



Co-published by the [Institute for Parks, People, and Biodiversity](#), [University of California, Berkeley](#) and the [George Wright Society](#).

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 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 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 Institute for Parks, People, and Biodiversity and the George Wright Society to share, freely and broadly, research and knowledge produced by and for those who manage parks, protected areas, and cultural sites throughout the world.

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

Parks Stewardship Forum is distributed under a Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0) that allows others to copy, distribute, translate, adapt, and build upon original submissions to *Parks Stewardship Forum*, as long as they provide appropriate credit to the author(s) and do not use the submission for commercial purposes. Anyone who uses or redistributes the submission under this license must indicate any changes that were made, must link to the license, and cannot imply that the author endorses them or their use. More information about this license is available at <https://creativecommons.org/licenses/by-nc/4.0/>.

From time to time *Parks Stewardship Forum* also reprints, with permission, previously published material. Such material is subject to its original copyright, as indicated.

Parks Stewardship Forum is published at <https://escholarship.org/uc/psf>. A version designed for online reading is also available at <https://parks.berkeley.edu/psf>.

ISSN 2688-187X

Designed by Laurie Frasier • lauriefrasier.com



On the cover

Family exploring tidepools at Cabrillo National Monument, California. | [GEDAPIX](#)

EDITORIAL BOARD

Jonathan B. Jarvis, UC Berkeley Institute for Parks,
People, and Biodiversity
Dr. Steven R. Beissinger, UC Berkeley
Rolf Diamant, George Wright Society
Professor Holly Doremus, UC Berkeley
Kalani Quiocho, NOAA (Affiliate)
Nadine Spence, Parks Canada

EDITORIAL STAFF

Dr. Rebecca Conard, Managing Co-editor
Dorothy A. Davis, Co-editor,
“The Photographer’s Frame”
Gary E. Davis, Co-editor,
“The Photographer’s Frame”
David Harmon, Managing Co-editor
Dr. Gary Machlis, Editor, “Verse in Place”

EDITORIAL AND ADMINISTRATIVE OFFICE

George Wright Society
P.O. Box 65
Hancock, MI 49930-0065 USA
1.906.487.9722
psf@georgewright.org

CONTRIBUTING TO PARKS STEWARDSHIP FORUM

We welcome proposals for papers in PSF’s two main departments: “New Perspectives,” for non-peer-reviewed articles that will be evaluated solely by the journal’s editors; and “Advances in Research and Management,” for articles that will undergo formal peer review. We also welcome proposals for “The Photographer’s Frame: Photoessays in Conservation,” which tell a compelling story in photographs.

More information and manuscript submission guidelines may be found at:

<https://www.georgewrightociety.org/psfsubmissions>

Berkeley Institute for Parks, People, and Biodiversity

The UC Berkeley Institute for Parks, People, and Biodiversity aims to bring an interdisciplinary approach to the research, management, and protection of our national, state and local parks and public lands. Recognizing that parks and public lands play an increasingly important role in climate adaptation, public health, education, jobs, and environmental justice, the Institute will serve as convener, research coordinator, and bridge between field managers and the academic community.

The Institute is devoted to the investigation, dissemination, and application of science to the critical issues facing national, state, and local parks, and equivalent protected areas. The Institute fosters cross-disciplinary research, applied science, policy, and field management, and also strives to help prepare the next generation of conservation leaders in academia and in the field.

<https://parks.berkeley.edu>



The George Wright Society advances the scientific and heritage values of parks and protected areas. The Society promotes research and resource stewardship across cultural and natural disciplines; brings practitioners together to share their expertise; provides avenues of communication among scholars, researchers, educators, practitioners, and the public about the importance of parks and protected areas; and supports informed conservation decisions and management actions that embrace these values. By uniting people from many different backgrounds around a common passion for protecting Earth’s natural and cultural heritage, we create the collaboration needed to meet today’s greatest conservation challenges.

<https://www.georgewrightociety.org>



ANNIE BURKE

POINTS OF VIEW



LETTER FROM WOODSTOCK

- 6 A most worthy service—in an era of un-healthy parks, un-healthy people, and a near-death experience for democracy
Rolf Diamant



COLORING OUTSIDE THE LINES

- 12 The joys of nature: A cultural mosaic
Nina S. Roberts

THEME ARTICLES

NATURE AND HEALTH:
EMERGING KNOWLEDGE
INFORMS NEW POLICY
DIRECTIONS • Nooshin Razani,
guest editor

- 17 Nature and health in practice
Nooshin Razani
- 23 Justice in access to the outdoors
*Kelly D. Taylor, José G. González, and
Nooshin Razani*
- 34 Insider community-engaged
research for Latinx healing in nature:
Reflections on and extensions from
Phase 1 of the Promoting Activity and
Stress Reduction in the Outdoors
(PASITO) project
*Eric Johnson, Cathy Samayoa,
Rebecca Mendez, Miriam Wong,
Edgar Velazquez, and
Leticia Márquez-Magaña*

- 46 Toward a unified model of stress
recovery and cognitive restoration in
nature
*Emily E. Scott, Amy S. McDonnell,
Sara B. LoTempio, Bert N. Uchino, and
David L. Strayer*
- 61 Equitable healthcare requires equitable
access to nature
*Stephen Lockhart, with contributions
from Alice Pressman and Kelly Smits*
- 69 Beyond COVID-19: Conserving nature
to prevent the next pandemic
*Tierra Smiley Evans, Zoë Grange,
Jaber Belkhiria, Jennifer Lane,
Brooke Genovese, Eri Togami, and
Jonna Mazet*
- 81 Nature printing: Merging plants, art,
and well-being
Latifat Apatira
- 93 Growing Upward [music video by Rupa
& the April Fishes]
Rupa Marya
- 95 One hundred years of health in US
national parks
*Diana B. Allen and
Capt. Sara B. Newman*
- 106 Parks: A vital community condition
Sadiya Muqueeth
- 118 Writing a new playbook: A regional
coalition for healthy lands, people and
communities
Annie Burke

(more)



CONTENTS • VOLUME 37/1

- IMPLEMENTING THE CHITWAN DECLARATION OF THE 9TH WORLD RANGER CONGRESS: NEXT STEPS FOR THE GLOBAL RANGER COMMUNITY • *Rohit Singh, guest editor*
- 128 **The vital role of rangers in conservation**
Rohit Singh, Chris Galliers, Mike Appleton, Mike Hoffmann, Barney Long, Joanna Cary-Elwes, Camilla Fritze, Jamie McCallum, and Rob Parry Jones
- 137 **Shaping a global strategy for building capacity and performance of rangers in and around protected areas**
Dedee P. Woodside and Jenny Vasseleu
- 153 **Building healthy relationships between rangers and communities in and around protected areas**
Dedee P. Woodside, Jenny Vasseleu, Terry W. Pyke, Olivia Wilson-Holt, and Dilys Roe
- 174 **What will it take to professionalize rangers?**
Michael R. Appleton, Joanna Cary-Elwes, Camilla Fritze, Chris Galliers, Barney Long, Matthew Lowton, Jamie McCallum, Rohit Singh, and Erika Stanciu
- 185 **Employment conditions of public sector rangers: A major under-addressed problem**
Mike Belecky, Rob Parry-Jones, and Rohit Singh
- 196 **Empowering rangers through technology and innovation**
Drew T. Cronin, Sophie Benbow, Richard A. Bergl, Liz Bourgault, Lina Caro, Anthony Dancer, Alasdair Davies, Denton Joachim, Claire Lewis, Antony J. Lynam, Julio Maaz, Jeff Muntifering, Stephanie O'Donnell, Jonathan Palmer, James Slade, Felipe Spina Avino, Xia Stevens, and Alex Wyatt
- 206 **Where are the women? Towards gender equality in the ranger workforce**
Joni Seager, Gillian Bowser, and Anwesha Dutta
- 219 **Role of ranger associations in strengthening ranger workforce**
Chris Galliers, Peter Mills, Gordon Miller, David Zeller, Linda Nunn, Andy Davies, Carlos Carrion-Crespo, and Andrew Campbell
- (more)



ADVANCES IN RESEARCH AND MANAGEMENT

- 231 Seeing things differently: How are environmental conditions perceived and why does it matter?
Angela Mallette, Ryan Plummer, and Julia Baird
- 244 To fee or not to fee? Satisfaction, service quality, and support of an entrance fee of a state park system
Hung-Ling (Stella) Liu, I-Chun (Nicky) Wu, and Michael J. Bradley
- 253 Exercise and stress levels associated with a visit to Tallgrass Prairie National Preserve
Sarah K. Jackson, Ryan L. Sharp, Emily L. Mailey, and Adam A. Ahlers



THE PHOTOGRAPHER'S FRAME

- 265 One Health for all: The intrinsic connection among people, animals, and our shared planet
Amy Bond, Eunah Preston, Jennifer K. Lane, and Jonna A.K. Mazet



VERSE IN PLACE

- 277 Trophic Cascade
Camille T. Dungy