



Natural Resource Monitoring

Overview

A diverse array of natural resources occurs at Fort Frederica National Monument. Knowledge of the condition of natural resources is fundamental to the National Park Service's ability to manage park resources "unimpaired for the enjoyment of future generations". To achieve this goal, the Park cooperates with the National Park Service's Southeast Coast Inventory and Monitoring Network (SECN). Through an extensive process that involved consultation with subject-matter experts and review of published research, the SECN selected several "Vital Signs" to be monitored. Vital Signs are specific natural resources that serve as indicators of ecological "health" or condition of the Park's natural resources. Long-term monitoring of these Vital Signs allows us to advise and assist Park managers in ensuring that the Park's natural resources are preserved for the continued enjoyment of

The Inventory and Monitoring Program

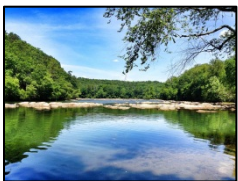
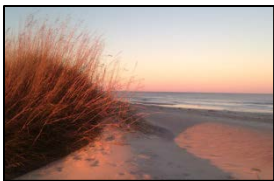
In 1999, the National Park Service initiated a long-term ecological monitoring program, known as "Vital Signs Monitoring", to provide the minimum infrastructure to allow more than 270 national park system units to identify and implement long-term monitoring of their highest-priority measurements of resource condition, or "Vital Signs".

What are Vital Signs? The term Vital Sign was chosen to describe natural-resource attributes because it has a very well-known meaning in the medical field, and these measures are used in a similar manner to assess natural-resource "health" and condition. Vital Signs are defined as a subset of physical, chemical, and biological elements and processes of park ecosystems that are selected to represent the overall health or condition of park resources, known or hypothesized effects of stressors, or elements that have important human values.

The overarching purpose of Vital Sign monitoring in parks is to develop scientifically sound information on the current status and long-term trends in the composition, structure, and function of park ecosystems, and to determine how well current management practices are sustaining those ecosystems. The NPS Vital Signs Monitoring Program addresses five goals for all parks with significant natural resources:

- Determine the status and trends in selected indicators of the condition of park ecosystem,
- Provide early warning of abnormal conditions,
- Provide data to better understand the dynamic nature and condition of park ecosystems,
- Provide data to meet certain legal and Congressional mandates, and
- Provide a means of measuring progress towards performance goals.

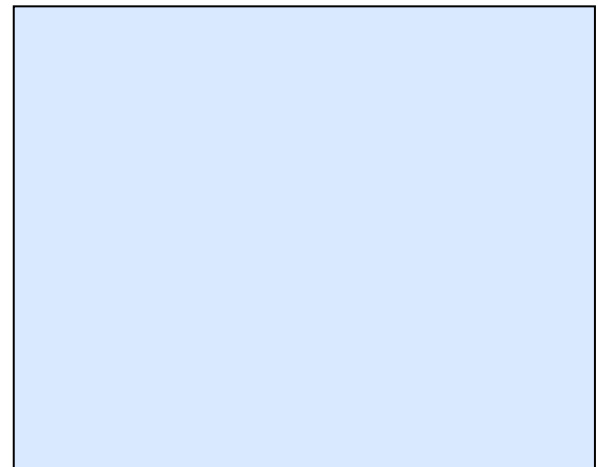
About the Southeast Coast Network



NPS/SECN

The Southeast Coast Network (SECN) includes Fort Frederica National Monument and 19 other National Parks in the Southeastern U.S.; seventeen of which contain significant and diverse natural resources. In total, SECN parks encompass just over 250,000 acres across North Carolina, South Carolina, Georgia, Alabama, and Florida. The parks span a wide diversity of cultural missions also, including four national seashores, two national historic sites, two national memorials, seven national monuments, two national military parks, a national recreation area, a national battlefield, and an ecological and historic preserve. The parks range in size from slightly more than 20 acres to nearly 60,000, and when considered with non-federal lands jointly managed with NPS, the Network encompasses more than 253,000 acres.

The staff of the SECN consists of natural-resource experts, such as ecologists, biologists, technicians, and database programmers that are shared among all of the Network parks, specifically to conduct monitoring, summarize and present data in useful ways, and advise park managers on management strategies and techniques.



NPS/SECN

Inventory and Monitoring at Fort Frederica

Monitoring is a central component of natural-resource stewardship in the NPS, and in conjunction with natural resource inventories, management, and research, provides the information needed for effective, science-based managerial decision-making and resource protection. Natural resource inventories are extensive point-in-time efforts to determine the location or condition of a resource, including the presence, class, distribution, and status of plants, animals, and abiotic components such as water, soils, landforms, and climate. Monitoring differs from inventories by adding the dimension of time; the general purpose of monitoring is to detect changes or trends in a resource.

Several natural-resource inventories were conducted prior to initiating monitoring activities. Inventories conducted at FOFR include:

Amphibians	Benthic Macroinvertebrates (Estuarine)
Reptiles	Water Quality
Vascular Plants	Vegetation Community Types
Mammals	Geologic Resources
Fish	Soil Resources
Climate	Water Body Location / Classification
Air Quality	Natural Resource Bibliography

Vital Sign monitoring takes several forms: a) some Vital Signs are monitored by SECN staff, b) others are collected by other divisions within the NPS or non-NPS partners, while c) other datasets are already collected by non-NPS entities for various purposes which the SECN repackages for park needs. Vital Signs chosen for long-term monitoring at FOFR are:



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- Estuarine Water and Sediment Quality
- Terrestrial Vegetation Communities
- Landbird Communities
- Amphibian Communities
- Weather and Climate
- Air Quality
- Landscape Dynamics
- Non-native Plants and Animals
- Salt Marsh Elevation, Vegetation Composition, and Sediment Salinity



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Additional Information

SECN Home Page: <http://science.nature.nps.gov/im/units/secn/index.cfm>

SECN Reports & Publications: <http://science.nature.nps.gov/im/units/SECN/reports.cfm>

Inventory & Monitoring Program: <http://science.nature.nps.gov/im/index.cfm>

Data Downloads via the Natural Resource Information Portal: <http://nrinfo.nps.gov/Home.mvc>

Follow us on Twitter at: <http://twitter.com/SECoastNetwkNPS> or @SECoastNetwkNPS

Source:

Byrne, M.W., L.E. Elston, B.D. Smrekar, and P.A. Bazemore. 2010. Summary of amphibian community monitoring at Fort Frederica National Monument, 2009. Natural Resource Data Series NPS/SECN/NRDS-2010/097. National Park Service, Fort Collins, Colorado.

Byrne, M.W., S.L. Corbett, and J.C. DeVivo. 2012. Vegetation community monitoring at Fort Frederica National Monument, 2009. Natural Resource Data Series NPS/SECN/NRDS-2012/251. National Park Service, Fort Collins, Colorado.