

## Table of Contents

### A SECTION

#### READERS' FORUM

- 5A **Consider impact of resource *use* and *timing* on sustainability**  
Peter E. Black

#### EDITOR'S DESK

- 6A **Perpetually "giving life" to conservation**  
Mark Anderson-Wilk

#### VIEWPOINT

- 7A **Grain scarcity: A new era for conservation policies and programs**  
Ted L. Napier

- 11A **Emerging global trends provide new opportunities in soil and water conservation**  
Julian Dumanski

#### IDEAS & INNOVATIONS

- 15A **Innovative operational seasonal water supply forecasting technologies**  
Tom R. Perkins, Thomas C. Pagano, and David C. Garen

- 18A **Publications for evaluations: The impact of soil science and soil scientists**  
Alfred E. Hartemink

#### FEATURES

- 20A **Ten tenets of sustainable soil management**  
Rattan Lal

- 22A **Cash or credit? Tax credits and conservation outcomes**  
Cynthia Nickerson, Roger Claassen, Ron Durst, LeRoy Hansen, and Daniel Hellerstein

- 27A **What is the carbon market: Is there a final answer?**  
Jeffery R. Williams, Siân Mooney, and Jeffrey M. Peterson

- 36A **Counting carbon on the farm: Reaping the benefits of carbon offset programs**  
Keith Paustian, John Brenner, Mark Easter, Kendrick Killian, Stephen Ogle, Carolyn Olson, Jill Schuler, Roel Vining, and Steve Williams

- 41A **Coasts under stress: The impact of social and environmental restructuring on human and ecological health in Canada**  
Rosemary E. Ommer

- 44A **Managing soils in Sub-Saharan Africa: Challenges and opportunities for soil and water conservation**  
Moses Makooma Tenywa and Mateete Bekunda



Canada's coasts have experienced significant social and environmental changes, including rising unemployment and increasingly stressed fisheries.



**On the Cover**

Water is the source of most of the mink's food supply. Photo by Stan Buman, Fenceline Photos.



Printed on 100% post-consumer waste recycled paper with vegetable-based inks.

**RESEARCH SECTION**

- 1** **Agriculture and water quality trading: Exploring the possibilities**  
M.O. Ribaldo and C.J. Nickerson
- 7** **An economic analysis of the Waffle**  
E.A. DeVuyst, D.A. Bangsund, and F.L. Leistritz
- 17** **Soil and Water Assessment Tool evaluation of soil and land use geographic information system data sets on simulated stream flow**  
G.C. Heathman, M. Larose, and J.C. Ascough II
- 33** **Livestock exclusion influences on riparian vegetation, channel morphology, and benthic macroinvertebrate assemblages**  
S.C. Ranganath, W.C. Hession, and T.M. Wynn
- 43** **Comparison of runoff, soil erosion, and winter wheat yields from no-till and inversion tillage production systems in northeastern Oregon**  
J.D. Williams, H.T. Gollany, M.C. Siemens, S.B. Wuest, and D.S. Long
- 53** **Comparison of conventional and no-tillage corn and soybean production on runoff and erosion in the southeastern US Piedmont**  
C.W. Raczkowski, M.R. Reyes, G.B. Reddy, W.J. Busscher, and P.J. Bauer
- 61** **Reduced tillage systems as economical dust mitigation strategies**  
A.M. Kennedy and P.N. Wilson
- 70** **Effects of topsoil depth and soil amendments on corn yield and properties of two Alfisols in central Ohio**  
S. Jagadamma, R. Lal, and B.K. Rimal
- 81** **Performance of compost filter socks and conventional sediment control barriers used for perimeter control on construction sites**  
L.B. Faucette, J. Governo, R. Tyler, G. Gigley, C.F. Jordan, and B.G. Lockaby

JOURNAL OF SOIL AND WATER  
**CONSERVATION**  

---

  
o n l i n e

**ANNOUNCEMENT**

The *Journal of Soil and Water Conservation* has launched online.

**AUTHORS**

Please submit manuscripts using the new online manuscript review system.

**MORE INFORMATION**

Go to [www.jswconline.org](http://www.jswconline.org)

**EDITOR & DIRECTOR OF PUBLICATIONS**

Mark Anderson-Wilk  
Soil and Water Conservation Society  
Ankeny, Iowa, USA

**RESEARCH EDITOR & CHAIR OF EDITORIAL BOARD**

Jorge A. Delgado  
Soil Plant Nutrient Research Unit  
USDA Agricultural Research Service  
Fort Collins, Colorado, USA

**EDITORIAL ASSISTANT**

Jacqueline Pohl  
Soil and Water Conservation Society  
Ankeny, Iowa, USA

**EDITORIAL BOARD**

Mahdi M. Al-Kaisi  
Department of Agronomy  
Iowa State University  
Ames, Iowa, USA

Francisco Arriaga  
National Soil Dynamics Laboratory  
USDA Agricultural Research Service  
Auburn, Alabama, USA

Lynn Betts  
USDA Natural Resources Conservation Service  
Des Moines, Iowa, USA

Warren J. Busscher  
Coastal Plains Soil, Water, and Plant Research Center  
USDA Agricultural Research Service  
Florence, South Carolina, USA

Grant E. Cardon  
Extension  
Utah State University  
Logan, Utah, USA

Adrian Chappell  
Digital Soil Mapping Team  
Commonwealth Science & Industry Research Organisation  
Canberra, Australia

Zhibao Dong  
Key Laboratory of Desert and Desertification  
Chinese Academy of Sciences  
Lanzhou, Gansu Province, China

Moustafa A. Elrashidi  
National Soil Survey Center  
USDA Natural Resources Conservation Service  
Lincoln, Nebraska, USA

David T. Favis-Mortlock  
School of Geography  
Queen's University Belfast  
Belfast, Northern Ireland, UK

LeRoy Hansen  
USDA Economic Research Service  
Washington, DC, USA

Roberto César Izaurralde  
Joint Global Change Research Institute  
University of Maryland  
College Park, Maryland, USA

Victor G. Jetten  
Department of Earth Systems Analysis, International Institute  
for Geo-Information Science & Earth Observation  
Enschede, the Netherlands

Peter J.A. Kleinman  
Pasture Systems & Watershed Management Research Unit  
USDA Agricultural Research Service  
University Park, Pennsylvania, USA

Kokoasse Kpombekou-A  
Department of Agricultural and Environmental Sciences  
Tuskegee University  
Tuskegee, Alabama, USA

Raúl S. Lavado  
College of Agronomy  
University of Buenos Aires  
Buenos Aires, Argentina

Birl Lowery  
Department of Soil Science  
University of Wisconsin-Madison  
Madison, Wisconsin, USA

Loretta M. Lynch  
Department of Agricultural and Resource Economics  
University of Maryland  
College Park, Maryland, USA

Maurice J. Mausbach  
Soil Survey and Resource Assessment  
USDA Natural Resources Conservation Service  
Fort Collins, Colorado, USA

Laura M.J. McCann  
Department of Agricultural Economics  
University of Missouri  
Columbia, Missouri, USA

Guy R. Mehuys  
Department of Natural Resource Sciences  
McGill University  
Ste-Anne-de-Bellevue, Quebec, Canada

Machito Mihara  
Faculty of Regional Environmental Science  
Tokyo University of Agriculture  
Tokyo, Japan

Kenneth N. Potter  
Grassland Soil and Water Research Laboratory  
USDA Agricultural Research Service  
Temple, Texas, USA

Peter Strauss  
Institute for Land and Water Management Research  
Federal Agency for Water Management  
Pöchlarn, Austria

Mary E. Stromberger  
Department of Soil and Crop Sciences  
Colorado State University  
Fort Collins, Colorado, USA

R. Scott Van Pelt  
Wind Erosion and Water Conservation Research Unit  
USDA Agricultural Research Service  
Big Spring, Texas, USA

John D. Williams  
Columbia Plateau Conservation Research Center  
USDA Agricultural Research Service  
Pendleton, Oregon, USA

Wanhong Yang  
Department of Geography  
University of Guelph  
Guelph, Ontario, Canada

**BOARD OF DIRECTORS**

Peggie James, President & West North Central Director  
Mary Miller, Vice President & Northern Plains Director  
Jean Steiner, Secretary & At Large Director  
Ira Linville, Treasurer & South Central Director  
William W. Boyer, Northeastern Director  
Theo Dillaha, Southeastern Director  
Clark Gantzer, At Large Director  
Melinda L. McClanahan, At Large Director  
Colby Moorberg, Student Director  
Marsha L. Paley, Canada Director  
Jerry Pearce, Southwestern Director  
Gary Steinhart, East North Central Director  
Don Wysocki, Western Director

The *Journal of Soil and Water Conservation* (print ISSN 0022-4561, online ISSN 1941-3300) is published bimonthly by the Soil and Water Conservation Society. © 2008 by the Soil and Water Conservation Society. All rights reserved.

For subscriptions or membership, please visit [www.swcs.org](http://www.swcs.org) or call 800-THE-SOIL. POSTMASTER: Send address changes to *Journal of Soil and Water Conservation*, 945 SW Ankeny Road, Ankeny, IA 50023 USA. Periodicals postage paid at Ankeny, IA, and additional mailing offices.

Submit comments, contributions, advertising queries, and requests for reprints and permissions to the editor at [pubs@swcs.org](mailto:pubs@swcs.org). Articles in the Research Section have undergone peer review. The Soil and Water Conservation Society assumes no responsibility for statements and opinions expressed by contributors.

**Soil and Water  
Conservation Society  
Corporate Membership**

**GOLD CORPORATE MEMBER**

Agri Drain Corporation  
[www.agridrain.com](http://www.agridrain.com)

**SILVER CORPORATE MEMBERS**

Agren Inc.  
[www.agren-inc.com](http://www.agren-inc.com)

BSA Life Structures Inc.  
[www.bsalifestructures.com](http://www.bsalifestructures.com)

Erosion Tech LLC  
[www.scourstop.com](http://www.scourstop.com)

Mace USA LLC  
[www.maceusa.com](http://www.maceusa.com)

Validus Services LLC  
[www.validusservices.com](http://www.validusservices.com)

**BRONZE CORPORATE MEMBERS**

Ag Business Consultants  
[www.van8.com](http://www.van8.com)

**Agricultural Engineering Services PLLC**

Agrowknowledge  
[www.agrowknow.org](http://www.agrowknow.org)

Alliant Energy Corporation  
[www.alliantenergy.com](http://www.alliantenergy.com)

EnSave Inc.  
[www.ensave.com](http://www.ensave.com)

Iowa Farm Bureau Federation  
[www.iowafarmbureau.com](http://www.iowafarmbureau.com)

The Nature Conservancy  
[www.nature.org](http://www.nature.org)

RPM Ecosystems LLC  
[www.rpmecosystems.com](http://www.rpmecosystems.com)

Stock Seed Farms  
[www.stockseed.com](http://www.stockseed.com)

Truax Company Inc.  
[www.truaxcomp.com](http://www.truaxcomp.com)

White River Irrigation District  
[www.whiteriverirrigation.com](http://www.whiteriverirrigation.com)

For information on becoming a corporate member, please contact  
**Sue Ann Lynes**  
515-289-2331 ext. 112  
[sueann.lynes@swcs.org](mailto:sueann.lynes@swcs.org)