National Park Service
U.S. Department of the Interior

Inventory and Monitoring Division
Southeast Region

Southeast Region I&M Program Summary

Background

Each day, National Park Service (NPS) managers make decisions that have the potential to affect park resources for years to come. In the past, park managers did not have access to even baseline information about which resources were in the parks—much less information about the overall state of the ecosystem. This lack of reliable data often made informed decision-making difficult.

To facilitate collaboration, information sharing, and economies of scale in inventory and monitoring, the National Park Service has organized more than 270 parks with significant natural resources into 32 ecoregional networks to conduct expanded inventory and monitoring activities. Each network supports a core, professional staff who conduct the day-to-day activities of the network and who collaborate with staff from network parks and other programs and agencies to implement an integrated, long-term program to monitor representative indicators of resource health, or "vital signs."

The Southeast Region (SER) hosts six Inventory and Monitoring (I&M) Programs. Monitoring staff are involved in numerous activities and functions, such as: collecting data; performing data analysis, synthesis, and modeling; and providing data and expertise to park managers. Network personnel are also called upon to provide data and expertise for resource assessments and State of the Park reports.


FORT GEORGE RIVER—TIMUCUAN ECOLOGICAL AND HISTORIC PRESERVE


SQUIRRELFISH—VIRGIN ISLANDS NATIONAL PARK


SAND CAVE—CUMBERLAND GAP NATIONAL HISTORICAL PARK


PITCHER PLANTS—BIG THICKET NATIONAL PRESERVE

At National Park System units across the country, the Inventory & Monitoring Program is dedicated to providing managers with the information they need to make sound, science-based decisions that will support the National Park Service mission of preserving the resources of America's most special and treasured places for future generations.


VIEW OF WESTERN NORTH CAROLINA FROM CLINGMAN'S DOME—GREAT SMOKY MOUNTAINS NATIONAL PARK

Importance

Knowledge of the condition of natural resources in national parks is fundamental to the Service's ability to manage park resources "unimpaired for the enjoyment of future generations." National Park Service managers across the country are confronted with increasingly complex and challenging issues that require a broad-based understanding of the status and trends of each park's natural resources as a basis for making decisions, working with other agencies, and communicating with the public to protect park natural systems and native species. The challenge of protecting and managing a park's natural resources requires a multi-agency, ecosystem approach because most parks are open systems, with threats such as air and water pollution, or invasive species, originating outside of the park's boundaries.

Goals

1. Inventory the natural resources and park ecosystems under National Park Service stewardship to determine their nature and status.
2. Monitor park ecosystems to better understand their dynamic nature and condition and to provide reference points for comparisons with other, altered environments.
3. Establish natural resource inventory and monitoring as a standard practice throughout the National Park System that transcends traditional program, activity, and funding boundaries.
4. Integrate natural resource inventory and monitoring information into National Park Service planning, management, and decision making.
5. Share National Park Service accomplishments and information with other natural resource organizations and form partnerships for attaining common goals and objectives.

Vital Signs Monitoring

The intent of park vital signs monitoring is to track a subset of physical, chemical, and biological elements and processes of park ecosystems. Vital signs 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. As part of the National Park Service's effort to "improve park management through greater reliance on scientific knowledge," a primary role of the Inventory and Monitoring Program is to collect, organize, and make available natural resource data and to contribute to the Service's institutional knowledge by facilitating the transformation of data into information through analysis, synthesis, and modeling.

The Monitoring Programs

Appalachian Highlands Network (APHN)
The Appalachian Highlands Network includes four National Park System units in four southeastern states. These parks are situated in one of the most species-rich temperate regions on earth. They are centers of diversity for vascular and nonvascular plants, terrestrial communities, amphibians, freshwater mussels, snails and neotropical migratory birds, and they protect the largest contiguous stands of old-growth forest remaining in the eastern United States.

Cumberland Piedmont Network (CUPN)
The Cumberland Piedmont Network consists of 14 National Park System units with diverse cultural and natural resources, distributed across eight states. Significant resources include tremendous cave ecosystems, such as Mammoth Cave in Kentucky; wild and scenic rivers (Little River in Alabama); and exceptionally diverse plant communities (limestone glades at Chickamauga Battlefield in Georgia and Stones River Battlefield in Tennessee).

Great Smoky Mountains National Park
The Long-Term Ecological Monitoring (LTEM) Program at Great Smoky Mountains National Park (GRSM) was one of the four original prototype monitoring programs initiated by the National Park Service in 1992. Great Smoky Mountains National Park is renowned for its biodiversity, abundant wildlife, and cultural resources. The park has been recognized internationally as both an International Biosphere Reserve and a World Heritage Site.

Gulf Coast Network (GULN)
The Gulf Coast Network consists of eight parks in the Southeast and Intermountain regions located in portions of six states, and spans from Brownsville, Texas, to Pensacola, Florida, and north to Nashville, Tennessee. These parks represent and host important examples of a broad range of ecosystems including upland forests and streams; bottomland and floodplain forests; and coastal barrier islands and estuaries.

South Florida/Caribbean Network (SFCN)
The South Florida/Caribbean Network consists of seven park units—four in south Florida and three in the U.S. Virgin Islands. These parks include the Everglade's "River of Grass," sweeping cypress forest wetlands, upland hammocks and pinelands with rare species, the largest mangrove forests in the United States, coral reefs popular for snorkeling and diving, and important fisheries.

Southeast Coast Network (SECN)
The Southeast Coast Network consists of 17 park units in five states with diverse natural resources. Natural resource areas in the network consist of both coastal and inland parks, featuring national seashores, historical forts, an ecological and historic preserve, and other areas of significant cultural and historic heritage. Southeast Coast Network parks preserve examples of a broad range of ecosystems, and in many cases coexist in or near large urban population centers.

Monitoring Activities and Management Applications

The broad-based, scientifically sound information obtained through long-term natural resource monitoring has multiple applications for management decision-making, research, education, and promoting public understanding of park resources. Most networks in the region monitor water quality, vegetation, and bird communities. National-level protocols address weather, air quality, and landscape change. In addition, each of the networks has programs focusing on other vital signs that are particularly important for its group of parks.

The highly collaborative nature of the I&M effort has resulted in an integrative, park-based program with strong connections between natural resources I&M information and park management. The results of inventories and monitoring performed to date are being used in resource management decision making and planning efforts, resource condition assessments, State of the Park reports, general park planning documents, park interpretation, and other public outreach efforts. Those results are made available to managers, planners, interpreters, scientists, and the general public via websites, technical reports, resource briefs, journal publications, presentations, and social media.

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For more information, please visit:
http://science.nature.nps.gov/im/

APHN Big South Fork NRRA • Blue Ridge Parkway • Great Smoky Mountains NP • Obed NSR ***CUPN*** Abraham Lincoln Birthplace NHP • Carl Sandburg Home NHS • Chickamauga and Chattanooga NMP • Cowpens NB • Cumberland Gap NHP • Fort Donelson NB • Guilford Courthouse NMP • Kings Mountain NMP • Little River Canyon National Preserve • Mammoth Cave NP • Ninety Six NHS • Russell Cave NM • Shiloh NMP • Stones River NB ***GULN*** Big Thicket NP • Gulf Islands NS • Jean Lafitte NHP and Preserve • Natchez Trace Parkway • Palo Alto Battlefield NHP • Padre Island NS • San Antonio Missions NHP • Vicksburg NMP ***SECN*** Cape Hatteras NS • Cape Lookout NS • Canaveral NS • Castillo de San Marcos NM • Chattahoochee River NRA • Charles Pinckney NHS • Congaree NP • Cumberland Island NS Fort Caroline National Memorial • Fort Frederica NM • Fort Matanzas NM • Fort Pulaski NM, Fort Raleigh NHS • Fort Sumter NM • Horseshoe Bend NMP • Kennesaw Mountain NBP • Moores Creek NB • Ocmulgee NM • Timucuan Ecological and Historic Preserve • Wright Brothers NM ***SFCN*** Big Cypress National Preserve • Biscayne NP • Buck Island Reef NM • Dry Tortugas NP • Everglades NP • Salt River Bay NHP and Ecological Preserve • Virgin Islands NP