



# Preserving America's Special Places



Natural Resource Stewardship and Science  
Program Highlights

*Fiscal Year 2011*

For the full-length report, go to  
[www.nature.nps.gov/challenge](http://www.nature.nps.gov/challenge).

## A Shared Vision for the Next 100 Years

In August 2011 the National Park Service (NPS) launched *A Call to Action: Preparing for a Second Century of Stewardship and Engagement*, a long-term strategy that marries the fundamental mission of the Service with short- and long-term resource stewardship. The Service has worked tirelessly to preserve parks since its establishment in 1916, but today's challenges require a new, cooperative strategy that takes advantage of state-of-the-art tools and technology. The strategic plan defines a vision for NPS preservation, conservation, and restoration and identifies actions that advance the Service toward that shared vision.

As the National Park Service approaches its second century, it will address four themes: connecting people to parks, advancing the education mission, preserving America's special places, and enhancing professional and organizational excellence. Attaining this vision requires increased partnership and citizen participation in all areas, including park science and stewardship. Natural resource programs across the National Park System continue to be critical to successfully achieving the *Call to Action* vision as well as the vision described in America's Great Outdoors.

For example, the NPS Migration Conservation Initiative is working with the national and international science community not only to identify migration corridors for species that make annual treks from breeding grounds to wintering areas but also to protect the very phenomenon of migration (*Action 22: Scaling Up*). The Inventory and Monitoring Program is developing "state of the park" reports to assess the overall status and condition of natural and cultural resources, park facilities, and visitor satisfaction. The reports will be used to help parks set priorities and communicate complex information about a park's condition to the public in a clear and simple way (*Action 28: Park Pulse*). The Natural Sounds and Night Skies Program is leading the way to protect

natural darkness as a precious resource through development of a servicewide night sky inventory (*Action 27: Starry, Starry Night*).

Natural resource programs are able to take on such complex initiatives because of the solid foundation established by the Natural Resource Challenge ("the Challenge"). Launched in 1999, the Challenge made science-based management of natural resources a top priority, thereby preparing the Service to address 21st-century challenges. The Report to Congress describes natural resource activities across the National Park System in Fiscal Year 2011. By doing so, it responds to a request from Congress that the National Park Service report on Challenge-related expenditures and accomplishments.

Whether engaging youth and citizen scientists and discovering new species through biodiversity discovery events; preserving park resources and viewsheds while addressing alternative energy development; conserving North America's largest land mammal, the American bison; or protecting dark night skies and natural sounds, the National Park Service is taking action to ensure that the nation's natural and cultural heritage persist well into the future. This is not only the National Park Service's responsibility, but also the nation's gift to the American people and people of the world.





## Natural Resource Stewardship and Science in the Parks

The *Call to Action* envisions a National Park Service that manages parks as cornerstones in protecting broader natural and cultural landscapes. Through sound science and responsible stewardship, natural resource programs at all levels of the Service work collaboratively with partners and volunteers to make this happen.

Past funding increases through the Natural Resource Challenge enhanced the Service's 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:

- Regional programs offer coordination and specialized knowledge and skills to assist multiple parks with both shared and unique resource management issues.
- Network programs—Cooperative Ecosystem Studies Units, Exotic Plant Management Teams, Inventory and Monitoring Networks, and Research Learning Centers—facilitate communication and cooperation among

all levels of the Service. The networks allow parks to accomplish much more together, in a cost-effective manner, than they could individually.

■ Servicewide programs offer policy and regulatory expertise, technical assistance and advice, and coordinated leadership. The Air Quality, Biological Resource Management, Climate Change Response, Environmental Quality, Geologic Resources, Inventory and Monitoring, Natural Sounds and Night Skies, Social Science, and Water Resources programs work directly with parks on servicewide issues.

These natural resource programs work in partnership with others to preserve America's special places. Issues unforeseen in scope

and scale when the National Park Service was founded almost a century ago demand that the Service look to partners inside and outside park boundaries for collaborative opportunities. Staff work with federal and state agencies, tribes, universities, and nonprofit organizations to study and conserve natural resources. Citizen scientists and volunteers of all ages also play an increasing role in science and stewardship in parks.

Natural resource programs are helping the National Park Service in its effort to recommit to the exemplary stewardship and public enjoyment of the nation's special places. This brochure provides examples of natural resource activities in Fiscal Year 2011 that address *Call to Action* goals.



## Supporting the Call to Action in 2011

### Alaska Region (AK)

■ The Alaska Exotic Plant Management Team partnered with the Bristol Bay Native Association on non-native invasive plant efforts in southwest Alaska. The association uses grants to hire and train local residents as invasive plant technicians to lead local outreach, inventories, and control efforts. (*Action 28: Park Pulse*)

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

■ Working with local tribes and university partners, Glacier National Park developed a unique "ice patch archeology" protocol for collecting culturally sensitive Native American artifacts in melting ice fields. (*Action 3: History Lesson*)

■ The National Geographic Society and National Park Service held a 24-hour BioBlitz at Saguaro National Park, engaging nearly 6,000 people and documenting more than 850 species, of which approximately 400 were new to the park. (*Action 7: Next Generation Stewards*)

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

■ A new exhibit, "Changing Climate... Changing Cultures," at the Northern Great Lakes Visitor Center developed with Apostle Islands National Lakeshore staff explores the potential effects of climate change on the Ojibwe culture. (*Action 19: Out with the Old*)

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

■ A university researcher conducted a lichen

inventory in National Capital Region Network parks, identifying 45 bark-inhabiting species and establishing 102 permanent study plots. An analysis of air contaminants showed that the region contains relatively pollution-tolerant lichen communities and that pollution-sensitive species are uncommon. (*Action 28: Park Pulse*)

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

■ National Park Service staff, volunteers, and partners collected water, vegetation, atmospheric deposition, and soil samples as part of the Appalachian Trail MEGA-Transect Project. The data will be used to establish baseline status along the trail and project pollution reductions necessary to promote ecosystem health. (*Action 28: Park Pulse*)

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

■ Point Reyes National Seashore staff and the California Lighting Technology Center at the University of California, Davis, developed a guide with recommendations for energy-efficient lighting and controls for the Bear Valley Visitor Center. (*Action 23: Go Green*)

■ The North Coast and Cascades Science Learning Network added nine "Science Minute Videos," showing scientists in the field, to its website. (*Action 17: Go Digital*)

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

■ Buck Island Reef National Monument staff and interns prepared for a project to

track nesting hawksbill and green turtles via satellite, which provides a clearer understanding of how nesting females use surrounding waters and coral reefs and disperse back to foraging grounds. (*Action 22: Scaling Up*)

■ The Mammoth Cave International Center for Science and Learning coordinated an International Bat Night celebration. Approximately 1,000 adults and children participated in junior ranger activities, used special equipment to watch for and listen to bats, and visited information booths to learn about bats. (*Action 16: Live and Learn*)

### Servicewide Projects

■ The Night Skies program produced a much-improved model of the natural night sky using an image of the night sky from Mauna Kea Observatory in Hawaii. The new model allows staff to process the program's archive of night sky data to isolate just the artificial light. (*Action 27: Starry, Starry Night*)

■ Geologic Resources staff completed a 10-year effort to research and compile baseline paleontological resource data for all 32 inventory and monitoring networks, expanding the number of parks with known fossil resources to 232. (*Action 28: Park Pulse*)

■ Servicewide program and park staff are collaborating to create and implement a training module for front-line interpreters and educators that establishes a new standard for climate change interpretation. (*Action 30: Tools of the Trade*)



VEGETATION MONITORING, GOLDEN GATE NATIONAL RECREATION AREA



PALEONTOLOGY DISCOVERY, BADLANDS NATIONAL PARK



STUDENT PODCASTS, TIMPANOGOS CAVE NATIONAL MONUMENT

NPS / JONATHAN LOTT

### 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.

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### 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

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Go to [www.nature.nps.gov/challenge](http://www.nature.nps.gov/challenge) to view the full-length FY 2011 Report to Congress.

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