



Stewardship *for the* Future



Natural Resource Stewardship and Science
Program Highlights
Fiscal Year 2010

Creating Stewards of Our Natural Resources

The National Park Service manages some of North America's most intact ecosystems. America's parks are oases of biodiversity as much as they are breathtaking landscapes for the vacationing public. Parks serve as refuges for sensitive species and provide important habitat to keep common species thriving. They act as classrooms that demonstrate the complexities of nature, places to observe the effects of climate change in a natural laboratory setting and showcase how science is being used to support ecosystem adaptation.

Emerging issues have challenged us to find new ways to conserve our park resources. We are now thinking and acting at the landscape scale assisted by unprecedented partnerships with other land managers and increasing engagement of citizens in science. By enlisting the public in our stewardship mission through programs like the BioBlitz, the National Park Service brings students and volunteers of all ages to parks to work side-by-side with scientists. For example, volunteers form the core of monitoring and invasive species removal programs at many sites, and student fellowships and programs provide opportunities for young people to make significant contributions to the knowledge of natural resources, such as the discovery of a saber tooth cat fossil at Badlands National Park by a seven-year-old Junior Ranger.

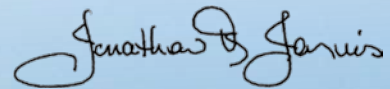
To address current and future challenges, National Park Service professionals continue

to rely upon science. It is the compass that guides our management actions and illuminates complex issues—whether protecting the sounds of nature at the Grand Canyon, restoring natural processes in the Florida Everglades, or studying retreating glaciers in the Rocky Mountains. We also place a high importance on communicating our vision, actions, and discoveries to local and national audiences.

As we face the future, I believe that national parks will become increasingly critical to the preservation and stewardship of our national natural heritage. National Park Service employees are dedicated to educating the next generation of park stewards, increasing relevancy of protected areas, and winning advocates for the parks while achieving our science and resource management goals. While highly dedicated, National Park Service staff cannot preserve these special places

alone—we need the support of the American public. Because of the Natural Resource Challenge, the National Park Service is in a better position to protect our natural heritage and address emerging issues; however, there is still much work to do.

I am honored to lead the employees of the National Park Service. We have one of the most skilled and passionate workforces in the country. We have many challenges ahead, but I am confident that we will meet them with the same excellence we demonstrated over this past year.



Jonathan B. Jarvis
Director
National Park Service





Natural Resource Stewardship and Science in the Parks

Nearly 100 years ago, the National Park Service was created to protect some of our nation's most scenic and ecologically diverse lands. Natural resource stewardship has evolved since that time, becoming an iterative, science-based process. We study park resources to understand their condition and response to threats, share what we learn, take action to protect and restore, and evaluate the effectiveness of our actions.

The issues facing parks have changed too. They are more complex and compel us to look to partners inside and outside park boundaries for collaborative opportunities. National Park Service staff work with federal and state agencies, tribes, universities, and nonprofit organizations to study and conserve natural resources. In addition, volunteers are playing an ever-expanding role in science and stewardship activities.

Cooperation within the National Park Service remains important. Past funding increases through the Natural Resource Challenge increased capacity for addressing threats to natural resources. Parks, especially smaller units that have limited or no dedicated natural resource staff, rely on assistance from natural resource programs that operate on multiple levels throughout the Service:

- Regional programs offer coordination and specialist positions with focused knowledge and skills to assist multiple parks with resource management issues.
- Four programs organize parks into biogeographic networks across the country:

Cooperative Ecosystem Studies Units, Exotic Plant Management Teams, Inventory and Monitoring Networks, and Research Learning Centers. These network programs allow parks to accomplish much more together than they could individually, in a cost-effective manner, by consolidating staff, programs, and projects and leveraging limited funding with partners.

■ Broad-based, Servicewide programs offer policy and regulatory expertise, provide technical assistance and advice, help develop plans and proposals, and guide education and outreach. The Air Quality, Biological Resource Management, Climate Change Response, Environmental Quality, Geologic Resources, Inventory & Monitoring, Natural Sounds & Night Skies, Social Science, and Water Resources programs provide expertise and direct assistance to parks.

Each year, the work of staff, partners, citizen scientists, and volunteers enables the National Park Service to make great strides in understanding and protecting natural resources in parks. The examples in this brochure provide a snapshot of progress and partnership activities over the past year.



JUNIOR RANGER KYLIE FERGUSON HOLDING A SABER-TOOTHED CAT SKULL SHE DISCOVERED AT BADLANDS NATIONAL PARK



Engaging Citizen Stewards with Natural Resource Projects in 2010

Alaska Region (AK)

■ A graduate student boarded cruise ships outside Glacier Bay National Park to record whale encounters in a study of the impacts of cruise ship traffic on endangered humpback whales. Data analysis is ongoing.

Intermountain Region (AZ, CO, MT, NM, OK, TX, UT, WY)

■ The Weed Warrior Program completed its 14th successful season in Dinosaur National Park with 284 Weed Warriors contributing 2,152 hours in the removal of invasive plants from riparian habitat along the Green and Yampa rivers.

Midwest Region (AR, IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI)

■ Homestead National Monument of America partnered with Beatrice Middle School to conduct water quality monitoring of Cub Creek. Approximately 100 students are assisted by volunteer Master Ranger Corp members and park staff in the analysis, which yields quality long-term monitoring data and an understanding of how the students' actions can impact water quality.

National Capital Region (DC, MD, VA, WV)

■ Working with multiple partners, staff at Wolf Trap National Park for the Performing Arts created a residential-scale demonstration garden using native plants and employing sustainable management practices.

■ NPS staff, Smithsonian entomologists, and volunteers surveyed for beetles in Great

Falls and Turkey Run Parks and Dyke Marsh Wildlife Preserve. Volunteers donated 554 hours to this project, which—along with specimens from other surveys—resulted in identification of 159 beetle species in 61 families, including seven new state records.

Northeast Region (CT, ME, MA, MD, NH, NJ, NY, PA, RI, VA, VT, WV, DE)

■ Acadia National Park staff, interns from the Schoodic Education and Research Center Institute (an NPS research learning center), and Air Resources Program staff created a suite of outreach products to translate complex, technical science about mercury patterns and effects for public audiences.

■ The Gateway Research Learning Center, in collaboration with education partners at Gateway National Recreation Area, supported a National Science Foundation grant awarded to Rutgers University. The grant will support a pilot program to engage middle school students and educators from northern New Jersey in geosciences research using real-world science and technology.

Pacific West Region (CA, HI, ID, NV, OR, WA, American Samoa, Guam, Saipan)

■ High school students spent three weeks in North Cascades National Park as part of the Cascades Climate Challenge. The program is designed to inspire and equip the next generation of climate stewards with knowledge of field-based climate change science and the tools necessary to be effective leaders and communicators.

■ The Southern California Research Learning Center hosted several interactive exhibits aimed at recruiting promising Hispanic students into careers in the National Park Service. The center also is a pioneer in using experiential distance education tools such as interactive video feeds to reach underserved audiences.

Southeast Region (AL, FL, GA, KY, MS, LA, NC, SC, TN, VA, Virgin Islands, Puerto Rico)

■ At the fourth annual National Park Service–National Geographic BioBlitz, students, educators, volunteers, and scientists conducted inventories of Biscayne National Park's four major ecosystems. Scientists documented a preliminary tally of 828 species, 324 of which are new entries on the park's official species list.

Servicewide Projects

■ The George Melendez Wright Climate Change Internship and Fellowship programs placed 13 interns and 22 fellows in parks and offices across the country. Designed to harness the energy and creativity of undergraduate and graduate students, the programs supported a range of park-based research, resource management, energy efficiency, and climate change communication projects.

■ The Geoscientists-in-the-Parks Program employed 59 participants in three- to six-month positions to assist with research, synthesis of scientific literature, geologic mapping, GIS analysis, site evaluations, resource inventorying and monitoring, impact mitigation, communication products, and park staff and visitor education.



BISCAYNE NATIONAL PARK



POINT REYES NATIONAL SEASHORE



GLACIER NATIONAL PARK

NRSS Mission

The Natural Resource Stewardship and Science (NRSS) Directorate develops, interprets, disseminates, and utilizes the tools of natural and social science and resource management to enable and fulfill the National Park Service core mission: the protection, preservation, and conservation of park resources and values for the enjoyment of present and future generations.

NRSS Purpose

The Natural Resource Stewardship and Science Directorate provides:

- National leadership and oversight
- Centralized, integrated, professional support to parks and the National Park Service
- Specialized assistance to parks through technical expertise that cannot be efficiently provided elsewhere
- Facilitation and development of Servicewide approaches that address national-scale issues

More Information

National Park Service
Natural Resource Stewardship and Science
1849 C Street NW, Room 3130
Washington, DC 20240

Go to www.nature.nps.gov/challenge to view the full-length FY 2010 Report to Congress.

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