

INVASIVE PLANT SCIENCE AND MANAGEMENT



Invasive Plant Science and Management

Published quarterly by the Weed Science Society of America

Antonio DiTommaso, *Editor*

The Weed Science Society of America (WSSA) publishes original research and scholarship in the form of peer-reviewed articles in three international journals. *Weed Science* is focused on understanding “why” phenomena occur in agricultural crops. As such, it focuses on fundamental research directly related to all aspects of weed science in agricultural systems. *Weed Technology* focuses on understanding “how” weeds are managed. As such, it is focused on more applied aspects concerning the management of weeds in agricultural systems. *Invasive Plant Science and Management* is a broad-based journal that focuses not only on fundamental and applied research on invasive plant biology, ecology, management, and restoration of invaded non-crop areas, but also on the many other aspects relevant to invasive species, including educational activities, policy issues, and case study reports.

Associate Editors (Assignment Year)

Edith B. Allen, Botany & Plant Sciences Department, University of California, Riverside, CA 92521 (2008)
Jacob N. Barney, Department of Plant Pathology, Physiology, & Weed Science, Virginia Tech, Blacksburg, VA 24061 (2012)
John Cardina, Department of Horticulture & Crop Science, Ohio State University, Wooster, OH 44691 (2008)
Stephen F. Enloe, Center for Aquatic and Invasive Plants, University of Florida, Gainesville, FL 32653 (2010)
Songlin Fei, Department of Forestry and Natural Resources, Purdue University, West Lafayette, IN 47907 (2015)
Guillaume Fried, Plant Health Laboratory, Anses, 34988 Montferrier-sur-Lez, France (2017)
Catherine S. Jarnevich, US Geological Survey, Fort Collins, CO 80526 (2015)
Marie Jasieniuk, University of California, Davis CA 95616 (2017)
Darren J. Kriticos, CSIRO, Canberra, ACT 2601, Australia (2010)
James K. Leary, Department of Natural Resources and Environmental Management, University of Hawaii at Manoa, Honolulu, HI 96822 (2014)
Kelly G. Lyons, Department of Biology, Trinity University, San Antonio, TX 78212 (2008)
Jane M. Mangold, Department of Land Resources and Environmental Sciences, Montana State University, Bozeman, MT 59717 (2014)
John A. Randall, The Nature Conservancy, University of California, Davis, CA 95616 (2008)
Rob J. Richardson, Department of Crop Science, North Carolina State University, Raleigh, NC 27695 (2014)
Steve S. Seefeldt, NWREC, Washington State University, Mount Vernon, WA 98273 (2014)
Ryan M. Wersal, Minnesota State University, Mankato, Mankato, MN 56001 (2014)

Tracy Candelaria, *Managing Editor*

Officers of the Weed Science Society of America

<http://wssa.net/society/bod/>

Invasive Plant Science and Management (ISSN 1939-7291) is an official publication of the Weed Science Society of America, 12011 Tejon Street, Suite 700, Westminster, CO 80234 (720-977-7940). It is published quarterly, one volume per year, four issues per year beginning in March.

Membership includes receipt of *Weed Science*, *Weed Technology*, *Invasive Plant Science and Management*, and the online *WSSA Newsletter*. Dues should be sent to WSSA, 12011 Tejon Street, Suite 700, Westminster, CO 80234 no later than December 1 of each year. Membership in the society is on a calendar-year basis only.

New subscriptions and renewals begin with the first issue of the current volume. Please visit the *Invasive Plant Science and Management* subscription page at <https://www.cambridge.org/core/journals/invasive-plant-science-and-management/subscribe>; Email: subscriptions_newyork@cambridge.org in USA, journals@cambridge.org outside USA.

Invasive Plant Science and Management publishes four times a year in March, June, September, and December. Annual institutional electronic subscription rates: US \$412.00; UK £287.00.

Please use Editorial Manager to access manuscript submissions (<http://www.editorialmanager.com/ipsm>). Authors are asked to pay \$65 per page as a portion of the cost of publication, plus an additional processing charge of \$55 per manuscript if none of the authors are WSSA members. The Editor can make exceptions in advance when justified.

The Weed Science Society of America fully subscribes to the belief that progress in science depends upon the sharing of ideas, information, and materials among qualified investigators. Authors of papers published in *Invasive Plant Science and Management* are therefore encouraged, whenever practicable and when state and federal laws permit, to share genotypically unique, propagative materials they might possess with other workers in the area who request such materials for the purpose of scientific research.

Invasive Plant Science and Management published by the Weed Science Society of America.

Copyright 2019 by the Weed Science Society of America. Printed in USA.

All rights reserved. Reproduction in part or whole prohibited.

Cover Photo: Invasive shrubs can form a dense understory in eastern deciduous forests of North America (center). We find that seven years of invasive shrub removal promotes plant diversity and facilitates passive natural regeneration of native canopy tree seedlings, understory woody species, and woodland herbaceous species which includes (top left to right) Indianpipe (*Monotropa uniflora* L.), mayapple (*Podophyllum peltatum* L.), hepatica (*Hepatica nobilis* Schreb.), (bottom left to right) spotted geranium (*Geranium maculatum* L.), waxflower shinleaf (*Pyrola elliptica* Nutt.), and mapleleaf viburnum (*Viburnum acerifolium* L.). Photo credit: Erynn Maynard-Bean.



Volume 12 Number 1 March 2019

INVASIVE PLANT SCIENCE AND MANAGEMENT

Table of Contents

Editorial

Editorial for Invasive Plant Science and Management, Volume 12. Antonio DiTommaso	1
--	---

Research Articles

Invasive Shrub Removal Benefits Native Plants in an Eastern Deciduous Forest of North America. Erynn Maynard-Bean and Margot Kaye	3
White-tailed Deer Browse Preference for an Invasive Shrub, Amur Honeysuckle (<i>Lonicera maackii</i>), Depends on Woody Species Composition. Gabrielle A. Wright, Ieva Juska and David L. Gorchov	11
Legacy effects of invasive grass impact soil microbes and native shrub growth. Brooke Pickett, Irina C. Irvine, Eric Bullock, Keshav Arogyaswamy and Emma Aronson	22
Satellite patches, patch expansion, and doubling time as decision metrics for invasion control: <i>Pennisetum ciliare</i> expansion in southwestern Arizona. Jaron D. Weston, Mitchel P. McClaran, Richard K. Whittle, Christian W. Black and Jeffrey S. Fehmi	36
Control of Volunteer Giant Reed (<i>Arundo donax</i>). Carolina San Martín, Jennifer A. Gourlie and Judit Barroso	43
Control of skunk-vine (<i>Paederia foetida</i> L.) with preemergence and postemergence herbicides in central Florida during the winter season. S. Christopher Marble and Annette Chandler	51
Effect of indaziflam on native species in natural areas and rangeland. Shannon L. Clark, Derek J. Sebastian, Scott J. Nissen and James R. Sebastian	60

Case Study

Management of the Invasive Shrub Amur Honeysuckle (<i>Lonicera maackii</i>) for the Endangered Perennial Wild Dill (<i>Perideridia americana</i>). Robert E. Loeb, Will Peters and Steve Ward	68
---	----

Note

Building Partnerships and Bridging Science and Policy to Address the Biological Invasions Crisis. Jacob N. Barney, Todd Schenk, David C. Haak, Scott Salom, Bryan Brown and Erin R. Hotchkiss	74
---	----