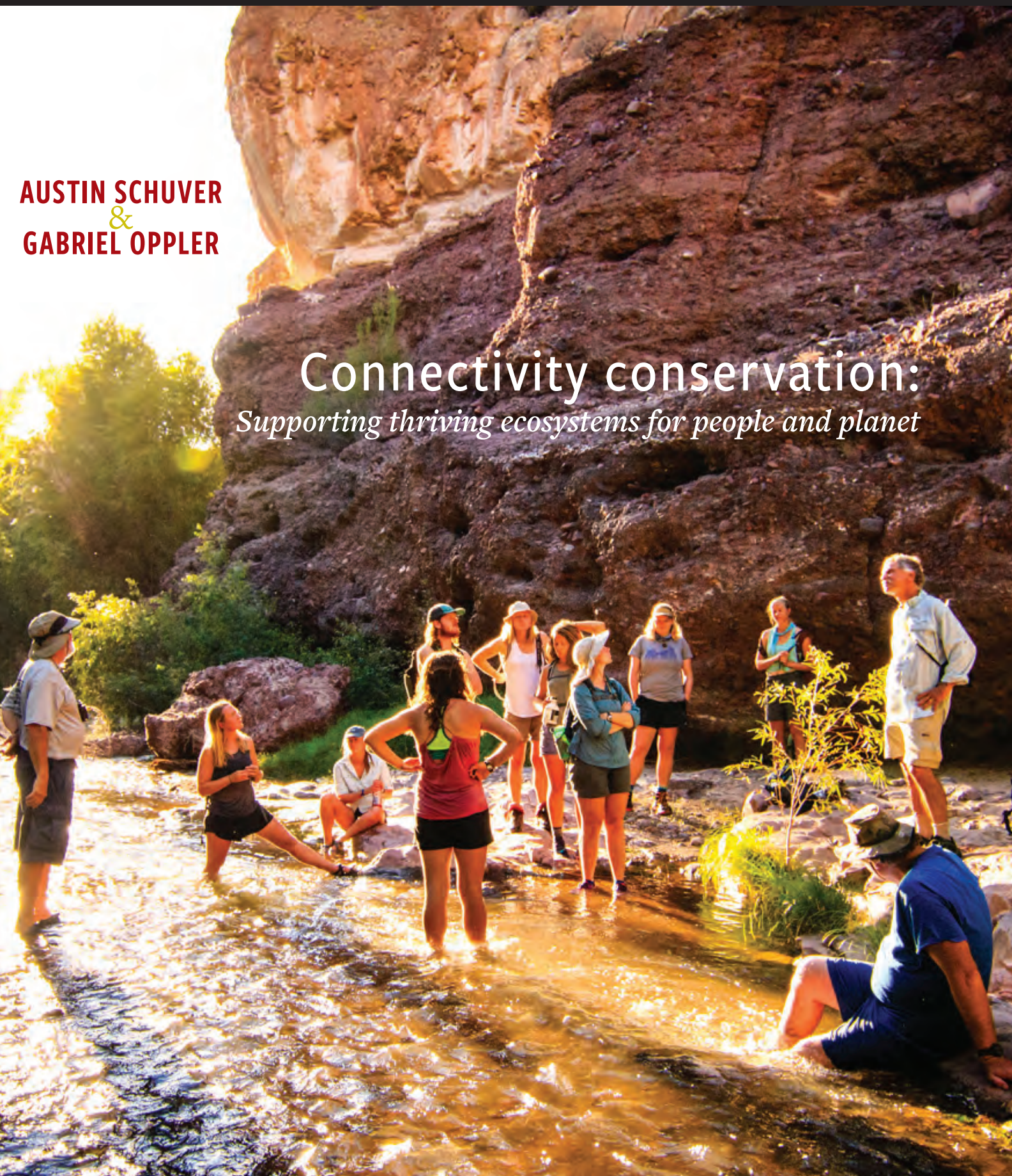
AUSTIN SCHUVER
&
GABRIEL OPPLER

Connectivity conservation:

Supporting thriving ecosystems for people and planet



Migratory birds soar overhead while a bubbling river descends from the mountains. A school group pauses in a shaded canyon to discuss native reptiles. Grazing ungulates stand side-by-side with cattle on a private ranch. A 30-ton whale breaches the cold Maine waters. These scenes, and infinite others, play out across the North American continent, punctuating the expanses of large landscapes.

Ecological flows and processes maintain life on Earth and their persistence depends on connectivity conservation. From parks and other protected areas to working lands and recreation areas, large landscapes are shared spaces. Not only do wildlife depend on their resources and room to roam, but humans too rely on large-scale connectivity for our livelihood and well-being. In fact, these landscapes have been home to Indigenous peoples for thousands of years; we honor this fact by acknowledging the tribal homelands depicted in each photo below.

Complexity is a hallmark of large landscape conservation. In most cases, large landscapes extend across borders, spanning jurisdictional boundaries at the local, state, and national level. In the US and Canada, functional ecosystems and habitats can often be found in a patchwork of public and private lands. It's imperative, therefore, that landowners work together with public land managers for all to succeed.

Above and below the surface, freshwater connectivity is a fundamental aspect of healthy landscapes. Rivers, wetlands, and riparian corridors provide indispensable services for all life. At sea and along the coastline, marine connectivity ensures that the ocean's biodiversity and lifeways can thrive. Moving water is, of course, the most visible of ecological flows.

A star-studded night sky hangs heavy over the lake. For miles around, light pollution is at a bare minimum and the intangible benefits of the intact landscape are plentiful. In a fast-changing world, places like these are increasingly rare. Large land- and seascape conservation seeks to maintain, enhance, and restore these special places. With ecological connectivity at the forefront, conservationists are working every day to create a thriving planet for humans and nonhumans alike. These ten scenes represent just a few examples of the countless ways in which we all benefit from this work.

Austin Schuver
Department of Society and Conservation
W.A. Franke College of Forestry and Conservation
University of Montana
32 Campus Drive
Missoula, MT 59812
austin.schuver@umontana.edu

Gabriel Oppler
Department of Society and Conservation
W.A. Franke College of Forestry and Conservation
University of Montana
32 Campus Drive
Missoula, MT 59812

Center for Large Landscape Conservation
P.O. Box 1587
Bozeman, MT 59771
gabe@largelandscapes.org

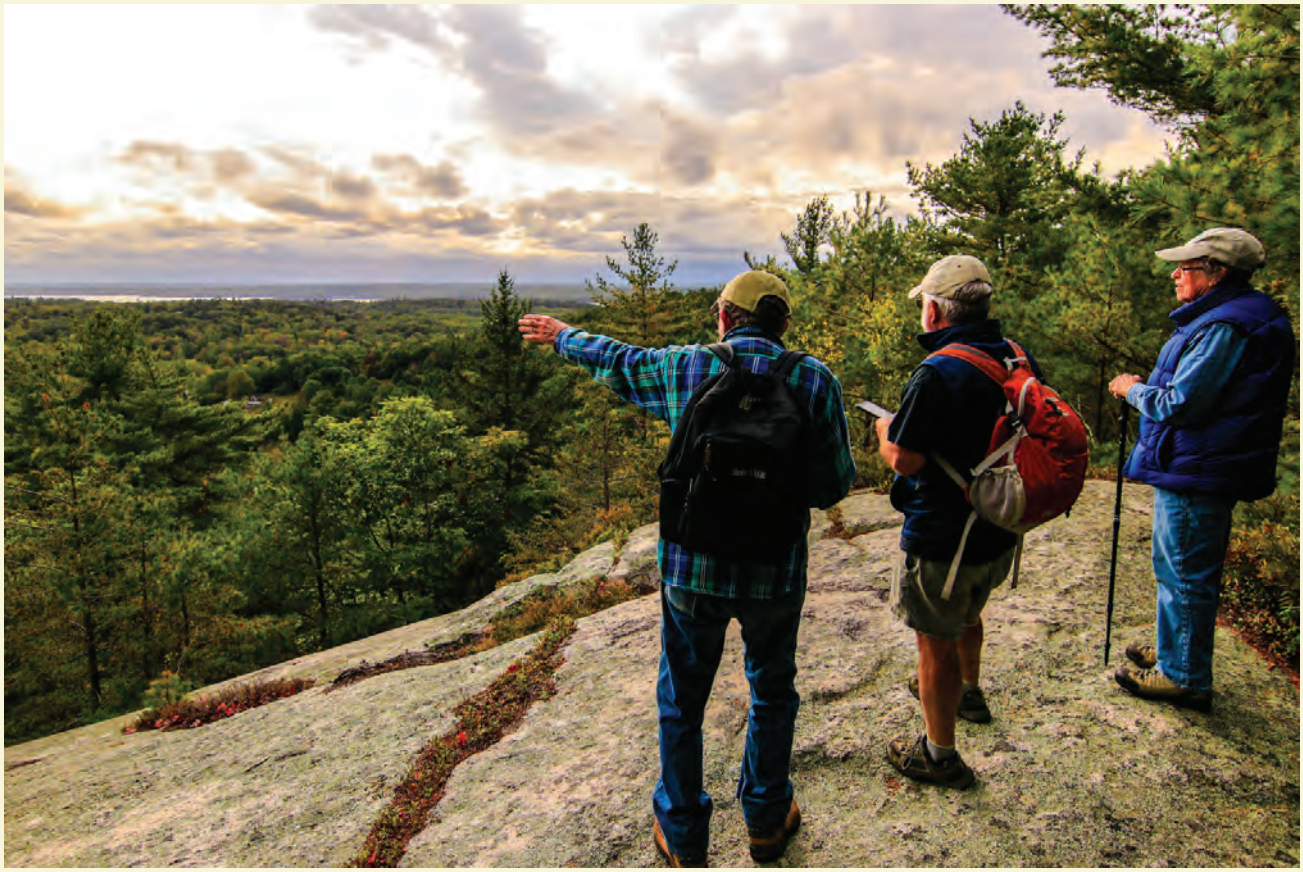
Conservation across boundaries
Tomyhoi Lake sits near the US–Canada border in the Mount Baker Wilderness, Washington. The Greater North Cascades Ecosystem is one of the most intact wildlands in the lower 48, extending across the border into provincial parks and forests in British Columbia, Canada. Nooksack, Coast Salish, and Nlaka'pamux tribal homelands.

Climate refugia
Wildhorse Lake in the Steens Mountain Wilderness, Oregon, stands out against the dry autumn landscape. More than just breathtaking expanse, these high-desert landscapes are home to countless ecological niches, especially important as potential for climate refugia. Numu (Northern Paiute) tribal homelands. © Austin Schuver

Migration corridors
Sandhill cranes forage on private land in front of the Sangre de Cristo Mountains, Colorado. Facilitating the avian migration northward through the Central Flyway each spring, working lands and public–private partnerships are crucial parts of stepping-stone corridors for numerous species to reach northern breeding grounds. Núu-agha-tuvu-pu̲ (Ute) tribal homelands. © Austin Schuver

Outdoor classrooms
A college field class stops to discuss desert herpetology in Aravaipa Creek, Aravaipa Canyon Wilderness, Arizona. Connectivity provides countless opportunities for educational and recreational benefits. Ndee (Western Apache), Sobaipuri, and Hohokam tribal homelands. © Austin Schuver

Essential ecosystems
The Green River, in a patchwork of state-protected lands near Black Diamond, Washington. In addition to supporting native fisheries, the Green River provides essential ecosystem services in the form of public drinking water to over 300,000 people. Muckleshoot and Coast Salish tribal homelands. © Austin Schuver



Community conservation in action
Volunteers at Frenchman Bay Conservancy point out landmarks toward Acadia National Park from the top of Baker Hill Preserve in Maine. Several non-profit land trusts are conserving private lands in a network from the coast to interior forests. Abenaki, Passamaquoddy, Penobscot, and Wabanaki tribal homelands. © Austin Schuver

Disappearing sights
The Milky Way reflects off Shotoverin Lake, Lassen National Forest, outside the Caribou Wilderness and Lassen Volcanic National Park, California. Swaths of conserved lands provide intangible benefits, such as limiting light pollution. Lassen Volcanic National Park is currently applying for official Dark Sky Park designation. Mountain Maidu tribal homelands. © Austin Schuver

Public–private partnerships
A pronghorn stands amidst the sagebrush on a working rangeland in the Sierra Valley, California. Public–private partnerships to conserve working agricultural lands are a central part of protecting intact wildlife migration routes. Washoe tribal homelands. © Austin Schuver

Tribal management
A tourist photographs bison on the National Bison Range, a long-time federal protected area recently transferred to the Confederated Salish and Kootenai Tribes, Montana. Globally, Indigenous Peoples protect around 80% of the world's biodiversity. © Austin Schuver

Connected seascapes
In the Gulf of Maine, a 30-year-old humpback whale called Sigma splashes its tail. Marine Protected Area (MPA) networks and swimways help ensure that migratory routes remain intact across the high seas. © Austin Schuver

The Interdisciplinary Journal of Place-based Conservation

Co-published by the Institute for Parks, People, and Biodiversity, University of California, Berkeley and the George Wright Society. ISSN 2688-187X

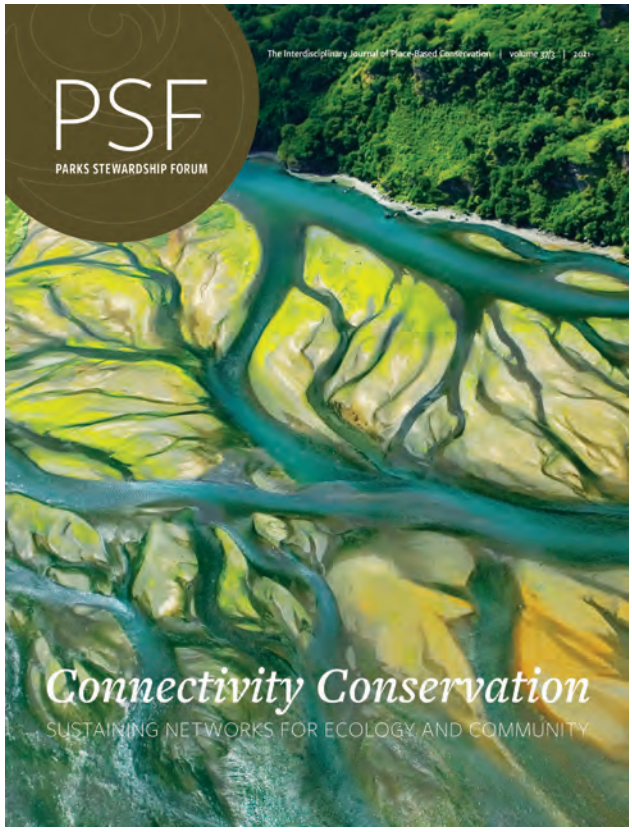
Citation for this article
Schuver, Austin, and Gabriel Oppler. 2021. Connectivity conservation: Supporting thriving ecosystems for people and planet. *Parks Stewardship Forum* 37(3): 604–615.

Parks Stewardship Forum explores innovative thinking and offers enduring perspectives on critical issues of place-based heritage management and stewardship. Interdisciplinary in nature, the journal gathers insights from all fields related to parks, protected/conserved areas, cultural sites, and other place-based forms of conservation. The scope of the journal is international. It is dedicated to the legacy of George Meléndez Wright, a graduate of UC Berkeley and pioneer in conservation of national parks.

Parks Stewardship Forum is published online at https://escholarship.org/uc/psf through eScholarship, an open-access publishing platform subsidized by the University of California and managed by the California Digital Library. Open-access publishing serves the missions of the IPPB and GWS to share, freely and broadly, research and knowledge produced by and for those who manage parks, protected areas, and cultural sites throughout the world. A version of *Parks Stewardship Forum* designed for online reading is also available at https://parks.berkeley.edu/psf. For information about publishing in PSF, write to psf@georgewright.org.

The journal continues *The George Wright Forum*, published 1981–2018 by the George Wright Society.

PSF is designed by Laurie Frasier • lauriefrasier.com



On the cover of this issue
A glacial river on Kodiak Island, Alaska, meets the North Pacific Ocean. Coastal deltas represent the critical interface between terrestrial, freshwater, and marine connectivity. | STEVE HILLEBRAND / USFWS