

CONTENTS**Features**

126

Viewpoint: Securing the fate of Landsat

George E. Brown Jr., looks at the value and future of Landsat remote sensing satellites

127

Farmer to Farmer

Kamyar Enshayan, Deb Stinner, and Ben Stinner tell how a mentoring program in Ohio is passing along farmers' accumulated knowledge to other farmers, university personnel, and others

131

PEP\$: A dollar-and-cent approach to conservation tillage

Peter R. Hill and James E. Lake look at the early results from this unique Indiana program that proves farm profits and conservation tillage are not mutually exclusive

134

Enhancing CRP values

Ted Hawn and Mike Getman share CRP success stories of soil erosion control and improved wildlife habitat in Montana

136

Local resource planning for water quality improvement

Dale A. Boyd tells how residents in Mason County, Illinois, have found that they can deal effectively with agricultural-related threats to drinking water

139

Tiered pricing motivates Californians to conserve water

Dennis Wichelns and David Cone report on efforts by a San Joaquin Valley water district to conserve water use and reduce drain water flows to downstream users

145

Resource-conserving crop rotations and the 1990 farm bill

Jeffrey R. Williams and Penelope L. Diebel analyze three programs offered under the 1990 farm bill that could reduce the negative impacts of farming practices on the environment

Commentary

152

The role and capacity of conservation districts in resource management

Pete Nowak says conservation districts must address the fundamental questions of who they are and what they are capable of working toward

156

Achieving soil sustainability

Joe A. Friend sets down the case for the belief that a majority of the world's soils are nonrenewable resources on the scale of a human lifetime

Personal enrichment

158

Fostering credibility to build public support

Jim Caplan outlines some guidelines to help resource managers build credibility for themselves and their programs

Research reports

179

Classifying remotely sensed data for use in an agricultural nonpoint-source pollution model

Mark E. Jakubauskas, Jerry L. Whistler, Mary E. Dillworth, and Edward A. Martinko

183

Nitrate in drinking water wells in Burlington and Mercer Counties, New Jersey

Eileen A. Murphy

187

Stale seedbed production of soybeans with a wheat cover crop

C. D. Elmore, R. A. Wesley, and L. G. Heatherly

191

Improving the cost-effectiveness of retiring erodible land from crop production

Keith Kozloff and Yingmin Wang

194

Sunflower dry matter production and plant structural relationships for wind erosion modeling

J. D. Bilbro

Departments

122

The SWCS view

124

Pen points

160

In the news

174

Professional services & classifieds

175

Upcoming

176

Books, etc.

Cover: Passing knowledge of natural resources from generation to generation has been the heart of agriculture for centuries (see page 127). Soil Conservation Service photo by Tim McCabe.

Journal of Soil and Water Conservation (ISSN 0022-4561) is published six times a year in January, March, May, July, September, and November by the Soil and Water Conservation Society, 7515 N.E. Ankeny Road, Ankeny, Iowa 50021-9764. Second class postage paid at Ankeny, Iowa, and additional mailing offices. POSTMASTER: Send address changes to *Journal of Soil and Water Conservation*, 7515 N.E. Ankeny Road, Ankeny, Iowa 50021-9764.

Copyright © 1992 by the Soil and Water Conservation Society. SWCS assumes no responsibility for statements and opinions expressed by contributors.

Address all editorial and business correspondence to SWCS, 7515 N.E. Ankeny Road, Ankeny, Iowa 50021-9764; telephone (515) 289-2331. Subscription is by membership in SWCS or by subscription. Membership dues are \$44 a year (\$50 outside the U.S. and Canada); subscriptions are \$30 a year (\$35 outside the U.S. and Canada).



The mission of the Soil and Water Conservation Society is to advocate the conservation of soil, water, and related natural resources.

As a multidisciplinary organization, SWCS synthesizes the results of research, experience, and custom in developing a knowledge base that is communicated worldwide. Through education and example, SWCS promotes a stewardship ethic that recognizes the interdependence of people and natural resources.

OFFICERS

President

Ronald J. Hicks, Sherwood Park, Alta.

Vice-president

Alice J. Jones, Lincoln, Nebr.

Secretary-Treasurer

William J. Brune, Des Moines, Iowa

Executive Vice-president

Douglas M. Kleine, Des Moines, Iowa

DIRECTORS

Calvin J. Perkins, Clifton Park, N.Y.

R. Hugh Caldwell, Lexington, S.C.

Anthony G. Burns, New Castle, Ky.

Adrian Achtermann, Silver Lake, Ohio

William J. Brune, Des Moines, Iowa

Alice J. Jones, Lincoln, Nebr.

O. R. "Reggie" Jones, Bushland, Tex.

Jan Jinings, Boise, Idaho

Ronald J. Hicks, Sherwood Park, Alta.

Tom Machacek, Brookings, S. Dak.

Richard L. Duesterhaus, Vienna, Va.

Editor

Max Schnepf

Managing Editor

James L. Sanders

Assistant Editor

Doug Snyder

Research Report Editor

James F. Power

Production Assistant

Debbie Maher

EDITORIAL BOARD

Lawrence W. Libby (chm), Gainesville, Fla.

David B. Baker, Tiffin, Ohio

Alfred Birch, Edmonton, Alberta

Blair T. Bower, Arlington, Va.

David Cressman, Kitchener, Ont.

George Foster, St. Paul, Minn.

W. L. Hargrove, Griffin, Ga.

N. W. Hudson, Silsoe, England

Dennis Keeney, Ames, Iowa

Fred B. Knight, Orono, Maine

Don K. McCool, Pullman, Wash.

Pete Nowak, Madison, Wisc.

William R. Oschwald, Champaign, Ill.

Dave Schertz, Washington, D.C.

Gerald E. Schuman, Cheyenne, Wyo.

Frederick Steiner, Tempe, Ariz.

B. A. Stewart, Bushland, Tex.

Ken Trott, Davis, Calif.

SWCS STAFF

Executive Vice-president

Douglas M. Kleine

Director of Administration

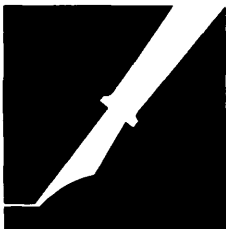
Larry D. Davis

Director of Programs

Tim Kautza

Washington, D.C. Representative

Norm Berg



PEN POINTS

Fairness in the land ethic

I read Richard Collins' commentary ["Land Use Ethics and Property Rights," *JSWC*, November-December 1991, page 417] on land use ethics with the full expectation of understanding it. But was I ever surprised. On several apparently important points I found myself asking, "What did you say?"

His treatment of ethics as though it was a concept inherently promiscuous to choices and transitory in time found me disbelieving and skeptical of his definitions. The land ethic defined by Aldo Leopold is not at all victim to the whims that confound Collins. Where man and the land are concerned, Leopold's ideas are about as fleeting as the laws of nature themselves.

And of Leopold, Mr. Collins says, "The fairness issue is one that Aldo Leopold did not address." (This is one of the places where I exclaimed, "What did you say?") Leopold paid a great deal of attention to fairness, recognizing two distinct types: fairness between reasonable people and fairness among extortionists. Mr. Collins seems to legitimize a form of extortion fairness where private property rights are concerned.

Does anyone really believe that the development value and tempting profits that attaches to open land that happens to lie in the path of progress is the direct result of the landowner's skill and sacrifice? Surely we know development value is created by society; that it is the direct result or, perhaps even more often, the by-product of public works and programs and cooperative community promotion. We know too that communities pay a high price in environmental pollution and social sacrifice when they approve and promote the gift of higher land development values.

Fairness is not violated when the community denies an owner the fabricated values he did nothing to create. Neither, however, can the community contradictorily tax the owner and still remain fair. Too often the advalorem tax system thwarts land conservation objectives and makes rascals of planners and community leaders.

Fortunately, more flexible taxing options are becoming available to landowners each passing year. With the changing property tax scene, the question Mr. Collins finds so critical, "Who pays," becomes much less so—if in fact it was ever creditable. "Who's profit is it anyhow?" might be another way to look at it. The community need not, as it always has, favor speculators with excessive land development profits simply because they were at the right place with the right title at the right time.

What Collins sees, then, as a plain issue of fairness, Leopold would see as an equally plain issue of private material greed. Ethics, we believe, is humanity's only universal weapon against greed and I believe it's a fair weapon.

Dale E. Marsh
Madison, Wisconsin

Rethinking values and practices

How fortuitous that I ran across a copy of your November-December 1991 *JSWC* accidentally left at a restaurant where I was having lunch recently. Seeing that Wendell Berry and Lester Brown were two of the featured writers increased my anticipation of what I might find within.

It is a sign of hope when professional periodicals like yours deal with such issues as aesthetics, ethics, and values in regard to land use, sustainability, the devastating plight of the family/small-scale farm, and the increasing encroachment of nonagricultural development on productive farmlands. I congratulate you for promoting a new vision of what our relationship with the Earth might be.

We are learning much in these times and realize the dramatic need to rethink prior practices that have brought us to the brink of global devastation. But I believe we need to have a fundamental change in how we view our place in the continuum of life.

For centuries, mankind has held on to the belief that the Earth and all of its gifts were for our taking, to benefit our lives. These gifts had no inherent goodness or value in themselves. Their

value was based on how mankind could benefit from their use. We raped the Earth to retrieve her wealth and poured tons of toxic garbage into her waters and air to satisfy our consumption addiction. No longer can we continue to put ourselves above and outside of other forms of life. The Earth is home to both human and nonhuman life as well as landforms, the winds, and all bodies of water and deserves our care and respect.

I thank you for printing those thought-provoking excerpts from the presentations at SWCS's 1991 annual meeting. I hope that you will continue to provide your readers with articles and interviews from a deeper ecological perspective. They can be constructive vehicles that provoke and encourage us to rethink prior values and practices based on an anthropocentric framework, one that has alienated humankind from respect for and communion with the Earth and all her lifeforms and landscapes.

Terry McCarthy
Duluth, Minnesota

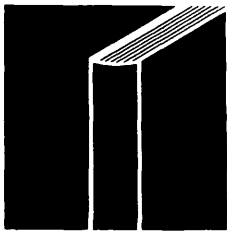
Wetlands manual revisions

Please give us a break! How stupid do you think the public is?

The clip in your "In the News" section of the January-February 1992 issue entitled "New wetlands definition alarms conservationists" closes with the claim against proposed revisions "that under the proposed definition some of the nation's well-known wet areas, such as parts of the Florida Everglades, Virginia's Great Dismal Swamp, and San Francisco Bay marshes, would not be considered wetlands." Do you really believe these swamp areas will cease to be wetlands? Of course not. It is no doubt the higher, drier fringe areas that may change. And aren't those fringe areas what this great quarrel is all about?

We would appreciate an honest reporting of the facts in a technical journal such as yours. We hear enough of that pandering sensationalism in the general media.

Donald D. Etler
Emmetsburg, Iowa



BOOKS, ETC.

Land Stewardship in the Next Era of Conservation. By V. Alaric Sample. 32 pp., bibliog., 1991. Grey Towers Press, Milford, Pennsylvania 18337. \$4.95.

This book is a brief report of a two-day conference (November 5-6, 1990) held at Grey Towers for 28 panelists on land stewardship to help celebrate the centennial of the Creative Act of 1891. The conference might be viewed as part of the continuing search for the appropriate new forestry for the future.

The president proclaims the search for a new world order. The 50 governors search for a new, more viable federalism. In every theater of world operations the search is for "the new order" appropriate to begin the new century: in Europe, behind what was the Iron Curtain, in the Middle East, in the Pacific rim, within the western hemisphere. Not only within the political sphere is the search for the new order commencing, but also within many other segments of our society: the search for a new affordable, perhaps universal medical delivery system and similar systems.

It is appropriate that in the area of forest conservation, broadly defined as the care and management of wildland resources, the search for a new order should also dominate. The search for new, more appropriate "orders" appears to be ubiquitous in our current culture. A set of acceptable guiding principles is sought, a philosophical and perhaps an ethical framework as well. The principles that emerged and served in the past 100 years may not be appropriate, that is, help us resolve resource conflicts today for the foreseeable future. Additionally, the principles of conservation in the past may not be a viable framework for the future. One must infer from this brief report that these were the assumptions that provided the matrix of the conference.

Sample reports: "The concepts of stewardship that should guide the management of our forest resources emerged as four principles: (1) management activities must be within the physical and biological capabilities of the land, based upon comprehensive, up-to-date resource information and a thorough scientific understanding of the

ecosystem's functioning and response; (2) the intent of management, as well as monitoring and reporting, should be making progress toward desired future resource conditions, not on achieving specific near-term resource output targets; (3) stewardship means passing the land and resources—including functioning forest ecosystems—intact to the next generation in better condition than they were found; and (4) land stewardship must be more than good 'scientific management'—it must be a moral imperative."

These four principles are presented in the foreword as "The Grey Towers Protocol." They are the main points of the second chapter and are repeated in the conclusion as the four key principles defining land stewardship.

A careful reading of the entire report leads this reviewer to two conclusions. First, the conference was a good, neutral beginning of a dialogue between representatives from many diverse professional positions in the area called conservation.

The second conclusion may be more relevant. The historical underpinnings of conservation from the Civil War through the immediate post-World War II period are obvious and adequately presented. But the public policy revolution that transpired from 1969 through roughly 1976 is ignored, with minor exceptions.

It might be profitable to predicate a second conference on two related positions. The Constitution of the United States gives complete and unbridled authority *solely* to the Congress to set all policy for one-third of the nation's land, that is, most of the nation's wildlands and everything on them or that uses them. Until 1970, the Congress utilized this power in the area of conservation policy with only the broadest brush, leaving the details to forestry professionals. The change that occurred, obviously not yet absorbed, during the first half decade of the 1970s was that the Congress filled in the broad outlines of its painting of conservation policy with a great more detail relative to every natural resource.

Our concentration during the past two decades as professionals within forestry (broadly defined) has been with the processes developed under this body of

congressional direction as opposed to the policy substance inherent in it. It might just be possible (perhaps even practical) to assume that the leadership function sought by all forestry (conservation) professionals exists outside the professional academy. The policy substance of the 1970's legislation might be the starting point for the "new order" sought for "land stewardship in the next era of conservation."—**RICHARD E. SHANNON**, *School of Forestry, University of Montana, Missoula.*

General

The Struggle for the Land: Indigenous Insight and Industrial Empire in the Semiarid World. Edited by Paul A. Olson. 317 pp., illus., tpls., refs., index, 1990. University of Nebraska Press, Lincoln, 68588-0520. \$35.00.

The Free Life of a Ranger: Archie Murchie in the U.S. Forest Service, 1929-1965. By R. T. King as told to him by Archie Murchie. 1991. University of Nevada, Reno, 89557. \$24.95.

Helping Nature Heal: An Introduction to Environmental Restoration. Edited by Richard Nilsen. 160 pp., illus., bibl., index, 1991. Ten Speed Press, Berkeley, California 94707. \$14.95.

Making Things Happen: How To Be An Effective Volunteer. By Joan Wolfe. 1991. Island Press, Washington, D.C. 20009. \$22.95 cloth; \$14.95 paper.

Earth Keeping: Making it a Family Habit. By Sydney L. Donahoe. 144 pp., 1990. Zondervan Publishing House, Grand Rapids, Michigan 49506.

Standing Ground: A Personal Story of Faith and Environmentalism. By John Leax. 128 pp., 1991. Zondervan Publishing House, Grand Rapids, Michigan 49506. \$7.95.

Media and the Environment. Edited by Craig L. LaMay and Everette E. Dennis. 266 pp., illus., bibliog., index, 1992. Island Press, Covelo, California 95428. \$31.95, cloth; \$17.95, paper, plus \$3.00 handling/shipping.

Earthtoons: The First Book of Eco-Humor. By Stan Eales. Illus., 1992. Warner Books Trade Paperback, New York, N.Y. 10103. \$9.99.

Environmental Protection Publications. 96 pp., 1991. Environmental

Protection Publications, Conservation and Protection, Environment Canada, Ottawa, Ontario, K1A 0H3.

The 1992 Information Please

Environmental Almanac. Edited by Allen Hammond. 606 pp., 1991. World Resources Institute, Hampden Station, Baltimore, Maryland 21211. \$9.95, paperback; \$21.95, hardcover.

Agriculture

Agricultural Research and the Rural Poor: A Review of Social Science Analysis. By Stephen Biggs and John Farrington. 139 pp., tpls., apps., bibl., 1991. International Development Research Centre, Ottawa, Ontario K1G 3H9 Canada. \$15.00 CDN.

Modeling Plant and Soil Systems. Edited by J. T. Ritchie and R. J. Hanks. 565 pp., 1991. Agronomy Monograph No. 31. American Society of Agronomy, Madison, Wisconsin 53711-1086. \$30.00.

Disaster Assistance: Problems in Administering Payments for Nonprogram Crops. 38 pp., tpls., apps., 1991. U.S. General Accounting Office, Washington, D.C. 20548.

Setting Priorities: Research, Practice, and Policy for a More Sustainable Agriculture. Leopold Center for Sustainable Agriculture 1991 Conference Proceedings. 118 pp., 1991. Leopold Center for Sustainable Agriculture, Iowa State University, Ames, 50011.

Southern Forages. By Donald M. Ball, Carl S. Hoveland, and Garry D. Lacefield. 250+ pp., illus., apps., index, 1991. Potash & Phosphate Institute, Atlanta, Georgia 30329. \$20.00 plus shipping/handling.

The Origins of Southwestern Agriculture. By R. G. Matson. 356 pp., illus., bibliog., index, 1991. University of Arizona Press, Tucson, 85719. \$55.00.

Farming in Nature's Image: An Ecological Approach to Agriculture. By Judith D. Soule and Jon K. Piper. Island Press, Covelo, California 95428. \$34.95, cloth; \$19.95, paper, plus \$3.00 handling/shipping.

Toward Sustainability: A Plan for Collaborative Research on Agriculture and Natural Resource Management. 145 pp., refs., apps.,

1991. National Academy Press, Washington, D.C. 20418.

Fish and Wildlife

Costs and Alternatives for Restoring Fisheries in the Elwha River. 19 pp., tpls., app., map, 1991. U.S. General Accounting Office, Gaithersburg, Maryland 20877.

A Practical Guide to Nutrition, Feeds, & Feeding of Catfish. By Edwin H. Robinson. 18 pp., illus., tpls., 1991. Bull. 979. Mississippi Agricultural and Forestry Experiment Station, Mississippi State, 39762.

Fisheries and Wildlife Research and Development 1989/1990. 111 pp., illus., 1991. Fish and Wildlife Service, U.S. Department of the Interior, Washington, D.C. 20240.

Public Policy Issues in Wildlife Management. Edited by William R. Mangun. 208 pp., illus., tpls., bibliog., index, 1991. Greenwood Press, Inc., Westport, Connecticut 06881. \$45.00.

Forests

Properties of Soils and Tree Wood Tissue Across a Lake States Sulfate Deposition Gradient. By Lewis F. Ohmann and David F. Grigal. 65 pp., tpls., 1991. North Central Forest Experiment Station, Forest Service, U.S. Department of Agriculture, St. Paul, Minnesota 55108.

Timber Resource of Missouri. By Jerold T. Hahn. 123 pp., tpls., 1991. North Central Forest Experiment Station, Forest Service, U.S. Department of Agriculture, St. Paul, Minnesota 55108.

Status of Wildland Fire Prevention

Evaluation in the United States. By Larry Doolittle and Linda R. Donoghue. 26 pp., illus., refs., apps., 1991. Research Paper NC-298. North Central Forest Experiment Station, U.S. Forest Service, St. Paul, Minnesota 55108.

Land Use

A Practitioner's Guide to Development Impact Fees. By James C. Nicholas, Arthur C. Nelson, and Julian C. Juergensmeyer. 294 pp., 1991. American Planning Association, Chicago, Illinois 60637. \$54.95.

Agricultural Land Evaluation and Site Assessment: Status of State and Local Programs. By Frederick Steiner, John C. Leach, Christine Shaw, James R. Pease, Adam Sussman, Robert E. Coughlin, and Joyce Ann Presley. 380 pp., illus., refs., tpls., bibliog., app., 1991. College of Architecture and Environmental Design, Arizona State University, Tempe, 85287-1905. \$15.00, plus \$3.50 postage.

Land Subsidence. Proceedings of the International Symposium, Dhanbad, India, December 11-15, 1989. Edited by B. Singh and N. C. Saxena. 687 pp., illus., tpls., 1991. A.A. Balkema Publishers, Brookfield, Vermont 05036. \$90.00.

Saving the Land That Feeds America: Conservation in the Nineties. 109 pp., 1991. American Farmland Trust, Washington, D.C.

Law, Legislation and Politics

American Indian Water Rights and the Limits of Law. By Lloyd Burton. 174

pp., notes, index, tpls., 1991.
University Press of Kansas,
Lawrence, 66045.

*Understanding Environmental
Administration and Law.* By Susan
Buck. Gloss., refs., 1992. Island
Press, Covelo, California 95428.
\$21.95, paperback; \$34.95,
hardcover; plus \$3.00
handling/shipping.

*Resource Development and Aboriginal
Land Rights.* By Richard Bartlett.
122 pp., 1991. Canadian Institute of
Resources Law, University of
Calgary, Calgary, Alberta, T2N 1N4.
\$25.00, Canada, plus 7 percent tax;
\$27.00, USA.

*Managing Interjurisdictional Waters in
Canada: A Constitutional Analysis.*
By Steven Kennett. 238 pp., 1991.
Canadian Institute of Resources Law,
Calgary, Calgary, Alberta, T2N 1N4.
\$26.00, Canada, plus 7 percent tax;
\$28.00, USA.

Reclamation

*International Institute for Land
Reclamation and Improvement/ILRI:
Annual Report 1990.* 108 pp., illus.,
refs., 1991. International Institute for
Land Reclamation and
Improvement/ILRI, 6700 AA
Wageningen, The Netherlands

*In Situ Bioreclamation: Applications
and Investigations for Hydrocarbon
and Contaminated Site Remediation.*
Edited by Robert E. Hinchee and
Robert Olfenbittel. Butterworth-
Heinemann, Stoneham,
Massachusetts 02180.

Water

*Persistent Toxic Substances: Virtually
Eliminating Inputs to The Great
Lakes.* 42 pp., tpls., apps., 1991.
International Joint Commission,
Windsor, Ontario N9A 6T3, Canada.

*Hydrological Basis of Ecologically
Sound Management of Soil and
Groundwater.* Edited by H.P.
Nachtnebel and K. Kovar. 1991. XXth
General Assembly of the
International Union of Geodesy and
Geophysics, Vienna, August 1991.
Publ. no. 202. IAHS Press, Institute
of Hydrology, Wallingford,
Oxfordshire OX10 8BB, United
Kingdom. \$55.00.

*Sediment and Stream Water in a
Changing Environment: Trends and
Explanation.* Edited by N.E. Peters
and D.E. Walling. 1991. XXth General
Assembly of the International Union of
Geodesy and Geophysics, Vienna,
August 1991. Publ. no. 203. IAHS Press,
Institute of Hydrology, Wallingford,
Oxfordshire OX10 8BB, United
Kingdom. \$55.00.

*Hydrological Interactions Between
Atmosphere, Soil and Vegetation.*

Edited by G. Kienitz, P.C.D. Milly,
M.Th. van Genuchten, D. Rosbjerg,
and W.J. Shuttleworth. 1991. XXth
General Assembly of the
International Union of Geodesy and
Geophysics, Vienna, August 1991.
Publ. no. 204. IAHS Press, Institute
of Hydrology, Wallingford,
Oxfordshire OX10 8BB, United
Kingdom. \$60.00.

Wetlands and River Corridor Management.
Edited by Jon A. Kusler and Sally
Daly. Proceedings of the International
Wetland Symposium, July 5-9, 1989,
Charleston, South Carolina. 520 pp.,
bibl., 1991. Association of Wetland
Managers, Berne, New York
12023-9746. \$28.00 nonmember, \$24
member.

*The Frail Ocean, Updated Edition: A
Blueprint for Change in the 1990s
and Beyond.* By Wesley Marx. 224
pp., illus., refs., index, 1991. The
Globe Pequot Press, Chester,
Connecticut 06412. \$14.95.

*Delineation of Wellhead Protection
Areas in Fractured Rocks.* By K. R.
Bradbury, M. A. Muldoon, A.
Zaporozec, and J. Levy. 144 pp.,
tbpls., 1991. Ground-Water Protection
Division, Office of Ground Water
and Drinking Water, U.S.
Environmental Protection Agency,
Washington, D.C. 20460.

*Nitrate Occurrence in U.S. Waters (and
Related Questions): A Reference
Summary of Published Sources from
an Agricultural Perspective.* Prepared
by John Fedkiw. USDA Working
Group on Water Quality. 35 pp.,
tbpls., 1991. U.S. Department of
Agriculture, Washington, D.C. 20250.

Drainage Design. Edited by P. Smart
and J. G. Herbertson. 299 pp., illus.,
tbpls., refs., index, 1992. Van
Nostrand Reinhold, Florence,
Kentucky 41042. \$99.95.

Death in the Marsh. By Tom Harris.
245 pp., refs., index, 1991. Island
Press, Covelo, California 95428.
\$24.95, cloth; \$14.95, paper, plus
\$3.00 shipping/handling.

*Managing Nitrogen for Groundwater
Quality and Farm Profitability.* R. F.
Follett, D. R. Keeney, and R. M.
Cruse, editors. 378 pp., apps., 1991.
American Society of Agronomy,
Madison, Wisconsin 53711-1086.
\$36.00; \$30.00, SSSA members.

*Turning the Tide: Saving the
Chesapeake Bay.* By Tom Horton and
William M. Eichbaum. 321 pp., illus.,
refs., gloss., apps., index, 1991. Island
Press, Covelo, California 95428-9901.
\$22.95, cloth; \$14.95 paper.

The Snake River: Window to the West.
By Tim Palmer. 320 pp., illus., refs.,
index, 1991. Island Press, Covelo,
California 95428-9901. \$34.95, cloth;
\$17.95, paper.