

# Ecological Restoration

Volume 29, Number 4



December 2011

<b>SER Editorial</b>	319
Perspectives <i>Steve Whisenant</i>	
<b>Editorial</b>	320
A Seed Op-Ed <i>Steven N. Handel</i>	
<b>RESTORATION NOTES</b>	
New Approaches to Enhance Eco-Restoration Efficiency of Degraded Sodic Lands: Critical Research Needs and Future Projects <i>Vimal Chandra Pandey, Kripal Singh, and Rana P. Singh</i>	322
Thinning Promotes the Restoration of Redwood Branch Structure at Redwood National Park's Holter Ridge Thinning Study <i>Christopher Keyes</i>	325
The Effects of Carbon Amendments on Growth and Reproduction of a Prairie Plant <i>Brenda Molano-Flores and Helen Mlynarski</i>	327
Assessing Urban Wetland Soils for Reed Canary Grass Management (Minnesota) <i>William M. Bartodziej, Simba Blood, and Jake Lindeman</i>	329
<b>ARTICLES</b>	
Assessing Competition Between Reed Canary Grass ( <i>Phalaris arundinacea</i> ) and Swamp White Oak ( <i>Quercus bicolor</i> ) <i>Carrie Reinhardt Adams, Philip J. Kauth, and Julie W. Sorenson</i>	332
An Outcrossing Reciprocity Study Between Big Bluestem ( <i>Andropogon gerardii</i> ) Populations in the Carolinas <i>Robert Tompkins, William C. Stringer, and William C. Bridges, Jr.</i>	339
Control of Invasive Japanese Fern ( <i>Lygodium japonicum</i> ) and Response of Native Ground Cover During Restoration of a Disturbed Longleaf Pine Ecosystem <i>Kimberly K. Bohn, Patrick J. Minogue, and E. Corrie Pieteron</i>	346
Burning More Effective than Mowing in Restoring Florida Scrub <i>Carl W. Weekley, Eric S. Menges, Dawn Berry-Greenlee, Marcia A. Rickey, Gretel L. Clarke, and Stacy A. Smith</i>	357
Smooth Brome ( <i>Bromus inermis</i> ) in Tallgrass Prairies: A Review of Control Methods and Future Research Directions <i>Meredith Thomsen and Jessica Bolwahn Salesman</i>	374
Channel Adjustment Following Culvert Removal from Forest Roads in Northern California, USA <i>Larry P. Maurin and Andrew P. Stubblefield</i>	382
<b>DESIGN APPROACHES TO ECOLOGICAL RESTORATION</b>	
Gowanus Canal Sponge Park™ <i>Susannah Drake and Yong Kim</i>	392
Commentary on <i>Gowanus Canal Sponge Park™</i> <i>Thomas P. O'Connor</i>	401
Squeezing More Ecological Value from the Sponge Park™ <i>Steven N. Handel</i>	403

## ABSTRACTS

Grasslands	405	Ecological Literacy	409
Woodlands	405	Tools & Technology	409
Wetlands	406	Climate Change	409
Lakes, Rivers & Streams	406	Monitoring & Adaptive Management	410
Coastal & Marine Communities	406	Reclamation & Rehabilitation	410
Other Communities	407	Urban Restoration	411
Propagation & Introduction	407	Endangered Species	411
Invasive & Pest Species	408	Economics & Ecosystem Services	411
Wildlife Habitat Restoration	408	Planning & Policy	412
Ecological Design	409		

## BOOK REVIEWS

Conducting Prescribed Fires: A Comprehensive Guide <i>John R. Weir, reviewed by Dwight Barry</i>	412
Restoration and History: The Search for a Usable Environmental Past <i>Marcus Hall, reviewed by David Havlick</i>	413
Repairing Paradise: The Restoration of Nature in America's National Parks <i>William R. Lowry, reviewed by Alistair Bath</i>	415

## RECENTLY RECEIVED TITLES

417

## MEETINGS

418



## ADVISORY BOARD

### James Aronson

Centre for Functional &  
Evolutionary Ecology, France, and  
Missouri Botanical Garden USA

### Peter Bowler

Department of Ecology &  
Evolutionary Biology  
University of California, Irvine

### Tom Chase

The Nature Conservancy  
Martha's Vineyard MA

### Francisco Comín

Instituto Pirenaico de Ecología-CSIC  
Zaragoza, Spain

### Paul H. Gobster

USDA Forest Service  
Chicago IL

### Andrew Light

Director, Center for Global Ethics  
Department of Philosophy  
George Mason University

### Marty Melchior

Inter-Fluve, Inc.  
Madison WI

### Darrel Morrison

Master of Science in Landscape Design  
Columbia University

### Steve Packard

National Audubon of Chicago  
Chicago Wilderness Program  
Northbrook IL

### Leslie Sauer

Private consultant  
Hunterdon County NJ

### Steve Whisenant

Society for Ecological Restoration,  
Washington, DC  
Texas A&M University, College Station, TX


Editor: *Steven N. Handel*

Managing Editor: *Brooke Maslo*

Rutgers, The State University of New Jersey,

School of Environmental and Biological Sciences: *Robert M. Goodman, Executive Dean*  
Chair, Society for Ecological Restoration International: *Steve Whisenant, Chair*

*Ecological Restoration* is published quarterly by the University of Wisconsin Press. © by the Board of Regents of the University of Wisconsin System. No part of this publication may be reproduced without the written consent of the publisher, University of Wisconsin Press. Requests for permission to reprint an article or illustration should be made directly to UW Press, 1930 Monroe St, 3rd Floor, Madison, WI 53711-2059, [permissions@uwpress.wisc.edu](mailto:permissions@uwpress.wisc.edu). <http://er.uwpress.org>

 Printed on 30% recycled text paper.

Contributions are welcome. Authors should upload their materials through *Ecological Restoration's* submission website, which can be found at <http://er.uwpress.org>. Submission guidelines can also be found at this web address.

Authorization to reproduce material from this journal, beyond one copy for personal use or that permitted by Sections 107 and 108 of U.S. Copyright Law, is granted for a fee. For fee schedule and payment information, contact [www.copyright.com](http://www.copyright.com); The Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, 978/750-8400, Fax: 978/750-4470.

*Ecological Restoration* is indexed in Elsevier BIOBASE, AGRICOLA and in CSA's Ecology databases.

*Ecological Restoration* is affiliated with the Society for Ecological Restoration International, 285 W. 18th St. #1, Tucson, AZ 85701, 520/622-5485, <http://ser.org>. Members of the Society for Ecological Restoration International receive *Ecological Restoration* at a discounted rate. Please visit the UW Press Web site at [www.wisc.edu/wisconsinpress/journals](http://www.wisc.edu/wisconsinpress/journals) for more information.

*Ecological Restoration* was founded at the University of Wisconsin–Madison Arboretum.

**Advertising:** Call 608/263-0534 for current rates. Advertisements or references to products by brandname or trademark do not imply an endorsement by the editors or publishers of this journal.

**Front Cover:** Prescribed fires as a management tool have historically been controversial. Opponents purport mechanical methods as being equally effective, but formal tests comparing methods are rarely conducted. Weekley and colleagues did undertake such a test. Please turn to page 357 to read more. Photo by David Horton.

**Back Cover:** In our new series on ecological design, we present Sponge Park™, a concept being implemented by dlandstudio, LLC to reduce stormwater runoff volume, filter contaminated water, and create habitat along the edges of the highly-industrialized Gowanus Canal, Brooklyn, New York. Turn to page 392 to read about their approach. Image created by dlandstudio, LLC.

*Ecological Restoration* (ISSN 1522-4740, E-ISSN 1543-4079) is published quarterly by the University of Wisconsin Press, 1930 Monroe Street, 3rd Floor, Madison, WI 53711-2059. Periodicals postage paid at Madison WI and at additional mailing offices.

**Subscriptions:** Individual (please pre-pay), \$65 print and electronic, \$55 electronic only; \$42 students; \$150 businesses and nongovernmental organizations; libraries and government agencies, \$245 print and electronic, \$216 electronic only. Non-U.S. subscribers please add \$35 for foreign shipping. All correspondence regarding subscriptions, advertising, and related matters should be sent to Journals Division, 1930 Monroe Street, 3rd Floor, Madison, WI 53711-2059, USA; [www.wisc.edu/wisconsinpress/journals](http://www.wisc.edu/wisconsinpress/journals). Members of the Society for Ecological Restoration International receive *Ecological Restoration* at a discounted rate. Please visit our Web site at [www.wisc.edu/wisconsinpress/journals](http://www.wisc.edu/wisconsinpress/journals) for more information.

**POSTMASTER:** Send address changes to *Ecological Restoration*, 1930 Monroe Street, 3rd Floor, Madison, WI 53711-2059.

### Submissions

We welcome submissions to *Ecological Restoration* from any part of the world. Submissions should relate to the restoration of plants, animals, ecological communities, or landscapes. We understand ecological restoration to be a multidisciplinary and diverse effort and welcome manuscripts considering ecological, and social aspects of restoration, as well as political, economic, legal, and regulatory issues, and other subjects related to ecological restoration. Relevant topics also include techniques and tools for planning, site preparation, species introduction, undesired species control, and monitoring. Manuscripts dealing with plant or animal community composition or general ecology must relate the work explicitly to ecological restoration practice and theory. Similarly, material dealing with reclamation or rehabilitation in a broader sense, or with restoration for economic purposes—economic forestry, range management, waste disposal—must be connected to ecological restoration.

Material may be submitted for the following categories (listed as they are encountered in the journal):

- Letters to the Editor
- Observations/Editorials/Commentary/Policy Reports
- Restoration Notes (shorter items describing project updates, new collaborations, events, innovative technologies, preliminary or unusual findings, thought-provoking concepts, imaginative solutions, etc.)
- Full-length feature articles on ecological restoration theory, practice, and research (case studies, research reports, photo essays, experiments, etc.)
- Book, journal, web, or movie reviews

Authors of full-length articles or reviews should submit their material online at <http://er.msubmit.net>. Manuscripts must be submitted with a cover letter stating that the material has not been previously published, and has not been submitted elsewhere and will not be until a final decision has been reached by the editor. Questions about the online submission site, or general inquiries may be emailed to [ERjournal@aesop.rutgers.edu](mailto:ERjournal@aesop.rutgers.edu).

### Review and Editing Process

Manuscripts are reviewed externally by experts in the field. The process requires approximately four to six months. Restoration Notes are reviewed and edited in-house unless additional expertise is required to evaluate the submission.

### Style

Practitioners of ecological restoration are both a core audience and source of contributions to *ER*. Contributors should use a straightforward style free of unnecessary technical terms and jargon. We prefer the active voice (for example, “We measured three trees” instead of “Three trees were measured”). Please see our Submission Guidelines at <http://er.uwpress.org> for more information.

### Tables, Photos, and Illustrations

Table and Figure captions should include useful and detailed information, and should be independent of the text. Figures will be reproduced in black and white in the print version of *Ecological Restoration* (usually requiring higher contrast) and can be reproduced in color in the online version. We use color photos on the front and back covers of the journal and welcome submissions of eye-catching, informative, high-quality photographs.

### Page Charges

Payment of \$50 per page is requested from authors with research grant or other institutional funds available to underwrite publication costs. Invoices will be sent after composition of pages. Authors with no grant or institutional funds do not need to pay publication costs. Ability to pay page charges is not a condition for acceptance of a manuscript.