

Scaling Up: Landscape-scale Conservation in North America

Brent A. Mitchell, guest editor

Zooming Out

Brent A. Mitchell

WELCOME TO THIS SPECIAL THEME ISSUE ON LANDSCAPE-SCALE CONSERVATION in North America. Our 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.

I started writing this overview article while returning from a project in Europe. For most of the flight I could only see clouds, but occasionally I would glimpse the landscape through a break. I noticed two areas: one must have been in the state of Brandenburg in Germany and the other perhaps around Kilkenny in Ireland. Both were relatively flat, with mosaics of small farm fields and forest fragments. At 37,000 feet, I couldn't make out much detail, but patterns seemed to leap up. In the German landscape, settlements were tightly clustered in nuclear villages, with field and woodlots surrounding. In Ireland, the human dwellings were much more dispersed along minor roadways. The Irish fields were demarcated by hedgerows whereas the German landscape had none. These are features that might not have been so immediately apparent from the ground, from close up, or without seeing them “near” each other in my viewing experience. To get the big picture you have to zoom out.

The George Wright Forum, vol. 33, no. 2, pp. 140–144 (2016).

© 2016 George Wright Society. All rights reserved.

(No copyright is claimed for previously published material reprinted herein.)

ISSN 0732-4715. Please direct all permissions requests to info@georgewright.org.

In this issue

Bookending this issue are two articles that stress the importance of working at scale and taking an expansive, landscape view. Ray Sauvajot writes that 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.” Thus, in his view scaling up is an imperative for the National Park Service. Elaine Leslie and Jodi Hilty share stories of wide-ranging species that require more continuous habitat, and outline a vision for action. “How do the National Park Service and other federal, state and private land managers, partners, and neighbors contribute to a larger national conservation strategy?”

Perhaps no effort in recent years is more strategic, ambitious and geographically comprehensive than Landscape Conservation Cooperatives (LCCs), described here by Tom Olliff and colleagues. The number and diverse organizational affiliations of the 11 authors of this article evinces the level of collaboration LCCs promote and support.

Whereas the LCCs are relatively new (created by an Interior Department secretarial order in 2009), national heritage areas have a 30-year track record, described here by Brenda Barrett and Eleanor Mahoney. Both models have been well-studied, including a 2015 study of LCCs by the National Academy of Sciences.

Still older is the Appalachian Trail. While most of us think of it as a path—albeit an exceedingly long and magnificent one—Dennis Shaffer reminds us that the original vision, nearly a century ago, was that the trail would be the backbone to a much larger contiguous landscape. He brings us up to date on a new initiative and the many partnerships working to make the vision a reality.

Jonathan Doherty and Suzanne Copping begin their description of conservation in the Chesapeake with first European contact four centuries ago. The geographic scale of the watershed, nearly the size of Wisconsin or Florida, is matched by complexity of jurisdictions, land use, and population density.

These are just a few examples of the hundreds of landscape-scale programs and initiatives identified by a peer support group, the Practitioners’ Network for Large Landscape Conservation (a more precise survey is on the drawing board). Shawn Johnson describes how this network of networks is trying to understand the inherent complexity of this work, and reviews some of the lessons learned.

And complex it is. It is easy to understand how complicated it can be to work with many partners, but networked conservation is more than that. A *complicated* situation has many different factors or elements, so many that it can be hard to track change in any one of them. But with good tools and discipline each can be observed and managed separately. On the other hand, *complex* systems are based on inter-relationships, so change in any factor or element effects the others. The picture is ever-shifting, *dynamic*, to use Sauvajot’s term. Complex systems are difficult to predict accurately because they interact in unexpected ways, and the complexity may lie beyond our cognitive limits. For example, weather is difficult to predict, not because it is complicated, but because it is complex.

Scale matters, but not always size

We intentionally did not name this issue's theme *Large Landscape Conservation*. Large is a relative term, and geospatial size is only one determinant of landscape scale. A collaboration in an urban or suburban area may be just as complex as that in another landscape covering a hundred times as much area but less dense in population and infrastructure development. Both would require a decentralized network of diverse partners to adapt to current and anticipated challenges.

Landscape conservation also operates at different temporal scales. It is fitting that this issue should appear in the centenary of NPS because for many the appropriate time horizon for this work is a century out. Quoting Greg Wathen, coordinator of the Gulf Plains and Ozarks LCC, "What do we have to do in the next 10–20 years for the next 100 years?"

Looking at scale from a different perspective, the level of interest in this kind of work is growing rapidly. The first national conference on large landscape conservation two years ago exceeded all expectations for participation, with over 650 people converging on Washington, DC, from across the continent. And this work is not, of course, limited to North America; the interest is global. Many large and continental-scale corridors, including transboundary corridors, have been established on every continent except Antarctica and across all the world's terrestrial biogeographic realms. For example, a 2013 study of 14 networks and corridor initiatives in Australia had findings very similar to the examples in this volume.

What of the longitudinal scale of historical practice? It is difficult to put any kind of date on the beginning of landscape-scale conservation in North America. As you will read, Benton MacKaye had a vision of one very large landscape a hundred years ago. Others, like Gifford Pinchot, very much had scaling up in mind when developing large systems of managed areas. Native or First Nations groups may have had an even larger and more holistic perspective, viewing all things on the earth as one and not seeking dominion over it. *Dominion* is a useful word here, as the kind of interdependent partnership implicit in landscape-scale conservation requires that all parties give up some control.

Networked governance

Harry Truman popularized an old saying, "It is amazing what you can accomplish when you don't care who gets the credit." In a networked partnership, individual partners have to surrender some control over means and outcomes. However, agencies, nongovernmental organizations, and others also need to demonstrate progress to their enabling authorities and funders. This creates a conundrum, unless the authorizing and funding environments shift to recognize the necessity and value of this nonbureaucratic way of working.

The need for networking is not only among different agencies and organizations, but also within the ranks of each. Work over the last three years on an Urban Agenda for NPS has revealed that collaborating internally in some of our federal agencies can be just as fraught as collaborating externally, sometimes more so. Promoting "One NPS," that is, more parks and programs working together in concert, has proven easier to describe in concept than to apply in practice.

Monitoring situations at scale and navigating networked governance can be aided by technology. On my flight home from Europe I could not see much detail from the cruising altitude of a jetliner. But we have much sharper eyes in the sky. Google is launching a new class of imaging satellites, small, cheap and with a resolution of less than 90 cm. Quite to my surprise (and somewhat to my relief!) the authors for this issue did not dwell on technology. But it must be acknowledged that remote sensing, geographic information systems, computer-assisted visualization, and other decision-support tools—not to mention communication technology—have dramatically increased our capacity to manage complexity, at scale, with high data confidence.

Means and ends

Most of this overview has focused on the process of landscape conservation, on how this work has been practiced to date. But what is the overarching goal of this work? How will we know that it has achieved our ends at the largest of scales? In other words, how do we escape the tyranny of small successes? And the question we all dislike but must ultimately answer: how much conservation is enough?

E.O. Wilson and Tony Hiss each have recently and persuasively written about *Half Earth*, arguing that half the earth's surface needs to be conserved in some way, echoing a call by many that *Nature Needs Half*. Though clearly an arbitrary percentage, advocates argue that to avoid a planet inhabited by little more than people and their domesticated plants and animals we must recreate and reconnect much more space for other beings. Contrast this with the official, global biodiversity agenda, the Convention on Biological Diversity (CBD).¹ Its targets (known as “Aichi targets” for the precinct of the Japanese city where they were agreed to) call for:

By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.

Even if these targets are met (and in a defensible way, not by recognizing areas of dubious conservation value), they fall far short of “half earth.” The case for creating more space for nature is clear, but the mechanisms are not. Wilson's book provides no guidance on how to achieve the ambitious goal of 50%.

A very recent issue of the journal *Ecology and Society* (2016) examines “Outcomes of Conservation Measures on Unprotected Landscapes.” This seems to echo the term in the Aichi target, “other effective area-based conservation measures.” This term is not defined, though IUCN (the International Union for Conservation of Nature) is currently developing guidance on what does and does not qualify. One point is becoming increasingly clear, and accepted: that we will not achieve conservation adequately through “parks and equivalent

reserves” alone, to use the wording in the original George Wright Society mission statement. The work described in this issue is at the cutting edge of the Aichi phrase, “integrated into the wider landscapes and seascapes.”

Planning at a landscape scale will have to do much more than prioritize targets for acquisition and make certain projects more competitive for funding. While purchasing land or interest in land for conservation will continue to be important, the need is far greater than existing financial resources can satisfy. Most of the case studies in this issue describe multi-jurisdictional collaboration, that is, different federal, state, and local agencies working together in new ways, with private conservation partners, and with related economic interests (e.g., tourism and, more recently, health care). This is challenging enough, both in theory and practice, but to go fully to scale, conservation must find ways to better engage across sectors—energy, transportation, and industry. In international conservation circles the talk is of *mainstreaming* conservation, though examples of good practice have not begun to catch up to the rhetoric.

Conclusion

This theme issue was developed in partnership with the National Park Service Scaling Up team and under the auspices of the NPS Stewardship Institute. The Institute helps National Park Service leaders move the organization in new directions through illuminating experience and asking questions about the history and current practice of conservation.

- How can partners manage and maintain complex, networked relationships over time?
- How can conservation agencies stay true to mission but also respond to change? At what point do flexibility and adaptability become unacceptable compromise?
- Are supervisory and reward systems properly organized to support a networked approach to conservation?
- Can decision-support systems and skilled communication bridge the gap between long-term planning and the kind of short-term, threat-response posture that is human nature?
- Can landscape conservation be mainstreamed? Should it?

These questions and others will be pondered by future conservationists as our profession continues its progressive, Lamarckian evolution towards complexity and adaptability. This issue sets down some of the experience, practice, and thinking to date on landscape-scale conservation. Enjoy.

Endnote

1. The United States has signed but not ratified the CBD treaty and therefore is not bound by the targets and other commitments. It does participate as an observer.

Brent A. Mitchell, NPS Stewardship Institute (partner) and Quebec-Labrador Foundation, Atlantic Center for the Environment, 55 South Main Street, Ipswich, MA 01951 USA; brentmitchell@qlf.org