

Commentary

A bold strategy for biodiversity conservation

By Elaine F. Leslie

Scientists know we must protect species because they are working parts of our life-support system.

—Paul Ehrlich

AS WE EDGE CLOSER TO THE centennial of the National Park Service (NPS) in 2016, there is much to celebrate—science and stewardship have a far more prominent role in park management than at any time in NPS history—yet there is reason for concern. The diversity of native species, including the genetic material they contain, the natural processes with which they are critically intertwined, and the corridors by way of which they move, are declining at a historically unprecedented rate. We are losing our national natural heritage—its species richness, role and function, and the beauty and cultural connection a biodiverse landscape provides in our environment. We must acknowledge that biodiversity not only is at the foundation of our health and well-being, but also that there are cultural and historical relationships to the biological connection that we just cannot afford to lose. We must act.

National parks and other protected areas are critical preserves of biodiversity in the face of increasing global changes; however, they tend to be managed largely as isolated islands within boundaries of human construct. Scientific consensus cautions that land managers plan for extensively connected ecosystems across broad spaces and that we ensure the restoration of those ecosystems and their keystone species. Given the alarming rate at which we are losing biodiverse ecosystems and the services they pro-

vide, we must step up our conservation efforts by increasing the number and size of protected natural areas where feasible and improving coordination among already designated protected areas such as our national parks and refuges. As biodiversity is also a potent frontier for discovery, we must tend to its welfare through the knowledge that comes from ongoing research and then apply it to our restoration and conservation efforts. The National Park Service, therefore, is committed to playing a leadership role in a strategy that will benefit biodiversity conservation across the national landscape, inclusive of local benefits at the park and community level.

In taking this national approach, the National Park Service hopes to cultivate and nurture a support network—a community of practice—among our employees, our park neighbors, our partners, and the American public. This will encourage parks to fully develop their capabilities, to learn from each other's experiences and expertise, work out best practices for biodiversity conservation and stewardship, ensure the collection and use of high-quality data, and coordinate information management and sharing. Ultimately, this approach will magnify and leverage the returns of individual parks' efforts, while incorporating this approach into our daily and long-term planning efforts.

For these activities to be successful, the education, interpretation, science, and curatorial communities must also work together to provide support, share their expertise, and leverage funds from local, regional, national, and international partners. In particular, we need to develop persuasive and compelling awareness messages that help us all to better understand the importance of biodiversity and to encourage the conserving of the integral components of Earth's biological portfolio—those that affect our daily lives in the food we eat and the clothes we wear. The messages should strive to engage the American public to protect and conserve biodiversity not just in parks, but also in their own backyards because they *want* to, not because they *have* to.

No framework for biodiversity stewardship would be successful if it were not also sustainable. Climate change issues must be considered and we must ensure the sustainable use of ecosystems and their biodiversity not only within our parks, but beyond our park boundaries.

Implementing such a strategy is ambitious to be sure. It must engage our youth, needs to be scientifically credible, and has to be simply yet passionately communicated. Our goal is for diverse ecological communities to persevere even when a species is lost to a disturbance and upsets the continuity of a living network or ecosystem. The system

We must step up our conservation efforts by increasing the number and size of protected natural areas where feasible and by improving coordination among already designated protected areas such as our national parks and refuges.

will be able to survive because the more complex it is and the more interconnectedness it has, the more resilient it will be.

Over the past decade the National Park Service has invested substantially in Service-wide and park capacity building for biodiversity conservation and discovery through multiple programs. These include the National Park Service–National Geographic Society annual “BioBlitzes,” the activities of the Inventory and Monitoring Program, and the more than 100 parks that have held biodiversity and citizen science events over the course of the last two years through the Director’s Call to Action initiative.

Across the United States, biodiversity awareness is becoming a common framework for community education and action. The National Park Service is perfectly positioned to build upon this leadership role to further develop the capacity for a wide array of federal science, stewardship, education and outreach, and expanded partnerships toward a national ethic of biodiversity conservation. This is an inclusive and integrative approach to community and park relationships and engagement on this issue.

Advancing conservation while ensuring that past investments in park research and resource management stay potent requires synergies far beyond those that exist currently in the Service or even

the United States. We need to transform nature conservation altogether. Postage stamp protection must be replaced by a whole systems approach—continental conservation—with its inherent focus on landscape-level connectivity and the health and diversity of species. Through a coordinated approach at this broad scale, no matter where our national parks and protected areas dot the world map, together we can ensure that our work bestows healthy, vital components upon our national natural heritage and legacy, with biological integrity remaining intact for future generations. It starts with one park at a time, thinking big, acting boldly.

These are reasons to celebrate!

About the author

Elaine F. Leslie is chief of the NPS Biological Resource Management Division in Fort Collins, Colorado. The division has the responsibility of providing technical expertise to parks in support of the management and protection of native species and related ecological processes throughout the National Park System. She can be reached at elaine_leslie@nps.gov.