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Natural Resource Stewardship and Science

Call to Action Item #22 - Scaling Up

2011-2016 Accomplishments Report and Next Steps

Natural Resource Report NPS/NRSS/BRD/NRR—2016/1358

ON THE COVER
Bighorn Sheep in Glacier National Park, NPS Photo.

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2011-2016 Accomplishments Report and Next Steps

Natural Resource Report NPS/NRSS/BRD/NRR—2016/1358

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Cape Hatteras National Seashore, NPS Photo.

Recognizing North American Conservation Accomplishments in the Centennial Year of the U.S. National Park Service

Dr. Ray Sauvajot and the Scaling Up Team

In the 100 years since the creation of the National Park Service (NPS), a network of protected areas and conservation lands have been set aside across North America – in the United States, Mexico, and Canada. This network has grown over time and includes lands managed by the NPS and other government and non-government organizations in the U.S., Canada, and Mexico. This conservation network is a significant achievement worthy of recognition and celebration in this centennial year for the NPS. Through the collective efforts of many agencies and organizations, and across international boundaries, a substantial portion of the natural heritage and biodiversity of North America has been protected. Indeed, the national parks form anchors of biodiversity protection in a network of conserved lands that together contribute to this collective accomplishment, and this network exhibits the NPS role on continental-wide landscape conservation.

To ensure that this legacy persists, cooperative conservation at landscape scales must continue. While ecosystems face unprecedented environmental changes and challenges, it is critical to identify, conserve, and restore the biodiversity, ecological processes, and connectivity necessary to secure our natural heritage. Geographic information on the spatial extent of ecosystem processes, migratory pathways, and mobile species can demonstrate the importance of applying collaborative conservation at geographic analyses can illustrate "gaps" in the conservation network – examples of where biodiversity hotspots appear vulnerable or connectivity across landscapes is important to retain ecological viability and resilience.

Since the inception of the NPS Call to Action and the Scaling Up Initiative, the NPS has made an effort to become more vocal about the need for landscape-scale conservation has successfully inspired a cultural shift within the agency that acknowledges the days of standing on a park boundary and considering only what's within that federal boundary have to be over. In order for the NPS to effectively manage the resources that we are mandated to protect, we must work with our partners and adjacent landowners to not only understand the ecosystems as a whole, but to act on behalf of those resources comprehensively.

As we move beyond our centennial year, the NPS is committed to keeping this vision of "Scaling Up" alive, but more importantly to take the strategies that we have developed and institutionalize them on the ground. This report highlights the Initiative's accomplishments to date - publications, products, discussions, and meaningful contributions to relevant initiatives and partnerships.

Scaling Up has provided the NPS with a roadmap of future landscape scale actions to include our lands and waters and skies, and our cultural and natural resources, our American values -- and more.

Call to Action Item 22 "Scaling Up," called the NPS to "Promote large landscape conservation to support healthy ecosystems and cultural resources."

Introduction

Our national park units, trails, heritage areas and landmarks reflect the history and cultures of this nation. They sustain and preserve our values, our history, lands, waters, scenic views, habitat and wildlife across diverse landscapes. They attract millions of visitors enchanted by their beauty, the stories these places tell, and the adventures they offer. Increasingly, whether urban or rural, large or small, the preservation of these places depends upon connectivity—linkages with neighboring places, people and their cultures, and the resources and heritage they value. Their future depends upon pursuit of shared goals by people working together at varying landscape scales.

The need to scale up work at landscape levels, and for building and sustaining National Park Service (NPS) partnerships at a broader scale, is more urgent now than ever. These efforts are complex and require collaborations at equivalent scales. They require management tools and skills in compromise, coordination, mediation, and facilitation. They call for knowledge building and data sharing across disciplines and at varying scales, from managing lands and waters, to adapting to the effects of a changing climate, to protecting wildlife and their ancient corridors and pathways, historic resources, and our own cultural landscapes. And the NPS needs to work with diverse partners and across communities at the national and international level to develop governance structures and processes that strengthen dialogue, support shared actions, and enhance shared vision. And finally, the results need to present themselves in protected resources on the ground, in the air, in the water: Action.

In August 2011, the National Park Service (NPS) issued "A Call to Action", providing directional guidance to all NPS staff and partners to advance the mission of the Service into its second century. In an effort to address lack of knowledge or action about the status of biodiversity or the critical links that our national parks provide to the relevance of their resources to diverse audiences, Call to Action (C2A) Item 22 "Scaling Up," called on the NPS to "Promote large landscape conservation to support healthy ecosystems and cultural resources. To achieve this goal we will protect continuous corridors in five geographic regions through voluntary partnerships across public and private lands and waters, and by targeting a portion of the federal Land and Water Conservation Fund (LWCF) to make strategic land acquisitions within national parks."

This report provides an overview and successes of C2A Item 22, and also includes invited papers from multiple authors that illustrate the truly collaborative nature of this endeavor as well as next steps as move forward into the NPS second century of stewardship and conservation of our nation's protected lands and waters. The invited papers detail key elements of the Action Item, such as participation in the national conversation, case studies where the NPS is excelling at landscape-scale work, and a recap of a first ever national conference on large landscape conservation that the NPS both helped organize and sponsor. Finally, this report addresses actions for moving forward, where the NPS is part of a larger movement to conserve, protect, restore, and designate critical linkages virtually and physically on the ground, in the water, and in the air.

Cane River cotton, NPS Photo.

Scaling Up Overview

Purpose Statement

The purpose of the Scaling Up Initiative is to conserve the natural and cultural resources of the National Park System and to advance the programs and activities of the NPS as integral parts of broader and interconnected landscapes. The Scaling Up Community of Practice is a team of NPS and partner landscape-scale practitioners who have built an agenda of goals and strategies outlined below to help implement the initiative's purpose.

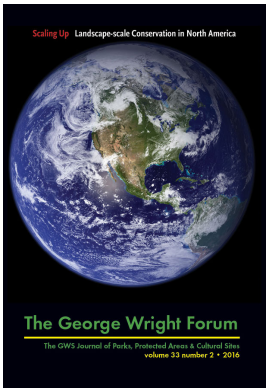
Goals

Goals of the Scaling Up Community of Practice

- Cultivate and achieve excellence in science, scholarship, and collaborative stewardship of cultural and natural resources from a foundation of landscape-scale planning, policy, decision making, and education to enhance resource stewardship and serve as a model for the nation and the world.
- Facilitate awareness and understanding of landscape-scale conservation and partnership principles and practice necessary for the National Park Service to lead, collaborate or engage in landscape level efforts systemically.

Strategies

- Within the National Park Service and with our partners, build the constituency for ever increasing engagement in landscape-scale conservation.
- Highlight a diverse range of exemplary landscape conservation efforts that help communicate and showcase National Park Service involvement and inspire further actions and initiatives.
- Provide access to information, tools, science, skills and resources that assist National Park Service employees and partners in engaging in landscape-scale conservation.
- Advance policy and practices that supports active National Park Service participation in natural and cultural landscape conservation.



The George Wright Forum • vol. 33 no. 2 (2016) journal cover.

Accomplishments

Published Works

Scaling Up: Landscape-scale Conservation in North America

The George Wright Forum • vol. 33 no. 2 (2016)

This is a special theme issue of The George Wright Society Forum on landscape-scale conservation in North America. The topic goes by many names: connectivity conservation, large landscape conservation, heritage areas, management networks, and many variations thereon. Some of the initiatives in the tent of landscape-scale conservation are focused very specifically on biodiversity, others on environmental sustainability, still others on an integration of nature conservation and heritage preservation. But all have similar characteristics: a diversity of partners, an incumbent necessity to be adaptive, and a decentralized structure—one organization may take the lead in facilitating but does not control others. This issue examines past and current practice in landscape-scale conservation; a common thread is that the National Park Service (NPS) has a role in all of our examples. Scaling up compels us to refocus from attention at a single site, be it a park, reserve, refuge, or other protected area. To meet their missions, our conservation and land management agencies, private organizations, and their allies must zoom out to see threats, connections, and especially gaps across space and time.

National Parks and the Scaling Up Imperative

by Raymond M. Sauvajot

The George Wright Forum • vol. 33 no. 2 (2016)

Dr. Ray Sauvajot, Associate Director Natural Resource Stewardship and Science, National Park Service, NPS Photo.

As the United States National Park Service (NPS) enters its second century in 2016, the agency, its programs, and the system of units under its care face unprecedented challenges. The specter of climate change has already begun altering and rearranging natural and cultural resources (e.g., Suarez et al. 1999; Moritz et al. 2008; van Mantgem et al. 2009; Moss 2010; Marzeion et al. 2014; Marzeion and Levermann 2014), and myriad other threats, from non-native invasive species to wide-scale land use change, all pose significant conservation concerns for park managers. The ubiquitous and far-reaching extent of these challenges will require NPS to embrace landscape-scale collaborative conservation that reaches beyond the boundaries of park units, and engages a full complement of programmatic and policy tools.

The traditional concept of a national park or protected area as a static expression of an ecosystem, a set of natural features, or a collection of cultural or historic objects has been replaced by a more dynamic perspective that recognizes natural and cultural resources as part of ever-changing environments. The challenge for NPS and other park management agencies is how to achieve their conservation and preservation missions while recognizing that changes are inevitable and stressors that impact resources often emanate from outside of parks, beyond the control of park managers. Indeed, it is widely recognized that essentially all resources in parks are inextricably linked to their surrounding landscapes, from migratory species that spend only portions of their life cycles within national parks (Berger et al. 2014) to entire ecosystems, such as the Everglades, that are dependent on land use and management decisions occurring outside of park boundaries (Mitchell and Johnson 2015). For cultural resources as well, the place-based authenticity of a visitor's experience is linked to the landscape context in which it resides. To manage parks and protected areas successfully and ensure that resource values persist, park managers must understand landscape-scale phenomena; establish and maintain relationships with other agencies, organizations, and stakeholders; and engage directly in conservation efforts at local, regional, and even national and international scales. It is imperative that NPS embrace this concept of "scaling up" in its second century to ensure that the natural and cultural resource heritage it is entrusted to protect is conserved for future generations.

The need for "scaling up" is not a new concept for NPS, but its importance and management focus has become a significant area of emphasis. In 2011, as part of the NPS director's centennial report entitled A Call to Action, a formal "Scaling Up" effort was launched that states that NPS should promote large landscape conservation to support healthy ecosystems and cultural resources (NPS 2011). The Scaling Up goal in A Call to Action specifically describes the need to "protect continuous corridors" through "voluntary partnerships across public and private lands and waters," and promotes NPS efforts to do this in multiple geographic areas. NPS has been implementing Scaling Up by establishing a community of practice within the agency to cultivate and share best practices in science, scholarship, and collaborative stewardship that advance landscape-scale planning, policy, decision-making, and education, and reaching out to partners and stakeholders to publicize and advance the importance of landscape-scale perspectives for NPS. Scaling Up accomplishments include a highlights report documenting landscape-scale engagement by NPS (NPS 2014), internal outreach and training materials such as webinars and a Scaling Up web tool; integration of NPS parks, programs, and activities around Scaling Up objectives; and an overall effort to position NPS toward reaching beyond park boundaries and embracing landscape-scale conservation in its day-to-day work.

While the increased emphasis on landscape-scale conservation is fairly recent, NPS has long had tools available that support this kind of work. For example, NPS Management Policies (2006) state, "Cooperative conservation beyond park boundaries is necessary as the National Park Service strives to fulfill its mandate to preserve the natural and cultural resources of parks unimpaired for future generations" (p. 13). Management Policies further indicate that NPS managers should "cooperate with ... governments ... individuals and organizations to advance the goal of creating a seamless network or parks" (p. 14) and "establish corridors that link together . . . open spaces . . . and compatibility managed private lands..." (p. 14). At the same time, landscape conservation work must be done collaboratively and in recognition of shared interests, as NPS "will not relinquish any of its authority to manage areas under its jurisdiction, nor will it expect other partners to relinquish theirs" (p. 14).

Legislative authorities also exist that support and recognize the need for NPS to work beyond park boundaries and at landscape scales. For example, the 2008 Consolidated Natural Resources Act (54 U.S.C. §101702) permits NPS to expend appropriated funds beyond unit boundaries if such expenditures help protect park resources. The act also acknowledges the opportunities for, and provides authority to enter into, cooperative agreements inside and outside of park boundaries. Other policies and authorities support similar landscape-scale activities, such as the Service First Authority that allows transfer of funds and promotes collaboration between the departments of the Interior and Agriculture.

NPS also has many partnership programs that offer the capacity to operate outside of traditional national park units, such as the Rivers, Trails and Conservation Assistance program, which provides technical assistance to communities for conservation and recreational initiatives. The National Natural Landmarks program provides another mechanism for non-NPS managers and landowners, including those of other public as well as private lands, to receive recognition and formal designation for conserving significant natural features and 147 sites, expanding the array of tools available for landscape-scale conservation. For cultural and historic resources, an extensive set of partnership programs offer technical assistance, grants, tax incentives, and other kinds of support to help identify and preserve significant sites, features, districts, and landscapes. When evaluated within a landscape context, such cultural and historic resource partnership programs can be helpful in integrating cultural values into landscape-scale conservation efforts. NPS has also engaged in other landscape-scale conservation programs, for example through its collaborative participation in the National Heritage Areas program, regional conservation investments in places such as the Chesapeake Bay watershed, in-

ternational collaboration at Glacier National Park in the Crown Managers Partnership, and collaborative conservation along units of the national trail system such as the 2,400-mile long Appalachian Trail. All told, NPS is equipped to effectively advance landscape conservation approaches and, with the coordinated support and agency-wide focus advanced by the Scaling Up community of practice, the agency is well positioned to assume a greater leadership role.

The importance of landscape-scale perspectives for NPS is clearly reiterated by the National Park Service Advisory Board Science Committee's report, Revisiting Leopold: Resource Stewardship in the National Parks (Colwell et al. 2012). The national park system and the programs of NPS should strive to "form the core of a national conservation land- and seascape" (Colwell et al. 2012: 11). Landscape connectivity is essential to ensure resilience and persistence of NPS resource values and "21st century conservation challenges require an expansion in the spatial, temporal, and social scales of resource stewardship" (Colwell et al. 2012: p. 13). As NPS celebrates its centennial year, the success of its mission and the conservation of nationally significant natural and cultural resources will depend on engaging partners at the landscape scale. To confront resource threats and challenges, NPS managers must recognize the interconnections between natural and cultural resources and their surrounding lands. Park managers and program staff must engage with landowners, agencies, and jurisdictions well beyond park boundaries to advance shared conservation goals. Finally, NPS can and must creatively apply the authorities, tools, and mechanisms available to "scale up" resource stewardship and landscape-scale conservation. As NPS embarks on its second century, to achieve its public service mission it is imperative for the agency to continue "scaling up" and embrace landscape-scale conservation.

Elaine F. Leslie, Chief, Biological Resources, National Park Service

Jodi Hilty, Executive Director, Yellowstone to Yukon Conservation Initiative

A Journey's End?

By Elaine F. Leslie and Jodi Hilty

The George Wright Forum • vol. 33 no. 2 (2016)

What do a gray wolf, a wolverine, and a jaguar all have in common? It's not a trick question—it's about dedicated space to roam. It's a question about what we are going to finally do to get off of our collective pages of rhetoric and move to coordinated on-the-ground actions. How do the National Park Service (NPS) and other federal, state, and private land managers, partners, and neighbors contribute to a larger National Conservation Strategy? This would be a strategy that uses best available science, and builds from the core of already protected areas to ensure that we act upon the conservation of our national natural heritage today and well into the future.

Numerous US laws, policies, and programs, from local to national scales, implicitly or explicitly support the conservation of biological diversity. These protections, including NPS lands and waters, represent a significant national investment in conservation. They have been necessary but insufficient to stem the tide of biodiversity loss and degradation of ecosystem services. What is needed now is a cohesive and comprehensive approach for designing a cornerstone strategy. We examine the biological rationale and a path forward to developing roles of the national park system in a broader conservation strategy, and focus on potential action steps that can be taken by the NPS. It is only with a national strategy that parks can manage and conserve biodiversity within and beyond their boundaries. In short, we set forth a vision to create action.

NPS, on behalf of the American people, was created a century ago to administer federal lands and waters with a mission to "conserve the scenery and the natural and historic objects and the wild life therein and to...leave them unimpaired for the enjoyment of future generations" (National Park Service Organic Act, 1916). NPS currently administers over 400 park units spanning over 84 million acres in every state and in four US territories.

Our nation depends upon NPS to safeguard some of our most cherished natural and cultural resources and landscapes, as well as our American stories, for our current generation and those of the future. But it is increasingly

Yellowstone National Park, NPS Photo.

clear that NPS cannot achieve its mission simply through good ecological stewardship of NPS units alone. This reality is particularly obvious for conservation of the many migratory species that inhabit or transit through national parks seasonally. In its 2001 report Rethinking the National Parks for the 21st Century, the National Park System Advisory Board envisioned an expanded role for NPS to play as trustees of many of the nation's natural resources. We, as a land management agency, and more importantly, as a conservation agency, must ensure the persistence of native species (migratory and resident), their habitats, and their extraordinary and magnificent, yet challenged, journeys. We must transform how NPS does nature conservation in the 21st century. Postage-stamp-size protection measures must be replaced by a whole-systems approach. Continental conservation, with its inherent focus on landscape-level connectivity, must be not only strategized, but implemented. We must enhance the Park Service's ability to address the issue of corridors, and conversely fragmentation, in surrounding landscapes on varying scales, which affect wildlife species and the habitats through which they range. Such complex and changing factors can impair park resources, nationally and internationally, subsequently impacting the journeys of wildlife.

Achieving new conservation advances while simultaneously ensuring our past investments against rapidly changing conditions requires conservation synergies far beyond the current levels that exist within NPS or even within the departments of the Interior and Agriculture. Such an approach will require a larger vision for conservation across the country, including partnerships and efficiencies of scale within the entire community of federal, state, and local agencies and other conservation organizations. A truly national conservation strategy is one where federal entities, states, the private sector, and nongovernmental organizations all see a role for themselves in a national effort to preserve, restore, and conserve our national natural heritage. For NPS, it requires expanding beyond our constructed boundaries within the states as well as reaching out to our tri-national partners in Canada and Mexico—using new technologies and strategies in a more unified approach to continental conservation.

Where information and capabilities are lacking to preserve and protect species, restore habitat, or mitigate impacts, we must undertake efforts to develop feasible, sound, and scientific approaches to filling these gaps. While many NPS units may have different missions, jurisdictions, ownership patterns,

Where information and capabilities are lacking to preserve and protect species, restore habitat, or mitigate impacts, we must undertake efforts to develop feasible, sound, and scientific approaches to filling these gaps.

and uses, their overall perceived role as landscape anchors in nature could create a much greater ecological whole than the sum of their individual parts. This biological principle is well understood and accepted in the scientific community, yet rarely taken to the next level of connectivity conservation on the ground. Numerous opportunities exist across the national park system to create this kind of connectivity with other landowners. We, as managers of these special places, must come to the realization that jurisdiction and ownership patterns are less important than the resulting grand landscape to preserve future ecological services to the benefit of the public good. The Everglades complex, for example, includes lands and waters owned or administered by federal and state agencies as well as two separate Indian nations, effectively creating approximately 5 million acres of contiguous habitat. Opportunities exist for further enhancement in places as distinct as the Mojave Complex in the California desert, the Yellowstone to Yukon area, the Greater Yellowstone and Grand Canyon ecosystems, Two Countries One Forest in the northern Appalachians, the Spine of the Continent from Canada to Mexico, and the Baja to Bering initiative. Moreover, multiple opportunities exist to work on smaller scales across this nation.

The National Park System Advisory Board has recognized this important and well-established biological principle of connectivity in past reports. NPS could now take the next step from the pages of these reports and become a significant partner in the establishment of goals and actions of creating contiguous habitat in conjunction with other entities.

Creating connectivity and enhancing overall ecological service retention through partnerships with states, counties, and municipalities should be a critical criterion in the selection of land acquisition projects that are considered for funding. In many locations, NPS plans may coincide with county master plans, state open-space goals, and regional efforts by various federal agencies. These sites should be targeted for high-priority funding for acquisition, easements, agreements, and the use of other open-space protection tools. In other places, an effective program of creating a similar consensus on the priorities for acquisition could be launched with a variety of partners and collaborations.

Our call to take action!

- Identify partners and design resiliency networks and corridors (continental climate corridors, pollinator corridors) and create an official federal designation of a corridor. NPS's Natural Resource Science and Stewardship Directorate (NRSS) and Biological Resources Division (BRD), along with the Scaling Up Team, will support efforts to analyze current applicable law and policies and work with international, state, and other partners to examine the benefits of a designated North American (trinational) corridor system.
- Increase native species' capacity to recover, and retain native biodiversity. NRSS/BRD is poised to assist parks with the restoration of plant and animal species—offering technical expertise and other support to restore and ensure biological diversity within and adjacent to parks through evaluation, feasibility studies, and on-the-ground efforts.
- Create and support large landscape conservation in and around parks. NPS is committed to the identification of potential areas and partnerships that lead to the restoration or establishment of habitat and corridors that benefit the movement of migratory wildlife. This may include cooperative agreements, contracts, and consultation efforts between partners and parks.
- Align priorities across NPS with a larger conservation vision across the country and the continent. NRSS/BRD will continue to participate in such efforts as the Trilateral Conference, the work of the International Union for the Conservation of Nature, the State Department's efforts on the Convention of Biological Diversity, and collaborations with private and nongovernmental organizations

Santa Monica Mountains National Recreation Area, NPS Photo by John Muller.

that have complementary missions and goals in regard to the conservation of migratory species, their habitats, and persistence.

- Implement species and habitat restoration projects (minimum of 10 new efforts by 2025—a proposed Natural Heritage Legacy) that we, as NPS, can put our efforts and momentum behind. BRD will assist parks and regions in the establishment of this list, seeking the funding and compliance support for subsequent actions with a targeted completion date of mid-FY17 for the list.

21st-century priorities

A first priority is to enhance protected core areas that strengthen resiliency to stressors in the context of large landscape conservation.

- Promote and expand protection of healthy reefs, mangroves, and coastal wetlands that can minimize damage to coastal communities by buffering them against increasingly frequent and intense storms. NRSS, through active participation and technical expertise from the NPS Water and Geological divisions, the Climate Change Response Program, the Inventory and Monitoring Division, and BRD, is committed to assisting parks and regions in technical support in this critical area through consultation and collaboration with states and other federal agencies.
- Prepare now for climate change, alternative energy development, and urbanization. NRSS/BRD is committed to continued engagement with, and support of, Land and Water Conservation Fund efforts as well as Department of the Interior-wide efforts to implement climate-friendly strategies. Actions include: (1) acquire, protect, manage, and enhance (expand) parks and natural areas that will be significantly altered or impacted by climate change; (2) identify national and international migratory species that utilize park and adjacent lands, and restore, protect and enhance resiliency in order to facilitate their adaptation; (3) design and implement conservation strategies to minimize harmful impacts, prevent impairment, and provide educational opportunities; and (4) create and collaborate on programs that research, analyze, and monitor alternative energy development and climate change impacts to wildlife species and their habitats and the ecosystems upon which they depend. The process of building relationships and partnerships to address these issues at the landscape level requires a commitment and sustained focus that must be much broader than any in which our agency has engaged previously.

What do a gray wolf, a wolverine, and a jaguar all have in common?

- Use innovative conservation approaches that can be replicated other places.
- Strive to ensure that these collaborative conservation partnerships are not the rare exception but the standard. Restore and protect our resources and values across the nation and include landscape conservation as part of our standard business models and practices.
- Embrace technology. We must understand the benefits and consequences of the varied uses of technology (drones, GPS collars, geo-locators, infrared camera and audio traps, fertility control, and even genomic engineering approaches) while retaining natural history field skills and abilities in the workforce to support wildlife management and adaptation.
- Share lessons from collaboration and networking in conservation at scale.

Our interconnected conservation efforts will establish and preserve wildlife corridors between protected areas, promote healthy watersheds, and sustain and protect our cultural resources and values. Identified projects will become emblems of the need to protect and sustain entire landscapes that are vital not only to natural and cultural resource conservation, but to the vitality of communities, their economy, and our nation's quality of life. By supporting park efforts at even the smallest scales that work across jurisdictions, we make progress on seamless boundaries between parks and neighboring lands and waters, and as a result, connectivity!

Now, let's get back to the initial question: What do a gray wolf, a wolverine, and a jaguar all have in common? Gray wolves haven't been observed in the Greater Grand Canyon Ecosystem since the 1940s. In 2015, the US Fish and Wildlife Service confirmed that since January 2015 a radio-collared female gray wolf had roamed from near Cody, Wyoming to a location just north of Grand Canyon National Park. She had traveled at least 750 miles, crossing Interstate 80 at least once. She was killed just outside the park in southern Utah by a hunter who mistook her for a coyote.

Existence of a wolverine had not been confirmed in North Dakota since the 1800s

Gray Wolf, NPS Photo.

—not until early 2016, that is. In 2009, a wolverine, well known as "M56," trekked from Jackson Hole and Grand Teton National Park in Wyoming and eventually reached Rocky Mountain National Park, thereby becoming the first wolverine in 90 years known to inhabit Colorado. In this journey M56 crossed the Red Desert in Wyoming, as well as Interstate 80 more than once. During subsequent years he journeyed throughout Colorado, and safely made it across Interstate 70 multiple times. The incredible journeys of M56 ended in a cow pasture near Alexander, North Dakota, when he was killed by a ranch hand that didn't recognize him as a wolverine and thought he was threatening to livestock.

Northern Mexico is considered the northern limit of jaguar range. A prominent male jaguar known as "El Jefe" ("The Boss"), observed by means of camera traps in the Santa Rita Mountains south of Tucson, is most likely a dispersing male jaguar that is striking out on his own from the nearest breeding population, which is about 100 miles south in Sonora, Mexico. The journeys of El Jefe continue to capture the imagination and wild hearts of young and old alike who follow camera trap photos and videos with zeal.

Connecting protected areas through coordinated transboundary efforts is one of the cornerstones of what is needed in a national conservation strategy. It is essential to do now, given the changing landscape and climate. So what are we waiting for? These animals' movements are signals of the need

to coordinate conservation across boundaries. If we pay attention to these three adventurous individuals and to the myriad of ancient migratory pathways, we'll know where corridors need to be officially established. They have in essence raised a flag and showed us a path forward. And we know who our partners are or need to be. It's time to take action. It's time to be brave and to be courageous. It's time to ensure that journeys do not end, but have bright beginnings.

Scaling Up: Collaborative Approaches to Large Landscape Conservation

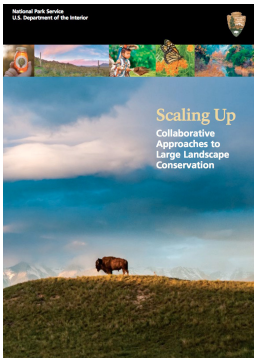
Efforts to achieving large landscape conservation dates back to over a hundred years, when in 1908, President Theodore Roosevelt summoned the White House Conference on Conservation. This meeting led to the creation of the National Park Service, a federal bureau after eight years to oversee the nation's parks. Eventually managing parks became more complex as the number of parks increased. Over time, the relationships and interconnection of parks' resorts were being noted by science and scholarship in bigger circumstances, more parks emerged with landscaping techniques. This includes corridors connecting resources in the nation's trails and heritage regions, areas of close by recreation for municipal populations as well as diverse partnership parks. Consequently, Scaling up was initiated after park managers discovered this trend across the regions. This is to resolve challenges that may arise in accomplishing the missions of the National Park Service to protect without defacing the natural, cultural and values of the national park. This move was later supported by other federal land management agencies and private organizations and embraced the significance of operating at a landscape level.

Planted seeds back in the early 20th century have now been deeply rooted and incredibly procreated all over the country. This has been backed by numerous success stories and creating new opportunities. The need continues to persist thereby making scaling up to America's treasured places a part of the Call to Action as the National Park Service celebrated its centennial in 2016. The "Scaling Up" is the Action #22 and supersedes other actions in scholarship, science, education, stewardship and partnerships. Lots of success stories reveal that the National Park Service involves in various parks, programs and activities, which gives room for more joint conservation efforts on a large landscape scale.

Few instances amongst many which indicate that the National Park Service boasts of a good history of large landscape accomplishments are the Waterton-Glacier International Peace Park and the Appalachian Trail. The Wrangell-St. Elias to Marsh Billings-Rockefeller also depicts diversity in landscape features from the marine ecological systems of Channel islands to the dry southwest deserts. They portray areas with low population like Tallgrass Prairie and operate close to urban areas at Santa Monica Mountains, Cape Cod, Boston Harbor Islands as well as the Chesapeake Bay Watershed. They all display attractive, cultural and recreational landscapes of national trails and heritage areas including joint efforts to preserve corridors of wildlife migration. In general, they signify huge happenings all over the country and in the entire world, as stakeholders are notified of the potential values of resources preservation on a large landscape scale.

Greater Mobile-Tensaw River Area

The Biological Resources Division of the Natural Resource Stewardship and Science Directorate, provided co-leadership and co-authorship to complete this Gulf-coast CESU interdisciplinary Natural Resource Report. This wide-ranging assessment of the greater Mobile-Tensaw River area documents its values and identifies challenges and opportunities to preserve the integrity and economic viability of the area's resources at a landscape level. In 23 chapters accompanied by outstanding photographs depicting the natural and cultural resources of the landscape, the contributing authors provide overviews of many aspects of the region's landscape, ranging from geology and hydrology to insect borne diseases to archaeological and historic sites to the remarkable botanical and zoological diversity for which the region is so well known. The report has served as a catalyst for review and discus-



Scaling Up: Collaborative Approaches to Large Landscape Conservation report cover.

Expanding Horizons: Highlights from the National Workshop on Large Landscape Conservation (Washington, DC - October 2014) report cover.

sion by the Alabama delegation, National Park Service and Department of the Interior leadership regarding long-term conservation of the area.

Expanding Horizons - Highlights from the 2014 National Conference on Large Landscape Conservation

The conference was held on October 23-24, 2014 at the Ronald Reagan Building and International Trade Center in Washington, DC and witnessed over 30 partners and sponsors. It was led by the Practitioner's Network and the Lincoln Institute of Land Policy while the Chesapeake Conservancy was the local host. The workshop was set up to exchange ideas on large landscape conservation. The two-day event had about 661 registered participants as opposed to the 400 that were planned for, 269 Powerpoint presentations, 34 posters, 23 plenary speakers and 74 concurrent sessions.

The reporting partners at the event were the Practitioners' Network for Large Landscape Conservation, Lincoln Institute of Land Policy, National Park Service Stewardship Institute and the Quebec-Labrador Foundation/Atlantic Center for the Environment. Topics discussed ranged from arising complex issues, ecological services, Intercultural connections, climate change, managing, measuring, media and sustaining large landscape work. It was a very successful conference as ideas were shared on the opportunities as well as challenges hindering the implementation of large landscape conservation and the most essential programs and science required to strengthen large landscape initiatives.

Being the first conference, previous progress made was being celebrated in large landscape conservation especially in the efforts to organizing scientific data among federal government agencies. Integration with other sectors, extended collaboration, interrelationships among programs that concentrate on nature and culture and in the use of developed science to effective designs for conservations were some of the opportunities discussed at the event. However, the following areas were highlighted during the event for development: advocacy and political mobilization, decision support tools, web communications, social marketing and outreach, finance strategies for the restoration of ecological system, enabling participatory and collaborative efforts, maintaining collaborations and momentum, climatic adaptation and evaluation. The National Park Service was front and center at the conference with multiple well-attended presentations and discussions, in addition to hosting multiple venues that included the Secretary of the Interior Sally Jewell articulating the Department's role and vision for landscape conservation.

In order to continue the discussion after the event, participants and other stakeholders were encouraged to always visit the Practitioners' Network (PN) website, so as to learn more about other large landscape initiatives, see and download publications, be part of

the Practitioners' Network LinkedIn group and also sign up for the PN e-news. The website will also give information about future events like webinars, workshops as well as other opportunities to get familiar with the principles of practicing large landscape conservation.

Products Developed

Scaling Up Toolkit

This website is an internal (Department of the Interior only) resource site for landscape-scale practitioners within the department.

Scaling Up Program Brief

A colorful two page brief updated in March 2016, showcasing an overview of Scaling Up, highlighting accomplishments, and identifying next steps. Find this brief on the internal Scaling Up Toolkit.

Scaling Up Webinar Series

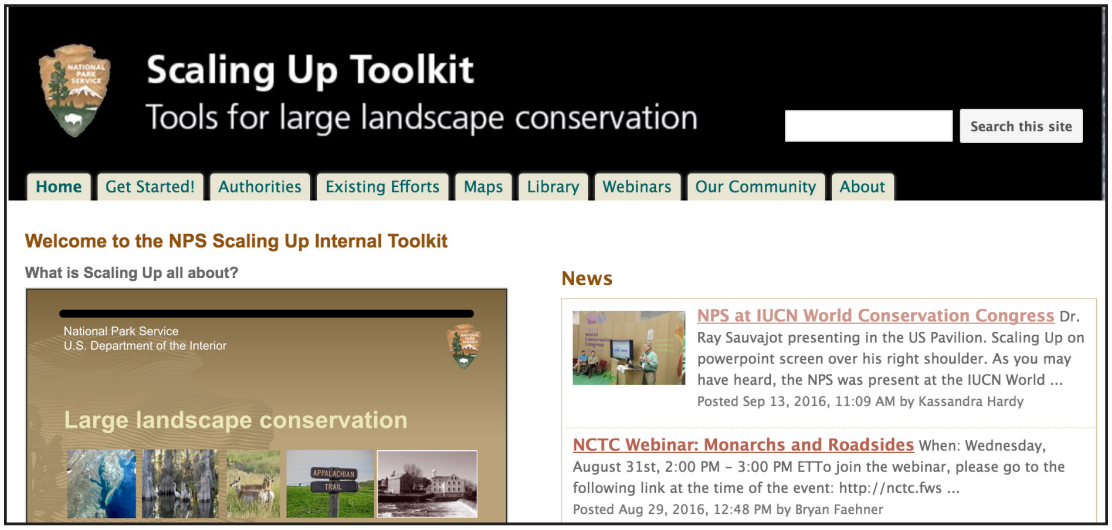
The Scaling Up Tools Webinar Series was initiated in 2014. The series includes timely, helpful topics to share resources and tools, highlights partners with shared interest, and promotes websites and newsletter to grow the National Park Service Scaling Up Community of Practice. Webinar topics include: NPScape, Landscape-scale Mitigation, Landscape Conservation Cooperatives, The Nature Conservancy, Migratory Connectivity, Service First Agreements, Consolidated Natural Resources Act, and more. All webinars are recorded and available on the National Park Service Scaling Up Toolkit and the Practitioners' Network for Large Landscape Conservation website.

Scaling Up Web Pages

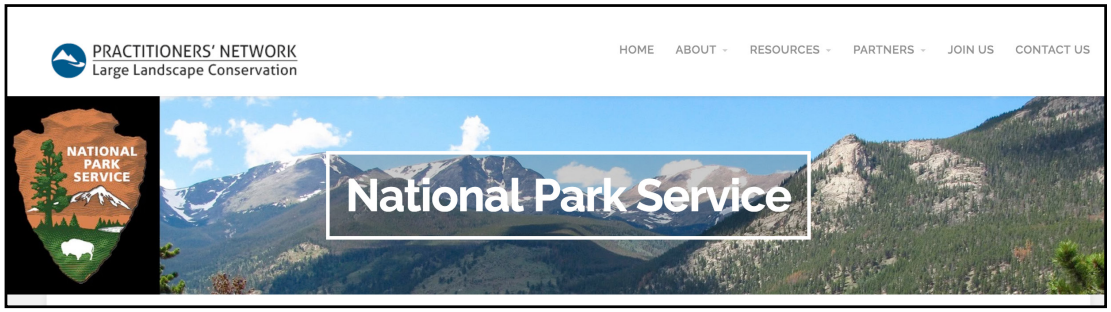
Several website pages on the nature web portal for NPS.gov highlight Scaling Up.

Practitioners' Network NPS Pages

As one of the initial partners of the Practitioners' Network for Large Landscape Conservation, the National Park Service is proud to be the first partner to have a section dedicated to its work. The site contains information regarding the Scaling Up webinar series, additional learning opportunities, case studies, and more.



Screenshot of the Scaling Up Toolkit.



Screenshot of the Practitioners' Network NPS pages.

A view at a Stream Crossing, Glacier National Park, Photo by Mark Stevens.

Foggy Gettysburg Morning, Chesapeake Bay, Photo by Ron Zanoni.

Scaling Up in Parks

Landscape-scale conservation requires great collaboration, most of the time from many partner organizations. Park partners serve vital functions in a landscape initiative's development and outreach. They may help coordinate the program; increase the scope of available resources; fundraise; provide and notify volunteers; develop program educational components; provide outreach and education into the local community; provide program infrastructure; and more.

National Park Service examples include:

***Crown Managers Partnership* (CMP)**

This partnership aims to tackle environmental management issues by using transboundary collective approaches to managing the environment. This voluntary initiative also strives to enhance the large complex ecological region which constitutes of multiple jurisdiction and is achieved by the collaboration of management agencies in the crown of the continent.

***Southern Nevada Agency Partnership* (SNAP)**

This partnership have vested interests in interagency science program development that will evenly cut across member agency boundaries and assist management decisions as regards natural and cultural resources including human impact on public land. A strategy has been put in place by a SNAP science and research team back in 2009 to integrate and organize scientific research programs in Southern Nevada and to boost the efficiency and efficiency of these programs.

Greater Yellowstone Coordinating Committee

This committee was setup to enable officials from the National Park Service (NPS), the United States Forest Service (USFS), the United States Fish and Wildlife Service (USFWS) and the Bureau of Land Management (BLM) to have a coordinated management approach at managing federal lands in the Greater Yellowstone Ecosystem. The federal land is in this region is managed by six national forests, two national parks, two national wildlife refuges while the bureau of land management are neighbors geographically, ecologically dependent and linked. Some of the roles of this committee includes but not limited to ensuring coordinated planning, monitoring and practices across national parks, national wildlife refuges and bureau of land management where affected.

Chesapeake Conservation Partnership

This body maintains landscapes so as to sustain the quality of water and its neighboring habitat, maintain forests, farms as well as maritime communities, land conservation with indigenous, community and cultural value. This body is highly active in land and habitat conservation as it boasts of several working groups to monitor their land protection across the Chesapeake region. Some of these group include the public access team who documents new public access sites and updates lists of potential new site, the Landscope Chesapeake and land conservation progress working group, the working lands working group, the habitat conservation strategies working group, the indigenous cultural landscape working group and the land and water conservation fund landscape collaborative (Rivers of the Chesapeake).

Seattle Intertwine

This alliance is a collaboration of over 150 public and non-governmental agencies with the aim of integrating nature into the Portland-Vancouver metropolitan area. The body aims to represent and pledge full allegiance to the cultural and demographic nature of the region. The region-wide system also known as the Intertwine protects cogent natural resource area for wildlife habitat and public use, sustains the region's air and quality of the water and also supports the ecological sustainability of the area.

Everglades Restoration Initiative

The Everglades is recognized both nationally and internationally as one of the world's most unique natural and cultural resources, as well as one of the most endangered. Encompassing nearly 4 million acres of the southern tip of the Florida peninsula, Everglades National Park and the greater Everglades ecosystem (spanning from the Kissimmee River basin north of Lake Okeechobee

all the way south to Florida Bay), are also the focus of the world's largest intergovernmental watershed restoration effort. Together, federal, state, tribal and local governments, and stakeholders are implementing numerous projects that are intended to restore the quantity, quality, timing and distribution of fresh water in an effort to reverse decades of unintended environmental decline as well as provide for future water-related needs of the region. The Department of the Interior has a number of important responsibilities in the management, restoration and preservation of this unique ecosystem. The National Park Service manages four national park units, including Everglades, Dry Tortugas, Biscayne and Big Cypress National Preserve.

Partner Initiatives in Landscape Conservation

The Scaling Up Community of Practice has also engaged in a number of relevant initiatives over the last five years.

USGS North American Conservation Report

In this context, the USGS and partners attempt to show with the state of "Conservation in North America" how our three countries, through the North American Wilderness and Protected Areas (NAWPA) Agencies, have jointly maintained natural resources, wilderness, and protected areas, and how regional cooperation can transform public policy for conservation and sustainable use. This document identifies the collective efforts and the best practices that have been implemented at a continental scale to portray the level of conservation and demonstrate the importance of maintaining a long term collaborative, international conservation approach. Considering the former, and recognizing there is much work to be done, it is NAWPA's hope that this report will help discussions and actions for achieving the global goal of expanding protected areas coverage to achieve effective protection of natural, healthy, representative and interconnected ecosystems and inspire other transboundary initiatives that encourage conservation, resilience, and connectivity.

Land and Water Conservation Fund

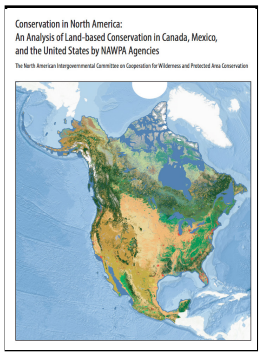
Each year the Scaling Up team has assisted initiatives in applying for funding and served on the review board for funding requests and for the review process. The FY 2017 President's Budget includes $134.5 million in land acquisitions for the National Park Service, of which $58 million are discretionary dollars. The Secretaries of the Interior and Agriculture follow a rigorous merit-based based evaluation process to select collaborative landscapes for investment. After evaluating and prioritizing multiple ecosystems, they selected seven landscapes for discretionary and mandatory funding in FY 2017. The breakdown of how the National Park Service is affected with each selection is proposed to be the following:

- Rivers of the Chesapeake was granted $12 million affecting 3,400 NPS acres
- Southern Blue Ridge was granted $8 million affecting 2,800 NPS acres
- Pathways to the Pacific was granted $2.7 million affecting 685 NPS acres
- National Trails System was granted $5 million affecting 6,300 NPS acres
- High Divide was granted $400k affecting 1,800 NPS acres
- Island Forests at Risk was granted $12 million affecting 21,000 NPS acres
- Florida-Georgia Longleaf Pine was granted $0 affecting 0 NPS acres

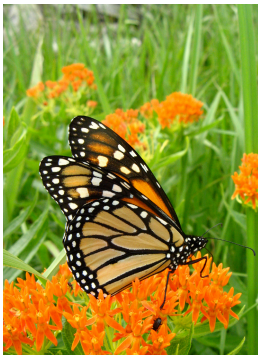
Resilient Lands and Waters Initiative

The Department of the Interior (DOI), Environmental Protection Agency (EPA), and the National Oceanic and Atmospheric Administration (NOAA) recognized several collaborative landscape partnerships across the country where Federal agencies, as of 2015, will focus efforts with partners to conserve and restore important lands and waters and make them more resilient to a changing climate. Building on existing collaborations, these Resilient Lands and Waters partnerships will help build resilience in regions vulnerable to climate change and related challenges. They will also showcase the benefits of landscape-scale management approaches and help enhance the carbon storage capacity of these natural

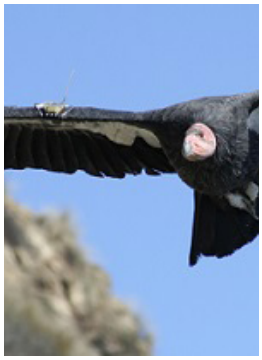
Dr. Ray Sauvajot, Associate Director Natural Resource Stewardship and Science, presenting at the 2016 IUCN World Conservation Congress in Hawai'i.



Conservation in North America: An Analysis of Land-based Conservation in Canada, Mexico, and the United States by NAWPA Agencies report cover



Monarch in Tallgrass Prairie National Preserve, NPS Photo.



Condor in flight, Pinnacles National Park, NPS Photo.

areas. The following landscapes are a part of this initiative:

- Crown of the Continent
- California Headwaters Partnership
- California North and Central Coast and Russian River Watershed
- Great Lakes
- Southwest Florida
- Puget Sound
- Hawaii

Practitioners' Network for Large Landscape Conservation

The National Park Service Scaling Up team has served as a core member of the Practitioners' Network for Large Landscape Conservation (PN) since its inception. The NPS played a key role in the planning and execution of the first ever National Conference on Large Landscape Conservation in Washington, DC in October 2014, which was coordinated by the PN. The Practitioners' Network for Large Landscape Conservation is an alliance of professionals and citizens engaged in leading, managing, researching, advocating, funding, educating or setting policy to advance large landscape conservation initiatives. Large landscape conservation initiatives are those efforts which are focused on large areas of recognized conservation value, sensitivity and/or threat and require a broad-based, multi-jurisdictional, multi-sectoral, multi-purpose (economic, social and environmental) approach with specific, measurable conservation objectives.

White House Pollinator Initiative

More than 75 percent of the Earth's flowering plants depend on bees, butterflies, birds, bats, and other pollinators. Yet scientists have noted that these hardworking insects and other animals are in trouble. In June 2014, the White House released a Presidential Memorandum -- Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators. The National Park Service was tasked with leading the National Education Plan in response to this effort, in addition to participating in the development of a nationwide strategy for Research, Best Management Practices, and Restoration. The plan includes specific national goals for conservation of honeybees and monarchs. This landscape-level project has engaged the National Park Service from across the nation assisting in its implementation of new practices in mowing, phasing out the use of harmful neonicotinoids, and planting native pollinator-friendly seed mixes, building curriculum for schools, among other actions. The NPS is also a member of the USFWS Monarch High Level Working Group. This group was established to further focus an interagency effort on restoring habitat for monarchs and to institutionalize a communication platform for agencies to report on their work for monarch conservation and habitat restoration.

Condor Conservation

In June 2015, the National Park Service (the Biological Resources Division) and the U.S. Fish and Wildlife Service co-hosted a workshop with the purpose of gathering staffs from federal agencies, states, and nongovernmental organizations to discuss opportunities for furthering condor recovery on the Pacific landscape. NPS participating staff included Grand Canyon, Zion, Pinnacles, and Redwood National Parks, and the Pacific West and Intermountain Regional Offices as well as the Biological Resources Division. Participants developed an action plan and made commitments ultimately to down-list the California condor, including creating a resource toolkit, developing a strategy to reduce exposure to lead sources in the environment, coordinating a centralized data management system, identifying research gaps, and pursuing an animal health and welfare strategy. The project includes restoration activities along the Pacific Coast in Redwoods National and State Parks, Yurok Tribal lands and likely expansion into Oregon. At the time of this writing, compliance and planning are well underway and the team continues to engage partners (State, local, Tribe, local communities, NGO's, and other federal agencies).

Continental Bison Conservation and Stewardship

Natural Resource Stewardship and Science Directorate staff have been instrumental in furthering bison stewardship across agencies and across the landscapes, including in Mexico and Canada, for over a decade. As the Servicewide lead for the Department of the Interior Bison Initiative and the NPS Call to Action #26 "Back Home on the Range,", Biological Resource Division staff not only lead this effort, but also serve as NPS representatives to DOI Bison Working Group, the American Bison Society, and the InterTribal Buffalo Council. Staff also serves as the Servicewide lead for a multi-region and multi-park research project entitled ""21st Century Bison Conservation Management" that focused on quantitative assessment of the long-term viability of all DOI bison herds on NPS, USFWS and BLM lands, and key bison herds in Canada and Mexico, in collaboration with the Wildlife Conservation Society, and the IUCN Bison Specialist Group and Conservation Breeding Specialist Group. NPS also provides and engages discussion of bison conservation at the Canada/Mexico/U.S. Trilateral Committee for Wildlife and Ecosystem Conservation and Management held annually. In 2016, the NPS efforts were instrumental in leading to agreement for a formal Letter of Intent to be signed in 2017 by US, Canada and Mexico that formally recognize large landscape bison conservation and stewardship efforts across the North American continent.

Revisiting Leopold Director's Order and Policy Memo

The Scaling Up team has been actively involved in the development of the new Director's Order 100: Revisiting Leopold, which is based off of the Revisiting Leopold Report released in 2012. The team gave extensive feedback on the Policy Memorandum that was distributed for review in spring 2016, and continues to integrate landscape-scale principles into the Director's Order. Landscape-scale conservation is an integral theme throughout this Order.

National Natural Landmarks

The National Natural Landmarks (NNL) Program recognizes and encourages the conservation of sites that contain outstanding biological and geological resources, regardless of landownership type. It is the only natural areas program of national scope that recognizes the best examples of biological and geological features in both public and private ownership. Over the last year, the Scaling Up team has worked with the NNL program to integrate principals across respective programs. The NNL coordinator has joined the Scaling Up team and future dialogue will include the identification of sites that could potentially provide critical habitat or linkages for wildlife.

Mount Howard-East Peak, Oregon, Newest designated National Natural Landmark, Photo by J. Kagan.

Trilateral Committee for Wildlife and Ecosystem Conservation and Management

The NPS serves on the Trilateral Committee with several other U.S. Agencies, and with members from Mexico and Canada. The Committee was established in 1995 to more effectively address priorities of continental conservation and significance and to boost the concerted conservation efforts of the three countries of the North America bioregion. The Trilateral Committee is headed by the directors of the Canadian Wildlife Service (CWS), the U.S. Fish and Wildlife Service (USFWS), and the Ministry of Environment and Natural Resources of

Mexico (SEMARNAT). Several National Park Service staff serve as US Delegates to the Committee. Over the last decade the NPS has contributed to goals for monarch conservation and been instrumental in establishing efforts surrounding marine connectivity, tri-national bison stewardship, and migratory species and biodiversity conservation through this initiative and these partnerships. Resources of Mexico (SEMARNAT).

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Santa Monica Mountains National Recreation Area, Photo by John Muller.

A Message from Elaine F. Leslie - Advancing Scaling Up Beyond 2016

Chief of Biological Resources, NPS

The National Park Service has now established and has been implementing Scaling Up concepts, practices, and principles since its inception (and well before) as a primary component of Call to Action. Our call to action is to not only move forward, but to build upon these actions now and well into the future.

For consideration, expansion, and continuance:

- NPS will continue this collaboration and build upon its success active community of practice within and beyond the NPS to create and share best practices in science, stewardship and scholarship that work towards moving the NPS forward on landscape scale understanding, planning, policy, decision-making, and engagement (education, engagement and outreach).
- Land and Water Conservation Fund-while the NPS is engaged at the park, regional and WASO level, the NPS can be more strategic in the priorities that are put forward at the NPS and DOI level. We need to clearly chart the gaps in landscape level projects and articulate the needs in a more compelling manner (use models such as regional conservation investments in places such as the Chesapeake Bay watershed, international collaboration at Glacier National Park in the Crown of the Continent Partnerships between stakeholders and those successful efforts, etc). In addition, we need to look forward to areas where these models could affect holistic conservation and strong leadership (diminishing long leaf pine forests, areas rich in biodiversity, at-risk ecosystems such as prairie grasslands and coastal environments), and put the new NPS System Plan to work on the ground.

NRSS is committed to the identification of potential areas and partnerships that lead to the restoration or establishment of habitat and corridors that benefit the movement of migratory wildlife.

- Identify partners and design resiliency networks (of partners and conceptual physical) and corridors (continental climate corridors, pollinator/migratory corridors) and work with Congress to create an official federal designation of a corridor. Support efforts to analyze current applicable law and policies and work with international, state, and other partners to examine the benefits of a designated North American (trinational) corridor system.
- Increase native plant and animal species' capacity to recover, and retain native biodiversity (and articulate what this means at the park and landscape level beyond boundaries.
- Identify projects and use PL-110 for instance to restore degraded habitat and species.
- BRD (NRSS) is committed to assisting parks with the restoration of plant and animal species—offering technical expertise and other support to restore and ensure biological diversity within and adjacent to parks through evaluation, feasibility studies, and on-the-ground efforts.
- NRSS is committed to the identification of potential areas and partnerships that lead to the restoration or establishment of habitat and corridors that benefit the movement of migratory wildlife. This may include assisting in the interpretation and the drafting of cooperative agreements, contracts, and consultation efforts between partners and parks.
- Align priorities across NPS with a larger conservation vision across the country (participate in such efforts as the Trilateral Conference, the work of the International Union for the Conservation of Nature, the State Department's efforts on the Convention of Biological Diversity, and collaborations with private and nongovernmental organizations that have complementary missions and goals in regard to the conservation of migratory species, their habitats, and persistence.
- Host internal discussions in regards to an NPS role in ratifying the treaty on the Convention on Biodiversity.
- Implement species and habitat restoration projects (minimum of 10 new efforts by 2026—a proposed Natural National Heritage Legacy) that we, as NPS, can put our efforts and momentum behind-a good jump start to the first decade following our Centennial. BRD will assist parks and regions in the establishment of this list, seeking the funding and compliance support for subsequent actions with a targeted completion date of mid-FY17 for the list.

21st century priorities could include:

- A first priority is to enhance protected core areas that strengthen resiliency to stressors in the context of large landscape conservation.
- Promote and expand protection of healthy reefs, mangroves, and coastal wetlands that can minimize damage to coastal communities by buffering them against increasingly frequent and intense storms (this also is key to the conservation/documentation of cultural resources). NRSS, through active participation and technical expertise from the NPS Water (Oceans) and Geological Divisions, the Climate Change Response Program, the Inventory and Monitoring Division and BRD, is committed to assisting parks and regions in technical support in this critical area through consultation and collaboration with states and other federal agencies.
- Other actions for consideration: (1) acquire, protect, manage, and enhance (expand) parks as opportunities arise and natural areas that will be significantly altered or impacted by climate change; (2) identify national and international migratory species that utilize park and adjacent lands, and restore, protect and enhance resiliency in order to facilitate their adaptation; (3) design and implement conservation strategies to minimize harmful impacts, prevent impairment, and provide educational engagement opportunities; and (4) create and collaborate on programs that research, analyze, and monitor alternative energy devel-

opment and climate change impacts to wildlife species and their habitats and the ecosystems upon which they depend.

- Implement the process of building and enhancing relationships and partnerships to address these issues at the landscape level which requires a commitment and sustained focus that must be much broader than any in which our or any one agency has engaged in previously.
- Strive to ensure that collaborative conservation partnerships are not the rare exception but the standard.
- Include in our daily activities landscape conservation as part of our standard business models and practices.
- Embrace technology by better understanding the potential benefits and consequences of the varied uses of technology (drones, GPS collars, geo-locators, infrared camera and audio traps, fertility control, and even genomic engineering approaches) while retaining natural history field skills and abilities in the workforce to support wildlife management and adaptation.
- Share lessons from collaboration and networking in conservation at scale. We must better engage our stakeholders including the states and other Departments. Our interconnected conservation efforts are critical and the only way we will succeed in landscape level efforts. Identify projects that will become emblems of the need to protect and sustain entire landscapes that are vital not only to natural and cultural resource conservation, but to the vitality of communities, their economy, and our nation's quality of life.
- Embrace the concepts of Directors Order 100 and apply the principles to landscape scale conservation efforts
- Encourage a "One NPS" approach for Scaling Up --expanding the forum to provide updates of priorities and work from all National Park Service programs advancing landscape-scale conservation practices (e.g. RTCA, Climate Change Response Program, Wilderness Leadership Council, etc.), including:
- Work collaboratively with the Rivers, Trails, and Conservation Assistance Program (RTCA) to identify creative opportunities that link Scaling Up perspectives to RTCA activities.
- Fundamentals training curricula and/or other relevant National Park Service training courses.
- Build upon partnership with USGS to develop compelling "story maps" illustrating in greater detail the need, importance and collaborative conservation opportunities afforded by landscape-scale approaches in geographic areas across the continent.
- Create landscape conservation internship program to recruit new generations of practitioners with the skills and passion to advance the Scaling Up agenda in National Park Service career fields.
- Continually assess needs of practitioners from parks and National Park Service programs, and help identify funding sources and support to advance on-the-ground efforts.

Our interconnected conservation efforts are critical and the only way we will succeed in landscape level efforts.

The Scaling Up Team

Acknowledgments

Many NPS employees and partners have contributed to the development and success of the Scaling Up Initiative over the last five years. Staff have participated in this initiative from a collateral duty capacity from parks, regions, programs, and Washington offices. Over the years, the Scaling Up team evolved into an active Community of Practice – sharing experiences, opportunities, lessons learned and is serving as a model for partnership activity. It has been a tremendous community effort to expose and build upon the good work that has taken place across the NPS. It is the hope of this community that the effort continues to grow and evolve over time and that the group is respected as a powerful network of practitioners, contributing to a cultural shift in how we manage our resources and progress with on-the-ground cross boundary landscape level successes.

Citations

Department of the Interior. 2015. Resilient Lands and Waters Initiative. Available at: https://www.doi.gov/news/pressreleases/doi-epa-noaa-announce-resilient-lands-and-waters-initiative-to-prepare-natural-resources-for-climate-change

U.S. Department of the Interior (DOI). Draft National Seed Strategy for Rehabilitation and Restoration. (2015). Available at http://www.blm.gov/ut/st/en/prog/more/CPNPP/0/seedstrategy.html

George Wright Society. 2016. Scaling Up: Landscape-scale Conservation in North America. The George Wright Forum, Volume 33 no. 2. Available at: http://www.georgewright.org/332mitchell.pdf

Leslie, E. and J. Hilty. 2016. A Journey's End? The George Wright Forum, Volume 33 no. 2. Available at: http://www.georgewright.org/332leslie.pdf

Mitchell, Brent A., Brenda Barrett and Tony Hiss. 2015. Expanding Horizons: Highlights from the National Workshop on Large Landscape Conservation. Practitioners' Network for Large Landscape Conservation, Lincoln Institute of Land Policy, National Park Service, QLF Atlantic Center. http://www.largelandscapenetwork.org

National Park Service. 1962. National Natural Landmarks. Available at: https://www.nps.gov/subjects/nnlandmarks/index.htm

National Park Service. 2014. Scaling Up: Collaborative Approaches to Landscape Conservation. U.S. Department of Interior, National Park Service, Washington, D.C. Available at: https://www.nps.gov/orgs/1412/upload/Scaling-Up-2014.pdf

National Park Service (NPS). NPSpecies online application. Available at: https://irma.nps.gov/NPSpecies/

NAWPA Committee. 2016. Conservation in North America: An analysis of land-based conservation in Canada, Mexico, and the United States by NAWPA agencies. Report. North American Intergovernmental Committee on Cooperation for Wilderness and Protected Area Conservation; Canada, Mexico, and the United States of America. Available at http://nawpacommittee.org/wp-content/uploads/2016/08/Conservation-in-North-America.pdf

Practitioners' Network for Large Landscape Conservation. 2011a. National Park Service. Available at: http://www.largelandscapenetwork.org/national-park-service/

Sauvajot, Ray. 2016. National Parks and the Scaling Up Imperative. The George Wright Forum, Volume 33 no. 2. Available at: http://www.georgewright.org/332sauvajot.pdf

The White House, 2015. National Strategy to Promote the Health of Honeybees and Other Pollinators. Available at: https://www.whitehouse.gov/sites/default/files/microsites/ostp/Pollinator%20Health%20Strategy%202015.pdf

The Department of the Interior protects and manages the nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its special responsibilities to American Indians, Alaska Natives, and affiliated Island Communities.

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