

Environmental CONNECTIONS

“Observing nature, in a way, is the last chance we have to understand the human condition.”

~Mitchell Thomashow

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Dr. Mitchell Thomashow relaxes at the reception following his lecture. Many of the attendees stayed to enjoy further conversation with Thomashow, and had the opportunity to purchase signed copies of his most recent books.

Jean Thomas Lambert Environmental Lecture Series

Environmental Educator and Author Dr. Mitchell Thomashow Visits Connecticut College

By Patti Handy

ON APRIL 22, 2004, Earth Day, the Center welcomed Mitchell Thomashow who spoke about his latest book, *Bringing the Biosphere Home: Learning to Perceive Global Environmental Change*. Thomashow’s lecture was the first in the Jean Thomas Lambert Environmental Lecture Series, made possible through a generous donation by the 1949 alumna. Thomashow is Chair of the Department of Environmental Studies at Antioch New England Graduate School in Keene New Hampshire, as well as founder of the doctoral program in Environmental Studies at the graduate school.

Glenn Dreyer, Executive Director of the Goodwin-Niering Center, introduced Thomashow to the audience of faculty, students, staff and community members who gathered in the Olin Auditorium. Thomashow thanked the audience for joining him on a beautiful, balmy spring evening, setting the tone for his talk on observing environmental change. He addressed the students, encouraging them in their pursuit of environmental studies, referring to it as “the ultimate service profession,” and one in need of great people. He spoke on “biodiversity” a term coined at a 1986 conference, and on the necessity of observing the natural world: “Observing nature, in a way, is the last chance we have to understand the human condition,” he said. “Nature is the best teacher of all the history on Earth.”



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& Environmental Studies**

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Established in 1993, the Goodwin-Niering Center for Conservation Biology & Environmental Studies is an interdisciplinary program that draws on the expertise and interests of faculty and students in the liberal arts to address contemporary ecological challenges. The Center strives to integrate all areas of learning to deal with the issues of sustainability and the natural environment. Building on a scientific understanding of the natural world, the Center invites the social sciences, the humanities and the arts to help understand and solve difficult environmental issues.

From the Executive Director

In addition to our many academic activities, the Goodwin-Niering Center also works to help the College operate in a more environmentally sustainable fashion. In the past we have sometimes called this our "environmental umbrella" role, with the idea being that we coordinate and facilitate the various environmental projects and groups operating on campus. The two major ways that this happens at Connecticut College are through the Campus Environmental Coordinator, a staff member based in our Center, and the Environmental Model Committee.

The Environmental Model Committee (EMC) is an official College committee with representatives appointed from the faculty, the student body, and the administration. It was Professor William Niering who named the EMC, and it was his idea that the College should function as a model of appropriate environmental behavior in all of its academic and operational activities - both as an educational ecosystem and as a model for the rest of society.

The EMC is specifically charged with responsibility for developing policies, initiating programs, and overseeing community education to insure that College operations function as models of environmental sustainability. Specifically, the committee deals with energy conservation and renewable energy, conservation of water and other natural resources, operational policies such as how buildings are constructed and how landscapes are managed, and the campus recycling program. Traditionally, the committee has been chaired by the Environmental Coordinator and supported by Goodwin-Niering Center personnel. Look for more information about EMC activities in future issues of *Environmental CONNECTIONS*, and check out the link to Green Living on the Goodwin-Niering Center web site at: <http://goodwin-nieringcenter.conncoll.edu>

Matt Turcotte '02 served as this year's Campus Environmental Coordinator, a position that is currently a nine-month internship. In addition to ably chairing the EMC, Matt was very active in facilitating a number of important sustainability initiatives. Chief among these was the renegotiation of the College's purchase of Tradable Renewable Certificates (TRCs) for renewable energy. Via a special fee agreed to by the student body, we now purchase TRCs that are equivalent to 44% of the College's total electricity usage. Matt also helped the student Renewable Energy Club write a renewable energy policy so it is now possible for Connecticut College to actually invest in a new renewable energy facility, thus becoming a producer of new energy via wind, tidal or hydro systems. Matt has agreed to stay on for another year, and there will be a strong push from the Goodwin-Niering Center to make the Environmental Coordinator position a full-time part of the College's administrative staff as soon as possible.

At the end of this academic year we bid fond farewell to a colleague, Patti Handy. Patti has spent the last two years as our Administrative Assistant Intern, and has done a particularly fine job with the Center's website and newsletter. She has authored many of the articles, and taken many of the photos that appear in both of our communication outlets. Patti has set a high standard for future interns to aspire to, and we wish her the best of luck in her future endeavors.

Glenn Dreyer

PLEASE HELP US CONSERVE!

In order to reduce our paper usage and general costs we would like to recommend that you read our newsletter on our web site:

<http://goodwin-nieringcenter.conncoll.edu>

Please contact us at 860.439.5417 or at goodwin-nieringcenter@conncoll.edu to remove your address from our mailing list. Thank you.



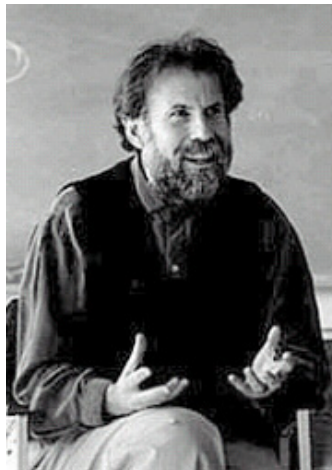
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Jean Thomas Lambert Environmental Lecture Series

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He also told of the migration of the monarch butterflies and their long journey to Mexico, his experience of seeing the butterflies at their final destination, and his awe and sense of wonder at the “psychedelic” spectacle. He stressed the importance of slowing down the pace of life in order to observe nature, saying that we are less likely to observe the smaller patterns of life when we move too quickly. He defended technology, however, and its ability to aid in the collection of data, but emphasized that the best data can be collected when sitting still-- “The more you slow down, the more you hear, the more you see. That’s why we have these senses, so we can taste the world,” he said. “Watch things change on a daily basis, on a monthly basis; if you don’t know what’s in front of you, you won’t know what is lost, what has changed.” This profoundly simple advice is what he refers to as “barefoot global studies science.”

At this point Thomashow’s lecture took on an existential quality. “If you’re at all reflective,” he said, “if you think about the ‘bigger picture,’ it will inevitably raise the question of who you are.” By simply observing the world of nature says Thomashow, “you can witness creation and extinction; ‘Zen’ dilemmas will appear.



Mitchell Thomashow

Life and death questions just sprout up inevitably, if you take a look at what’s around you.” He stressed to the audience that it is an “educational imperative” to open one’s self to wonder. Hope and foreboding go hand in hand he said, and although foreboding may seem to surround us in these stressful times, we can gain hope through wonder. “We can develop hope by sharing and spreading a sense of wonder in the world around us” he said. “You can make a difference.”

At the reception that followed the lecture,

Thomashow joined the guests for refreshments and conversation, and was on hand to sign copies of his books that were available for purchase. In addition to *Bringing the Biosphere Home*, Thomashow has also published *Ecological Identity: Becoming a Reflective Environmentalist* (1995), which offers an approach to teaching environmental education based on reflective practice that incorporates issues of citizenship, ecological identity, and civic responsibility within the framework of environmental studies. Thomashow is currently working on a book concerning the ecology of

improvisation-- linking music, play and sports to patterns found in nature.

Center Recognizes High School Student **Certificate Program**

EACH YEAR THE GOODWIN-NIERING CENTER presents an “Excellence in Environmental Conservation Studies Award” to a student who participates in the Connecticut Science Fair at Quinnipiac College. This year’s recipient, Carolyn Greene of Bristol, CT., attends Bristol Eastern High School and was chosen to receive the \$100 award by Center Associate Director Diana Whitelaw.

Carolyn’s award-winning project was an experiment designed to determine the capability of differently shaped windmill blades to generate electricity. Carolyn made eight balsa wood blade designs with different shapes, and each one was mounted on a DC motor that was connected to a milliammeter, a sensitive ammeter graduated in milliamperes. Each blade was then tested six times in a wind tunnel. The registered amount of electrical current produced by each blade on the milliammeter was then subsequently recorded. The results supported Carolyn’s hypothesis that the blade design with the largest surface area generated the most current.

In providing this award each year, the Center hopes to encourage potential environmental scientists among the ranks of junior and high school students. Congratulations to Carolyn.

What Makes an Animal Edible? Some Ethnobiological Considerations in Diet among the Barí People of Venezuela

By Dr. Manuel Lizarralde

THE QUESTION of why humans eat certain animals and not others is one that has been puzzling me for many years. This became apparent, and I truly experienced a deep cultural shock, when I was asked to try *kugdu* (the Barí name for palm grubs) while I was conducting fieldwork with the Barí people of Venezuela in May of 1995. As anthropologists, we learn the technique of participant observation, by getting involved in the daily activities and meals with the culture or society we are working with. It is an important tool to gain an entrance and acceptance in an ethnic group like the Barí. Therefore, before responding and calculating the outcome, I swallowed and said, “of course, I would love to eat these nice *kugdu*.” I was not sure my response was convincing, and the Barí were very curious. Moreover, it was not easy to swallow these palm grubs and I felt that my face was turning quite green and my belly was objecting to this new item. Meanwhile, all the Barí around me were intensely looking at my face. I felt that I had eaten a rock that was burning my stomach! Yet, I held the grubs in it and tried to pretend that they were delicious. The Barí were puzzled since I was one of the very few, besides my father (Roberto Lizarralde, an anthropologist who worked with the Barí since 1960), who had eaten palm grubs. The Barí know very well that what makes them different to the non-Barí is this particular food habit. My reaction to eating palm grubs also raised a question: Are our food habits determined by culture or by nature? Since the Barí love to eat palm grubs and monkeys, my next question was “What makes an animal edible?” This is a topic on which I have been conducting research for the past two years among the Barí people. I was not satisfied with the literature and proposed a new approach to explaining this cultural, ecological problem (the “ethnobiological approach”).



Manuel Lizarralde partakes of a “kugdu”-or palm grub- during his study of the eating habits of the Barí people of Venezuela.

In most cultures there is the assumption that food habits are determined by culture; there are two old proverbs that support this view. For example, French people say the following: “*Tell me what you eat and I will tell you who you are.*” The Germans have a similar proverb: “*You are what you eat.*” However, these beliefs do not explain the differences of food preferences between different societies and changes in food preferences through time. The Barí case holds the answer to these questions. For South American Amerindians, animal uses are complex and frequently result in conflicting perspectives. My goal is to provide an interpretation of what makes an animal edible among the Barí people. The question addressed is whether these patterns are elicited by a combination of cultural, ecological and historical factors. The best approach to test this hypothesis is to examine the choices that

the Barí have, and see what they are eating. I was able to collect an extensive body of data on birds, fish, insects, amphibians, mammals, reptiles and mollusks (325 Barí folk-species and 384 Western species). The Barí eat 41% of the species of animals (134 species) that they recognize. After conducting some mathematical modeling (with the help of Dr. Paul Roback), it appears that the Barí hunt and fish the most abundant and/or largest animals available in their surrounding territory. The Barí clearly choose animals that are social, and which move in large groups (i.e., peccaries or spider monkeys), and consider these prime choices for hunting and food. The statistical analysis of the data indicates the following: The odds that an abundant species is eaten are eight times greater than the odds of a sparse species being eaten, holding all other variables constant.

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Guest Lecture Series

What Makes an Animal Edible?

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The odds of a large species being eaten are 10 times greater than the odds of a small species being eaten, while the odds that a medium species is eaten are three times greater than that of a small species. Herbivore species have nine times greater odds of being eaten than carnivore species, and social species have 33 times greater odds of being eaten than solitary species. In each case, this analysis strongly supports my ethnobiological approach on the study of the Barí food selection.

It appears that cultures do not always have rigid patterns of eating that are shared by all members. There is instead a flexible and adaptable cultural pattern depending on evolution and transformation under certain technological, economical, demographical and ecological conditions. The Barí choices of palm grubs and monkeys are culturally determined, combined with the influence of nature, since nature offers choices as a menu does in a restaurant. Since nature changes with time, cultures integrate these changes in their values and a food choice evolves, creating different culinary views. Now, I can eat palm grubs with gusto and love them truly, as one of my choices in the rainforest.

~Manuel Lizarralde is a professor in the departments of Anthropology and Botany at Connecticut College, and specializes in the areas of ethnobotany and ecological anthropology.

Using Jellyfish to See a Whole New World

By Dr. Marc Zimmer



JELLYFISH HAVE LIT UP THE OCEANS of the world for the last six hundred and fifty million years; Pliny the Elder first described a use for the luminescence found in some jellyfish. He found that you could take certain jellyfish and smear them against a walking stick to make it glow so that it would light up the path on an evening stroll. Now, nearly 2000 years later, green fluorescent protein (GFP), the protein responsible for emitting light in jellyfish, is being used as the microscope of modern biotechnology.

In 1992, researchers at the Woods Hole Oceanographic Institute located the gene for GFP in the jellyfish *Aequorea victoria*. Two years later a group at Columbia University used the GFP gene to show when proteins were being made and how they moved around. This was done by attaching the GFP gene to the end of the gene of interest. When the protein coded by the gene was expressed, it had a GFP molecule stuck to the end of it. Since this chimera (combination of two proteins) gives off green light once it has been irradiated with ultra-violet light, it can easily be seen when the protein is made.

GFP has applications in all areas of science. Cancer cells are now available commercially in which every gene in the cell has been tagged with the GFP gene. Any protein made by these cells or their

offspring will fluoresce, thereby allowing researchers to monitor the spread of cancerous growths. From an environmental science standpoint, transgenic algae have been developed that produce a GFP tagged protein when they are grown in an arsenic rich environment. These algae could be used as cheap arsenic detectors in Bangladesh, where arsenic contamination of water wells is a significant problem. In the world of art, Eduardo Kac had a French laboratory produce “Alba”, a transgenic GFP bunny that gives off a green glow when irradiated with ultra-violet. This sparked a media controversy about using genetically modified organisms in art. Experiments in the agricultural community involve the creation of genetically modified wheat that has been tagged with GFP to see whether the proteins that make the wheat pest resistant can wander over to weeds, and make them pest resistant too. If gene migration occurs from the wheat to the weeds, the weeds would become fluorescent.

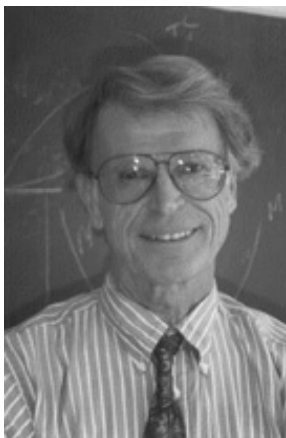
At Connecticut College, my group and I have used computational methods to examine the structural and photophysical properties of GFP. We have proposed a mechanism by which the chromophore that is responsible for GFP’s fluorescence is formed. Ultimately, we intend to use the results of the calculations to design new GFP mutants that glow more brightly, as well as mutants with different colors.

~Marc Zimmer is a professor of Chemistry and Christian A. Johnson Distinguished Teaching Professor at Connecticut College. He has written a popular science book entitled “Glowing Genes” that will be released in early 2005.

Certificate Program Guest Le

Cap-and-Trade

By Dr. Barry C. Fields



Dr. Barry C. Fields

CAP-AND-TRADE programs are growing in popularity, in the U.S. and around the world, for addressing the control of industrial pollution. The success of the SO₂ program established in the 1990 Clean Air Act has greatly bolstered the popularity. Other programs (e.g., NO_x trading in the northeastern U.S.) have been adopted, and the major debate in Congress between the so-called Clean Skies proposal of the Bush administration, and the Clean Power proposal of its opponents, both incorporate new cap-and-trade initiatives. The countries of Europe are poised to begin a major cap-and-trade program to reduce emissions of greenhouse gases, and the Kyoto Protocol encourages global trading to secure its objectives.

Cap-and-trade involves establishing an overall cap on total emissions, distributing individual emission permits to sources, and then allowing them to trade these permits. The total cap and the individual permit awards can be set to decline over the years. Not all pollution problems are amenable to the cap-and-trade approach. The basic requirement is that authorities must be able to monitor emission quantities and match these with each source's holdings of permits. Basic rules have to be established and enforced on such things as the number of permits each source will be awarded, whether permits may be auctioned or given away by authorities, who

may trade, whether permits not used in one period may be "banked" and used at some future time, and so on. As pollution-control authorities, and polluters themselves, become more knowledgeable about cap-and-trade programs, it is likely that they will be adapted for other types of pollution problems, for example mobile-source emission control. The future is likely to see major new cap-and-trade programs for pollution control.

~Barry C. Fields is Professor of Resource Economics at the College of Natural Resources and the Environment, University of Massachusetts. He was an invited speaker for the Certificate program on March 4, 2004.

Four Centers Collaborate on Lecture Series

"Where Are We Headed? Technology, Ecology and Humanity in the 21st Century"

By Patti Handy



Hardin Tibbs, (center) enjoys dinner and conversation with Center students and Professor Frederick Paxton (left), Director of the Toor Cummings Center for International Studies and the Liberal Arts, (CISLA).

THE FOUR CENTERS of Connecticut College, which focus on environmental studies, international studies, community action, and arts and technology, were pleased to collaborate in hosting a dynamic guest speaker on the evening of March 5.

Hardin Tibbs is the CEO of Synthesis Strategic Consulting Limited, a UK-based strategic-management consulting firm and Global Business Network (GBN) member. Tibbs spoke to the students, staff and faculty of all four centers on the subject of technology, ecology and humanity in the 21st century. A reception and dinner followed his enlightening lecture, where the members of the four centers were encouraged to generate and share their ideas.

Tibbs specializes in long-range thinking and strategy development and is an experienced scenario planner. In addition to his strategy work, he has made significant contributions on issues involving technology and the environment, in particular in *Industrial Ecology: An Environmental Agenda for Industry* (Arthur D. Little, Inc., 1991, and GBN 1993).

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This seminal paper helped to define industrial ecology, a new approach to industrial sustainability, and may be viewed at http://www.bfi.org/pdf/gbn_ecology.pdf.

Tibbs addressed the issues of technology, ecology and industry, from both national and international perspectives, which appropriately combined the interests of all four centers. In his stimulating presentation, Tibbs took an interdisciplinary and global approach to understanding where we are now and projecting where we may be heading in the future. He discussed the possible ways in which we could improve the effect of industry on the environment. As he states in his paper, "Human modification and manipulation of ecosystems is as old as agriculture. The challenge now is to integrate industry." Surveying technological, environmental and social changes over the last century or so, he was able to project *possible* scenarios for the future, raised the question of whether or not we are approaching a "Critical Transition" in the history of humanity and the planet, and suggested ways in which to prepare for the possible consequences. It is no wonder that *The Millennium Whole Earth Catalog* has featured his work!

Center Awards Certificates to Class of 2004



Class of 2004:

*Adam Weinberg, Michelle Gorham and
Joey Solomon.*

ON MAY 22, 2004, the Center awarded certificates to the three members of the class of 2004 who successfully completed the academic program. The Third Annual Certificate Recognition Ceremony took place in Buck Lodge in the Connecticut College Arboretum, a suitably earthy location for the Center's celebration. President Fainstein arrived in style in the Arboretum's "Twister" a bright red all-terrain vehicle, chauffeured by Horticulturist Jeff Smith of the Arboretum. He opened the ceremony and welcomed the group of family and friends who came to support the many accomplishments of the graduates. "You have already contributed much to your communities and to environmental awareness," said Fainstein. "I challenge you to continue making those contributions and to deepen your commitments throughout your lives. You have the intellect, the heart and the spirit to move us forward."

Helen Mathieson `52, a member of the board of trustees and a long-time supporter of the Center, was also among the distinguished guests. Glenn Dreyer, executive director of the Center, Robert Askins, director, and Gerald Visgilio and Diana Whitelaw,

both associate directors, were also at the ceremony to voice their words of praise for the students.

As each student received their certificate, they took a moment to share a little bit about their experiences with the program, their senior integrated projects (SIPs) and their plans for the future.

Michelle Gorham `04, an Environmental Studies major, developed a curriculum for environmental education for adults in the New London community. She hopes to move to Hawaii and eventually continue her environmental studies on the graduate level.

Joey Solomon `04, a Psychology-based Human Relations major, concentrated on Greenpeace, social movement theory and media in modern society for his SIP. Joey spent last summer interning with Pop Sustainability, a non-profit environmental organization in New York City, and hopes to continue in this field.

Adam Weinberg `04, an Environmental Studies major and Anthropology minor, did his SIP on a groundwater study of erosion in the College Arboretum. Adam plans to continue his study over the summer under the direction of Douglas Thompson, professor of physics at the College, and to develop his work into a thesis.

The invited guest speaker was Dr. Edward C. Monahan, Director of the Sea Grant College Program at the University of Connecticut Avery Point Campus. Monahan has been a member of the Center's advisory board since its foundation five years ago, and has collaborated with the Center on a number of projects. He is a leading expert in the area of gas transfers between ocean waves and the atmosphere. He has contributed hundreds of articles and technical reports to scientific literature.

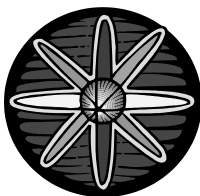
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Faculty and Student Research Publications

GOODWIN-NIERING CENTER faculty and students are constantly engaged in a broad range of environmentally related research projects. In the last issue of Environmental Connections, we featured a number of books published by Center faculty, students and staff. As a means of highlighting the diversity of research interests embraced by our members, here is a list of some of their most recent professional publications. Faculty members are indicated in **bold** type and student collaborators by an asterisk*.

Physical Sciences



Zaveer, M.S.* and **M. Zimmer** 2003 "Structural Analysis of the Immature Form of the Green Fluorescent Protein Analog DsRed." In *Bioorganic & Medicinal Chemistry Letters* 13: 3919. (Alternatives to radioactive tracer molecules).

Todd, L.N. * and **M. Zimmer** 2002 "The Moderating Influence of Proteins on Non-Planar Tetrapyrrole Deformations: Coenzyme F430 in Methyl Coenzyme-M Reductase." *Inorganic Chemistry* 41: 6831 (Methane production, greenhouse effect).

Lepere, M., R. Gobeille, N. Kolodjiejski, V. Malathy Devi, D. Chris Benner, M. A. H. Smith, W. McMichael, B. Aoaeh, K. Wilkinson and **A. W. Mantz** 2004 "Analysis of Tunable Diode Laser Spectra of RQ(J,0) Lines in CH₃F near 1475 cm⁻¹ using a multispectrum fitting technique." *Journal of Molecular Spectroscopy* 224: 7-12. (Study of molecules of atmospheric interest both in the Earth's atmosphere as well as in the atmospheres of the planets).

Thompson, D.M. 2003 "A Geomorphic Explanation for Channel Avulsions Following Channel Relocation in a Coarse-Bedded Channel." *Environmental Management* 31: 385-400.

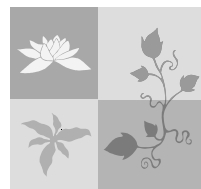
Thompson, D.M., and G.N. Stull 2002 "The Development and Historical Use of Habitat Structures in Channel Restoration in the United States: The Grand Experiment in Fisheries Management." *Géographie Physique et Quaternaire* 56: 45-60.

Humanities

Turner, D. and L. Hartzell* 2004 "The Lack of Clarity in the Precautionary Principle." *Environmental Values*, in press.



Biological Sciences



Fell, P.E., R.S. Warren, K. Light*, R.L. Rawson, Jr.* and S.M. Fairley* 2003 "Comparison of fish and macroinvertebrate use of *Typha angustifolia*, *Phragmites*

australis and treated *Phragmites* marshes along the lower Connecticut River." *Estuaries* 26: 534 - 551.

Warren, R.S., P.E. Fell, R. Rozsa, A.H. Brawley*, A.C. Orsted*, E.T. Olson*, V. Swamy* and W. A. Niering 2002 "Salt Marsh Restoration in Connecticut: 20 years of Science and Management Restoration." *Ecology* 10: 497 - 513.

Lundgren*, M.R., **Small, C.J.**, and **Dreyer, G.D.** 2004 "Influence of Land Use and Site Characteristics on Invasive Plant Abundance in the Quinebaug Highlands of Southern New England." *Northeastern Naturalist*, in press.

Small, C.J. and McCarthy, B.C. 2002 "Spatial and Temporal Variation in the Response of Understory Vegetation to Disturbance in a Central Appalachian Oak Forest." *Bulletin of the Torrey Botanical Society* 129: 136-153.

Benoit*, L.K. and **R.A. Askins** 2002 "Relationship between Habitat Area and the Distribution of Tidal Marsh Birds." *Wilson Bulletin* 114: 314-323.

Kurosawa*, R. and **R.A. Askins** 2003 "Effects of Habitat Fragmentation on Birds in Deciduous Forests in Japan." *Conservation Biology* 17: 695-707.

Shayler*, H.A. and **P.A. Siver** 2004 "Description of a New Species of the Diatom Genus *Brachysira* (Bacillariophyta), *Brachysira gravida* sp. nov. from the Ocala National forest, Florida, USA." *Nova Hedwigia* (78) in press.

Siver, P.A., R. Ricard*, R. Goodwin, and A.E. Giblin 2003 "Estimating Historical In-Lake Alkalinity Generation from Sulfate Reduction and its Relationship to Lake Chemistry as Inferred from Algal Microfossils." *Journal of Paleolimnology* 29: 179-197.

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Research...

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Social Sciences

Dawson, J. 2001 "Latvia's Russian Minority: Balancing the Imperatives of Regional Development and Environmental Justice." *Political Geography* 20 (7): 787-815.

Dawson, J. 2001 "The Two Faces of Environmental Justice: Lessons from the Eco-Nationalist Phenomenon." *Environmental Politics* 9 (2): 22-60.

Lizarralde, M. 2004 "Indigenous Knowledge and Conservation of the Rainforest: Ethnobotany of the Barí of Venezuela." In T. J. Carlson, and L. Maffi (eds), *Ethnobotany and Conservation of Biocultural Diversity, Advances in Economic Botany* 15:112-129. Bronx: The New York Botanical Gardens.

Lizarralde, M. 2003 "Etnobotánica Barí de la Sierra de Perijá: Conocimiento y Uso de los Recursos Forestales para la Protección de la Cultura y Biodiversidad." In Catherine Alès and Jean Chiappino (eds), *Caminos Cruzados: Ensayos en Antropología Social, Ethnoecología y Etnoeducación*, pp. 423-436. Paris (France) and Merica (Venezuela): Institute de Recherche pour le Développement and Universidad de Los Andes/Grupo de Investigaciones Antropológicas y Lingüísticas.

Junior Internship Plans

THE MEMBERS OF THE CERTIFICATE CLASS OF 2005 have recently been busy searching for their summer internships. Although several of the students are currently studying abroad, they have all been able to secure applicable internship positions for the coming summer.

Environmental Studies major **Marjorie Berry** will be working in the conservation and interpretation department at the South Carolina Aquarium in Charleston. **Elizabeth Ginn**, also an Environmental Studies major, will be doing her internship with the Natural Resource Group of the New York City Parks and Recreation Department. She will be supervised by *Alexander Brash*, 2003 recipient of the Goodwin-Niering Center's "Alumni Environmental Achievement Award." Zoology major **Genevieve Godfrey** will be interning at the Mote Marine Laboratory in Sarasota Florida where she will work in the Dolphin and Whale Hospital. Sociology-based Human Relations major **Cameron Hewitt** will be traveling to Haily, Idaho to work with the Wood River Land Trust. **Rory Jose**, International Relations major, will be heading north to work with the Department of Marine Resources, Bureau of Resource Management in Boothbay Harbor, Maine. English and Government major **Sarah Lumnah** will be working with the Charles River Watershed Association in Massachusetts.

Caitlin McIntosh, a Bio-Organic Chemistry and English major, will be splitting her internship between two locations: she will be doing research in chemical synthesis of phorbol at Connecticut College under the direction of Timo Ovaska, Hans and Ella McCollum '21 Vahlteich Professor of

Chemistry, and later in the summer she will travel to The Rochester Equine Clinic in Rochester, New Hampshire. Botany and Environmental Studies major **Keiko Nishimoto** will be learning about fire ecology with the conservation department at the Philmont Scout Ranch in Cimarron, New Mexico. **Amy Phelan**, an Environmental Studies major, will be serving her internship with the U.S. Army Corps of Engineers Environmental Department in Concord Massachusetts. Sociology major **Lauren Richter** will be working with the Food and Agriculture Organization of the UN, in the Economic and Social Department in Rome, Italy. **Emily Weidner**, Botany major, will be working with the Smithsonian Tropical Research Institute on Barro Colorado Island in the Panama Canal Zone, and **Katherine Williams**, an English major, will be interning at Mystic Seaport in Mystic Connecticut.



Back two rows, (left to right): *Katherine Williams, Allen Bunting, Rory Jose, Genevieve Godfrey, Caitlin McIntosh.* Front row, (left to right): *Marjorie Berry, Sarah Lumnah, Keiko Nishimoto.* Not pictured: *Elizabeth Ginn, Cameron Hewitt, Amy Phelan, Lauren Richter and Emily Weidner who are currently studying abroad.*



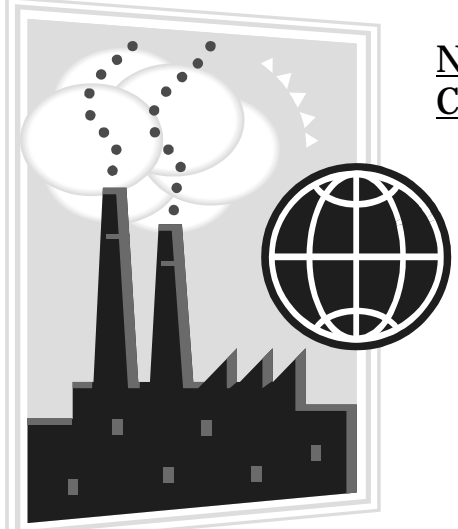
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Dr. Edward C. Monahan, Director of the Sea Grant College Program was the guest speaker at the Third Annual Recognition Ceremony for the Certificate Class of 2004 in historic Buck Lodge.

“It has been my privilege to watch the Goodwin-Niering Center move from strength to strength as it evolves and matures,” said Monahan. “While I have only gotten acquainted with Dick Goodwin over the past few years, it was my privilege to know Bill Niering over the last decade of his life. Given the impact Bill made on how the students at Conn see and treat our natural environment, not to mention his broader, national influence, is proof . . . that the actions of one person can make a difference. I want to congratulate each of today’s certificate recipients. And I want to encourage each of you to make a difference.”



**NEXT
CONFERENCE:**

**Friday &
Saturday,
April 1-2,
2005**

**Mark Your
Calendar!**

**“Acid in the Environment:
Lessons Learned and Future
Prospects”**