

EMI Update

May 2002

Issue 2



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A New Look

Since our inception in 2000, EMI's mission has not changed—promoting sustainable natural resource management through ecosystem-based teaching, research and outreach. However, we do have a “new look.” Our logo was designed in September and will begin appearing on letterhead, the website and our new brochure.

EMI has taken on this ‘new look’ in other ways, as well. With a fresh team of SNRE graduate students, the EMI agenda continues to progress, particularly in evaluating the success of on-the-ground ecosystem management efforts through case study research, both nationally and internationally and undertaking research on the scientific underpinnings of an ecosystem approach. We have also been pressing forward with innovations in our pre-career and mid-career education efforts, and in a variety of outreach activities. The School of Natural Resources & Environment is



also taking on a ‘new look.’ Dr. Rosina Bierbaum, formerly the Associate Director for Environment of the White House Office of Science and Technology Policy, began her journey as the new dean of SNRE October 1st. At the same time, the “Greening of Dana” continues a \$25 million dollar renovation that will result in a building that makes a statement - a building where environmental principles are not only taught, but upheld and demonstrated to the community.

Our office moved to its final space on the third floor of the Dana building in late February. We tread lightly on our natural fiber carpet and appreciate the improved and efficient heating/cooling system. For more information about the new dean or the “Greening of Dana” visit the SNRE website at www.snre.umich.edu.

Evaluating and Enhancing Outcomes

After a decade of experimentation with collaborative ecosystem initiatives, what have these processes achieved? What do their experiences tell us about how future efforts can be improved? How do we enhance the capacity of people on the ground to better achieve ecological and social outcomes, both through better management of the process of interaction as well as the manner in which science is used in decision making?

EMI has received multi-year funding from the William and Flora Hewlett Foundation to develop ways to answer these questions. One element of this work will enable us to revisit the eighty ecosystem management projects we have been tracking since 1995 to better understand their ecological and social outcomes as well as



the process improvements that allow these outcomes to occur. We also are working to develop evaluation methods that will enhance the potential for collaborations such

as watershed groups and community-based conservation groups to better articulate project goals and develop mechanisms for tracking progress toward them.

We expect to create web-based evaluation guides and tools that can be used at a variety of sites. Through partnerships with local conservation collaboratives, we expect to test out these methods to find out both what works for participants who are already busy with many other tasks and how we can enhance individual ability to carry out assessment.

Led by EMI faculty steering committee members Steve Yaffee and Julia Wondolleck, the overall goal of the effort has three parts: to enhance the capacity of project participants to adaptively manage their projects; to increase the likelihood of projects having a positive impact on the environment; and to develop better ways to evaluate at the multi-site or portfolio level.

Yaffee named Theodore Roosevelt Professor of EM

EMI Director Steve Yaffee was recently named the Theodore Roosevelt Professor of Ecosystem Management.

Yaffee, who joined the U-M faculty in 1982, has been the director of the Ecosystem Management Initiative since its inception in 2000. His research focuses on conceptualizing and applying



ecosystem management approaches to conservation, and examining ways that conflicting landowners, agencies and community groups can work together to achieve conservation.

“Yaffee will work to enhance the educational, research and outreach programs of SNRE,” said Dean Bierbaum. “He will guide

the contributions that faculty and students can make to science-based ecosystem management,” she said.

The professorship, established in 1994, was made possible by a gift from Sally and William Searle to honor the “bold, effective, and path-setting leadership offered by Roosevelt in the conservation field during his lifetime.”

Speaker Series Unites Programs

The 2001-2002 Distinguished Speaker Series continued to connect speakers from a wide spectrum of ecosystem management-related backgrounds to audience members from an array of disciplines. We were particularly pleased that more members of the community, including representatives of area non-governmental organizations and agencies, attended these presentations.

The annual series kicked off with a talk given by Michael Hirshfield of the Chesapeake Bay Foundation who discussed the challenges and opportunities in restoring the Bay. EMI partnered with the Corporate Environmental Management Program (CEMP) in late October/early November to host two speakers focused on market-based solutions to environmental problems: Terry Anderson of the Political Economy Research Center in Bozeman MT and Steven Lippman of Business for Social Responsibility. Dr. Anderson focused on opportunities in free-market environmentalism, while Mr. Lippman discussed corporations who have pioneered conservation approaches in the market. November followed with an en-

lightening presentation by Margaret Bowman of the American Rivers Dam Program who engaged students and faculty to think about the issues surrounding dam removal in the U.S. The academic term closed with a presentation by Mark Rey, Under Secretary of the U.S. Department of Agriculture and SNRE alumnus. Mr. Rey noted the need to change many current environmental laws and commented that he “will work with agency leaders and employees to add value and satisfaction to the job of every Forest Service and NRCS employee.”

The winter term kicked off with a powerful presentation by Nicholas Aumen, of the National Park Service who oversees a portion of the Everglades Restoration Program. Dr. Aumen’s experience and knowledge of the once-pristine area made for a passionate and informative afternoon. In a partnership with the University’s Life Sciences, Values and Society Program, Rebecca Goldberg of Environmental Defense spoke



Nicholas Aumen,
National Park Service

on the implications of agricultural biotechnology on ecosystems. Ronald Rinfuss, Professor of Sociology and Stephen Walsh, Professor of Geology, both of the University of North Carolina, gave a very interesting presentation describing the dynamics of

their multidisciplinary collaboration project in Nang Rong, Thailand. The presentation, co-sponsored by the NSF Biocomplexity Project headed by EMI Faculty Steering Committee members Dan Brown and Joan Nasauer, effectively highlighted the value of the interface between the natural and social science research that emerges from a multi-disciplinary project. Finally, on the day before classes ended for winter term, Forest Service researcher David Wear gave a

public talk on the “Southern Assessment,” a project initiated to address a set of concerns related to the sustainability of southern forests. Stay tuned to the “events” page on the EMI website to find out who will be visiting in the 2002-2003 academic year <http://www.snre.umich.edu/emi/events/>.

Going Global

In the past year, EMI began looking for ways to expand our scope by looking at cases of ecosystem management outside of North America. Key questions for examination were how ecosystem management differed in the international arena and what lessons could be learned to improve the practice of EM in both domestic and international settings.

In Fall 2001, work began on addressing

some of these issues through the work of EMI Fellow Christine Ogura at identifying examples of ecosystem management in the international arena. Assisted by EMI Webmaster Jen Rennicks, we have also begun an overhaul of the EMI website to include more international content and have translated the core pages into Spanish and French to facilitate use of these materials. As with our U.S.-based work, the international component will focus on analyzing

case studies, evaluating outcomes, synthesizing lessons learned, developing mid-career training programs, and providing management guidelines for on-the-ground implementation. The expansion of research to other countries will provide an interesting comparison and learning opportunity.





Doris Duke Fellows Look to the Future

The Doris Duke Conservation Fellows were proving their leadership skills before they even left graduate school. Nine Fellows were selected in Winter 2001 for our third cohort. In late January, they enjoyed a special weekend at the National Conservation Training Center in West Virginia where the Doris Duke Charitable Fund hosted Fellows and faculty from six universities to share a weekend focused on leadership in environmental conservation. Upon returning from the retreat, the SNRE cohort decided to organize a workshop focusing on communication skills to enhance the effectiveness of conservation professionals. The workshops were held in February and March and were well-attended by a range of graduate students.

The fourth cohort of Doris Duke Conser-

vation Fellows were announced on January 28, 2002. Seven outstanding first-year



SNRE graduate students were selected (shown in photograph left to right, top to bottom). Katia Aviles-Vazquez, Stephen Higgs, Jeremy Moghtader, Mindy Murch,

Lisa Bobrowski, Joe Short, and David Chadwick.

The new team of fellows organized a skill-building workshop focused on fundraising for non-profit organizations. The workshop was so well received that the group has already outlined a graduate course to focus on additional skills needed for working in the non-profit community. The course will be available to SNRE graduate students this fall and will include topic areas such as media relations, grass roots organizing, fundraising for conservation, strategic organizational and campaign planning, real estate fundamentals, project budgeting and proposal writing. For updated information, visit the EMI website in early August at www.snre.umich.edu/emi.

Case Database Goes Live

Over the past 15 years, professors and graduate students at the School of Natural Resources and Environment have been studying ecosystem management



by looking for examples of places where people have come together to manage the land by engaging in the principles of ecosystem management. Over the years, several hundred cases on ecosystem management have been compiled, and they constitute a rich source of ideas and information for practitioners and researchers of ecosystem management.

In order to make these cases readily available for the public, an online case database was developed. The data-

base “went live” on the Internet in September 2001. Fields include a brief summary of the case, background on the location, how the case is organized, what problems were faced, and what lessons were learned. In an ongoing effort to improve the usability and functionality of the case database, EMI began to reconceptualize the database in the fall of 2001. Check out the case database at www.snre.umich.edu/emi/database. Let us know if you have ideas about how to make this material more useful.

Training Takes to the Rockies

Since November of 2000, EMI faculty and staff have developed and conducted three pilot training courses for mid-career professionals.

The first course titled Collaboration in Resource Management: An Interagency Approach, was developed and led



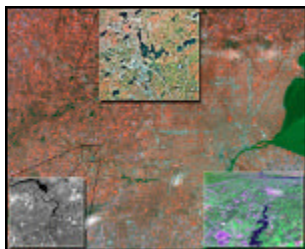
by EMI faculty and staff. First offered in November 2000 at the National Conservation Training Center in Shepherdstown, West Virginia, this five-day course was offered to an interagency government audience of federal natural resource managers. A second workshop focused on adaptive management and was held for the CALFED ecological restoration program in Sacramento last summer. A third pilot training course entitled Collaboration Skills & Strategies: A Workshop for Environmental Leaders was developed for non-governmental organization profession-

als. EMI received funding from the Hewlett Foundation to conduct this pilot two-day workshop, which focused on collaboration, negotiation and strategic assessment skills for thirty environmental NGO representatives in Denver, Colorado in May 2001.

"Really important components that are OFTEN neglected because groups don't know how collaboration process is supposed to work."
Course participant, June 2001

Project SLUCE

How can we better understand the factors that promote urbanization so that we can create better design and policy strategies for managing land use change? EMI and UM faculty are creating tools to analyze this question through a multi-year, National Science Foundation-funded project entitled, Spatial Land Use Change and Ecological Effects at the Rural-Urban Interface: Agent-Based Modeling and Evaluation of



Alternative Policies and Interventions.

The multidisciplinary project team involves EMI Faculty Steering Committee members Dan Brown, Joan Nassauer, David Allan and Steve Yaffee, joined by other UM faculty: Scott Page, Kathleen Bergen, Robert Marans, Carl Simon, Bobbi Low and Rick Riolo. Project SLUCE seeks to understand the individual decision-making that drives land use decisions and to formulate and test alternative policies and

interventions that could reduce environmental costs and enhance environmental benefits. This will be accomplished by focusing a multidisciplinary team on developing, evaluating, and applying agent based models of land use and cover change processes and assessing the interactions with ecosystem structure and function. Models and tools resulting from this proposed work will have direct implications for understanding social and landscape dynamics within an urban system as well as projecting patterns of ecological change at the urban-rural fringe.

Dynamics of the Muskegon Watershed

Watershed management programs across Michigan suffer from the lack of an integrated analysis grounded in meaningful collaborations among governmental agencies, academic institutions, and local stakeholders. On the Muskegon, as elsewhere, there currently is no effort underway that will provide a process for the holistic integration of all that is currently known about the watershed from the head waters to the river's outlet to Lake Michigan. Many environmental and economic problems facing the citizens of this important watershed require an understanding of the interactions of key components: the watershed's human communities, land use/cover patterns, hydrogeology, and complex natural communities. Changes in land use occurring within the watershed are diverse and are driven by internal factors (e.g., planning, local economics), as well as exter-

nal factors (demand for seasonal homes, climate change, global agricultural economics). These changes need to be quantified, and their effects understood, and assessed. Hydrology of the watershed is in turn being modified by changes in land cover (e.g., increase in impervious surfaces, afforestation patterns). As well as by climate variation, sediment loading, artificial drainage, and channel impoundment. Natural biological communities (e.g., fish, birds, stream macrophytes) respond to both direct and indirect alterations in hydrology and resulting habitat structure. Ultimately, changes on the landscape trigger complex responses in the chemistry and biology of the river. The watershed's ecological and social services, which emerge from the integration of all

watershed components, are poorly understood but are critical considerations in any regional decision making. All of these ecosystem components need to be understood and related in a risk assessment framework so that managers and citizens of the



Muskegon watershed can make important decisions about the future.

This collaborative project involves EMI Faculty Steering Committee members Mike Wiley and Paul Seelbach of the University of Michigan, along with Bryan C. Pijanowski of Michigan State University and John Koches of Grand Valley State University. For more information about this project, go to <http://www.snre.umich.edu/ecomgt/research/featured801.htm>

Marine Corps Environmental Stewardship

For the past two decades, the U.S. Marine Corps has worked to restore wildlife habitat at Nu'upia Ponds Wildlife Management Area -- a 482 acre wetland/waterbird habitat/historic fishpond complex on Mokapu Peninsula northeast of Honolulu on the island of Oahu.



Coordinated by EMI Alumni Affiliate Diane Drigot, a federal environmental/natural resources manager at Marine Corps

Base Hawaii (MCBH), the effort includes annual plow-like maneuvers of 26-ton Amphibian Assault Vehicles within the pond shoreline mudflats that break open thick mats of invasive pickleweed plants to improve Hawaiian stilt feeding and nesting opportunities. Extensive involvement by community volunteers and contractors has removed 20 acres of alien mangrove trees, further restoring wildlife habitat and water quality. Steady growth in endangered Hawaiian stilt bird counts in the ponds from 60 to over 130 birds

in the past 15 years pays tribute to the success of these efforts. Management plans for Nu'upia Ponds have been developed to ensure the biological and cultural integrity of the ponds will be sustained well into the 21st century. Continuing community education and involvement are essential ingredients in the success of these plans.

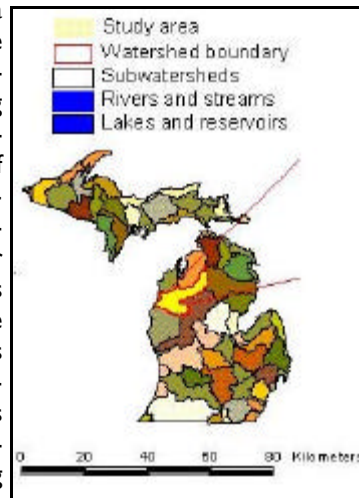
For more information about this and other MCBH projects, visit their website at http://www.pixi.com/%7Eisd/MCBH_1.html. For more information about the EMI Alumni Affiliates Network, go to <http://www.snre.umich.edu/ecomgt/people/alumni.htm>

Upper Manistee River Conservation Plan

The Manistee River watershed in northwestern lower Michigan contains important ecosystems and a number of valuable natural features. Unfortunately, development and changing land use threaten the ecological integrity of much of the watershed. The Grand Traverse Regional Land Conservancy (GTRLC) and other conservation organizations and agencies have recognized the importance and vulnerability of the region and have begun to push for larger scale protection efforts in the watershed.

As GTRLC looked to expand its own efforts in portions of the watershed, it recognized the need for a plan that evaluated the relative conservation value

of the entire area and prioritized the best lands for protection. In the spring of 2001, an EMI-funded group of seven graduate students agreed to develop such a plan for the upper portions of the Manistee River watershed as their Master's project. Both parties stressed the importance of developing a plan that had im-



mediate on-the-ground utility for GTRLC in its efforts to protect significant tracts of land in the region. Advised by EMI faculty steering committee member Donna Erickson, the group included EMI Fellows Jon Kazmierski, Megan Kram, Elizabeth Mills, Dave Phemister and Chris Riggs, along with Nick Reo and Ryan Tefertiller. The group's final report can be downloaded from the EMI website at <http://www.snre.umich.edu/ecomgt/research/featured.htm>.

Flow Alteration in Great Lakes Basin Rivers

Alteration of the flow regimes of rivers greatly affects their ecological integrity.

Through direct physical change, including dams, culverts, dredging and channelization, the flow of rivers has been dramatically altered. No less important, changing land use, particularly the transformation of forested to agricultural and urban lands, with increases in impermeability and run-



off, has indirectly altered river flow by affecting the hydrologic pathways that

generate runoff. In a project led by EMI faculty David Allan, Jim Diana, Paul Seelbach and Mike Wiley, joined by UM faculty Ed Rutherford and Paul Webb and Colorado State University professor LeRoy Poff, researchers are addressing the need for a synoptic and basin-wide assessment

of the extent of flow regulation of Great Lakes tributaries, impacts on the physical habitat and the biota, and the opportunities for innovative and effective restoration. This science-based synthesis of restoration potential includes new research, analysis and synthesis of existing data, outreach, and web-based information transfer in order to provide a basin-wide assessment of the ecological benefits of flow restoration. For more information, you can visit the project website at <http://www.snre.umich.edu/glpf/>.

Early Parkways and Contemporary Greenways

Many cities in North America are attempting to implement connected greenway networks. Some are building on sparse existing open-space resources. Other metropolitan areas, such as Milwaukee, Wisconsin and Ottawa, Ontario, have an impressive historic open-space framework on which to build. However, neither of these cities is well known for progressive, contemporary greenway planning efforts.

In research funded by the Canadian Embassy, EMI faculty steering committee

member Donna Erickson shows that Milwaukee and Ottawa have remarkable historic corridors to build from, especially in parkways planned along urban rivers in the early twentieth century. This analysis shows, however, that contemporary collaboration around regional greenways planning is piecemeal, greenway objectives have changed over time in important ways, and a coord-



inated greenways vision is lacking. Finally, both Milwaukee and Ottawa seem poised for integrated greenways programs, accelerated by innovative experimental projects, increasing environmental awareness, and growing institutional capacity. For more information, see Ms. Erickson's paper in an upcoming special issue of *Landscape and Urban Planning*.

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Imagining, evaluating and promoting sustainable natural resource management

From Our Director...

As we indicated in the beginning of the newsletter, this past year, EMI's second year, has been a time of remarkable change. Changes in facilities at the Dana Building, the SNRE and University of Michigan administrations are emblematic of these changing times, but perhaps the signature feature of the past year has been the events of September 11. The terrorist acts and the world's response to those events signal the interconnections between so many societal and natural system forces, the need to look outward and not be isolated, and the importance of processes that bridge differences in human values and interests in a way that identifies and solves common problems. Neither isolation or oversimplification tend to work as long term strategies. Nor does avoiding action because of paralysis due to uncertainty.

These same messages form the core of an ecosystem-based management approach, including the need for: better information about science and diverse human

values, larger scale perspectives, mechanisms that deal with uncertainty, and decision making approaches that acknowledge the legitimacy of differences yet find ways to craft shared direction. All are needed to transform the ways that environmental and natural resources are managed to ensure the sustainability of communities and the natural systems of which they are a part.



Steven Yaffee, EMI Director

The EMI's new logo attempts to highlight these themes visually: The elements of water, the atmosphere, life and land linked through systems are represented by the logo's round shape. The EMI name is located as a central feature emphasizing the importance of management (including the strategies of conservation, restoration and preservation) as a decision-making process that helps to balance these elements. Some see the logo from a distance as an eyeball, suggesting vision. (I won't go into detail on the person who saw it as the movement of water in a flushing toilet.) If you see activities here that you want to support or be a part of, let us know.

www.snre.umich.edu/emi