		<p>The 1999 FORA Historic Resource Study is available to park management and in field libraries. The Study was used to inform the park's 2013 General Management Plan.</p>
<p><b>Certified Condition</b></p>	<p>Percentage of historic structures certified as complete, accurate, and reliable in the List of Classified Structures (LCS) in good condition.</p>		<p>Sixty percent (three of five) structures are in good condition. The 1896 Roanoke Colony Memorial Association Monument, the Franklin Delano Roosevelt Marker, and FDR Theatre Marker are in good condition. The Reconstructed Earthwork Fort and Dough Cemetery headstones are in fair condition.</p>

## Historic Structures (continued)

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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
<b>Certified Condition (continued)</b>	Percentage of historic structures in the Facility Management Software System (FMSS) with a Facility Condition Index (FCI) indicating good condition.		Eighty percent (four of five) of the historic structures in FMSS have an FCI indicating good condition. This includes all structures except for the Dough Cemetery.

## Resource Brief: Fort Raleigh Earthwork

The reconstructed earthwork stands on the north end of Roanoke Island on the site traditionally associated with and known since the nineteenth century as “Fort Raleigh,” a fortification built by members of Ralph Lane’s colony in 1585. Three fortifications were built during the 1585 expedition to “Virginia” under the command of Sir Richard Grenville to defend the English from Spanish attack. Two of these fortifications were built in Puerto Rico; one at Mosquetal offered protection for construction of a small pinnacle and the other at Cape Rojos was built around captured Spanish saltworks. The third earthwork built by Ralph Lane’s men on Roanoke Island bears a strong resemblance to the fortification constructed at Cape Rojos.



The earthwork is a fairly typical, small artillery and musketry fortification of the late sixteenth century. Measuring approximately seventy feet square between bastion points, the structure consists of earthen walls extending approximately five feet above grade, surrounded by a perimeter ditch. A firing banquette runs along the inner perimeter of the parapet walls. The two pointed bastions of the Fort Raleigh earthwork face the Roanoke Sound through which Spanish ships may have approached the colony.

It has been suggested that this fortification could have been one of a planned series of “sconces” or small entrenchments that Ralph Lane hoped to develop at intervals all the way to Chesapeake Bay. Further, in light of the discovery of a “Science Center” near the earthwork, a theory has been proposed that the earthwork was used to protect those conducting metallurgical experiments nearby. Whatever its intended purpose, the Fort Raleigh earthwork reflects the military science of the late sixteenth century and remains a tangible link to England’s first New World colonies.

**Left: Newly reconstructed Fort Raleigh earthwork before grass planting, 1950. The reconstruction was based on the archeological excavations of Jean Carl Harrington in 1947–1948. NPS Photo.**

# Resource Brief: *The Lost Colony* Drama, FDR Visit Markers, and Outer Banks Development

*The Lost Colony* is much more than a drama presented each summer at the Waterside Theatre located at Fort Raleigh National Historic Site. In fact, it is a part of New Deal history that is often overlooked. For Paul Green’s original outdoor drama included actors from the Federal Actors Project that performed in a theater built by the Civilian Conservation Corps—two agencies created as a part of FDR’s New Deal. President Roosevelt himself visited Roanoke Island on August 18, 1937—the 350th anniversary of Virginia Dare’s birth and a little more than a month after the July 4th premiere of Green’s drama. In addition to catching a performance of *The Lost Colony*, the President delivered an address.



**Left:** President Franklin Delano Roosevelt visiting Fort Raleigh NHS; **Right:** Marker to commemorate President Franklin Delano Roosevelt’s 1937 visit to Fort Raleigh NHS

History  <a href="#">web</a> ▶			
Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Knowledge	Sufficient research is conducted to understand the national significance and historical contexts for the park.		The park has a 1999 Historic Resource Study (HRS). An update will be needed in the near future (15-year lifespan for the HRS). Fort Raleigh’s Administrative History, <i>Preserving the Mystery</i> , was completed in 2003 and the <i>Roanoke Island Special Resource Study</i> was completed in 2005.
	Research at the appropriate level of investigation (exhaustive, thorough, or limited) precedes planning decisions involving cultural resources.		An appropriate level of research is conducted preceding planning decisions. Projects are reviewed using Planning, Environment, and Planning Comment (PEPC), and assets are documented in FMSS.
	Research is conducted by qualified scholars.		The park ensures that research is conducted by qualified scholars.

## History (continued)

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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
<b>Inventory</b>	Cultural resources are inventoried and evaluated in consultation with State Historic Preservation Officers (SHPOs).		National Register nomination documents, including study applications, are submitted to North Carolina SHPO for review. Park projects are reviewed by North Carolina SHPO using the PEPC.
<b>Documentation</b>	Percentage of historic properties with adequate National Register documentation.		National Register documentation is fairly recent (1998) and adequate.

## Resource Brief: Evidence of English Colonization at Fort Raleigh



**Wrought Iron English Sickle of the 16th Century.**  
NPS Photo.

was in common use over a very long period of time and its position near the bottom of the earthwork ditch associates it quite definitely with the Raleigh colony. The sickle is believed to be the oldest English-made tool found in America and is one of the few tangible ties we have to the first Englishmen who attempted to colonize the New World.

A wrought iron English sickle of the late 16th century was uncovered in the earthwork ditch during an archeological excavation conducted by Jean Carl Harrington in 1950. Archeological evidence shows that some earth washed down into the bottom of the ditch very soon after the earthwork was built. A few objects, including the sickle, were found beneath this washed-in silt at the very bottom of the ditch, and must have found their way there while the earthwork was being erected, or very soon afterwards. It is surprising that the sickle was left in the earthwork ditch, considering the value of any tool or implement, especially one of iron.

The iron fragments were found flat in a crescent-shaped pattern, suggesting that the sickle was whole when deposited in the ditch. Exact dimensions are difficult to determine due to the greatly deteriorated condition of the iron, but the blade appears to have been approximately 1 1/2 inches wide and about 1/8 of an inch thick at the back edge. The sickle would have had a round wooden handle, probably about 1 1/4 inches in diameter and 6–7 inches long. This type of sickle

## Resource Brief: Freedman’s Colony

One hundred and fifty years ago, thousands of African-American slaves risked punishment, family separation, and even their lives to reach the freedom waiting for them on Roanoke Island. The story of the Freedmen’s Colony of Roanoke Island has a rich heritage and colony descendants still reside on the island today.

Formally established on May 14, 1863, the Freedmen’s Colony became home to approximately 3,500 former slaves—men, women, and children. It was the first community of its kind in North Carolina. At its height, the colony provided its residents with land to farm, schools to obtain an education, places to worship, and jobs to learn skills and earn a living. The Freedmen’s Colony of Roanoke Island was a very important first step on a journey for equality and freedom that still continues. It is for that reason that those Freedmen and their descendants, who remained here after closure of the colony in 1867, have called the Roanoke Island Freedmen’s Colony the “First Light of Freedom.”



**First Light of Freedom Memorial Monument at Fort Raleigh NHS**

## Resource Brief: Reginald Fessenden



**Photo of Reginald Fessenden**

In 1902, a scientist based on Roanoke Island named Reginald Fessenden, changed the world by being the first person to transmit a clear and understandable voice without wires. While his exact words remain unknown, we do know that he successfully sent a message from a transmitter on Cape Hatteras to one on the north end of Roanoke Island. His accomplishment paved the way for what we now know as AM radio and in the process changed the way the entire world communicates.

## Resource Brief: The Lost Colony

Three times between 1584 and 1587, Sir Walter Raleigh sent voyages to the New World with the hope of establishing England’s first settlement. While the story begins in 1584, it is the 1587 settlement that garners the most attention. That year, 118 people came to colonize the New World under the governorship of John White. Encountering hard times, the colonists would eventually send John White back to England to gather much needed supplies. Sadly, his venture would not be quick and he was unable to return until 1590, three years later. Upon his return he found his colony abandoned with no sign of his people; only some housing and remnants of the Fort left behind. The only clue as to their possible whereabouts was the letters “C-R-O” carved into a tree.

These Roanoke Voyages would ultimately be more famous than they could have imagined, but not for their success. While they were unable to establish a settlement as they had intended, the disappearance of the colonists would make them forever known as the Lost Colony of Roanoke Island. The fate of these colonists is still a mystery today, but many theories exist and archeologists still search for answers.



Earthwork at Fort Raleigh NHS. NPS Photo.

### Museum Collections



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
<b>Knowledge</b>	Sufficient research and analysis exists to understand the relationship of the park’s museum collection to the historic context(s) for the park.		Recent analysis of the museum collection was conducted by the Cultural Resource Manager and Interpretive staff in preparation for the 2010 exhibit project. Research and analysis could be improved with additional cultural resource staff.
	Scope of museum collection in the park is understood and a determination has been made whether or not they are a fundamental or other important resource.		The most recent Scope of Collections Statement (SOCS) was completed in 2004. It is supported by the Enabling Legislation, resource management goals and objectives, and interpretive themes. The SOCS should be reviewed and updated every 3–5 years. The museum collection is identified as a fundamental resource and value for FORA in the draft Foundation Document.

## Museum Collections (continued)

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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
<p><b>Inventory</b></p>	<p>Percentage of existing collection that is accessioned and cataloged.</p>		<p>Based on the 2015 Collection Management Report, 82% of the museum collections are catalogued (collection includes 54,402 archives and objects). The bulk of the backlog is archives (4,800 identified archival items are not cataloged; more are unidentified). An Archives survey was completed by an outside contractor in 2012 for unprocessed archives already in museum storage. The overall condition of the collection is good; however the burden for the management and planning for three museum collections is on the Cultural Resource Manager. Increasing workloads, administrative requirements, and funding constraints make this task more difficult.</p>
	<p>Scope of Collection is consistently implemented; items or objects are researched to determine their appropriateness for inclusion in the museum/archive collection.</p>		<p>The 2004 Scope of Collection statement is consistently implemented for new acquisitions to the Fort Raleigh museum collection.</p>
<p><b>Documentation</b></p>	<p>Accession and deaccession files are complete with all appropriate signatures.</p>		<p>Accession and deaccession files are consistently maintained with hard copy files and in the NPS Interior Collection Management System (ICMS).</p>
<p><b>Certified Condition</b></p>	<p>Percentage of museum collection storage facilities FMSS with a FCI indicating good condition.</p>		<p>One hundred percent of the park's museum collection storage facilities are in good condition.</p>

## Resource Brief: Remnant of a 16th-Century Fresh Water Well

In 1982 an NPS Park Ranger discovered the remains of a barrel and a hollowed-out log in shallow water along the shoreline about 200 yards northeast of the Fort Raleigh earthwork. This hollowed-out log has been carbon dated to the sixteenth century and could have been used to line a freshwater well. The practice of using wooden casks with tops and bottoms removed to line well shafts was employed during this era. It is known that Spain sent Vincente Gonzales from St. Augustine, Florida to find Raleigh's English settlement and fort in June 1588. Facing strong winds, Gonzales entered the Pamlico Sound and found a *"slipway for small vessels, and on land a number of wells made with English casks, and other debris indicating that a considerable number of people had been here."* Archeologists theorize that Native Americans could have used this log to shell corn and then traded it to the explorers who may have used it as a freshwater well.



**Hollowed-out log possibly used to line a freshwater well. NPS Photo.**

## 2.3. Visitor Experience

### Visitor Numbers and Visitor Satisfaction

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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
<b>Number of Visitors</b>	Number of visitors per year		The total of 289,885 visitors in 2015 was 3.7% higher than the 5-year average of 279,653 visitors for 2010–2014.
<b>Visitor Satisfaction</b>	Percent of visitors who were satisfied with their visit		Based on the standard visitor satisfaction survey conducted each year, the percentage of visitors satisfied in 2015 was 98.0%, compared to the average of 92.4% for the previous five years and 92.9% for the previous ten years.

### Interpretive and Education Programs – Talks and Special Events



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
<b>Interpretive Programs</b>	Number and variety of ranger-led programs and attendance		Extensive training, coaching, and mentoring are provided to all interpretive staff to ensure a high quality experience for park visitors. Current visitor attendance at programs remains strong (averaging 9,000 per year for the past five years) and program offerings are focused on core interpretive themes.
<b>Junior Ranger Program</b>	Number of Junior Rangers		Junior Ranger youth participant numbers have remained relatively the same over the past five years with an average of 1,200 participating annually. The Junior Ranger booklet is in need of upgrading to provide better youth engagement in primary interpretive themes.
<b>Special Events and Outreach</b>	Number of events		The park works with <i>The Lost Colony</i> annually for presentation of the Virginia Dare Faire. Other events are planned on an as-needed/appropriate basis based on staff availability to manage the event planning and execution. The park has had a modest increase in local school outreach and is working towards introducing curricula-based education programs for youth in the local schools.

## Resource Brief: Community Programming



The Virginia Dare Faire is an event for the whole family.

The park partners with *The Lost Colony* in presenting the annual Virginia Dare Birthday event. The park also provides special programming for commemorative days throughout the year including: National Park Week, National Junior Ranger Day, and NPS Founders Day. The park is an active participant in the Coastal Educators Environmental Network, a collaborative networking group of environmental education agencies and organizations on the Outer Banks.

## Resource Brief: Wayside Exhibits



An Algonquian welcomes visitors to the start of the Thomas Hariot trail on this wayside exhibit panel installed in 2015.

In 2015, the park completed new wayside exhibits for the earthwork and the Thomas Hariot Trail. The wayside exhibits at the earthwork illuminate the history of the construction of the earthwork by the 1585 exploration expedition, the archeological determination of the shape and construction of the earthwork along with the earthwork reconstruction story, and the artifacts that were found during the archeological excavation of the earthwork. The wayside exhibits along the Thomas Hariot trail speak to the natural history experience of the English explorers and colonists, and the concept of home.

## Interpretive Media – Brochures, Exhibits, Signs, and Digital Media



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
<b>Wayside Exhibits</b>	Condition and currency of exhibits		Fourteen new wayside exhibits were installed near the earthworks and on the Hariot Trail in 2015. This includes orientation panels at the visitor center, ticket booth, and The Elizabethan Gardens. There are several additional park feature waysides that still need to be completed.
<b>Park Directional Signs (off-site)</b>	Usefulness, quantity, and placement		Local directional signs on Roanoke Island include Fort Raleigh National Historic Site; however, no Department of Transportation-approved signs exist directing visitors to the park.
<b>Park Informational Signs (on-site)</b>	Usefulness, quantity, and placement		Park informational signs meet NPS standards. The existing signs are in good condition, but environmental conditions accelerate maintenance cycles. In recent years the park installed additional signs including orientation wayside exhibits on park walkways.
<b>Visitor Center Exhibits</b>	Effectiveness and engaging quality of exhibits		New visitor center exhibits were installed in 2013 that are comprehensive for all major park interpretive themes, and relevant and engaging to today's audiences.
<b>Print Media</b>	Accuracy and availability of primary park publications		The park brochure received a major upgrade in 2012 and is updated annually. The park's summer newspaper, <i>In The Park</i> , is available at the park, at all Outer Banks Visitor's Bureau welcome centers, Cape Hatteras National Seashore visitor centers, Wright Brothers National Memorial visitor center, and on the park website. The newspaper has undergone considerable revision over the past five years to upgrade and streamline the publication.
<b>Audio-Visual Media</b>	Films and audio-visual materials		The film presented in the park visitor center is a segment of a larger Public Broadcasting Service (PBS) production. The production content and style are dated. The park has completed a funding request for a new orientation film. The auditorium received a complete upgrade in 2012 and is in excellent condition. There are three new audio-visual interactive components within the new exhibits, which help engage visitors and youth with primary park themes.

## Interpretive Media – Brochures, Exhibits, Signs, and Digital Media (continued)

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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Digital Media	Currency and scope of website; number of website visitors		Views of the park website have increased over the past five years. The website provides good basic orientation trip-planning information; however, the resource-based content needs to be updated. The park is currently working to refresh this content.
	Social media platforms, updates, posts, likes, and overall activity		The park created a <a href="#">Twitter</a> account in 2012 and a <a href="#">Facebook</a> page, <a href="#">Flicker</a> site, and <a href="#">Instagram</a> site in 2013. The addition of an Interpretive Media Specialist position in 2013 has greatly enhanced the park’s social media capacity and produced steady growth of all social media platforms and other interpretive media.
	Mobile app development		The park is currently building a mobile app for the park with anticipated release date of early 2017.

## Resource Brief: Exhibits

In 2011 the park completed a rehabilitation project of the visitor center facility. The second phase of the rehabilitation began in 2013, when the park installed new exhibits replacing displays dated from original construction of the visitor center in 1965. The new exhibits cover a wide-range of park stories, including the Carolina Algonquian, the Roanoke Voyages, the Lost Colony, the Civil War



Battle of Roanoke Island, the Roanoke Island Freedmen’s Colony, and Reginald Fessenden’s wireless radio achievement on Roanoke Island. These are engaging stories of people who came to this island with great hopes and dreams. Some of these dreams came true, and others were lost. The new exhibits create an opportunity for visitors to explore these stories, to find what is known and what is yet to be discovered. Many park artifacts are highlighted and some artifacts are displayed for the first time in a National Park Service exhibit. The new exhibits feature multiple interactive audio-visual stations to help engage the visitor and youth further with multiple park stories.

**New exhibits tell the comprehensive stories of the park.**

## Resource Brief: Mobile App

The park is developing a mobile app for FORA. The app will provide orientation, wayfinding, and interpretive content for multiple locations across the park. At each location, the app will show all services available at the location, information about that location, as well as any relevant interpretive context. The app will also provide audio-guided tours for various sites, i.e., the earthworks. The app includes a list of scheduled events and park alerts. Accessibility to the park will be enhanced with audio description of each location for site-impaired individuals. Users will be able to use the app on site and at home to tour the park. This free app will be available on the Apple app store, as well as the Google Play store. The park will have the capability to update the content of the app at any time, allowing this media to adapt and stay up-to-date with accurate information.

### Scenic Resources



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Scenic Views	Scenic Views Quality & Protection		The park's scenic landscape is representative of primitive Roanoke Island vegetation types. Park scenic views include sound and water views and forested hiking trails. Future development could impact scenic views.

### Accessibility



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Mobility	ADA compliance		Many park facilities provide ADA compliant access to visitors. A comprehensive accessibility assessment is needed to identify areas for improvement in order to meet standards as fully as possible.
Visual Accommodation	ADA compliance		The visitor center film was upgraded to be fully ADA compliant in 2012. The new visitor center exhibits installed in 2013 are fully ADA compliant. The park brochure has been available in braille since 2013. ADA compliant descriptive information of the park grounds and wayside exhibits will be provided in the mobile app currently under development.
Auditory Accommodation	ADA compliance		All visitor center audio-visual media are fully ADA compliant. There is a need for provision of assistive listening devices for ranger-led programs and availability of sign language interpreters.
Multi-lingual Resources	Audio and print materials in multiple languages		There are no translations of the current park brochure. The park's website has included visit planning information in Spanish since 2012. Visitor center exhibits, wayside exhibits, films, and the park newspaper are not currently translated into different languages; however, there is opportunity to provide some of this access through the mobile app currently under development.

# Safety



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
<b>Visitor Safety</b>	Visitor safety program		<p>Park law enforcement staff monitors and responds to visitor safety incidents and other members of staff regularly conduct visitor safety assessments. The park works closely with local law enforcement agencies to manage incidents and ensure staff and visitor safety. Crime is uncommon. The park's Law Enforcement staff is specially-trained for handling Emergency Response, Law Enforcement, and Emergency Medical Services. The majority of the permanent law enforcement staff is trained in Operational Leadership and many in cardiopulmonary resuscitation (CPR), First Aid, Emergency Medical Responder, and Emergency Medical Technician.</p>
<b>Staff Safety and Training</b>	Staff training program		<p>The majority of the permanent park staff is trained in Operational Leadership and many in CPR, automated external defibrillator, and First Aid. Emergency Medical Responder, Emergency Medical Technician, and Occupational Safety and Health Administration-required trainings are offered and required for emergency response staff. Risk assessments are conducted prior to task and project engagement. Regular risk management educational messages are shared with staff and volunteers. The park recently implemented a robust employee safety program with a proactive approach to providing engaging and effective training opportunities for employees and volunteers with the aim of increasing awareness and reducing risks. The park has identified additional staff training needed and is developing a program to ensure appropriate safety training for all staff.</p>

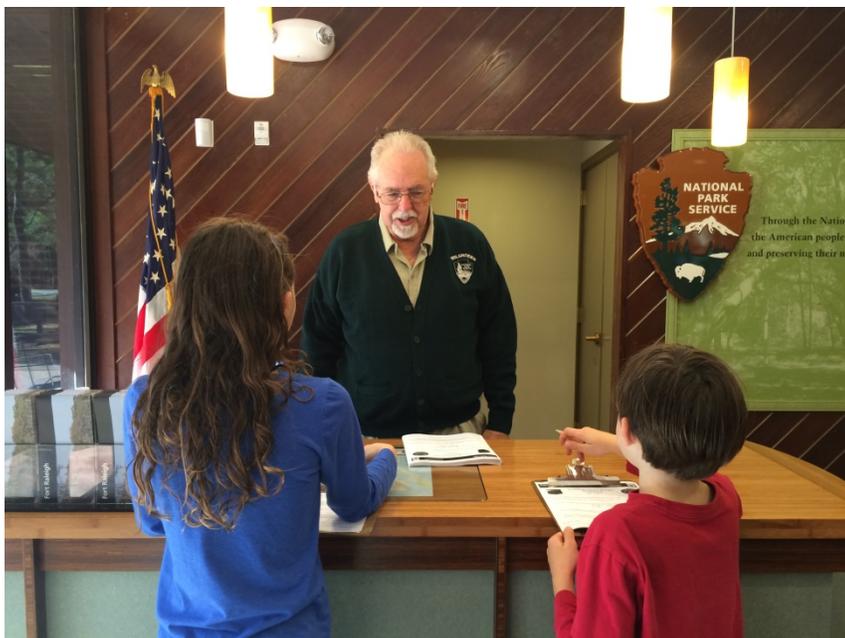
## Partnerships



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
<b>Volunteers</b>	Number and hours contributed		The number of volunteer hours has increased over the past five years. The addition of a dedicated full-time volunteer coordinator for the park in 2014 has greatly helped to professionalize this program. There is still opportunity to grow this program, especially with local community volunteers.
<b>Partnerships, Cooperating Associations, and Agreements</b>	Strength of official and unofficial partnerships		The park has many partnerships that contribute to visitor experiences and park operations including government entities and non-profit organizations. The park's relationship with the Roanoke Island Historical Association, producers of <i>The Lost Colony</i> , began with Fort Raleigh National Historic Site's enabling legislation and continues to date. The park's cooperating association, Eastern National, provides educational retail sales in the park's visitor center. The park also has an agreement with the First Colony Foundation for continued archeological work at the park.

## Resource Brief: Volunteers



The park's Volunteer Program provides an opportunity for individuals and groups to serve their community by assisting the National Park Service in the preservation and protection of unique cultural and natural resources, and by providing visitor services. Volunteers contribute time to the Interpretation, Resources, and Facility Management divisions. The Volunteer Program Manager position has been filled and this has greatly enhanced the park's capacity to develop and recruit for volunteer positions.

**A park volunteer swears in new Junior Rangers.**

## Resource Brief: Partnerships

The park has many partnerships that contribute to park operations, stewardship efforts and visitor experiences. Partnerships are an essential and effective means for the National Park Service to fulfill parts of its mission and foster a shared sense of stewardship. This is particularly true at Fort Raleigh National Historic Site as the park benefits from a partnership with the Roanoke Island Historical Association (RIHA) that began in the late 1930s.

RIHA was authorized by state legislation and incorporated in January 1932 to plan for the 1937 350th anniversary observance of the 1587 Lost Colony. This included the presentation of an outdoor drama titled *The Lost Colony* by Paul Green. With an initial land donation of 16.45 acres and use of federal Works Progress Administration (WPA) funds, the Waterside Theatre was designed and constructed and *The Lost Colony* was first performed.

In May 1936, the State of North Carolina and RIHA began discussions with the NPS to make the site a national park. Through an initial cooperative agreement, the NPS and RIHA agreed to continue producing *The Lost Colony* production at the site. In 1941, the site formally became Fort Raleigh National Historic Site.

The park's relationship with RIHA is unique within the NPS and requires that NPS and RIHA work closely together to ensure the drama's success. RIHA is responsible for producing *The Lost Colony* drama, which has become the nation's longest running outdoor symphonic drama and continues to be performed annually at the Waterside Theatre during the summer months. This relationship between NPS and RIHA is outlined and managed through a formal cooperative agreement signed in December 2010. The NPS values its relationship with RIHA and enjoys the benefits that the drama provides to park visitors in understanding the history and purpose of the park.

Fort Raleigh National Historic Site's valued partnerships also include the park's cooperating association, Eastern National, and the First Colony Foundation. Eastern National provides educational retail sales in the park's visitor center and donates to the park to support operations and visitor services. The First Colony Foundation provides continued archeological work and assists the National Park Service's efforts to study and interpret human history on Roanoke Island.

## 2.4. Park Infrastructure

### Overall Facility Condition Index



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The National Park Service uses a facility condition index (FCI) to indicate the condition of its facilities and infrastructure. FCI is the cost of repairing an asset, such as a building, road, trail, or water system, divided by the cost of replacing it. The lower the FCI number, the better the condition of the asset. The condition of the buildings and other infrastructure assets at each park is determined by regular facility inspections, or “condition assessments,” including daily informal inspections and formal yearly inspections. Deficiencies identified from these assessments are documented in the NPS Facility Management Software System and the cost for each repair determined. Repairs that cannot be completed within the year count against the condition of a structure. The total cost of these deferred repairs divided by the total cost to replace the structure results in the FCI, with values between 0 and 1 (the lower the decimal number, the better the condition). The FCI is assigned a condition category of Good, Fair, Poor, or Serious based on industry and NPS standards. Deferred maintenance projects that require additional funding are identified based on FCI. Planned preventive maintenance on critical components occurs during the year, using a park’s base budget. For additional information about how park managers use information about the condition of facilities and infrastructure to make decisions about the efficient use of funding for maintenance and restoration activities at the park, [Click Here](#).

Asset Category	Number of Assets 2015	FCI 2010 / 2015	Condition Status/Trend	Rationale
<b>Buildings</b>	33	0.073 / 0.110		Major renovations have been completed to several facilities in the park including the Outer Banks Group Headquarters and the park’s Visitor Center. Solar panels have been installed on the Visitor Center. The Waterside Theatre complex buildings have had substantial renovations to include the women’s dressing room and the Waterside Theatre gazebo. Renovations have also been completed in the men’s dressing rooms and one of the public theater restrooms.
<b>Trails</b>	4	0.006 / 0.046		The park’s four trails are all in good condition. New night sky friendly, energy efficient trail lights were installed along paved trails in 2015.
<b>Waste Water Systems</b>	9	----- / 0.481		The wastewater systems are in fair to poor condition. The maintenance area, housing area and Waterside Theatre areas have exceeded their lifecycles and require replacement. The drain field at Visitor Center was expanded in 2016. The waste water system servicing the RIHA headquarters building was replaced in 2012.
<b>Water Systems</b>	2	0.010 / 0.238		The water treatment plant and associated infrastructure are in poor condition. The distribution and associated infrastructure have exceeded their lifecycles. The park is evaluating options to upgrade the water system.
<b>Unpaved Roads, Paved Roads, Parking Areas</b>	14	0.226 / 0.227		The park’s roads and parking areas are in fair condition and require regular resurfacing and striping. The Freedman’s Parking area was graded and resurfaced in 2014.

## Overall Facility Condition Index (continued)

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Asset Category	Number of Assets 2015	FCI 2010 / 2015	Condition Status/Trend	Rationale
All Others	23	0.003 / 0.008		This category includes assets such as telephone, information technology, radio systems, landscapes, cemeteries, and the earthwork. These assets are generally in good condition.

# Chapter 3. Summary of Key Stewardship Activities and Accomplishments

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## Activities and Accomplishments

The list below provides examples of stewardship activities and accomplishments by park staff and partners to maintain or improve the condition of priority park resources and values for this and future generations:

### Natural Resources

- The North Carolina Natural Heritage Program designated a Significant Natural Heritage Area that recognizes the Maritime Evergreen Forest community at the park (one of the best remaining examples in the region) and the state-listed rare butterfly population it supports. The registry process was completed in 2014.

### Cultural Resources

- The park has established partnerships with Roanoke Island Historical Association (RIHA), Outer Banks History Center, Freedmen's Colony Association, and First Colony Foundation.
- Developed Museum Collection Hurricane Plan for Fort Raleigh museum collection.
- In process of identifying FORA Archeological Resources at risk by completing a five-year strategic archeological operation assessment to identify resources that are threatened by erosion and sea level rise.
- Renewed five-year agreement between FORA and First Colony Foundation to continue archeological field work at FORA in search of Raleigh's Roanoke settlements.
- Hosted and participated in Nationally Significant Cultural Landscapes and FMSS Workshop.
- Analyze environmental monitoring data quarterly for museum collections at the Museum Resource Center and Fort Raleigh Visitor Center.
- Complete annual reporting requirements including Annual Museum Inventory, National Catalog, Archeological Sites Management Information System (ASMIS), Outer Banks Group Annual Property Inventory, Section 106 Annual/Biannual Reports, and Collection Management Reports.
- Worked with RIHA, State Historic Preservation Officer (SHPO), NPS Southeast Archeological Center (SEAC), and James River Institute for Archeology (JRIA) to conduct an archeological survey for Planning, Environment and Public Comment (PEPC) 57717–Install ramp at Waterside Theatre Soundstage.
- Work with RIHA Historian to develop annual opening night exhibit for *The Lost Colony* Outdoor Drama.
- Worked with NC Museum of History to loan *The Lost Colony* artifacts from 1921 film for exhibit on the history of NC filmmaking.
- New heating, ventilation, and air conditioning system installed at Museum Resource Center and Bally Building to improve environmental conditions for FORA collection.
- Manage outgoing/incoming loans and new acquisitions for Fort Raleigh museum collection.
- Assisted with development of Centennial Exhibit at the Outer Banks History Center.

### Visitor Experience

- Through the partnership with the Roanoke Island Historical Association, *The Lost Colony* continues as the longest-running outdoor, symphonic drama in the U.S.
- In 2013, the park completed the renovation of the Lindsay Warren Visitor Center, including new exhibits that tell a complete range of interpretive themes, engage modern audiences, are fully ADA compliant, and provide multiple perspectives.
- The park has been completing and installing wayside exhibits on the grounds that will greatly aid visitor's understanding of the earthwork, Thomas Hariot Trail, other park stories, and provide a much-needed orientation function.
- In 2010, park staff completed the park's Long-Range Interpretive Plan. The completion of this plan provided direction for park interpretive service improvements, such as growing an active social media presence, adopting national standards as laid out by the NPS Interpretive Development Program, and competing successfully for wayside exhibit funding.
- Beginning in 2004, the park's partnership with the First Colony Foundation has resulted in archeological digs on the site, which have unearthed new artifacts (displayed in the renovated exhibit hall) and help tell the stories of the Roanoke voyages and the Carolina Algonquin.
- In 2014, the park began implementing a professionalized occupational safety and health program.

### Park Infrastructure

- Rehabilitated the Visitor Center and the Outer Banks Group headquarters buildings.

- Reduced the park footprint by demolishing and removing six facilities.
- Upgraded the Waterside Theatre gazebo to meet the codes of an assembly type facility. Work included installing ADA ramps, replacement of the electrical system, installation of fire suppression, and the installation of doors. Rehabilitated the women's dressing facilities in the Waterside Theatre complex.
- Installed night sky friendly, energy efficient trail lights at the paved walkways and solar panels at the Visitor Center.

# Chapter 4. Key Issues and Challenges for Consideration in Management Planning

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Fort Raleigh National Historic Site was established by Secretarial Order on April 5, 1941, to preserve land declared to be of national significance as a portion of the exploration and attempted colonial settlement in North America chartered to Sir Walter Raleigh by Queen Elizabeth I between 1587 and 1591. The park contains approximately 513 acres that protects and preserves known portions of England's first New World settlements from 1584 to 1590. Today, the park also preserves and interprets the history of the Native Americans, European Americans, and African Americans who have lived on Roanoke Island. The park's recently renovated visitor center interprets the Carolina Algonquian, Elizabethan, and Civil War eras and contains artifacts from each of these eras that have been uncovered during on-site archeological digs. The park also interprets the wireless technology experiments of Reginald Fessenden that took place in the early 1900s. Since 1941, the park has maintained an agreement with the Roanoke Island Historical Association to continue the annual presentation of *The Lost Colony* in the Waterside Theatre on park grounds. This production is a dramatic commemoration of the stories of England's first attempted settlement in America.

Park staff will continue to work towards preserving the park's resources while managing for high-quality visitor experiences. Park managers will focus on the following topics over the coming years:

## **Partnerships and Community Relationships**

The park intends to build and strengthen community relations, recognizing the importance of community, history, and local cultures in effectively managing the park's resources and enhancing visitor experiences. Park management and staff will work to build trust and partner with the community and stakeholders to preserve park resources and provide for visitor enjoyment. Partnership and community initiatives could include: collaborating on youth and education programs; enhancing health and wellness opportunities; and growing volunteer programs. The park will recognize the importance of our employees and their role in community relations and perceptions. In an effort to provide additional resources to the park and allow park users to support the places they want to help steward, the park will work with partners to enhance opportunities for visitor engagement and stewardship.

## **Science Informing Management**

The park plans to improve the quality, quantity, and breadth of scientific data used for management and decision-making. Although the park experiences nearly 300,000 visits every year, the National Park Service has limited data about park visitors. For example, what activities do they prefer to engage in? How do they obtain information about conditions, activities, and resources? What is the carrying capacity of the park to protect resources while providing exceptional visitor experiences? The park seeks to understand how visitors experience the park, how park users affect resources, and the cultural and natural history of the park. Scientific information to help understand the current and projected impacts of climate change and sea level rise is also critical to improving park management. Projected sea level rise impacts may make it difficult, if not impossible, to preserve all resources and experiences. Although the impacts of climate change on the frequency, magnitude and intensity of storms is unknown, it is likely that sea level rise will exacerbate storm impacts. Consequently, the park faces difficult and complicated decisions regarding where, when, and if to rebuild structures and visitor facilities post-storm, and how to protect archeological resources in the face of significant erosion. Therefore, collecting scientific information such as physical monitoring data, vulnerability analyses, and appropriate scenario plans will help set the stage for long-term planning.

## **Workforce Leadership Development**

Park management will focus on developing and improving leadership skills within the park's workforce including: building and maintaining a safety culture; building trust, transparency, and credibility throughout the organization; providing hands-on opportunities for staff to grow skills and careers; and mentoring staff on team and project management. The park will accomplish these objectives through strategic hiring decisions, implementing interdisciplinary workgroups, and providing staff with training and development opportunities.

## **National Park Service Experience**

The park will actively work to enhance the National Park Service experience for park visitors including: strengthening the park's identity as a unit of the National Park Service; providing more and enhanced visitor experiences; and proactively engaging youth. Examples of strengthening the park's National Park Service identity include: improving park signage and way-finding; increasing staff presence and engagement with visitors; and improving communication with visitors using the best available technology. Enhancing the visitor experience could include providing new or improved educational programs. Examples of more fully engaging youth could include: providing more robust educational programs; engaging local schools and teachers in park programs; hosting multi-day experiences for youth; and conducting outreach and providing opportunities specifically for urban and minority youth groups.

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**See Also:**

[Collection of Natural Resource-Related References](#)

[Collection of Cultural Resource-Related References](#)

[Collection of Visitor Experience-Related References](#)

# Glossary

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See the [State of the Parks home page](#) for a link to a complete glossary of terms used in State of the Park reports. Definitions of key terms used in this report are as follows:

Americans with Disabilities Act (ADA)	Law enacted by the federal government that includes provisions to remove barriers that limit a disabled person's ability to engage in normal daily activity in the physical, public environment.
Archeological Sites Management Information System (ASMIS)	The National Park Service's standardized database for the basic registration and management of park prehistoric and historical archeological resources. ASMIS site records contain data on condition, threats and disturbances, site location, date of site discovery and documentation, description, proposed treatments, and management actions for known park archeological sites. It serves as a tool to support improved archeological resources preservation, protection, planning, and decision-making by parks, centers, regional offices, and the national program offices.
Baseline Documentation	Baseline documentation records the physical condition of a structure, object, or landscape at a specific point in time. A baseline provides a starting point against which future changes can be measured.
Carbon Footprint	Carbon footprint is generally defined as the total set of greenhouse gas emissions caused by an organization, event, product, or person.
Climate Friendly Park	The NPS <a href="#">Climate Friendly Park</a> designation requires meeting three milestones: completing an application; completing a comprehensive greenhouse gas (GHG) inventory; and completing a Climate Action Plan, which is the actions, policies, programs, and measures a park will put into place to reduce its GHG emissions.
Cultural Landscapes Inventory (CLI)	A Cultural Landscapes Inventory describes historically significant landscapes within a park. The inventory identifies and documents each landscape's location, size, physical development, condition, characteristics, and features, as well as other information useful to park management.
Curation	National parks are the stewards of numerous types of objects, field notes, publications, maps, artifacts, photographs, and more. The assemblage of these materials comprises a museum collection. Curation is the process of managing, preserving, and safeguarding a collection according to professional museum and archival practices.
Exotic Plant Management Team (EPMT)	One of the ways the NPS is combating invasive plants is through the Exotic Plant Management Team Program. The program supports 16 Exotic Plant Management Teams working in more than 225 park units. EPMTs are led by individuals with specialized knowledge and experience in invasive plant management and control. Each field-based team operates over a wide geographic area and serves multiple parks.
Facility Condition Index (FCI)	FCI is the cost of repairing an asset (e.g., a building, road, bridge, or trail) divided by the cost of replacing it. The lower the FCI number, the better the condition of the resource.

Foundation Document	A park Foundation Document summarizes a park’s purpose, significance, resources and values, primary interpretive themes, and special mandates. The document identifies a park’s unique characteristics and what is most important about a park. The Foundation Document is fundamental to guiding park management and is an important component of a park’s General Management Plan.
Fundamental and Other Important Resources and Values	Fundamental resources and values are the particular systems, processes, experiences, scenery, sounds, and other features that are key to achieving the park’s purposes and maintaining its significance. Other important resources and values are those attributes that are determined to be particularly important to park management and planning, although they are not central to the park’s purpose and significance. These priority resources are identified in the Park Foundation Document and/or General Management Plan. The short-cut name that will be used for this will be Priority Resources.
General Management Plan (GMP)	A General Management Plan is a strategic planning document that outlines the future management of a National Park Service site for the next 15 to 20 years. The plan will set the basic philosophy and broad guidance for management decisions that affect the park’s resources and the visitor’s experience.
Historic Integrity	Historic Integrity is the assemblage of physical values of a site, building, structure, or object and is a key element in assessing historical value and significance. The assessment of integrity is required to determine the eligibility of a property for listing in the National Register.
Indicator of Condition	A selected subset of components or elements of a Priority Resource that are particularly “information rich” and that represent or “indicate” the overall condition of the Priority Resource. There may be one or several Indicators of Condition for a particular Priority Resource.
Integrated Resource Management Applications (IRMA)	The NPS-wide repository for documents, publications, and data sets that are related to NPS natural and cultural resources.
Interpretation	Interpretation is the explanation of the major features and significance of a park to visitors. Interpretation can include field trips, presentations, exhibits, and publications, as well as informal conversations with park visitors. A key feature of successful interpretation is allowing a person to form his or her own personal connection with the meaning and significance inherent in a resource.
Invasive Species	Invasive species are non-indigenous (or non-native) plants or animals that can spread widely and cause harm to an area, habitat, or bioregion. Invasive species can dominate a region or habitat, out-compete native or beneficial species, and threaten biological diversity.
List of Classified Structures (LCS)	LCS is an inventory system that records and tracks the condition of the approximately 27,000 historic structures listed in the National Register of Historic Places that are the responsibility of NPS.

Museum Collection	NPS is the steward of the largest network of museums in the United States. NPS museum collections document American, tribal, and ethnic histories; park cultural and natural resources; park histories; and other aspects of human experience. Collections are managed by professionally-trained NPS staff, who ensure long-term maintenance of collections in specialized facilities.
Native American Graves Protection and Repatriation Act (NAGPRA)	A federal law passed in 1990. NAGPRA provides a process for museums and federal agencies to return certain Native American cultural items (e.g., human remains, funerary objects, sacred objects, objects of cultural patrimony) to lineal descendants and culturally-affiliated Indian tribes and Native Hawaiian organizations.
Natural Resource Condition Assessment (NRCA)	A synthesis of existing scientific data and knowledge, from multiple sources, that helps answer the question: what are current conditions of important park natural resources? NRCAs provide a mix of new insights and useful scientific data about current park resource conditions and factors influencing those conditions. NRCAs have practical value to park managers and help them conduct formal planning and develop strategies on how to best protect or restore park resources.
North Carolina Natural Heritage Program (NCNHP)	Agency within the NC Department of Environment and Natural Resources which serves as an information clearinghouse in support of conservation of the rarest and most outstanding elements of natural diversity in the state. These elements of natural diversity include plants and animals, which are so rare or the natural communities, which are so significant that they merit special consideration as land-use decisions are made.
Priority Resource or Value	This term refers to the Fundamental and Other Important Resources and Values of a park. These can include natural, cultural, and historic resources as well as opportunities for learning, discovery, and enjoyment. Priority Resources or Values include features that have been identified in park Foundation Documents, as well as other park assets or values that have been developed or recognized over the course of park operations. Priority Resources or Values warrant primary consideration during park planning and management because they are critical to a park’s purpose and significance.
Project Management Information System (PMIS)	A servicewide intranet application within the National Park Service to manage information about requests for project funding. It enables parks and NPS offices to submit project proposals to be reviewed, approved, and prioritized at park units, regional directorates, and the Washington Office.
Resource Management	The term “resources” in NPS encompasses the many natural, cultural, historical, or sociological features and assets associated with parks. Resource management includes the knowledge, understanding, and long-term stewardship and preservation of these resources.
Southeast Coast Network (SECN)	One of 32 I&M networks established as part of the <a href="#">NPS Inventory and Monitoring Program</a> . The <a href="#">Southeast Coast Network</a> comprises 20 parks in Alabama, Florida, Georgia, North Carolina, and South Carolina.
Specific Measure of Condition	One or more specific measurements used to quantify or qualitatively evaluate the condition of an Indicator at a particular place and time. There may be one or more Specific Measures of Condition for each Indicator of Condition.

Visitor and Resource Protection (VRP)	VRP includes, among other responsibilities, protecting and preserving park natural and cultural resources, enforcing laws that protect people and the parks, fire management, search and rescue, managing large-scale incidents, and on-the-ground customer service.
Wilderness	A designation applied to certain federal lands set aside for preservation and protection in their natural condition, in accordance with the <a href="#">Wilderness Act of 1964</a> .