

Ecosystem Management Initiative
School of Natural Resources & Environment
University of Michigan

A Year In Review

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The Ecosystem Management Initiative (EMI) was launched in April 2000 by the School of Natural Resources & Environment to provide leadership in reinventing natural resource management for the challenges of the 21st century.

EMI core activities include: mid-career training, pre-career fellowships, practitioner-policy maker-researcher dialogues, a case study program, outreach activities and research and evaluation at many scales.

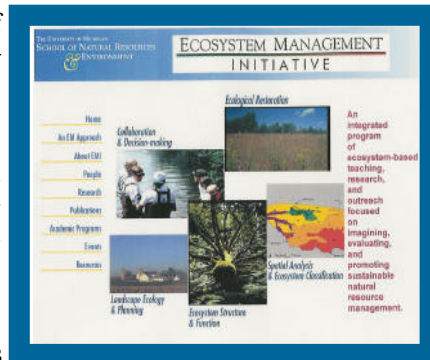


EMI — THE PLACE

The Initiative has made great strides since its inception in April 2000. A core group of faculty and students led by Dr. Steven Yaffee, EMI Program Director, has worked diligently in outlining the program objectives to build a lasting foundation of outreach, education, and research in ecosystem management.

Rooms 3503 and 3505 of the Dana Building are now staffed with a coordinator and research associates whose primary mission is to carry out the goals of the Initiative.

The new EMI website is on-line and getting attention. EMI Research Associates Liz Rettenmaier and Jen Rennicks constructed the site and will continue to enhance its capabilities. Visit www.snre.umich.edu/emi to take a virtual tour of



EMI. Currently, a viewer can find information about the Initiative's purpose, the five primary research areas, research projects, academic programs, people involved, events, publications, and related links.

There are several plans

already "on the drawing board" to add to the EMI site. A new section titled "Alumni Affiliates" will be included where viewers can find names of SNRE alumni working in the ecosystem management area. This is an exciting idea for the program that will benefit the School by promoting the success of its graduates, the graduates in marketing their organizations, and the Initiative in gaining a valuable network of professionals with whom the program can share ideas.

The EMI website will provide a direct link to the EMI Case Study Database, which is expected to be available by April 2001.

Distinguished Speaker Series 2001 Winter Term

January 18th, 7-8:30pm
Susan Crow, ESRI "Bringing GIS into Community Decision Making"

February 8th, 12-1:30pm
Tom Spies, USDA Pacific Northwest Research Station "Integrating Forest Policy and Science at Regional Scales: Examples From the Pacific Northwest."

March 9, 12-1:30pm
Carl Moore, Kent State University "Facilitating Change in the New West."

April 19, 2001, 4-5:30pm
Deborah Jensen, The Nature Conservancy "Conservation by Design: Landscape-scale Conservation in The Nature Conservancy"

DISTINGUISHED SPEAKER SERIES ATTRACTS LARGE AUDIENCES

The Fall 2000 Term Distinguished Speaker Series focused on large landscape ecosystem management projects. Five speakers provided audiences with valuable insight to real-world management issues. Dr. Katsue Fukamachi of the Kansai Research Center in Kansai, Japan spoke about landscape management in the

Tongo Peninsula. Dr. Eric Dinerstein of the World Wildlife Fund gave a global perspective of ecosystem management projects. John Rogner of Chicago Wilderness explained the management strategies of protecting over 200,000 acres in the Chicago Metropolitan Area. Dr. Barry Gold of the Grand Canyon Monitoring and Research

Center explained the management issues related to re-establishing a free-flowing Colorado River through the Grand Canyon.

Dr. Paul Ehrlich was also sponsored by the Series with his talk about "Human Natures: Genes, Ethics, and our Futures."



MID-CAREER TRAINING PILOT A SUCCESS



Public and private management institutions need a new cadre of leaders equipped with a management vision appropriate to 21st century challenges and capabilities. The Initiative has outlined three strategies to help management institutions develop these new leaders.

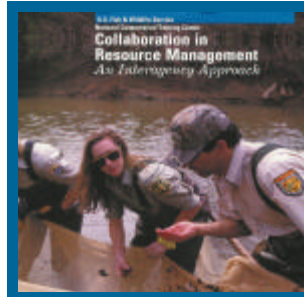
Through *mid-career training*, the Initiative provides updated knowledge about ecosystem management to a range of practitioners, students and policy-makers. *Mid-career mentoring* assists training participants in transferring skills to on-the-ground action. *Mid-career evaluation* provides better understanding of the effectiveness of training and meeting the needs of managers.

The first EMI mid-career training effort took place in November at the National Conservation Training Cen-

ter in Sheperdstown, WV. The pilot offering, backed primarily by the US Department of Interior, was a great success, led by SNRE's own Steven Yaffee, Julia Wondolleck, Todd Bryan, Sarah McKearnan, and Alex Mas. There were 32 class participants, who represented 10 agencies with a variety of backgrounds, from "bio-regional" initiatives to small, localized efforts. Future courses will be tailored to address regional issues specific to the geographic location where the course is offered.

A second mid-career training pilot will take place May 31st and June 1st in Denver, Colorado and will focus on building the capacity in non-governmental organizations to partici-

pate in collaborative ecosystem efforts.



These pilot programs provide insight for EMI's objective in designing a SNRE midcareer training program that would promote the School's studies and research in ecosystem management. Jon Kazmierski, an EMI research associate, has

been surveying the SNRE faculty to determine if they would support a mid-career program. Most faculty interviewed to date have expressed interest in participating in a mid-career program, though, all agreed that time constraints would be the greatest barrier. Jon is also beginning a market survey and researching other mid-career programs.

DDCF FELLOWSHIPS AWARDED IN JANUARY



The University of Michigan is one of six universities nationwide to be awarded fellowships by the Doris Duke Charitable Foundation (DDCF) environmental program.



The Duke Fellows program is aimed at developing conservation leaders who are committed to careers in the non-profit or public sectors. The program provides tuition, a stipend while participating in a relevant summer internship, and another

stipend upon completion of one year of employment in an appropriate public or non-profit organization. This year's recipients were announced on January 20th.

Dr. Steven Yaffee is the SNRE Duke Fellows Faculty Director. The EMI provides oversight of the Duke Fellows. Diana Woodworth of the SNRE Office of Academic Programs handles the application process and financial aid arrangements.

In October, the 1999 SNRE Duke Fellows traveled to Sheperdstown, WV for a retreat at the National Conservation Training Center where they met DDCF fellows from Yale and Duke. The group spent the weekend engaging in a stimulating exchange of ideas, while establishing camaraderie and building friendships.

The SNRE Duke Fellows were honored at a luncheon held in February, and will be participating in a dinner reception with the EMI Advisory Board in late April.

RESEARCH UNITING DISCIPLINES



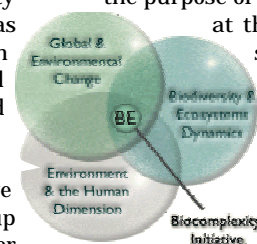
The EMI mission is to provide leadership in ecosystem management. One vehicle for executing that mission is to build partnerships across traditional disciplines or concentrations.

Dan Brown, David Allan, Joan Nasauer, Steven Yaffee, and Tom Crow, EMI Steering Committee members, received funding from the National Sci-

ence Foundation for a Biocomplexity incubation grant. The EMI team has focused on the interaction between social and physical processes and their effect on land-use and land cover.

Bobbi Lowe and Carl Simon have joined the team to write a follow-up proposal to NSF in March 2001 for

the purpose of designing a model to look at the effects of human decision-making on land-use and land cover change, and ultimately the effects on the ecosystem.



CASE STUDY DEVELOPMENTS

EMI's Case Study program builds on more than ten years of research by faculty and graduate researchers to learn lessons from ongoing examples of ecosystem management and collaborative resource management. This work has contributed to a national awareness of these innovative models of natural resource management, and the recent publication by Drs. Yaffee and Wondolleck of the book, [Making Collaboration Work](#).



As this Case Study program and the projects it has examined have matured, new questions have emerged about the nature of successful collaborations. Of particular interest are the role of organizational structures, the integration of science and adaptive management, and the incorporation of the public into these processes. To inform the inter-agency training program on "Collaborative Resource Management," these areas of interest are being explored in three new and updated case studies of inter-agency collaboration.

The first case examines the Glen Canyon Dam Adaptive Management Program, a substantial effort to pull together a wide array of federal, tribal, state and non-governmental entities to manage the downstream impacts of the Glen Canyon Dam and to restore the Colorado River as it passes through Grand Canyon National Park.

The second case focuses on the Anacostia Watershed Restoration Committee, a highly successful collaboration between three counties, three federal agencies, and the District of Columbia to coordinate and implement restoration projects throughout a highly urbanized watershed.

The final case study looks at the Elkhorn Mountains Cooperative Management Agreement, which brings together two National Forest districts, the Bureau of Land Management and the Montana Department of Fish, Wildlife and Parks to manage the natural and recreational resources of a mountain range as an ecosystem.

CASE DATABASE

Bill Mangle and Megan Kram, EMI research assistants, have catalogued and entered hundreds of Ecosystem Management cases into an interactive database that is soon to be on-line. With support from the SNRE Information Technology Office, an electronic case study database has been created. Case information will also be printed in user-friendly "pdf" and paper formats.

The database includes many different types of information about each of the different cases including, geographic information, people involved, types of collaboration, decisions made, and many other fields by which to search the list of cases.



EMI SUPPORTS MASTERS PROJECTS

EMI realizes that many people are experimenting with ecosystem-based approaches to resource management and some are reporting success. The Initiative strives to assess and learn from these experiences through research and evaluation of existing projects. EMI currently supports three masters projects that contribute to its ecosystem management research objectives.

The *Transboundary Ecosystem Management Project* is examining existing resource management efforts in the Flathead River basin, a critical ecosystem that links the Canadian Northern Rocky Mountains to the US Yellowstone National Park. The area is facing intense development pressures and the need for effective ecosystem management in this transboundary landscape is becoming increasingly appar-

ent. The group examined eight cases of transboundary management across the US-Canada and US-Mexico borders to draw out lessons appropriate for the Flathead.

A second masters project titled *Recent Trends in Ecosystem Management* builds on a 1995 study of 105 ecosystem (EM) projects, the results of which were published in *Ecosystem Management in the United States* (Island Press, 1996). The masters students tracked and evaluated the ecological and institutional developments that the EM projects experienced between 1995 and 2000. The study provides a characterization of 84 EM projects surveyed; the outcomes that the EM projects have realized through their program implementation; advice from project managers; and recommendations offered by the research team to policy makers and resource managers involved in EM efforts.

Ecosystem management requires that communities sustain landscape structure for ecological benefits. Landscape ecology analyzes conventional landscape patterns and proposes new patterns that could have greater ecological benefits.

EMI sponsors a third masters project called *Revisiting Riverside: A Frederick Law Olmstead Community* that takes an in-depth look at the ecological design of Riverside Illinois, which was designated a National Historic District in 1970, in recognition of its historic landscape architecture as designed by Frederick Law Olmstead. The project is evaluating the importance and success of Riverside's design elements and apply the principles to a blighted or new community.



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Government Official Praises Initiative

Jim Lyons, US Under Secretary of Agriculture of the Clinton administration, helped kick-off the Ecosystem Management Initiative with a public talk on April 5, 2000. Lyons presented a talk on the conservation achievements of the 1990s and the future of conservation in the 21st Century.

Lyons led major reforms in the leadership, direction, and management of the US Forest Service and Natural Resource Conservation Service, including major efforts to protect national forest roadless areas, and update the forest planning process. He was also central to the development of the Northwest Forest Plan, which ended the gridlock surrounding the spotted owl crisis.

"This initiative will help policy makers and conservation leaders develop the skills, ideas, and information needed to face the mounting conservation challenges of the 21st Century," Lyons said about the new Ecosystem Management Initiative.

EMI STEERING COMMITTEE

Many SNRE faculty have been instrumental in creating EMI and shaping its ambitious agenda.

Steven Yaffee, Ph.D. EMI Program Director. Professor, Natural Resource Policy, Planning and Management.

David Allan, Ph.D. Professor, Stream Ecology and Conservation Biology and Ecosystem Management.

Burt Barnes, Ph.D. Professor, Forest Ecology and Landscape Ecosystem Classification.

Steve Brechin, Ph.D. Associate Professor, International Environmental Issues.

Dan Brown, Ph.D. Associate Professor, Spatial Analysis and Geographic Information Systems.

Jim Diana, Ph.D. Associate Dean and Professor, Aquatic Ecosystems and Fisheries.

Donna Erickson, Ph.D. Associate Professor, Landscape Architecture, Planning and Design.

Robert Grese, Ph.D. Associate Professor Landscape Architecture and Ecosystem Restoration.

Joan Nassauer, Ph.D. Professor, Landscape Ecology, Planning and Design.

Julia Wondolleck, Ph.D. Associate Professor, Collaborative Resource Management

Don Zak, Ph.D. Professor of Natural Resources, Terrestrial Ecosystems.

NEW RESEARCH UNDERWAY

Federal McIntire-Stennis forestry research funds seeded six new projects, all with a connection to core themes of ecosystem management, many involving interdisciplinary research approaches. Three of the McIntire-Stennis projects are summarized briefly below.

Does Biological Diversity Control Ecosystem Function? explores the connection between species loss and terrestrial ecosystem function. *Assessing On-The-Ground Progress of Ecosystem Management Projects* develops and tests an approach to evaluating project success using multi-disciplinary teams focused on partner sites. *Integrated Geocosystem Remote Sensing Approach to Ecosystem Management of Aspen-Dominated Forests in Northern Lower Michigan* demonstrates the effectiveness of integrating remote sensing with landscape ecosystem classification to assist with forest management.

EMI STAFF

The EMI is proud to have many talented individuals working toward its mission of leadership in ecosystem management.

Steven Yaffee, Ph.D., Program Director
Marcia Lochmann, Program Coordinator
Todd Bryan
Jesse Buff
Althea Dotzour
Jon Kazmierski

Megan Kram
Bill Mangle
Alex Mas
Elizabeth Mills
David Phemister
Elizabeth McCance

Sarah McKearnan
Naureen Rana
Jennifer Rennicks
Liz Rettenmaier
Chris Riggs



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