

YALE ENVIRONMENTAL NEWS

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Joan Ordway Tweedy and husband Richard Tweedy (Yale Class of '41)

CONSERVATIONIST ESTABLISHES ENDOWED ENVIRONMENTAL STUDIES PROFESSORSHIP

Through the generosity of life-long conservationist Joan Ordway Tweedy, the Yale School of Forestry and Environmental Studies (F&ES) will create a permanent professorship in environmental studies.

The \$4 million bequest to Yale will endow a Tweedy/Ordway Professorship. Reflecting her wish to help F&ES now, Ms. Tweedy has made a substantial contribution toward her bequest intention. F&ES Dean James Gustave Speth will use the interest from the gift to advance the initiatives of the Yale Environment New Century Fund, which includes faculty development and new graduate and undergraduate courses.

"My legacy to Yale is an investment in the kind of world I want my grandchildren to live in," Ms. Tweedy said. "I've seen firsthand, both here and abroad, the conservation achievements the School's graduates can bring about, and I want to ensure that future graduates are equally well-prepared to find solutions to our environmental problems."

"Joan Tweedy's magnificent endowment gift launches F&ES into its second century," Speth said. "Her support will help us nurture new thinking and a new generation of environmental leaders."

Tweedy has a strong commitment to biodiversity protection and land preservation, and both she and her husband, Richard Tweedy, have strong individual and family ties to Yale. Her father, Samuel G. Ordway, was a 1908 Yale College graduate and her brother, Gilman Ordway, graduated in 1947 from Yale College and has been a generous supporter of Yale. Richard Tweedy is a graduate of Yale College, Class of 1941, and Yale Law School, Class of 1948. His father and three sons are also graduates of Yale College.

inside this issue:

New Haven Teachers
Participate in
Biodiversity Program

page 3



Leading Environmental
Professionals to Teach
at F&ES

page 5



Peabody chosen as
Best Museum by
New Haven Advocate

page 7





LETTER TO OUR READERS

Dear Friends,

This newsletter was conceived five years ago to inform you of education, research, and outreach activities on campus related to the environment. From the depths of the ocean to the stratosphere, human activities continue to transform the globe at an accelerating pace. Our understanding of the consequences of these activities is incomplete, but without question better stewardship of the earth's natural resources must be a priority of the first order for this and future generations.

A virtual explosion of research across disciplines has taken place throughout the University over the past five years. This has occurred partly in response to the mounting urgency of the challenge and partly—I believe—because of Yale's long standing strength in this area. Indeed, the University's "institutional roots" in the natural world are almost three hundred years deep, and Yale has been a leader in environmental education and research throughout the twentieth century. Today, the Yale School of Forestry and Environmental Studies, the Peabody Museum of Natural History, the Yale Institute for Biospheric Studies, and the Departments of Ecology and Evolutionary Biology, and of Geology and Geophysics, are in the vanguard of a growing, campus-wide engagement.

The challenge of communicating effectively about all that is going on here is considerable, and we hope you will find the new environmental newsletter informative and interesting.

Alison Richard
Provost

Yale Environmental News offers information on environmental research, teaching, and outreach at Yale University. It is produced by the Yale Peabody Museum of Natural History (PM), the Yale School of Forestry & Environmental Studies (F&ES), and the Yale Institute for Biospheric Studies (YIBS).

Directors of the Environmental Partnership

Richard L. Burger
Director, Yale Peabody Museum of Natural History and Professor of Anthropology
www.peabody.yale.edu
www.yale.edu/anthro/index.html

James Gustave Speth
Dean, Yale School of Forestry & Environmental Studies and Professor in the Practice of Environmental Policy and Sustainable Development
www.yale.edu/environment

Karl K. Turekian
Director, Yale Institute for Biospheric Studies and Silliman Professor of Geology & Geophysics
www.yale.edu/yibs
<http://love.geology.yale.edu>

We welcome submissions from faculty, staff, and students.

To submit an item, please contact:
Rose Rita Orcutt, Editor.
Tel: 203-432-9856
Fax: 203-432-9927
E-mail: roserrita.orcutt@yale.edu

Submission Deadlines for Future Issues

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Winter 2001: February 5, 2001
Spring/Summer 2001: June 5, 2001

NEW INITIATIVES



Dean Speth Announces Expansion of Forestry Program

Yale School of Forestry and Environmental Studies' (F&ES) Dean James Gustave Speth announces a major plan to expand and strengthen the School's forestry program over the next several years. Drawing on an earlier faculty report, *Redefining Forestry at Yale*, and on the outcomes of the Seventh American Forest Congress, F&ES will focus its forestry activities on maintaining and enhancing the health, biological diversity and quality of forests nationally and globally. New programs, new faculty, and increased student scholarships are the cornerstones of the initiative.

Among these, *The Global Institute for Sustainable Forest Management* will be established and sponsor a series of three new programs focusing on forest certification, forest fragmentation, sustainable forestry, public/private partnerships, and research, among others. *The Program on Private Forests* will focus on privately owned forestland and the information and policies needed for effective management. *The Task Group on Science and Forests* will address the deficit in forest research capacity and how it can be closed. *The Program on Forest Biotechnology* will examine the issues related to the application of biotechnology to trees and forests. These new initiatives will draw heavily on the existing resources at F&ES, at Yale, and at the institutions of current partners. The Yale Forest Forum will serve as the coordinating mechanism.

FUNDED PROJECTS

YIBS Center for Earth Observation Receives \$1.7 Million NASA Research Grants

The Yale Center for Earth Observation (CEO) recently received two NASA research grants relating to landscape, agriculture and climate. The awards fund the following projects over a three-year period.

Landscape Changes in the Middle East

This project utilizes satellite remote sensing, computer modeling of climate and hydrology and field data to characterize the nature and courses of landscape changes in the semi-arid Middle East. Particular subjects include impact on vegetation of interannual and long-term climate change, degradation of soils, water resources and the expansion of irrigated agriculture, competition between farming and grazing in the steppe. One aspect of the work will be to evaluate the role of the new generation of satellite remote sensing systems in landscape monitoring. Systems to be tested include SPOT-Vegetation, SeaWifs, Landsat-7, Ikonos and Terra. The Principal Investigators for the project are Professors Frank Hole from Anthropology and Ronald Smith from Geology and Geophysics (G&G). Other participants are Associate Research Scientist Roland Geerken and CEO staff members Laurent Bonneau and Jie Zhang, and collaborators from the International Center for Agricultural Research in Dry Areas (ICARDA) in Aleppo, the Universities of Chicago, Michigan and Maine and Purdue. Further information can be found online at: www.yale.edu/ceo/projects/swap.html.

Satellite Images Aid African Study

Yale researchers are using state-of-the-art satellite imagery and ground surveys to study the environmental conditions of west and central African savannas and rainforests. A major goal is to estimate the impact of land use changes from logging and slash and burn agriculture on food production, climate change and habitat diversity. Principal investigators are Mark Ashton, Yale School of Forestry and Environmental Studies Professor of Silviculture, and Prasad Thenkabail, Research Scientist in the Department of Geology and Geophysics's YIBS Center for Earth Observation. Researchers at the International Institute of Tropical Agriculture, based in Nigeria, are major collaborators on the study.

Further information can be found online at http://www.geology.yale.edu/~smith/africa_project.html

New Haven Teachers Participate In Peabody Museum Biodiversity Program

Thirty-eight elementary school teachers from twelve New Haven Public Schools have been chosen for Peabody Museum of Natural History (PM) Fellowships as part of a four-year science literacy initiative for New Haven teachers, schoolchildren and their families. Supported by a generous grant of \$350,000 from the Howard Hughes Medical Institute, the Peabody Fellows program works closely with selected teachers to develop science curriculum units aligned with state and national science standards. Now entering its fourth year, the program teaches children new ways to view their environment, strengthens their observational and investigative skills, and instills in them a respect for biodiversity. It provides teachers with access to the educational resources of the Museum to enhance the learning experience in their classrooms.



Tiffany Lin, Forestry '00, discusses the BioAction Lab's blue jay specimen with 3rd grade students at New Haven's Timothy Dwight Elementary School.

FUNDED PROJECTS (continued)



Tracy Scheffler, Forestry '01, examines the BioAction Lab's pigeon study skin with students at Timothy Dwight Elementary School.

Fellows participate in the Peabody's Summer Biodiversity Institute which includes instruction in inquiry-based and hands-on teaching techniques; the presentation of a variety of specimens from museum collections; and a tour of the habitats at the Museum's Marine Research Station in Guilford, CT.

With technical support from Museum staff, Fellows then develop and implement science units in coordination with school visits by the mobile BioAction Lab, a series of eight carts with over 300 hands-on specimens, plus a computer and microscopes funded by the Chase Foundation. The Lab, accompanied by a team of Museum staff and volunteers, stays in each participating school for three weeks. To date, over 1,500 children have explored the Lab to learn about life on earth in an entertaining, interactive environment. In addition, through collaboration with the Forestry School's Urban Resources Initiative, Fellows may expand the environmental education for their students through field activities in neighborhood open spaces.

More volunteers are needed to join the BioAction Lab team in the New Haven schools. Prospective volunteers need not have specific expertise, but simply an enthusiasm for children, for learning, and for the natural world.

Yale graduate and undergraduate students are especially encouraged to apply. For more information, contact Laura Fawcett, Science Education Coordinator, at 432-9589.

F&ES Offers Sustainable Development Leadership Program In China

The Yale School for Forestry and Environmental Studies and Nanjing Forestry University have received grants from Sino Forest Inc. totaling \$300,000 to produce a ten day short course entitled *Sustainable Development Leadership Program in China* for corporate and government officials. Faculty from Yale and Nanjing will participate and topics will focus on sustainable development issues of Chinese businesses and cities, including clean air and water, forestry, policy and economics.

NSF Grant to Study Groundwater Pollution

A \$97,000 grant from the National Science Foundation will support a study of colloid movement in the subsurface zone of the soil and evaluate the contribution of colloids to contamination in the underlying groundwater. Yale School of Forestry and Environmental Studies Assistant Professor Jim Saiers is collaborating on this study with scientists at the University of Virginia.

Genetic Study of Endangered Giant Tortoises

Dr. Gisella Caccone, Director of the ECOSAVE Conservation Genetics Laboratory, and Lecturer in the Department of Ecology and Evolutionary Biology (EEB), has recently begun a genetic study of the Aldabra and Seychelles tortoises (*Geochelone gigantea*), a group of highly endangered giant tortoises. This project has been financed by a gift from Coleman Burke, a Yale Institute for Biospheric Studies' (YIBS) External Advisory Board member who is dedicated to supporting initiatives that protect animals in the natural world.

The goal of this research is to produce relevant and important data that will aid in understanding the phylogeny and taxonomy of the group, and to help in designing *in situ* conservation programs for this group. Dr. Caccone is collaborating with Justin Gerlach from Cambridge, England, who is providing blood from wild caught animals from all the extant newly described species, and with several Zoos in the USA to obtain blood samples from the Aldabra and Seychelles tortoises in captivity.



FACULTY NEWS

Doris Duke Charitable Foundation Grants

The Doris Duke Charitable Foundation has awarded a five-year grant of \$625,000 to the Yale School of Forestry and Environmental Studies (F&ES) to identify and support future conservation leaders by providing financial support to students who are enrolled in multi-disciplinary masters programs and are committed to careers as practicing conservationists in the nonprofit or public sectors.

The mission of the Doris Duke Charitable Foundation is to improve the quality of peoples' lives by protecting and restoring the environment, seeking cures for diseases, and nurturing the arts.

Sperry Fund Supports F&ES Scholarships

The Sperry Fund has awarded a \$400,000 grant to F&ES to support student scholarships as part of the New Century Fund effort to increase the School's financial aid, particularly to students from the developing world.

YIBS & SE Receive Henry David Thoreau Grant

The Yale Institute for Biospheric Studies (YIBS) and the Studies in the Environment Program (SE) were recently awarded a Henry David Thoreau Grant for \$45,000 from the Northeast Educational Services, Incorporated. This award makes it possible to provide additional funding for the Summer 2001 Environmental Internship program, opening the program to students enrolled in the Departments of Ecology and Evolutionary Biology, Environmental Engineering, and Geology and Geophysics as well as in SE.

F&ES wishes to thank the generous contributors to the School's New Century Fund. The Fund is supporting new faculty appointments, increased student scholarship support, and expanded curriculum offerings including new undergraduate courses developed for Yale College.



Yolanda Kakabadse

Leading Environmental Professionals to Teach at F&ES

(Supported by The New Century Fund) Four national and international leaders on environmental management will join the Yale School of Forestry and Environmental Studies (F&ES) in the 2000–2001 academic year. They are Yolanda Kakabadse, the president of the World Conservation Union and most recently the Minister of the Environment in Ecuador; James Lyons, U.S. Department of Agriculture Under Secretary for Natural Resources and Environment; Robert Repetto, an economist and Tim Wirth Senior Fellow at the University of Colorado; and Xuemei Bai, an authority on the environment in Asian studies, who is currently a research fellow at the Institute for Global Strategies in Japan.

International Environmental Leaders Named McCluskey Fellows

Two widely respected leaders in environment and sustainable development will join the Yale School of Forestry and Environmental Studies (F&ES) as Dorothy McCluskey Visiting Fellows in Conservation. The McCluskey Fellowship brings outstanding conservation leaders to Yale.

Rajendra Pachauri, executive director of the Tata Energy Research Institute (TERI) in New Delhi, India will join the F&ES for the 2000–2001 academic year. Dr. Pachauri has built TERI into a leading global institution working in energy, environment, and forestry.

Wangari Maathai, founder and coordinator of the Green Belt Movement in Kenya, a broad popular movement seeking political reform, resource protection, and sustainable livelihoods, will join F&ES in the 2001–2002 academic year.



Professor Oswald Schmitz

Professor Mark Ashton

Yale Awards Tenure to F&ES Faculty

Yale School of Forestry and Environmental Studies (F&ES) Professors Oswald Schmitz and Mark Ashton were granted tenure this spring. Professor Schmitz's research examines the dynamics and structure of terrestrial food webs with specific focus on plant-herbivore interactions and how they are shaped by carnivores and soil-nutrient levels.

Professor Ashton conducts research on the biological and physical processes governing the regeneration of natural forests and in the creation of their agroforestry analogs. He also serves as the Director of the F&ES Tropical Resources Institute.

F&ES Professor Awarded Distinguished Alumnus Award

Tom Graedel, Professor of Industrial Ecology, was selected by his alma mater Washington State University to receive its Chemical Engineering Distinguished Alumni Award. Graedel is one of the founders of the field of Industrial Ecology.

Chertow Honored for Environmental Work

Marian Chertow, Director of the Yale School of Forestry and Environmental Studies (F&ES) Industrial Environmental Management Program, is one of two recipients this year of the annual Clyde O. Fisher Award of the Connecticut Bar Association's Environmental Law Section. Chertow was honored for her overall work in environmental law and policy.

STUDENT NEWS

Undergraduate Environmental Summer 2000 Internships

The Yale Institute for Biospheric Studies (YIBS), the Studies in the Environment Program (SE), and the Department of Ecology and Evolutionary Biology (EEB) have once again provided stipends for summer environmental internships for Yale undergraduates studying in the environmental field.

This summer, YIBS provided \$17,948 to support four students at the Earth Systems Field School at the Columbia University Biosphere 2 Center in Oracle, AZ.

SE provided \$22,536 to support eight SE students working on a variety of projects in the U.S. and abroad. These projects included a student gaining first hand experience with the European approach to organic farming on an Italian organic farm, and one student assessing remote sensing of ecosystem change affecting salmon and steelhead habitat in the Puget Sound region.

EEB provided \$14,234 in support of eight EEB students on work that included studying the effects of altitude on plant ecology; studying transmission genetics of polyp fusibility in *Hydractinia symbiolongicarpus*; and studying the effects of food-web complexity on the appearance of trophic cascades.

Fulbright Fellowship to F&ES Doctoral Candidate

Andrew Salvador Mathews, a Yale School of Forestry and Environmental Studies doctoral candidate in forestry and anthropology, has received a Fulbright-Garcia Robles Fellowship to study forestry culture in Mexico. Mathews' research will look at how foresters, forestry officials, and campesinos can collaborate successfully, and how they negotiate this collaboration.

Italian Government Honors F&ES Doctoral Candidate

In October, Yale School of Forestry and Environmental Studies doctoral student John Tuxill will receive the Medal of the Presidency of the Italian Chamber of Deputies, one of four medals awarded annually by the Italian government to recognize international work

in a variety of fields. Tuxill is being honored for his writing efforts for Worldwatch, the research and education organization.

SE Student Receives Gaylord Donnelley Prize

The faculty in the Studies in the Environment Program (SE) awarded the Gaylord Donnelley Prize for distinguished work in environmental studies to Susan Elizabeth Brown, Class of 2000, for her senior essay *The Silent Leader: Rachel Carson's Role in the Emergence of the Modern Environmental Movement*. Susan was a double major in SE and American Studies. Michael Joseph Jensen, Class of 2000, a double major in SE and History, was awarded Distinction in the Major for Studies in the Environment.

GENERAL INTEREST

Elm and Ivy Award Recognizes Urban Forestry

The Urban Resources Initiative (URI), was presented with an Elm-Ivy award in May in recognition of its efforts to strengthen ties between Yale and its home city. URI works in partnership with the City, University, the Community Foundation for Greater New Haven, and more than 40 civic groups to address urban environmental issues. The organization has grown to include both research and applied projects in urban restoration, and has helped create a spirit of stewardship in city neighborhoods.

F&ES Expands Forest Holdings

Through a series of land exchanges, Yale has added 450 acres to its 1440-acre Toumey Forest located in the towns of Swanzey and Keene, New Hampshire. The Toumey Forest is one of eight working forests owned by the University and managed by the Yale School of Forestry and Environmental Studies to provide education, research and professional opportunities to faculty and students.



The Urban Resources Initiative (URI), was presented with an Elm-Ivy award in May.



PEABODY CHOSEN BEST MUSEUM BY NEW HAVEN ADVOCATE READERS

The Peabody Museum of Natural History won first place in the 2000 Readers Choice Award for Best Museums/Art Gallery conducted by the *New Haven Advocate*. This is the fourth consecutive year and eighth time that the PM won first place in this category. It also won first place (for the fourth consecutive year) in the Readers Choice Awards for Best Museum conducted by the Middletown Press, and for the second year it has taken a first place award in a readers' poll conducted by Yankee Magazine Travel Guide to New England.

NEW EXHIBITS

The African Roots of the Amistad Rebellion: Masks of the Sacred Bush

For the Mende people of Sierra Leone, West Africa, the homeland of many of the Amistad captives, the masks of the Poro and Sande societies are more than mere costumes. The masks are symbols of what it means to be Mende; they arouse memories of home, safety, knowledge, protection. The Amistad captives had been initiated into these societies, knew the power of their medicines, kept the ritual secrets, and were bound to each other against outsiders. The masks and the rites and the beliefs behind them were critical to their identity, their survival, and their eventual return to their beloved homeland. This exhibition showcases the rich Mende culture that kept the Amistad captives strong and united throughout their long ordeal.

Top right: Sowei mask, Gola, Liberia (wood, early 20th century)
Right: Ode-Laye mask, Krio, Sierra Leone, West Africa (wood, enamel paints)



Enjoy the following special exhibits at the Peabody Museum.

**Children's Nature Books:
Connecticut's Legacy**
through December 31, 2000

**The African Roots of the Amistad Rebellion:
Masks of the Sacred Bush**
through December 31, 2001

O.C. Marsh: His Life & Legacy
indefinite

**Martian Perspectives:
3-D Images of the Red Planet**
through December 31, 2000



Porridge Poetry: Cooked, Ornamented, and Served by Hugh Lofting

The popularity of the Doctor Dolittle books created demand for other works from the pen of Hugh Lofting, including his book of illustrated verse, *Porridge Poetry*, which appeared in 1924. The cover or frontispiece illustration, shown here, was loaned to the exhibition by the family of Hugh Lofting. Children's Nature Books: Connecticut's Legacy, has been extended through the end of December.

The Peabody Museum of Natural History (PM) recognizes and is very grateful to its Peabody Partners whose generous contributions have helped the Museum to realize its mission to educate a broad and diverse audience about natural history topics.

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United Technologies Corporation
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Wyatt Energy, Inc.

PUBLICATIONS



Antelopes, Deer, and Relatives

Elisabeth Vrba and George Schaller

Yale University Press, 2000

From the era of early cave paintings to the present time, ruminants—deer, antelopes, cattle, buffalo, goats, giraffes, and their relatives—have captured the human imagination. Present on every continent except Australia and Antarctica, they have also been more important to human subsistence than any other mammalian group. This book is a discussion of the evolution, biology, relationships, and conservation of this fascinating and ecologically important group of mammals. Edited by Professor Elisabeth Vrba of the Department of Geology and Geophysics at Yale, and George Schaller, a conservation biologist at the Wildlife Conservation Society (WCS), New York, this publication was co-sponsored by the WCS and supported in part by a gift to YIBS from YIBS' External Advisory Board Member Coleman Burke, whose gift was given to support initiatives that protect animals in the natural world.

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Yale University
P.O. Box 208104
New Haven, Connecticut 06520-8104

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