Journal of the [™] National Association of Environmental Professionals



Environmental Practice



DEPAUL UNIVERSITY

doi.org/10.1017/S1466046612000282 Published online by Cambridge University Press

ENVIRONMENTAL PRACTICE

Journal of the National Association of Environmental Professionals

Editors-in-Chief

Kelly Tzoumis, PhD (Lead) James A. Montgomery, PhD DePaul University

Managing Editor

Dan Carroll DePaul University

Editorial Office

DePaul University 2352 N. Clifton Ave. Room 130 Chicago, IL 60614 (phone) 773-325-2298 (email) dcarro17@depaul.edu

ADVISORY BOARD

Walter F. Baber, PhD California State University, Long Beach

Charles Bartsch ICF International

Kristan Cockerill, PhD Appalachian State University

Thomas R. Cuba, PhD, CEP, CLM Delta Seven, Inc.

J. Marshall Eames, PhD Loyola University

Eric G. Haenni, PhD Franciscan University of Steubenville

Peter Meyer, PhD The E.P. Systems Group, Inc.

Robert A. Michaels, PhD, CEP RAM TRAC Corporation John F. Munro, PhD Munro Policy Associates

Robert C. Paehlke, PhD Trent University

Robert L. Perry, PhD The University of Texas of the Permian Basin

Bruce Piasecki, PhD The AHC Group, Inc.

Gary S. Silverman, PhD Bowling Green State University

Zachary Smith, PhD Northern Arisona University

Dorceta Taylor, PhD University of Michigan

Environmental Practice (ISSN 1466-0466) is a quarterly journal published by Cambridge University Press for the National Association of Environmental Professionals in cooperation with the Department of Public Policy Studies, DePaul University, Chicago, IL 60614. Information for contributors appears in March issues and on the journal's Web site at www.journals.cambridge.org/jid_enp.

Environmental Practice is the successor to *The Environmental Professional*, which appeared from 1979 to 1997. *Environmental Practice* honors the fine traditions established by *The Environmental Professional* while simultaneously opening new avenues of discussion on environmental issues. For more information about the NAEP, please visit www.naep.org.

Subscription Information: *Environmental Practice* is published quarterly in March, June, September, and December. Annual subscription rates for Volume 14 (2012): Annual institutional subscription rates (print and electronic): US \$382.00 in the US, Canada, and Mexico; UK £212.00 + VAT elsewhere. Institutional electronic only: \$303.00 in the US, Canada, and Mexico; UK £162.00 + VAT elsewhere. Institutional print only: \$342.00 in the US, Canada, and Mexico; UK £190.00 + VAT elsewhere. Individuals print only: \$244.00 in the US, Canada, and Mexico; UK £128.00 + VAT elsewhere.

Publishing and Advertising Offices: Cambridge University Press, 32 Avenue of the Americas, New York, NY 10013-2473, USA; and (outside the US, Canada, and Mexico) Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 8RU, England.

Copyright @ 2012 National Association of Environmental Professionals

All rights reserved. No part of this publication may be reproduced, in any form or by any means, electronic, photocopying or otherwise, without permission in writing from the National Association of Environmental Professionals. This journal is registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. Organizations in the USA registered with CCC may copy material (beyond the limits permitted by sections 107 and 108 of US copyright law) subject to payment to CCC of the per copy fee of US \$20.00. This consent does not extend to multiple copying for promotional or commercial purposes. Code 1466-0466/11 \$20.00. ISI Tear Sheet Service, 3501 Market Street, Philadelphia, PA 19104, USA, is authorized to supply single copies of separate articles for private use only.

Printed in the United States of America.

Application to mail at periodical rate is pending in New York, NY, and additional mailing offices. Postmaster: send address changes in the USA, Canada, and Mexico to *Environmental Practice*, Subscription Department, Cambridge University Press, 100 Brook Hill Drive, West Nyack, NY 10994-2133.

Call for papers for publication in the scholarly journal:

Environmental Practice

The journal of the National Association of Environmental Professionals

CHINA'S ENVIRONMENTAL CHALLENGE vol. 15 no. 3

Over the last three decades, China's rapid economic expansion has lifted millions of people out of poverty and returned China to prominence on the international stage. At the same time, however, it has placed a tremendous strain on the natural environment. According to the World Bank, sixteen of the twenty most polluted cities in the world are in China and air pollution alone contributes to 750,000 premature deaths in China each year. China's pollution not only harms its citizens' health, but also potentially threatens future economic growth, undermines political stability, and complicates China's relations with the rest of the world.

This issue of *Environmental Practice* is dedicated to exploring the causes and consequences of China's environmental challenge. We invite manuscripts that touch on an array of themes, including but not limited to: (1) the sources of China's environmental degradation; (2) the social, economic or political costs of China's pollution; (3) new measures and government policies aimed at the promotion of environmental protection; (4) the role of non-state actors in environmental governance (e.g. NGOs, student groups, corporations, etc); (5) the obstacles inhibiting better environmental protection; (6) China's environmental foreign relations.

We welcome a variety of perspectives and submissions from scholars, practitioners, and students.

Deadline for submittals is February 15, 2013 to dcarro17@depaul.edu

Sample issues of the journal can be found at: http://journals.cambridge.org/action/ displayJournal?jid=ENP

Guidelines for publication can be found at: http://journals.cambridge.org/action/ The editorial office of Environmental Practice is located at DePaul University.

For questions, please contact Dan Carroll, Managing Editor, at 773-325-2298, or by email at dcarro17@depaul.edu

CONTENTS

| Lloyd C. Irland | LETTER FROM THE GUEST EDITOR: Would It Be Ethical? | 169 |
|--|--|-----|
| James Montgomery | LETTER FROM THE EDITOR | 171 |
| FEATURES | | |
| David K. Essumang, Louis K. Boamponsem, Christian K. Adokoh, John K. Bentum, Christiana Owusu, Millicent E. Adu-Boakye & Joseph Afrifa | RESEARCH ARTICLES: Evaluation of the Levels of Selected Heavy Metals in Mangrove Ecosystem and Roadside Topsoil in Ghana | 173 |
| A. Brian Casas & Richard A. Burgess II | ENVIRONMENTAL REVIEWS AND CASE STUDIES: The Practical Importance of Philosophical Inquiry for Environmental Professionals: A Look at the Intrinsic/Instrumental Value Debate | 184 |
| Roy Deitchman, Celia Ann H. Pfleckl & Benjamin H. Deitchman | ENVIRONMENTAL REVIEWS AND CASE STUDIES: Environmental Ethics at Amtrak: From Compliance to Sustainability | 190 |
| Charles H. Eccleston | ENVIRONMENTAL REVIEWS AND CASE STUDIES: Matthew Simmons Scales Hubbert's Peak: Is the World Running on Empty? | 195 |
| Konrad Liegel, Sylvia Bates & Lloyd C. Irland | ENVIRONMENTAL REVIEWS AND CASE STUDIES: Conflicts of Interest: An Overview for Nonprofit Board Members | 206 |
| Carie Fox & Philip Murphy | ENVIRONMENTAL REVIEWS AND CASE STUDIES: Sometimes Less Is Better: Ethics of Public Participation | 212 |

POINTS OF VIEW

| Thomas Robert Cuba | PERSPECTIVES FROM THE FIELD: Why We Need a Codified Code of Ethics | 220 |
|-----------------------|--|-----|
| F. Byron (Ron) Nahser | PERSPECTIVES FROM THE FIELD: Ethics and Economics: A Unique Opportunity for NAEP Members | 224 |
| Michael Thompson | PERSPECTIVES FROM THE FIELD: Ethics in Environmental Consulting | 233 |

BOOK REVIEW

John H Perkins BOOK REVIEW: Special Report on Renewable Energy Sources and Climate Change 237 Mitigation

CONTRIBUTORS

239

Call for papers for publication in the scholarly journal:

Environmental Practice

The journal of the National Association of Environmental Professionals Kelly Tzoumis, Lead Editor

GREAT LAKES SUSTAINABILITY

vol. 15 no. 4

with Guest Editor Dr. Susan Hedman, Great Lakes National Program Manager, USEPA

The Great Lakes hold 95% of the United States' fresh water supply, which is one-fifth of the fresh water on the Earth. As a result, the Great Lakes have immense environmental, economic, and cultural significance, especially for the roughly 30 million people who live, work, and recreate in the Great Lakes basin. The Great Lakes ecosystem is under significant environmental stress due to potentially harmful and disruptive algal blooms, invasive animal and plant species, climate change, legacy pollutants such as PCBs and metals, and airborne contaminants such as mercury that are being added to the ecosystem every day.

To respond to the need for policy solutions to these threats, President Obama launched the Great Lakes Restoration Initiative to restore and protect the Great Lakes. At the same time, the United States and Canada entered into negotiations to update the Great Lakes Water Quality Agreement.

In light of the many difficult and complex challenges facing the Great Lakes ecosystem today, and given the current focus on its restoration and protection, this issue of *Environmental Practice* is dedicated to exploring the challenges faced in Great Lakes restoration. We welcome a variety of perspectives and submissions from scholars, practitioners, and students. Manuscripts are particularly sought with a focus on public policy.

Deadline for submittals is May 15, 2013 to dcarro17@depaul.edu

Published by Cambridge University Press Sample issues of the journal can be found at: http://journals.cambridge.org/action/ displayJournal?jid=ENP The editorial office of *Environmental Practice* is located at DePaul University's Department of Public Policy.

> For questions, please contact Dan Carroll, Managing Editor, at 773-325-2298 or by email at <u>dcarro17@depaul.edu</u> or Lead Editor Kelly Tzoumis at <u>kellytzoumis@gmail.com</u>

Guidelines for publication can be found at: http://journals.cambridge.org/action/







Mission Statement for Environmental Practice

Aims and Scope

Environmental Practice is the official journal of the National Association of Environmental Professionals (NAEP). The central purpose of *Environmental Practice* is to provide an open forum to NAEP members and other concerned individuals for the discussion and analysis of significant environmental issues. Research Articles and Environmental Reviews and Case Studies appearing in *Environmental Practice* are peer reviewed and aim for the highest standards of professional quality.

Environmental Practice is a source for continuing professional renewal and development. It aims to serve men and women at all stages of their careers, from initial training through mid- and senior-levels. Environmental work is an exciting, dynamic field, and *Environmental Practice* strives to match that pace with lively and timely commentary on the critical issues of the day. *Environmental Practice* aims to provide authoritative discussion on issues of wide interest to the international community of environmental professionals.

Professionals from many different disciplinary backgrounds, working in many different arenas, are faced with developing imaginative approaches for the practical resolution of a wide variety of environmental problems. *Environmental Practice* provides a comprehensive outlet for the publication of such interdisciplinary findings. This publication actively seeks breadth of viewpoint and method because it holds that solutions to environmental problems are often to be found in understanding the linkages among issues previously considered separate. Periodically, *Environmental Practice* will devote its pages to selected topics of special concern to a significant segment of the readership.

Priority for publication is given to articles that offer insightful views on the importance and interpretation of results from an interdisciplinary perspective. Reports of findings should go beyond a laboratory analysis, a field experiment, a philosophical discussion, or a theoretical modeling, for example, and discuss the implications of the findings for public policy or professional practice. Environmental Practice seeks especially to publish studies that link data and findings in science and technology with issues of public policy, health, environmental quality, law, political economy, management, and the appropriate standards for expertise. Many publications achieve excellence through tightly focused specialization, but in contrast Environmental Practice seeks its accomplishments through the promotion of excellent research and writing on the common interests among different kinds of specialists.

Join the Dialog

The central purpose of *Environmental Practice* is to provide a forum for the discussion and analysis of significant environmental topics. An important part of this discussion is the "Letters to the Editor" section that appears in occasional issues of *Environmental Practice*.

The editors welcome your comments and insights on articles appearing in this or other issues of the journal.