

## Energy and Ecosystems

Author: Beardsley, Timothy M.

Source: BioScience, 55(6) : 467

Published By: American Institute of Biological Sciences

URL: [https://doi.org/10.1641/0006-3568\(2005\)055\[0467:EAE\]2.0.CO;2](https://doi.org/10.1641/0006-3568(2005)055[0467:EAE]2.0.CO;2)

---

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at [www.bioone.org/terms-of-use](http://www.bioone.org/terms-of-use).

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

---

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

PUBLISHER  
Richard T. O'Grady  
EDITOR IN CHIEF  
Timothy M. Beardsley  
SENIOR EDITOR  
Donna Daniels Verdier

PRODUCTION MANAGER / ART DIRECTOR  
Herman Marshall

PUBLICATIONS ASSISTANT  
Jennifer A. Williams

**Editors:** Eye on Education: Susan Musante; Feature articles: Cathy Lundmark ([features@aibs.org](mailto:features@aibs.org)); Washington Watch: Robert E. Gropp ([publicpolicy@aibs.org](mailto:publicpolicy@aibs.org)).

**Editorial Associate:** Barbara J. Orton

**Editorial Board:** Agriculture: Sonny Ramaswamy; Animal Behavior: Janice Moore; Animal Development: Paula Mabee; Botany: Gregory J. Anderson; Cell Biology: Randy Wayne; Ecology: Scott Collins, Daniel Simberloff; Ecotoxicology: Judith S. Weis; Education: Gordon E. Uno; Environmental Policy: Gordon Brown, J. Michael Scott; Genetics and Evolution: Martin Tracey; History and Philosophy: Richard M. Burian; Invertebrate Biology: Kirk Fitzhugh; Landscape Ecology: Monica Turner; Microbiology: Edna S. Kaneshiro; Molecular Biology: David Hillis; Neurobiology: Cole Gilbert; Plant Development: Cynthia S. Jones; Policy Forum: Eric A. Fischer; Population Biology: Ben Pierce; Professional Biologist: Jean Wyld; Sensing and Computation: Geoffrey M. Henebry; Statistics: E. Barry Moser; Vertebrate Biology: Harvey B. Lillywhite.

**Editorial Correspondence:** 1444 I Street, NW, Suite 200, Washington, DC 20005; 202-628-1500; fax: 202-628-1509; e-mail: [bioscience@aibs.org](mailto:bioscience@aibs.org). Instructions for preparing a manuscript for *BioScience* can be found at [www.aibs.org/bioscience/resources/Info\\_for\\_contribs.pdf](http://www.aibs.org/bioscience/resources/Info_for_contribs.pdf).

**Advertising:** Carrie Hartin, Network Publications, Inc., Executive Plaza 1, 11350 McCormick Road, Suite 900, Hunt Valley, MD 21031; 410-584-1972; fax: 410-584-1998; e-mail: [bioscience@networkpub.com](mailto:bioscience@networkpub.com).

**BioScience** (ISSN 0006-3568) is published monthly by the American Institute of Biological Sciences. To subscribe, call 1-800-992-2427, ext. 29. Individual membership: sustaining, \$90/yr; individual, \$70/yr; family, \$90/yr (includes \$36 for *BioScience*); emeritus, \$50/yr; K-12 teacher/administrator, \$45/yr (includes \$22 for *BioScience*); graduate and postdoctoral students, \$40/yr (includes \$21 for *BioScience*); undergraduate and K-12 students, \$20/yr (includes \$15 for *BioScience*); lifetime, \$1400 (one-time fee). Institutional subscriptions: domestic, \$280/yr; foreign, \$336/yr. Single copies: \$14 plus shipping and handling for up to 20 copies; volume discounts available for more than 20 (call 1-800-992-2427, ext. 29). Subscription renewal month is shown in the four-digit year-month code in the upper right corner of the mailing label.

© 2005 American Institute of Biological Sciences. All rights reserved. Periodical postage paid at Washington, DC, and additional mailing offices.

**POSTMASTER:** Send address changes to *BioScience* Circulation, AIBS, 1313 Dolley Madison Blvd., Suite 402, McLean, VA 22101. Printed in USA. AIBS authorizes photocopying for internal or personal use, provided the appropriate fee is paid directly to the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923; phone: 978-750-8400; fax: 978-750-4744; Web site: [www.copyright.com](http://www.copyright.com).

To photocopy articles for classroom use, request authorization, subject to conditions thereof, from the Academic Permissions Service at CCC. Each copy must say "© [year] by the American Institute of Biological Sciences." Statements and opinions expressed in *BioScience* are those of the author(s) and do not necessarily reflect the official positions of the American Institute of Biological Sciences, the editors, the publisher, or the institutions with which the authors are affiliated. The editors, publisher, and AIBS disclaim any responsibility or liability for such material.

# BioScience

American Institute of Biological Sciences

## Energy and Ecosystems

The release in March of the synthesis report of the Millennium Ecosystem Assessment (MEA), an authoritative, multistakeholder scrutiny of 24 sample natural systems around the globe, may come to be seen as a turning point for common wisdom about the earth's life-support mechanisms. Most of the ecosystems evaluated are being degraded by human activity, the survey revealed, and the damage makes more likely droughts, diseases, and famines that could impoverish or kill millions. Fisheries and water supplies are already faltering. People in poor countries will, as usual, suffer most. The MEA board warned that pressure on ecosystems will grow in coming decades unless policies change.

Right on cue, the US House of Representatives passed a month later a far-ranging energy bill that would increase pressure on one pristine ecosystem by opening up the coastal plain of the Arctic National Wildlife Refuge (ANWR)—as well as other places—for oil and gas development. Politicians may have come to the tipping point in the bitter battle over drilling in the Alaskan coastal plain, a biologically unique, federally protected area and cause célèbre for more than a decade. A Senate fight is likely, but hope that the rigs can be kept out of Area 1002, the part of the coastal plain where caribou most often go to calve, seems to be fading. ANWR's abundant caribou, polar bears, grizzlies, and migratory birds may have seen their best days.

Drilling opponents point out that ANWR's fossil fuel resources will most likely provide only 1 percent of US energy needs over their expected 50-year lifetime. Yet, drilling advocates argue, preservation of fauna in unsullied landscapes and the cultural preferences of a few thousand Eskimo and Native Americans cannot compromise energy security. Refineries are running at full capacity, demand for oil and natural gas is growing rapidly, and most analysts doubt that production can long match it. Prices are soaring, and the world's automobiles can't run on caribou scat.

The fate of Area 1002, however compelling to biologists who appreciate its unique features, is a small affair on a global scale. Few human populations will be immediately affected, and some of those will be glad of the economic boost. But the coastal plain's despoliation, if that is what it comes to, will be symbolically potent. It will advertise how desperate the search for energy has become.

Politically unpopular drilling might thus boost support for energy initiatives that have been inexcusably neglected, such as the raising of vehicle efficiency standards. (Although US new vehicle fuel economy is now no higher than it was in 1980, the House-passed energy bill conspicuously avoids mandating any improvements.) The National Commission on Energy Policy, which provided consensus recommendations on energy choices recently, endorsed commonsense measures like this one—as well as more controversial ones, such as renewed development of nuclear power and a cautious approach to limiting greenhouse gas emissions.

The MEA makes clear how crucial the choices are, but it is only a beginning. Assessment of ecosystems, many now changing rapidly in a way that could threaten large fractions of the earth's population, will have to be a never-ending effort. The effort is essential if politicians are to be given reliable information they can use to argue for sound policies.

TIMOTHY M. BEARDSLEY  
*Editor in Chief*