

Spring 2005

THE JOURNAL OF THE School of Forestry & Environmental Studies

# Environment Yale



## What Makes A Building Green?

*As F&ES plans a new home,  
that's the big question*

Inside: *Clearing the Air Over Ozone*, page 18

# Letters

To the Editor:

I read and enjoyed the story on invasive species [“Foreign Invaders Threatening Global Biodiversity: And the Public Hasn’t Noticed—Yet,” Fall 2004]. A colleague approached me to rave about the cover story, saying it was well-written for a wide audience, compelling and timely, etc. In addition, I was able to send her the link for the PDF version on the Web—she was thrilled.

CHERIE LEBLANC '03  
SOCIAL SCIENTIST, USDA FOREST SERVICE  
EVANSTON, ILL.

To the Editor:

I was struck by the report on the China visitors [“Chinese Environmental Officials Participate in Executive Program,” Fall 2004]. When I was at the forestry school from 1947 to 1949, we had a couple of fellows from China. They had been financed by Chian Kai-Shek’s government, could barely speak and write English and did not have the proper clothes for going on field trips, etc. They’d get frozen feet from being in the woods during the winter, so we shared boots with them. They’d give us a box of chocolates to help them with a paper or project. They were decent people. I would imagine that there would be a worthwhile article in your journal about the experiences of people coming from other lands to the school and how they coped while in New Haven and at camp. Fall 2004 issue was terrific!

DAN DICK '49  
WORCESTER, MASS.

To the Editor:

I like your ingenious title: “How Wild Should Wildfires Be?” [Spring 2004]. Guerdon Ellis, who liked to speak in exaggerated terms, transferred me from the Tahoe to the Mendocino with instructions to “clean up that incendiary situation over there.” We were convinced that repeated light burning to replace the brush with grass was all wrong.

But then, after a few decades, we learned that fire is the natural agent of oxidation in a semixerophytic ecosystem and nothing lasts forever. You have to have oxidation in order to get the CO<sub>2</sub> required for photosynthesis. So fire made sense in the pine types. But I am still bothered about what to do in the coastal fir, where the extensive stands of even-aged fir and Douglas fir tell us that conflagration is the only way it can be done. Perhaps Pop Hawley had it right when he said clear cut and burn the slash.

It still bothers me to be told that I and my helpers were encouraging conflagration by putting out fires when they were small. We developed air tankers and rigged up a squad of little planes for fast attack.

JOE ELY '33  
CHICO, CALIF.

Due to the volume of correspondence, *Environment: Yale* regrets that it is unable to respond to or publish all mail received. Letters accepted for publication are subject to editing. Unless correspondents request otherwise, e-mail addresses will be published for letters received electronically.

## Fletcher Foundation Sponsors Lecture Series on Invasive Species

The Fletcher Foundation, a nonprofit charitable organization created by Alphonse Fletcher Jr. '04, right, chair and CEO of Fletcher Asset Management, sponsored a spring lecture series on “Invasive Species and the Public Good,” which examined the economic and ethical consequences of invasive species, and innovations in ecological management that are helping to control the spread of invasive species in the United States and abroad. The series, organized by the Global Institute of Sustainable Forestry (GISF) at F&ES, hosted experts from academia, nongovernmental organizations and the federal government. Pictured with Fletcher, right to left, are the series organizers: Ann Camp '90, lecturer and research scientist in stand dynamics and forest health; Mary Tyrrell '97, executive director of GISF; and Maura Leahy '05.





# Environment Yale



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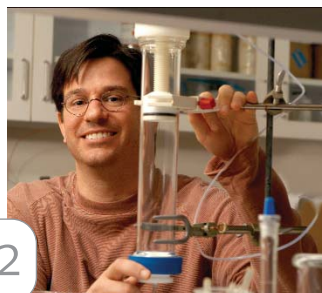
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James Gustave Speth

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Dean James Gustave Speth

There have been many rewarding moments in my first five years as dean, but one I'll not soon forget occurred last year when I was in Washington, D.C. I was taken out to dinner in Daniel Burnham's majestic Union Station by a group of our recent graduates, now all working in the Washington area. As we sat there around a rather large table, I did the predictable thing and asked them to tell me what they were up to. Listening to their answers, I began to say to myself: This is wonderful, very impressive. And, finally, I thought, yes, this is what our school is all about.

So let me share with you what they told me. In the process, you will get at least part of the answer to the oft-asked question: What do F&ES graduates do?

Becca Brown '03 related that she is a health scientist with the National Center for Environmental Assessment in the Office of Research and Development at the Environmental Protection Agency (EPA), where she is assisting in the planning and implementation of the National Children's Study, a nationwide epidemiological study of the environment and child development. She also has prepared a report on exposure to pesticides and childhood leukemia.

Kerry Cesareo '01 is the operations manager for the Global Forest & Trade Network (GFTN) of the World Wildlife Fund for Nature (WWF). GFTN is WWF's initiative to eliminate illegal logging and improve the management of threatened forests. As operations manager, Kerry helps to coordinate this network of 22 groups operating in 30 countries. She has also managed a grant from the U.S. Agency for International Development that enabled GFTN to expand into Indonesia, Malaysia, Russia, Ghana, Cameroon, Gabon and Brazil.

Since September 2003, Rachel Fertik '02 has been working on wetland and river protection at the EPA. She is trying to provide guidance following a landmark 2001 Supreme Court decision regarding the jurisdictional limits of the Clean Water Act. Depending on the administration and the lower courts' interpretation of the SWANCC

(Solid Waste Agency of Northern Cook County vs. Army Corps of Engineers) decision, there are potentially disastrous implications for wetlands and over half of the stream miles in the United States. Rachel has been mastering the legal landscape surrounding the case, analyzing the implications for aquatic resources of various policy scenarios and briefing management.

Josh Foster '93 has been working as a contractor with the National Oceanic and Atmospheric Administration (NOAA) Office of Global Programs for almost 10 years. Josh works in a strategic planning role in the NOAA Climate Program, tracking a variety of trends (e.g., policy and legislative priorities, hot media topics, emerging environmental issues) and seeking to adjust NOAA research to new realities and contexts. Josh's current focus is the development of "Climate Services" modeled on the pioneering work creating Weather Service back in the '40s and '50s.

Matt Hollamby '01 started his post-F&ES career with an advocacy position with the U.S. Public Interest Research Group, where he worked on public lands policy. In 2003, Matt accepted a position with the Wyss Foundation, a private charitable foundation dedicated to land conservation in the Rocky Mountain West. He manages the foundation's program on the National Landscape Conservation System (NLCS), America's newest land preservation system. The NLCS brings together 26 million acres of national monuments and conservation areas, wilderness, rivers and trails managed by the Bureau of Land Management.

Florence Miller '03 works for the WWF on environmental education. During the past year she has focused on a national campaign called "Smart Consumers," which seeks to educate young Americans about the connections between consumption and the environment and to encourage them to be smart consumers. See [www.ibuydifferent.org](http://www.ibuydifferent.org)!

Meg Roessing '03 is at the USDA Forest Service's Office of Policy Analysis, which provides policy analysis and briefing papers for the leadership of the Forest Service. She has worked on issues including loss of open space, the National Report on Sustainable Forests and the National Fire Plan.

Suzanne Sessine '02 works for the National Fish and Wildlife Foundation as a project administrator, where she manages grants supporting a variety of wildlife and habitat conservation projects, including Atlantic salmon conservation in Maine and bird conservation and longleaf pine restoration throughout the Southeast.

Kirsten Spainhower '03 is a development specialist in the Agriculture and Natural Resources group with Development Alternatives, and is providing technical advice for projects that will expand the water supply throughout Indonesia and agribusiness and ecotourism in watershed regions throughout Honduras. Until last September, she was consulting for the World Bank and part of a team that evaluated the World Bank's global programs. She has prepared an evaluation of the





# What Makes a Building Green?

## As F&ES plans a new home, that's the big question

By Richard Conniff

**W**hen a visitor arrives at the headquarters of the Genzyme Corporation in Cambridge, Mass., no signs announce that it is a green building. You could make a sales pitch there, do an interview, sign a contract, suck down coffee from a plastic foam cup, hustle off to your next appointment and never be any the wiser. It's just a handsome glass box with a 12-story atrium and office space for 900 people.

Stand still long enough and you may notice that the high-tech Venetian blinds are adjusting themselves a few degrees at a time to shield you from glare. When you enter a restroom, the lights flick on and a sheet of hand towel shoots out in readiness. Heliostats on the roof track the sun and radiate natural light into almost every corner of the building, via a system of

mirrors and matte-surface reflective ceiling tiles. The artificial lights overhead automatically dim themselves as the sunlight waxes, then brighten again as it wanes.

But you don't need to know about all that, or even care.

And this nonevent is really the big news about the green-building phenomenon. Largely forgotten or treated with open derision just a few years ago, the idea of a building in tune with the environment, where energy conservation is a top priority, has suddenly become mainstream. In Philadelphia, Comcast is building a green skyscraper 975 feet tall. In Lower Manhattan, a new high-rise apartment building is commanding premium rents with its green features, including a system that cleans and recirculates the toilet water. (The air filtration system, which removes 95 percent of particulate dust from air entering the building, is perhaps a stronger selling point.) In the State

of Washington, the city government has declared that it will build nothing but green. Even Wal-Mart and Target are building what purport to be green "big-box" stores.

So what does it mean to be green? Is it economically practical? Is it painful to the eyes? Is it even possible for a building 975 feet tall to be green? How about a suburban office park? Is the term *green building* itself an oxymoron?

This new wave of green buildings does not conform to a particular green aesthetic, probably a good thing given the ugly-duckling sensibilities of the first generation of green buildings in the 1970s and early 1980s. Modern green buildings tend not to employ bunker-style berms, in-your-face solar arrays or other ostentatiously environmental techniques. They also eschew the first-generation proclivity for righteous discomfort, on the theory that a building cannot truly be green if people don't like being there.

# What Makes a Building Green?

“These buildings have absolutely stunning performance—with average savings of 30 to 70 percent for energy use and 50 percent for water use. They treat the people who use the building with respect.”

*Rick Fedrizzi*

Green buildings now often look much like any other building, at least superficially. They simply do their job more efficiently and intelligently. Instead of loudly asserting that they are green or tacking green details onto an otherwise retrograde building, they now earn their green bragging rights by the numbers. The U.S. Green Building Council, a partnership of builders and environmentalists, sets standards through its Leadership in Energy and Environmental Design, or LEED, program.

LEED awards points for everything from recycling 75 percent of demolition and construction waste to providing the right ratio of bike racks to occupants. The total points add up to qualify a building for a LEED certified, silver, gold or platinum rating. Over the past four years, the Green Building Council has accorded green status to 188 buildings, with another 1,800 in the pipeline. By one estimate, the United States will have 10,000 LEED-registered buildings within the decade.

What’s caused this resurgence in a type of construction thought to be dead and happily forgotten? The recent spike in energy prices has undoubtedly helped. An investment in conservation may now pay for itself quickly enough to catch the attention even of businesses otherwise fixated on quarterly results. But the revival began well before oil topped \$55 a barrel, and is being driven by broader social and economic forces.

When it was founded in 1993, says CEO Rick Fedrizzi, the Green Building Council saw itself engaging in an environmental mission. The issues were obvious. Buildings eat up 39 percent of the nation’s voluminous energy budget and 70 percent of the electricity. The potential for that appetite to complicate everything from asthma in local children to foreign policy in the Middle East has become increasingly apparent. Global warming has also taken on greater urgency, for instance, with the Government Accountability Office recently reporting that ice melt and erosion are forcing some coastal villages in Alaska to relocate to avoid sinking into the sea. Even so, Fedrizzi says, “We had the message wrong.”

Developers and contractors got interested only after the first LEED buildings went up and the economic advantages became apparent. “These buildings have absolutely stunning performance—with average savings of 30 to 70 percent for energy use and 50 percent for water use,” says Fedrizzi. “They deliver great bottom-line value for owners. They treat the people who use the building with respect. And, oh, by the way, it’s good for the environment.” The pragmatic language of costs and benefits has proved more persuasive than environmental rhetoric. “Build green,” the slogan of the U.S. Green Building Council now urges. “Everybody profits.”

Some people in the building trades still bristle at the word “green.” They prefer to talk about “high-performance” buildings. But others who initially resisted the idea have increasingly discovered that environmental and economic interests overlap. Widespread acceptance, outside the United States, of the Kyoto Protocol on greenhouse gas emissions has put pressure on U.S. multinationals to cut back on energy consumption. Green credentials have become a prerequisite in some markets and a sales tool almost everywhere. Though some critics deride the checklist approach, LEED has also driven the green-building movement. The genius of the LEED checklist is that it appeals to business people comfortable with a by-the-numbers approach, and it provides a status system in which they can compete to hit their numbers.

But no single factor has given a bigger boost to the movement than the idea that green buildings help people live and work more productively. Studies suggest that patients in green hospitals recuperate faster; shoppers in green retail spaces spend more money; students in green classrooms test better; workers in green factories suffer fewer injuries; and overall productivity rises by anywhere from 6 to 16 percent, depending on the study. The idea that people do better in green buildings makes sense, says Fedrizzi, because they are no longer cooped up all day in sealed, climate-controlled boxes breathing toxic fumes. One study calculates that the traditional way of building, without regard for environmental considerations, costs the nation “on the order of \$60 billion” a year in lost productivity from “sick-building syndrome” alone.





© Ian Lawson

Hopkins Architects turned a bicycle factory into the Jubilee Campus for 2,500 students at the University of Nottingham.

Some advocates of the green-building movement say most such studies are too anecdotal. “There’s nothing rigorous you can take to an industry and say, ‘Here’s why you want to do this,’” says one engineer. What’s really needed, adds an architect specializing in green buildings, is a study that asks: “If you live and work in green buildings, do you use your health insurance less?” (To judge the existing studies for yourself, visit the “resources section” of [www.usgbc.org](http://www.usgbc.org).) Still, the common impression is that green buildings simply feel better.

“This is the first building I’ve ever been in that was built for people,” says Rick Mattila, sitting out on a planted terrace in the atrium at Genzyme, where he is director of environmental affairs. “It doesn’t feel like you’re inside a building. The air feels fresher, there’s natural light, there’s a sense of transparency and connection to nature. I’m surprised we didn’t grasp that concept a long time ago—getting out of caves and going outside.”

#### F&ES Setting a New ‘Green’ Standard

In this encouraging, but also somewhat challenging, context, Yale University announced last June that it will build a new home for the School of Forestry & Environmental Studies, and in the process take the green-building concept further than anyone has yet dared. University President Richard Levin promised that the proposed 50,000-square-foot building will “set a new standard for sustainable design, construction and operations.” F&ES Dean Gus Speth, who has been planning and fundraising for the project for the past five years, called the new building “a symbol of the school’s ideals and values, and a powerful expression in beautiful form of our relationship to the environment.”

At the top of the list of goals for the Kroon building, named for the environmental philanthropist Richard Kroon, Yale College Class of 1964, is a plan to make it not merely energy efficient, but also “climate neutral.” Those two words may sound modest. “An igloo is a climate-neutral building,” says Stephen Kellert, who is the Tweedy/Ordway Professor of Social Ecology and also chair of the F&ES building committee. “We don’t want to build an igloo.”

In fact, F&ES intends its new home to provide office space and vastly improved working conditions for about 75 faculty and staff, along with classrooms, a 125-seat auditorium and an

# What Makes a Building Green?

“You can do a green building and you don’t have to wear a hair shirt, you don’t have to have a moral agenda and you don’t have to use some wacky European technology that breaks in two years.”

*Paul Stoller*

environment center named for donors Carl and Emily Knobloch (see story on page 14). It aims for the building to make a major architectural statement. And it means in the process to transform the school, the landscape of Science Hill and the thinking of the entire university—while somehow at the same time producing zero net greenhouse gas emissions.

It is a high-stakes agenda, and not just in terms of the project’s considerable cost. When the Kroon building opens in 2008, on a site adjacent to the school’s present home in Sage Hall, it will not even be the first green building on Prospect Street. Just uphill, Yale’s new chemistry research building, due to be completed this fall, will seek LEED certified status. A few blocks downhill on the corner of Prospect and Trumbull streets, the new engineering research building, also nearing completion, will seek LEED gold.

The good news is that the experience so far has gotten Yale “to see that you can do a green building and you don’t have to wear a hair shirt, you don’t have to have a moral agenda and you don’t have to use some wacky European technology that breaks in two years,” says Paul Stoller, who holds a master’s degree from the Yale School of Architecture and is a director at atelier ten, the environmental design consulting firm now working on both the engineering and F&ES projects. At the engineering building, a single green technology, to recover the heat from stale air being exhausted, costs about \$100,000. But it will save up to \$75,000 a year in heating costs. “Yale said, ‘The economics are so good, why didn’t we think of this before?’”

And the bad news? Though such rivalries do not figure in any official agenda, outside observers will naturally expect the environmentalists at F&ES to up the green ante on a bunch of (with all due respect) chemists and engineers. The project also faces healthy competitive pressure from environmental programs at other schools, including the University of Michigan, Oberlin College and the University of California at Santa Barbara, now already housed in green buildings. What exactly will Yale do better?

“Yale is one of the great institutions in the world,” says Richard Cook, whose New York firm, Cook + Fox Architects, is now at work on a green skyscraper in midtown Manhattan for Bank of America, “and if they make a real commitment to green, we will all be watching to see what they accomplish.”

## Making Sense of a Difficult Site

The challenge of transforming F&ES itself is relatively straightforward. The new building will bring together faculty now scattered across eight buildings, enabling the school to evolve into a more cohesive unit. “We have a highly disparate faculty,” says Kellert. They range from tropical ecologists to industrial ecologists, and from silviculturists to bioethicists. “It’s hard for people of different backgrounds, different epistemologies, different vocabularies, to work together. Just physical proximity will help.”

The plan is for F&ES to continue to occupy its present quarters in Sage Hall, and also take over the Prospect Street wing of Osborn Memorial Laboratories, just downhill. Both will undergo green retrofitting. The Kroon building will stand somewhere in between and tie everything together.

Kroon will rise on a site that is now a void on the campus landscape, the sort of place people walk past for years without realizing that there’s anything there. From the sidewalk on Prospect Street, it’s just a battlemented sandstone wall with barred jailhouse windows. Behind the wall, whining, humming and occasionally unleashing a foghorn blast of ill wind, is the university’s Pierson-Sage power plant. It’s visible from the buildings on either side as a flat asphalt roof punctuated by an odd sculpture garden of rusting domes and muffled exhaust pipes.

“My power plant,” says Dean Speth, not fondly. “It’s an obnoxious neighbor, and it’s inconsistent with what we want to do and what Yale wants to do.” The plant, which provides steam distribution and backup heating to Science Hill, including F&ES, will be decommissioned and removed.





Courtesy of Genzyme Corp.

The louvered panels below the skylight and the florets above the interior garden diffuse harsh light and reflect and distribute soft light into the interior of the Genzyme Center in Cambridge, Mass.

“Yale is one of the great institutions in the world, and if they make a real commitment to green, we will all be watching to see what they accomplish.”

*Richard Cook*

But the task of building green will be complicated by the site’s continuing role as a nexus for underground utility lines. An ugly tangle of service roads and temporary parking lots also mars the site. Getting rid of them means figuring out some better way to handle the mundane business of deliveries, repairs and garbage removal for Science Hill. To add to the difficulty, the site slopes steeply, both from back to front and from the raised courtyard between Sloane Physics Lab and Sage, on one side, down to the cluttered courtyard of Osborn Memorial Laboratories on the other. People connected with the project describe the site as “a Gordian Knot” and, less kindly, “a buggeration.”

On the other hand, F&ES is a school of land use and management. Speth describes the site as “perfect in terms of the connectivity we seek, linking the school’s space and tying us to the other parts of Yale with which we work.” The project planners’ definition of green building, says Kellert, looks beyond low impact—the rudimentary green-building business of merely avoiding bad things—to ways of making a positive impact, particularly by reconnecting people to the landscape. F&ES and the university are thus treating the Kroon building as an

opportunity to rethink the entire character of Science Hill. Or as Kellert puts it, more ambitiously, to improve the “degraded and denaturalized landscape that characterizes much of Yale.”

As is, Science Hill makes little human sense. The corner architecture of Osborn Memorial Laboratories, with its turreted gateway at Prospect and Sachem streets, looks like a grand entrance to the entire area. But it leads to a parking lot. For that matter, so does almost every other access point. Pavement now covers one-third of the 32-acre Science Hill parcel, and buildings bring the area under impervious surfaces up to about half. Pedestrians must compete with pickup trucks, storage containers, recycling bins, dumpsters, construction debris, old furniture and even a discarded Royal Standard typewriter. The courtyards and plazas that are not cluttered manage instead to feel desolate, particularly around Kline Biology Tower at the heart of Science Hill.

“We want Science Hill to be a destination that students want to go to,” says Kellert, “instead of a place they have to go, and then leave as quickly as possible.”

As a key step toward that goal, the university has given F&ES stewardship over a three-and-a-half-acre parcel running from the back of the Kroon site and the base of Kline down to Hillhouse Avenue and Sachem Street. Despite its grand name, Sachem’s Wood is now basically a lawn with a few oak trees and some ugly asphalt footpaths. With guidance from F&ES, it will become a series of yards planted with native species. A new café at the foot of Kline will give Science Hill a social center and open onto one such yard. The yards themselves, which will extend down around the Kroon building, will become outdoor gathering spots. The new plantings, marshy areas and streams will also serve to absorb all rain and snowmelt on site, so that Science Hill no longer contributes to overflow problems in New Haven’s combined storm and sanitary sewers.

In most construction projects, says Kellert, the building is the painting and the landscape is just the frame. “But being given stewardship for Sachem’s Wood, we have talked about landscape much more, and we have much higher aspirations.” The landscape, he says, will be “ecologically, experientially and educationally relevant” to the school, a means of living and teaching the day-to-day management of natural resources, rather than merely talking about it in the abstract.

And the Kroon building itself?

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“We want Science Hill to be a destination that students want to go to, instead of a place they have to go, and then leave as quickly as possible.”

*Stephen Kellert*

## Sorting Out Thousands of Details

Entering the discussion over what should go into a green building can be daunting for the number and complexity of the decisions required, and it is easy to get tangled up in the minutia. For instance, a paint that's rated low in volatile organic compounds, or VOCs, sounds good. But some paints earn the rating by cutting back on pigment. So the contractor has to apply twice as much paint or repaint more often, ultimately producing more VOCs (and labor cost) than a conventional paint. Natural ventilation—usually in the form of windows that open—sounds green. But if it's poorly designed, it can use more energy than a sealed building. Moreover, the filtered air inside a modern green building may be cleaner than what would come through the windows. In a city like New Haven, natural ventilation may make sense, but only in spring and fall. So people need to open or close their windows more or less on schedule. (At the Chesapeake Bay Foundation's new LEED platinum headquarters, signs actually come on, saying “Open the Window.”)

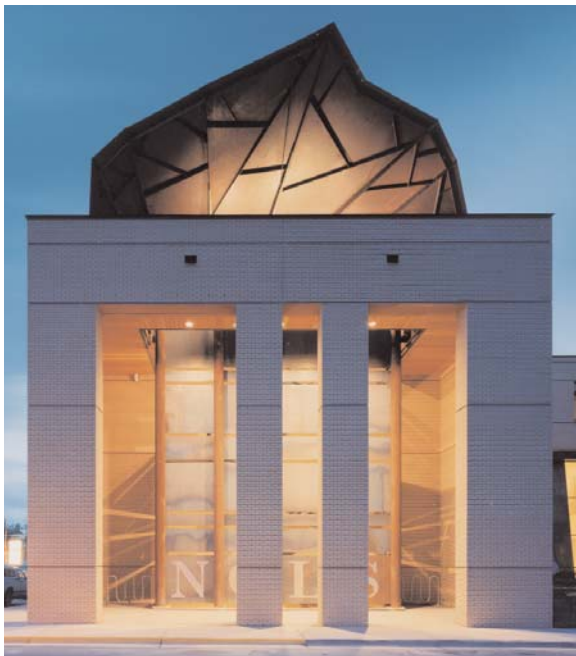
Even design elements that proudly announce their environmental credentials sometimes fail under close scrutiny. Green buildings in the 1990s often featured a “living machine,” a sort of greenhouse where sewage provided the nutrients for growing tropical foliage. “Many people believe that it was hard to get much greener,” writes Jason McLennan in *The Philosophy of Sustainable Design*, but it is “not clear if the living machine automatically results in reduced environmental impact.” Such systems are expensive to build, consume valuable square footage, incur significant energy cost embodied in the hardware and “do not actually reduce the amount of water used.”

But other green technologies can add up to astonishing savings. A waterless urinal, for instance, looks much like a conventional one. But it lacks the water-supply line and the flush hardware, so it's cheaper to install and maintain. It's odorless, because the drain uses a special filter containing a liquid that's lighter than urine, so it floats on top and seals off waste from the room atmosphere. And it is quickly becoming an accepted standard. At the new Bank of America skyscraper in midtown Manhattan, using waterless urinals will save an estimated 3 million gallons of water a year, or “2,529

miles of these,” says architect Richard Cook, holding up a bottle of Evian, “enough to reach from New York to San Diego.” The concrete at the same building will use just over half the conventional mix of Portland cement. By substituting blast furnace slag, a waste product, Bank of America figures that it will reduce the pollution from the concrete manufacturing process by 56,000 tons of carbon dioxide.

A few years ago, asking a developer or a contractor to try these green technologies usually elicited the phrase “You people must be out of your minds,” often combined with an automatic 15 percent “fear factor” premium. No one wanted to spend the time or money to sort out which ideas were really workable, and which ones only sounded that way. When a client first proposed using slag, Empire Transit Mix, a concrete supplier in New York, worried that it would take longer to cure, interfering with tight construction schedules. “We were against it,” says a manager there. “And we were pleasantly surprised” when the new mix not only cured in time, but also produced a stronger, more solid mass of concrete.

Another New York-area contractor, Cardella Carting, felt pressure from clients to expand recycling to include even difficult products like used wallboard. After buying new equipment and setting up disassembly lines, the company now routinely recycles almost 70 percent of demolition debris and 80 percent of waste from new construction. Among other products, it chips up scrap lumber for mulch, and harvests 15 tons of used nails every day. As a result, the company says it is “very competitive” with less-progressive rivals and “even a little cheaper.”



© Jeff Goldberg/Esto

Centerbrook Architects design for the National Outdoor Leadership School Headquarters in Lander, Wyo., uses products that were recycled and from renewable sources, and maximizes natural light throughout the interior. A “rain catcher” sits atop the roof garden.





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*Dean Speth*

above: The Wellcome Trust in London by Hopkins Architects promotes research to benefit human and animal health.

This pattern of going from skepticism to a dawning awareness of the marketplace advantages of green has by now been repeated often enough to undercut the fear factor. The rush by manufacturers and retailers to supply growing demand has also made green technologies more widely available, often at little or no extra cost. Michael Deane, a sustainability specialist for Turner Construction Co., one of the nation’s top builders, says it’s now possible to get to “solid LEED silver” for a 2 to 4 percent premium, “and the building is going to be 20 percent cheaper to run. So you get payback in two or three years, and then the extra savings are forever.”

But in making a green building, paint, plumbing and 100,000 other such decisions are trivial relative to what the architecture itself can do.

#### **Hoping to Get the University to Think Differently**

When you visit F&ES four or five years from now, you will, in all likelihood, go up a broad set of stairs and ramps, where the Pierson-Sage power plant now stands, onto an open plaza planted with native trees and shrubs. There’ll be an entry to Sage Hall in the gable end to your left and an entry to Osborn Memorial Labs in the gable end to your right. Straight ahead will be the gable end of the new Kroon building, a long, slender three- or four-story structure with a rounded roofline, running straight back into the embrace of Sachem’s Wood.

The design, by Hopkins Architects, an award-winning London firm, is still in the earliest stages of discussion, with groundbreaking scheduled for mid-2006. But because the intent is to let the architecture do much of the work of heating, cooling and lighting, the east-west alignment is almost certain. It maximizes exposure on the southern side, toward Osborn, increasing solar heat gain in winter and natural lighting year-round. Because of the sloping site, the glass wall on the south side will probably extend one floor lower than the wall on the north side. Among other things, having the



# What Makes a Building Green?

bottom floor half-buried in the slope will help to avoid overwhelming the narrow site with the sheer mass of a 50,000-square-foot building. That's also one function of the rounded roofline, which will accommodate usable workspace, probably combined with planted roof terraces, in what might otherwise be just an attic.

The building is likely to have a cloister-style walkway along the southern façade, and another, one floor up, on the north side, with both intended to encourage the connection between interior and exterior spaces. The planners are debating whether enclosed corridors or bridges will connect the three F&ES buildings, one argument being that going outside should come naturally at a school of the environment. Free-standing stairwells with aluminum wind cowls on top will use a natural "stack effect" to drive the building's ventilation system. For symbolic reasons (and also to meet the LEED requirement for relatively local materials), the building will prominently feature timber from the school's own forests. One possibility: mechanized wooden shutters allowing the building to button itself up at night and hoard its energy.

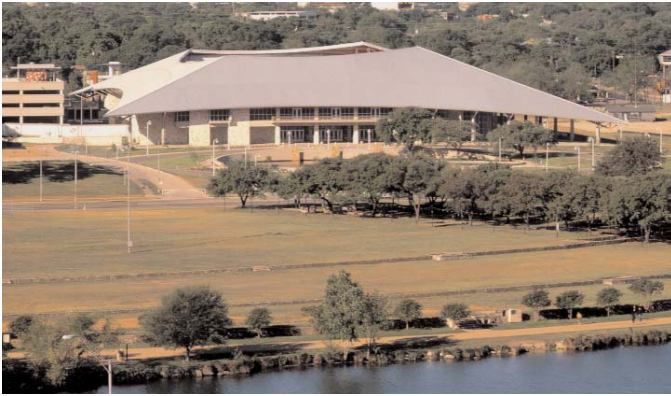
But none of the standard tools in the architectural kit—good siting; natural ventilation; optimal use of low-E glass and insulation; careful deployment of stone, brick or concrete for thermal mass; and skillful control of light and shade—will make the Kroon building climate neutral. Before it even hired an architect, F&ES commissioned a study to

get a sense of just how big a challenge those two words represent. It mapped out seven different energy scenarios. By carefully following the LEED checklist, a building of the proposed size could theoretically qualify as green under any of the scenarios. But in the worst case, getting all its energy needs supplied by the existing Yale central power plant, it would pour 7 million pounds of carbon dioxide into the atmosphere annually. (In fact, the intent is to limit use of the central plant to emergency backup.) Only one of the scenarios produced no carbon dioxide and it relied, among other measures, on energy generated from waste vegetable oil—kitchen grease—a source with obvious problems of supply, handling and storage.

It is possible to make almost any building nominally climate neutral by buying renewable energy, by paying someone else not to pollute or by planting new forests as a means of sequestering carbon dioxide. But the goal for Kroon is to think inside the box, getting to climate neutrality on the site of the building itself. The list of ideas under consideration includes solar hot water and solar photovoltaics, either in the roof or embedded in the façade of the building. But it is possible that space and economic considerations may make these technologies impractical. At least in the early stages, building planners also intend to remain open about what might sound to a university manager or a hardboiled contractor like weird—even wacky—European ideas.







The Palmer Events Center in Austin, Texas, by Centerbrook is set in a park across the Colorado River from downtown Austin. The building uses photovoltaic cell arrays to generate electricity. The standing-seam roof is reflective and open at the top to allow air to flow up and out, creating a breeze on hot days using natural convection.

Deep beneath the entry plaza, for instance, the shell of the Pierson-Sage plant might house a roomful of upright concrete slabs with corrugated surfaces, spaced close together. Cool night air would wind slowly through this labyrinth, passing its energy to the concrete, to be released into the building for daytime cooling. Labyrinths have demonstrated their usefulness in green buildings in Europe, but they require costly excavation, ample space and lots of concrete (meaning more carbon dioxide).

The architects have also discussed cooling the Kroon building in summer with insulated underground storage areas filled with the previous winter's snow. The Swiss already employ this technique, which has the advantage of not leaving snow piled up all winter on sidewalks and parking lots. But again, it would require excavation under Kroon, and snowfall in the Alps is more reliable than in New Haven.

Wind is also unreliable on the site, but another idea being considered would put a sort of horizontal windmill along the ridgeline of the roof. It would be shaped like the blade of a reel-type lawnmower and driven by the force of wind accelerating up the airfoil surface of the rounded roof.

It is too soon to say whether any of these ideas will actually end up in the mix of techniques used to make Kroon a comfortable and climate-neutral home for F&ES. But by at least seriously considering innovative technologies, the school also clearly hopes to get the university thinking differently about all its buildings. If Sachem's Wood flourishes, Kellert suggests, maybe the rest of the university will realize that it does not need to be a grass monoculture. If space considerations prevent snow storage from working at Kroon, maybe someone else will start to look covetously at the heaps of snow in local parking lots.

In the long run, the one truly weird idea is that we can continue to dump greenhouse gases into the atmosphere in almost endless quantity. Future generations living with the consequences of global warming will almost certainly look back and think, "You people must have been out of your minds." On the other hand, they may also look at the green-building movement, and Yale's part in moving it forward, and think, "This was one place where they finally started to get it right." **EY**

The following individuals have made generous gifts enabling F&ES to create a model green building. Their support is part of the school's \$65 million campaign.

### Edward Bass

Edward Bass made a substantial lead gift toward the construction of the new building. He has dedicated a great deal of his career to environmental issues. A successful investor and venture capitalist, he headed numerous ventures designed to integrate ecological awareness with economics. He is chair of the executive committee of the World Wildlife Fund, and serves on the executive committees of the New York Botanical Garden and the Botanical Research Institute of Texas. He is a successor fellow of the Yale Corporation, the university's governing board, and co-chair of the F&ES Leadership Council.

Bass is an experienced rancher, with an interest in Fort Worth's heritage as a cultural center of the Texas cattle industry. He manages ranch holdings in Texas and the Flint Hills of Kansas that are dedicated to the sustainable management of the tallgrass prairie ecosystems, including controlled burning and seasonal cattle grazing as a ranchland management tool.

### Richard Kroon

Richard Kroon, Yale College Class of 1964, with the support of his family, has committed a multimillion-dollar gift for the new building that will bear his name. Before retiring in 2001 from the investment brokerage firm Donaldson, Lufkin and Jenrette, he served for 20 years as the managing partner of that firm's venture capital fund, the Sprout Group. His Yale undergraduate studies were in economics, but he was moved to make his contribution to F&ES after conversations with his late son, Andrew, who was a Yale student, and Dean Speth, an undergraduate classmate of Kroon's.

"I'm just so impressed with the school's commitment to train people to be leaders when we really need that leadership in this field," Kroon said in the Fall 2004 issue of *Environment: Yale*. "We're going to need clear-thinking people to guide us in this so-important area over the next several decades."

### Gilman Ordway

Gilman Ordway, Yale College Class of 1947 and owner of Fish Creek Ranch in Wyoming, made a substantial lead gift in support of the design and construction of the planned new facility. Ordway is an environmentalist, volunteer, philanthropist and private investor. After obtaining a law degree from the University of Colorado, he bought 80 acres of land to establish the now 382-acre Fish Creek Ranch. He is a member of the board of directors of the Jackson Hole Land Trust and The Nature Conservancy, and a former board member of the World Wildlife Fund.

### Carl Knobloch

(See story on page 14.)

### Anonymous

Two anonymous donors have contributed a total of \$3 million, envisioning the new building as a gathering place and opportunity to extend F&ES leadership into the field of design.

# Kroon Building Architects: First Rule of Green Design Is Make People *Happy*

© photos by Tom Miller



Sir Michael Hopkins of Hopkins Architects



Michael Taylor of Hopkins Architects

By Richard Conniff

**T**he LEED green-building checklist awards points for using materials manufactured within 500 miles of the building site, to reduce “embodied energy” from transportation costs. So it might have seemed unusual, even inconsistent, that all three finalists in the architecture competition for the new F&ES building were Europeans, with the contract ultimately going to London-based architect Sir Michael Hopkins. But the logic of going outside the region was straightforward: because of higher energy costs and the European Union’s commitment to the Kyoto Protocol, Europeans have moved far

ahead of Americans in sustainable design. So much so that Centerbrook Architects and Planners, a prominent Connecticut firm that had competed for the design contract, agreed instead to serve as executive architects, something the firm has never done before. “We really felt there was a lot to be learned here,” says Centerbrook partner Mark Simon.

Both firms have made their names as architects, rather than as green architects. Both also argue that the first criterion for a green building is a design that appeals to people. “If a building is not popular, is not liked, does not have social capital,” says Michael Taylor, a director at Hopkins Architects, “it’s not going to work. The building has to be valued, has to last, has to stand up.”

Buildings by the Hopkins firm typically display the familiar modernist drive to let form follow function. But along with steel and glass, they often incorporate traditional materials for their tactile appeal and for their potential to fit the local context. From the green perspective, brick and stone also provide thermal mass for better control of passive heating and cooling. When the firm designed a new opera house at Glyndebourne, on an estate in the Sussex countryside, it reopened an old brickworks to match the facade of the existing country house. When it enclosed the old refectory at the thousand-year-old cathedral in Norwich, it incorporated remnants of the original walls. But just inside the walls, it added slender laminated oak columns topped with stainless steel connecting parts to carry lightweight load-bearing structures out into the roof. The *Times* called the result “a building of entrancing beauty.”

Where some other modernists simply expose the inner workings of their buildings, Hopkins aims to minimize them, stripping away clutter and reducing the use of materials by making building structures perform multiple functions. For example, instead of the usual combination of solid concrete slab floors and ductwork hidden behind drop ceilings, the slab itself becomes the ductwork, with passageways built in for heating and air conditioning. There’s no need for a drop ceiling, because the slab also serves that function.

For Portcullis House, the new parliamentary office building on the banks of the Thames beside the House of Parliament, Hopkins had the slabs poured offsite with a simple pattern on the underside, to create a ceiling of a repeating barrel-vault design for the floor below. Because the slabs

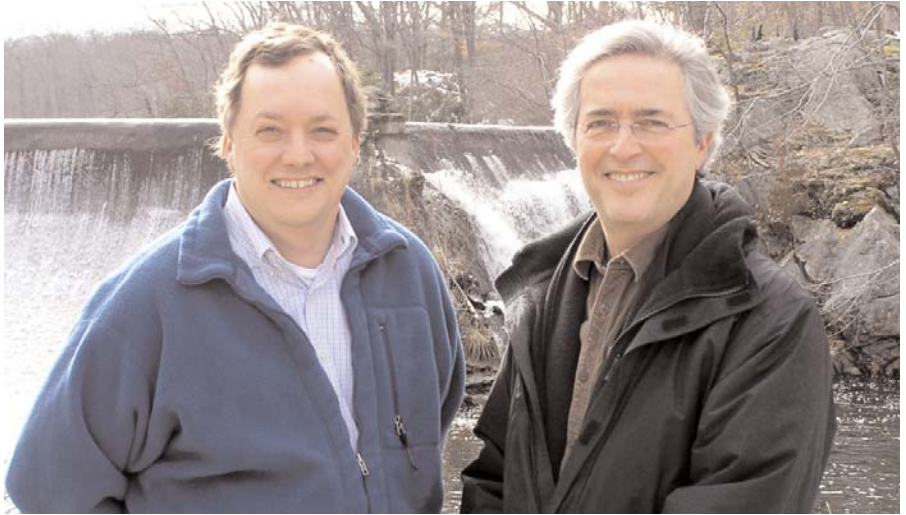
“If a building is not popular, is not liked, does not have social capital, it’s not going to work.”

*Michael Taylor*



“We’re responsible for pointing out the practicalities of working with U.S. law, working with Yale, translating from English to English.”

*Mark Simon*



© Jeff Goldberg/Esto

James Coan, left, and Mark Simon of Centerbrook Architects and Planners outside their office in Centerbrook, Conn.

are made of white concrete, they also serve to reflect daylight into the recesses of the building. Even the building’s black, mansard-like roof is formed of concrete ductwork, for the ventilation system. To complicate matters, the roof also had to be designed to last 200 years and resist mortar attack by terrorists.

Centerbrook’s Mark Simon credits Hopkins with achieving “elegance” in the way it “gets more out of less.” What the client ends up with, he says, is “a really good solid platform and wonderful light-filled spaces.” Hopkins also has an orderly penchant, part classicist, part modernist prefab, for “repeated generic space, which can be changed easily without much cost, depending on the use.”

The two firms have much in common. Both, for instance, are quartered in converted industrial sites. Hopkins is based partly in a former clothing factory, partly in prefabricated buildings of its own design, in London’s Marylebone neighborhood. Centerbrook occupies an old drill bit factory in Centerbrook, Conn., partly powered by a water mill (and with solar photovoltaics currently being installed on the roof). At both companies, you have to go outside to get to different parts of the firm. In the projects they design, both also like to tease out the nuances of the inside-outside dynamic. “The more we know about each other, the more we feel we’re sister firms,” says Simon.

The partnership between the two firms is likely to benefit from Centerbrook’s deep roots in the Yale community. Centerbrook, which designed the six-year-old Yale Child Study Center building, was founded in the 1970s by Charles Moore, a celebrated dean of the Yale School of Architecture. Four of the five current partners were Moore’s students, and the firm is a major contributor to Yale’s architecture school program in which students design and build a house in New Haven at the end of their first year.

Moore was a playful, eclectic architect who believed, says Simon, that “architecture should be able to talk in all tenses, past, present and future.” He also believed that it was worthwhile actually listening to clients and that “if you were bright enough you could make great architecture out of that.” Centerbrook has also inherited Moore’s belief in the value of place.

As executive architects on the F&ES project, Centerbrook’s role is “to be sensitive to what Hopkins is doing,” says Simon, “and on the other hand to be sophisticated enough and experienced enough to nudge them back from fights that can’t be won. We’re responsible for pointing out the practicalities of working with U.S. law, working with Yale, translating from English to English.”

The common experience of architects working with universities, he says, is that managers don’t always care what gets built, as long as it’s done on time and on budget. The academics, on the other hand, are passionate about what gets built, but not necessarily that it get done any time soon. “Our job is to make sure we get the best out of both these equations. That is, we want to see a great building actually get built.” **EY**

# Carl Knobloch's Environmentalism

## Rooted in Simple Beginnings

By Jackie Fitzpatrick

**C**arl Knobloch Jr.'s passion for the environment is rooted in simple beginnings. A Yale alumnus, Class of 1951, who has donated \$4 million toward the construction of a new home for the School of Forestry & Environmental Studies, Knobloch grew up on a dairy farm in Stamford, Conn. Well-stocked with cows, pigs, sheep and poultry, it had room for a young boy to roam. "It was an island of open space in a growing community," he said. "I developed a fondness for the natural world, if you will."

When he wasn't on the farm, Knobloch liked to spend time at the American Museum of Natural History in Manhattan. He learned taxidermy, preserving butterflies and birds, mentored by a friend who worked at the Stamford Museum & Nature Center. His family thought he would someday become a curator of a natural history museum. "It was great fun," he said. But soon enough, school took him from the family farm, and as he grew older, he found that "business was my thing."

He earned an economics degree at Yale, graduated from the Harvard Business School and started a career that would take him into the areas of finance, real estate and oil production. As he traveled around the world and throughout the United States, he noticed the effect of urban sprawl, the degradation of land and the winnowing of hallowed open space. When it came time for Knobloch to retire, he decided to focus his considerable energy on what had mattered to him so much in his youth—the land.

Dean Speth had heard of Knobloch's commitments to environmental causes. Knobloch had great respect for what Dean Speth was doing at Yale. They discussed the possibility of working together on creating an environment center in the Kroon Building, the \$27 million green building that will be the new home for F&ES. The building, to be located next to Sage Hall, will feature a sustainable design and utilize renewable materials, and will become a symbol of the kind of environmental progress and change the larger world can and should consider.

"One day I woke up, and I thought, 'Well, you know, it's about the greatest thing I can think of. Not only is Yale the number-one school for the environment and forestry; with Gus at the helm, it couldn't be better,'" Knobloch said. "Nothing is more important than training our future leaders to focus on this area."

The Carl and Emily Knobloch Environment Center will become a major site for conferences, public lectures and receptions, and will host distinguished visitors from around the world. Knobloch hopes the building and its programs will inspire all faculty, students and staff at Yale and the general public to see the environment as their concern. Dean Speth envisions the center as "a watering hole for all of Yale. The Kroon Building will be a real learning experience, an eye-opener," he said. "Carl is right. It is very important that we do engage the whole university." The offices of the undergraduate environmental studies program will be housed in the building, as will



Carl Knobloch

© Laura Heath



“Not only is Yale the number-one school for the environment and forestry; with Gus at the helm, it couldn’t be better.”

*Carl Knobloch*

the office for the student environmental coalition. “We have a huge problem of loss of the American landscape, an extraordinary deterioration of forests in other areas. This is a time of crisis,” Dean Speth said. “We see the Kroon Building and the Knobloch Center as a real part of environmental education. No student should ever graduate from Yale without knowing about different environmental conditions and trends.”

Knobloch said that when he was an undergraduate at Yale, his focus was on whether to major in medicine or economics, not on the environment. “Too old too soon, too late too wise,” he said. But over time that was to change.

His career and his conservation efforts are based on a few principles: be curious about an opportunity, research it exhaustively, take the risk and dive in. While he was still a student at the Harvard Business School in the 1950s, there was an increasing trend toward taking American products and developing them in foreign areas, so Knobloch went to Southern Rhodesia (now Zimbabwe) and started the Rhodesia Chemical Corp. He also developed Central Africa’s first drive-in movie theater in 1954, and people traveled for miles for the chance to watch a film. “It was an outstanding success,” he said.

In subsequent years, his career took him back to New York into industrial finance, and to Jacksonville, Fla., where his company financed and built small rural homes in the South, eventually growing into the South’s largest source for home improvement financing. Knobloch later became CEO of Production Operators Corp., which specializes in the handling of gases for maximizing the recovery of hydrocarbon resources. Over the course of 32 years, the company grew tremendously. One of its successes included securing the largest contract ever outsourced by the country of Venezuela. He was particularly proud that they were a “highly environmentally sensitive company.”

“I’ve always been a seven-day-a-week, 15-hour-day worker,” Knobloch said. “No complaints. I enjoyed it.” Retirement didn’t mean slowing down. Living part of the year in Jackson Hole, Wyo., renewed his interest in the environment, and he finally had the time to devote to it. In 1999, he co-founded the West Hill Foundation for Nature, and the foundation’s representatives gathered in Jackson Hole with representatives from more than 20 conservation programs, including The Nature Conservancy and the Trust for Public Land, to help them develop new conservation strategies and find new means of funding. With the help of Dean Speth, the foundation commissioned a study by the World Resources Institute, which concluded: “Open space critically important to America is disappearing at an alarming rate. The majority of America’s open spaces are privately owned. . . . To save them, we must provide the right incentives for landowners to consider conservation over development.”

House Resolution 2036, the “Paul Coverdell Homestead Open Space Preservation and Conservation Act of 2003,” or “The Open Space Act,” aims to do that. Knobloch plans to continue to push for the passage of this act, which he said is the most comprehensive conservation legislation before Congress.

At the American Museum of Natural History, where Knobloch spent many happy hours as a boy, Theodore Roosevelt’s words grace one wall. “The nation behaves well if it treats the natural resources as assets, which it must turn over to the next generation increased, and not impaired, in value.”

This has become Knobloch’s mission. “Once it’s paved over, it’s gone,” he said. **EY**

# Climate Change After the Elections

## *What We Can Do in America—A 10-Point Plan*

By James Gustave Speth

**Editor's Note:** What follows is a condensation of the Afterword prepared by Dean Speth for the paperback edition of his book, *Red Sky at Morning: America and the Crisis of the Global Environment*, first published in 2004 by Yale University Press.

**T**he paperback edition of *Red Sky at Morning* contains a new Afterword that reviews the mounting evidence of serious climate change and addresses what we can do now in the United States. If climate change is not addressed with urgency, the consequences could be devastating for America's natural areas. From the vast wilderness areas to the small community land trust lands, from the path-breaking efforts of Theodore Roosevelt to today's conservation efforts—our protected areas are now at risk. We could witness the greatest tragedy in American conservation history—if we let it happen. Another climate risk of potentially devastating consequence is sea level rise, which like ecosystem disruption has already begun. Fortunately, the outlines of a domestic response are visible, in part because of the good efforts already being made to move our country in the right directions. What follows is a 10-point plan of action that builds on the many positive, encouraging initiatives already under way.

### 1. State and local action

Our goal in the years immediately ahead should be to strengthen and deepen state and local commitments and actions. We should work to get every state to adopt an overall greenhouse gas (GHG) reduction plan like Connecticut's, a renewable energy portfolio standard like New York's, the California plan for vehicles, and an energy efficiency program that covers everything from much tighter building codes to transportation and land-use planning. We should also seek to spread "cap-and-trade" programs, such as that being developed in the Northeast, across the country.

### 2. Carrots and sticks with business

Many corporations are not waiting on federal action on climate and are taking significant, voluntary initiatives to reduce their GHG emissions. These efforts include setting GHG reduction targets, improving energy efficiency, investing in the development of clean and renewable energy technologies, increasing the use and production of renewable energy, improving waste management, investing in carbon sequestration, participating in emissions trading, and developing energy-saving products. Some companies also are speaking out about climate change and encouraging stronger government efforts to reduce emissions throughout the economy.

Our strategy regarding business should be to escalate on all those fronts that recognize and reward positive performance by business as well as those that put serious pressure on business to reduce emissions.

### 3. Greening the financial sector

It is estimated that socially responsible investment portfolios in the United States now exceed 2 trillion dollars. More important in terms of impact on business behavior, large lenders, investors, and insurers are becoming increasingly sensitized to financial risks (and opportunities) presented by climate change.

Investors large and small should use shareholder resolutions and negotiations to pressure companies to improve climate-risk disclosure and to take risk-reducing actions. The Securities and Exchange Commission

should require companies to disclose fully the financial risks of global warming. Mutual fund managers and other investment managers should be pressed to develop climate-risk competence and to support climate-risk disclosure and action at companies in which they are investing.

### 4. A sensible national energy strategy

National energy legislation will be on the congressional agenda in the period immediately ahead. Concerns about the links between national security and energy security, volatile foreign sources and international entanglements, and tightening supplies of oil and other considerations will drive the agenda more than will climate and the environment. Our goal in this area must be national energy legislation that moves strongly forward on the road to a low-carbon economy.

### 5. Enact McCain-Lieberman

The McCain-Lieberman bill is modest by international standards, seeking only to cut U.S. greenhouse gas emissions to 2000 levels by 2010, but it is the best hope of getting the United States on the path to emissions reduction. The bill garnered 43 votes in the Senate in 2003, and McCain and Lieberman are determined to keep raising the issue. Our goal here must be to build broader public support—from business, universities, religious organizations, the land trust community, and elsewhere—to get McCain-Lieberman passed into law.

### 6. Hands across the seas

The signers of the Kyoto Protocol, now including Russia, represent an international coalition that can press the United States to start a credible program of GHG emissions reduction and also to join the climate treaty process with other nations. European advocates of trade sanctions and other measures aimed at the United States are not going away. The European Union could also invite U.S. states to participate in its cap-and-trade GHG market. If it is too late for the United States to comply strictly with the Kyoto Protocol, it is certainly not too late to begin rapidly down that path and catch up during the more ambitious post-2010 phase of GHG reductions.



## 7. Climate-friendly cooperation with developing countries

The international community, including the World Bank and other development cooperation organizations, will have to launch major new programs far beyond those now available under the Global Environment Facility and elsewhere. Such programs should include large-scale capacity building assistance, urgent transfer of green technology, programs to link access to capital at preferential rates to climate-friendly investments, expanded incentives to encourage international investment in climate-supporting projects, country-specific North-South compacts to reverse tropical deforestation, and lighter tariffs and improved economic access to countries complying with climate agreements, as the European Union proposed in 2004. A major reorientation of the international lending portfolios of public and private financial institutions is imperative.

## 8. Climate-friendly consumers and institutions

We can each do our part every day as climate-conscious consumers, and we can urge the adoption of tougher building codes, appliance efficiency standards and mileage standards, better mass transit, and much else. Also, we need a clear, accurate system of “climate-friendly” labeling of consumer products. We can make a big difference by getting the institutions with which we are associated to take climate action, starting locally, and then expanding regionally and nationally.

## 9. Limits on coal

We will need a combination of national, state, and local efforts to ensure that climate and other environmental risks are taken into account in decisions regarding new coal plants, 118 of which are now being planned in 36 states. In Congress, the prospect of all these coal plants should spur (with enough local backing) the so-called four-pollutants bill, which would regulate not only sulfur and nitrogen oxides and mercury emissions from power plants, but also carbon dioxide.

## 10. Public awareness and a movement of concerned citizens

There is the need for a new movement of civic, scientific, environmental, religious, student, and other organizations with enlightened business leaders, concerned families, and engaged communities, networked together, protesting, demanding action and accountability from governments and corporations, and taking steps as businesses, consumers and communities to realized sustainability in everyday life. There is much to be done to increase public awareness and build such a movement. Changing U.S. energy and climate policies has proven extremely difficult in the face of powerful industry opposition. That is why a powerful popular movement for change is so essential. **EY**

# Yale Delegation Addresses World's Environment Ministers



© Christine Kim

Ann Grodnik '06, SOM '06, and Robyn Meeks '05 plant a tree in Murang'a, Kenya, during a visit with Wangari Maathai, founder of the Green Belt Movement. The visit coincided with an address by students on international environmental governance to officials of the United Nations Environment Programme in February.

Global Ministerial Environment Forum in Nairobi. Toepfer welcomed the Yale assessment and acknowledged the pressing need to reform UNEP and find a clearer vision for the organization. A final report with detailed recommendations for UNEP reform will be published this summer by F&ES.

In addition, students and faculty were hosted by the Green Belt Movement at its training center at Langata in Nairobi. They accompanied Maathai on a tour to a deforested area in Aberdare that is being cultivated as a tree farm. “Listen, you cannot hear any birds, any life. That is because our birds don't know how to make nests in these foreign trees. This tree plantation is causing droughts, flooding downstream and destroying people's lives,” said Maathai, whose Green Belt Movement has planted millions of trees to battle deforestation and improve the social and economic conditions of women in her native land.

The students lived in the homes of Green Belt Movement constituents in Miricu, a village in the area of Murang'a, which was perhaps their most memorable experience. They enjoyed a rich exchange with their host families, and participated in the field activities of the Miricu women, which included seed collection, nursery preparation, tree planting and food processing.

A Yale delegation presented an analysis of international environmental governance and reform within the United Nations Environment Programme (UNEP) in an address to the world's environment ministers in February as part of a seven-day trip to Kenya that included a visit with Wangari Maathai, Nobel Peace Prize winner and founder of the Green Belt Movement.

The visit to Kenya was the culmination of a fall course, “International Environmental Organizations: UNEP and Global Governance,” which was co-taught by Gordon Geballe, Ph.D. '91, associate dean; Maria Ivanova, doctoral candidate and director of the Yale Global Environmental Governance Project; and Mohamed El-Ashry, a visiting faculty member and former chair and CEO of the Global Environment Facility. The trip was made possible by the generous support of James Leitner, Yale Class of 1975.

Students in the course analyzed UNEP's operations within the international environmental governance system, and presented the results of their analysis to Executive Director Klaus Toepfer and over 90 participants from national governments and nongovernmental organizations at a formal event of the UNEP Governing Council and

# Clearing the Air Over Ozone

## Yale studies help EPA reconsider standards

By Marc Wortman

When statisticians publish analyses of public health data, sometimes the results make a small splash in the general media. After Michelle Bell, assistant professor of environmental health at F&ES, published a paper on ozone-related deaths in June, the splash reached from San Diego to Boston, across Europe over to Australia, and on around the world. “My mom found a report on it in an Indian newspaper,” she says. With reporters calling from *The Wall Street Journal*, *The New York Times*, newswire services, National Public Radio and more than 70 other media outlets, she says, “I didn’t anticipate all the attention.” She also wasn’t prepared for the worried calls from mayors’ offices around the United States. They had cause for concern. Her study showed for the first time that people in their cities were dying from short-term exposure to ozone.

Ozone may be best known as the protective layer in the stratosphere that filters out the sun’s harmful ultraviolet rays. Depletion of high-altitude ozone in recent decades may be playing a significant role in the increase in skin cancers seen worldwide, along with other damaging effects on ecosystems. Ozone in the troposphere can have a decidedly harmful effect on human health. Ozone is the major component of the blanket of corrosive brown smog seen floating over most American metropolitan regions on hot summer days. A gas composed of three oxygen atoms, ozone (O<sub>3</sub>) generates smog when the summer sun activates volatile hydrocarbons and nitrous oxide emitted into the atmosphere by motor vehicles, power plants, factories and vegetation. Ozone and its precursors spread by seasonal air currents over large regions of the country and concentrate in stagnant air pockets. As a result, smog levels can rise and fall with the seasonal breezes and daily increases in solar radiation, reaching levels the Environmental Protection Agency (EPA) considers dangerous to health, especially during midday and summertime peaks. Typically, ozone levels fall off at night and during winter.

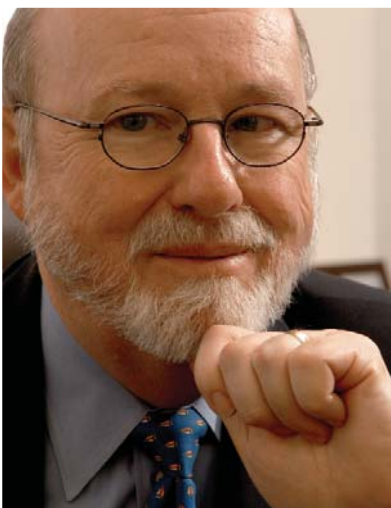
Public health experts have long known that exposure to smog can harm people, particularly those with difficulties breathing, and recommend that anyone with asthma or other respiratory ailments stay indoors during high-ozone periods. Bell, who completed her first year on the F&ES faculty in January, and her former colleagues from the Johns Hopkins Bloomberg School of Public Health were the first to show that among large populations, though, even small increases in smog levels have resulted in the premature deaths of thousands of people around the country. That set off the alarm bells in cities nationwide. “They wanted to know what was going on in their cities,” says Bell of the calls from mayors’ offices.

Bell’s study is one of two recent groundbreaking public health analyses at Yale of low-lying ozone’s unexpectedly serious impact on health. In the first study of the effects of ozone at levels below those the EPA currently considers safe for children with asthma, Janneane Gent, of the Yale School of Public Health, with collaborators including senior author Brian Leaderer, the Susan Dwight Bliss Professor of Public Health with a joint appointment at F&ES, found that asthmatic children reported large increases in symptoms, even when ozone levels were just half the nationally mandated average of 80 ppb (parts per billion) over an eight-hour period and 120 ppb on average per hour. Leaderer concludes, “Clearly, current standards are not protecting the ones they’re supposed to.”

As a result of the two studies and other recent ozone findings, those standards may eventually be changed.

“Clearly, current standards are not protecting the ones they’re supposed to.”

*Brian Leaderer*



Brian Leaderer

© Harold Shapiro



## Smog and Health

The studies come at a significant moment in environmental policy making. The EPA is currently reviewing the science behind ozone and health, working toward a possible revision of ozone standards for the first time since 1997.

Those standards are designed to set upper limits on air pollutants “to protect public health, including the health of ‘sensitive’ populations such as asthmatics, children and the elderly,” according to EPA documents. However, many urban areas of the country, especially in California but also in Connecticut, regularly exceed the upper limits of 80 ppb over an eight-hour period and 120 ppb hourly. When regions exceed the limits on a regular basis, federal law requires efforts to bring air quality into compliance.

For her study, which appeared in the November 17 issue of *JAMA: The Journal of the American Medical Association*, Bell and her colleagues developed statistical methods to analyze mortality data and their association with short-term ozone levels over a 14-year period from 1987 to 2000 in 95 U.S. urban centers. Those communities constitute some 40 percent of the total U.S. population, making this by far the most comprehensive population study of ozone and mortality ever undertaken. The investigators estimated community-specific rates of mortality, excluding deaths by injury and other external causes, and also such confounding factors as particulate matter (another controversial air pollutant), weather and seasonal changes. They also combined the community-specific statistics to come up with an ozone-related death rate across all of the 95 areas.

What the researchers found startled many in the public health, environmental and political communities. Just a 10-ppb increase in the previous week’s ozone level was associated with a 0.52 percent increase in the daily death rate, with a 0.64 percent increase in deaths related to cardiovascular and respiratory disease. The increase in the death rate among people aged 65 to 74 was slightly higher, at 0.70 percent. Such a 10-ppb increase would correspond to 3,767 premature deaths a year across the 95 communities, 319 in New York City alone.

Sitting in her sun-filled office at 301 Prospect Street, Bell is surrounded by statistical abstracts on her bookshelves, and a large computer dominates her desk. She talks animatedly about the logic behind the numbers and their significance in connecting ozone exposure to mortality, what she calls the “most extreme health outcome.” “The effect we found could in fact be muted,” she says. “There could very well be a greater relationship for people at risk” because the study does not account for cumulative exposure. For her, the statistics tell a clear story: “Just because something is bad for you,” she says, “it doesn’t mean it causes death. And just because it causes death, that doesn’t mean it can do so with short-term exposure. But ozone can.”

Gent and Leaderer’s look at the impact of ozone levels on asthma in children also brought attention to low-lying ozone after their study appeared in the October 8, 2003, issue of *JAMA*. As part of a long-term study of the causes of asthma, Leaderer’s team followed 271 children under age 12 with asthma in parts of Connecticut and Massachusetts in the Connecticut River Valley region. From April through September 2001, the investigators tracked parents’ reports of their children’s asthma symptoms against measures of pollutants in the region.

The results showed that an average 50-ppb increase in ozone level during an hour sent asthma symptoms soaring, provoking a 35 percent increase in wheezing and a 47 percent increase in children reporting chest tightness. Parents of children already taking medication to prevent symptoms also reported large increases in their use of rescue medication—a response typical of a serious asthma attack—when ozone levels rose. The increases in reported asthma symptoms were



Michelle Bell

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*Michelle Bell*

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*Patrick Kinney*

found even when the average ozone levels remained within the air quality range the EPA designates “low to moderate.” However, changes in amounts of particulate matter in the air had no impact on the children’s asthma symptoms.

Along with attorneys general from a dozen other states, Connecticut Attorney General Richard Blumenthal has filed two separate lawsuits to prevent proposed changes in EPA rules regarding sources of emissions from power plants and to block revisions in the Clean Air Act proposed by the Bush administration under the Clear Skies Initiative. Blumenthal contends that those changes will lead to increases in smog in the Northeast as a result of precursor emissions from power plants in other states blown into the region. “If these changes are carried out,” he says, “there will be an immediate and significant impact of further diluting an air quality standard that already is inadequate to protect our children. This study is very powerful ammunition in our litigation.”

EPA officials also read the study. John Millett, an EPA spokesman, says, “We’re grateful for this research. We’re getting more detailed information on levels that help us determine the best way to protect people. We depart in the contention that the EPA is backsliding somehow. That is simply not the case.”

### Reviewing the Science

The EPA is currently reviewing all scientific studies of ozone with an eye to releasing new regulations for smog in December 2007. David McKee, the EPA national expert in environmental science who is managing the ozone review, says of the recent Yale studies: “They will play an important role in the review.” McKee directed the collation and drafting of the Criteria Document, a massive review, overview and assessment of the current state of air quality science recently completed by the EPA. The agency itself funded the Bell study, which, he says, “is key to assessing what will be gained by setting new standards.”

At the time the 1997 ozone-level standards were written, the science surrounding ozone’s association with mortality was, according to McKee, insufficient to include in the review process. “We didn’t have anything to put weight on,” he says. “Now we’re in a whole different ballgame.”

Patrick Kinney, an associate professor of clinical public health (environmental health sciences) at the Columbia University Mailman School of Public Health, serves on the Health Effects Subcommittee of the EPA Science Advisory Board for air quality planning and standards. That independent group helps the EPA interpret the scientific findings in the Criteria Document. A 1991 study by Kinney was one of the first to link ozone to premature deaths. “Until this [Bell’s] study,” he explains, “there were scattered studies but not enough evidence to convince people that daily ozone is related to mortality. This is a slam-dunk kind of analysis. It is going to force people to take seriously the idea that daily ozone level is a risk factor for daily mortality.”

Bryan Hubble, an economist in the EPA Office of Air Quality Planning and Standards, provides assessments of the costs of the health impact of air quality standards for EPA policy makers. Hubble says that for the first time, as a result of Bell’s study, he is in a position to assign a dollar value to ozone-related mortality and can assess its cost in setting regulations for ozone. “Michelle’s study is unique,” he says. “It’s a prime piece of information we can use because it covered so many locations” and eliminated confounding factors.

### Setting Standards

Based on the Criteria Document and Hubble’s economic analyses, the EPA’s Air Quality Planning and Standards division will issue a staff paper that will contain a range of recommendations designed to provide, says McKee, “adequate public health protection with a margin of safety.” That paper and its recommendations, according to Leaderer, who has served on EPA advisory boards, will then “get reviewed and reviewed and reviewed and reviewed” by internal and external groups. “It’s a long process.” Among the layers of review of proposed changes, the White House Office of Management and Budget will consider their cost to the U.S. economy. “They look carefully,” says McKee, “at any new environmental standards before they are established to make sure we don’t do anything unduly costly to the American economy.”



Based on the emerging studies by Bell, Gent and Leaderer and others, there appears to be a clear association between serious health consequences and premature death and ozone levels below current standards. The studies also provide a basis for estimating the cost to society of changing ozone limits. What has not been established is whether there is a threshold above which the harm to health and premature deaths begin to occur. There in fact may be no safe exposure of large populations to ozone. That remains a difficult issue to sort out. To try to begin to unravel it, the EPA has funded a further study by Bell and others to look for possible threshold levels of ozone leading to premature death. “The statistics are more complicated,” she says. “For instance, some cities never drop to lower ozone levels.”

Even if the EPA decides to lower the allowable limits of smog, reducing precursors to ozone may prove difficult. Advances in automobile-emission-reduction technology and a decline in the smokestack industry in this country have already lowered a number of major pollutants throughout the United States. Still, ozone levels have not declined significantly since the Clean Air Act became law in 1970. Kinney points to motor vehicles as the major culprit. “There are simply a lot more cars traveling a lot more miles now,” he says. According to Bell, preventing all or even most ozone-related health harm will be difficult at best. Nonetheless, given that most ozone derives from motor vehicle and industrial emissions, she contends, “If we were able to reduce ozone by just a third, which is reasonable given current technology, we would save about 4,000 lives each year. This is not a luxury issue,” she says. “It’s directly related to health and mortality.” **EY**

## DEAN’S MESSAGE: A RECENT REMINDER OF WHY WE’RE HERE

CONTINUED from page 2

Critical Ecosystem Partnership Fund—an important partnership among Conservation International, the World Bank, the Global Environment Facility, the MacArthur Foundation and Japan that conserves biodiversity hotspots.

Anna Viggh ’01 is with the Global Environment Facility (GEF) secretariat, in the monitoring and evaluation office. Every four years the GEF is funded by donor countries through a process called replenishment. In preparation for the next replenishment, the office is carrying out a study of GEF’s overall performance in its major focal areas: climate change, biodiversity and international waters. Last year, Anna participated in the study of the climate change portfolio, which consists of more than 500 projects.

Jim Woodworth ’01 first worked for Natural Resources Defense Council in Washington, D.C., on the cleanup of the local Anacostia River watershed and on a report titled “Out of the Gutter: Reducing Polluted Runoff in the District of Columbia.” In 2003 Jim joined Jim Lyons, lecturer and research scholar at F&ES, at the Casey Trees Endowment Fund as director of outreach and technical assistance. The mission of Casey Trees is to restore, enhance and protect the tree canopy of the District of Columbia in cooperation with local and federal government agencies, community groups and individual citizens.

These are all assignments of real responsibility, requiring real professionalism. Similar stories could be told about our graduates in many places across the United States and, increasingly, around the world. All of us at F&ES take great pride in these stories, our graduates and their accomplishments. More than anything else, they are the *raison d’être* of our school.

I should take this closing moment to express my admiration for F&ES’ Peter Otis and all those who work here with him in the Career Development Office. Peter and many others here, including many alumni/ae, work hard to bring good job opportunities to the attention of our students. **EY**

### F&ES Student Takes Award for Nonfiction Writing

Rebecca Sanborn ’06, who reported on efforts by environmental educators to restore salmon to the Connecticut River, is honored in the May 2005 issue of *The Atlantic Monthly* with one of six awards, an honorable mention, in the nonfiction category of the magazine’s annual student writing contest. Over the recent history of the contest students from F&ES have taken more than 10 percent of all honors for nonfiction—eight awards in eight years, including one each of the top prizes (1st, 2nd and 3rd). Awards have gone to F&ES students for work on endangered species in Vietnam (Pam McElwee, Ph.D. ’03), local control of resources in Papua New Guinea (Jamie James ’99), tree cutters who also are tree huggers in West Virginia (Jen Osha ’01), a Superfund site in Pennsylvania (Mark Urban ’01), green deities in Bhutan (Elizabeth Allison ’03), ginseng depredation in early Massachusetts (Samantha Rothman ’03) and the creation of Biosphere 2 in Arizona (Rebecca Reider ’05), as well as this year’s report by Rebecca Sanborn.

# Getting the Water Right

By Jennifer Kaylin

In the late 1800s, Florida planners launched an ambitious program to tame the Everglades so the land could be developed and used for agriculture. The main objective was to divert as much water as possible from the expansive wetlands and dump it into the Atlantic Ocean. These efforts intensified in 1948 when Congress authorized the Central and Southern Florida Project, a network of more than 1,700 miles of canals and levees that reduced water flow in the Everglades by 70 percent by funneling 1.7 billion gallons of freshwater a day into the ocean.

“From an Army Corps of Engineers standpoint it was extremely successful,” says James Saiers, a professor of hydrology. “They got the job done.”

But it came at a price. Today, half the Everglades has been lost to agribusiness and urban development, 90 percent of the wading-bird population has been lost, and 68 plant and animal species are threatened or endangered. Conditions have reached a “critical stage,” according to the Florida Department of Environmental Protection, with the viability of the entire ecosystem in the balance.

That’s where Saiers comes in. An expert on the transport and fate of chemicals in surface water and ground water environments, Saiers is part of a team of scientists working on a massive 30-year, \$8 billion program to restore, protect and preserve the Everglades. The Comprehensive Everglades Restoration Plan, approved by Congress as part of the Water Resources Development Act of 2000, is one of the world’s largest ecosystem restoration efforts.

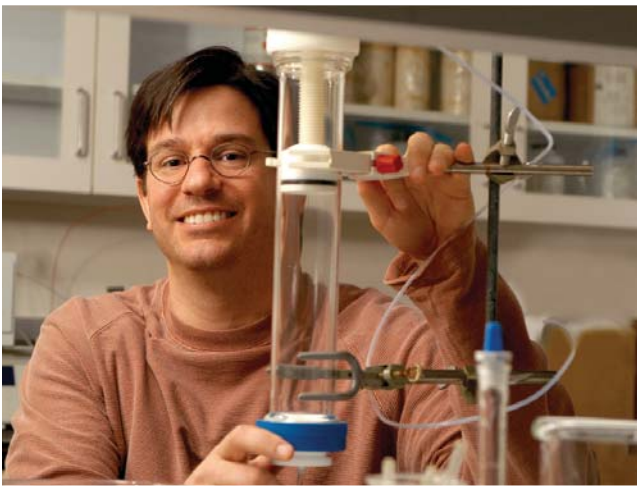
“The mantra of the restoration effort,” Saiers says, “is ‘Get the water right,’ which basically means undoing part of what they did over the last century and rerouting the water to better approximate predevelopment hydrologic conditions.” Saiers says parts of the Everglades, or the “river of grass,” as the land is known, are lost forever, but through informed management and planning,

further ecosystem degradation can be minimized and some imperiled areas can be restored.

A distinguishing feature of the historic Everglades was a 30-mile-wide sheet of surface water that moved south from Lake Okeechobee to Florida Bay and the Gulf of Mexico. The water moved slowly, protecting the region from droughts and providing foraging habitat for large populations of wading birds. The construction of canals, levees and other water-control structures disrupted the natural flows of surface water and led to a decline in the area’s water storage capacity. “Now we’re trying to re-establish natural flow patterns and increase the volume of water that moves across the landscape,” says Saiers. “These efforts will rely on the use of water stored in above- or below-ground reservoirs that may be of generally lower quality than water that once moved across the landscape.”

Saiers and his colleagues at the U.S. Geological Survey (USGS) are doing field studies and developing computer models in an effort to understand the physical and biogeochemical processes that affect the transport and fate of chemicals within the wetland. They are particularly interested in phosphorus, a chemical used in fertilizers that has been found to be a key player in the degradation of the Everglades.

“Before development and agriculture, the Everglades received very low levels of phosphorus, primarily from rainfall, but inflows from agricultural runoff have increased the phosphorus supply,” Saiers says. “At concentrations only slightly above its natural levels, phosphorus eliminates algal



James Saiers

© Harold Shapiro



# in Everglades Restoration Project

“We’re excited to be producing the science to support the restoration of this important ecosystem.”

*James Saiers*

assemblages that form the base of the food web, depletes oxygen concentrations in soil and alters the composition of aquatic-plant communities. Perhaps the most noticeable consequence of this phosphorus enrichment is the explosive growth of thick stands of cattails, which are a poor habitat for wading birds.” So Saiers is trying to figure out how phosphorus moves through the system, from its introduction in agricultural runoff to its uptake in plants and adsorption in the soil, to the route it follows along ground water pathways.

Saiers is developing mathematical models to describe the journey of phosphorus in the Everglades, but nothing can replace firsthand observation. He and his colleagues make three week-long trips a year to the Everglades to conduct on-site “tracer” experiments. Working in Everglades National Park, which spans the tip of the Florida peninsula and most of Florida Bay, they take airboats to an area of four channels with walkways floating on the surface of the water. “It’s rare to go out and not see an alligator,” he says, displaying a photograph of a juvenile lolling in the sun on one of the floating walkways. In the initial experiments at the field site, Saiers and his USGS colleagues added a nonreactive tracer to the channels to learn how the presence of aquatic vegetation influences the dispersion and downstream migration of waterborne chemicals.

The next step in his Everglades research is to conduct tracer experiments using phosphorus. This summer Saiers is planning to make another trip to Florida. “We’re excited about these upcoming experiments, not only because they will allow us to further investigate some of the hydrologic processes measured in last year’s experiments with the nonreactive tracers, but also because they will give us important information on how these hydrological processes combine with biogeochemical processes, such as plant uptake and adsorption to soils, to affect the fate of phosphorus in the Everglades.”

Jud Harvey, a hydrologist with the USGS who is working with Saiers, says two factors are contributing to the degradation of the Everglades: reduced freshwater flows and poor water quality. “Our research puts the two together,” he says. “We’ve created a link between the flow process and the mechanism of phosphorus movement in the environment.”

Harvey says he and Saiers are working to understand the interdependency between water flow and vegetation performance. Some of what they need to know can be predicted through mathematical modeling, he says, “but for people like Jim and myself, you have to go and live it and spend days in the field to truly understand the interdependency.” The tracer experiments that Saiers and Harvey are conducting are designed to help predict how Everglades water quality and vegetation will be affected once higher flows are restored. Accomplishing that goal means camping out in the Everglades, 20 kilometers from civilization. “We have to depend on each other and our team,” Harvey says. “It’s an adventure.”

Saiers and Harvey have completed their preliminary experiments, with one paper published in *Geophysical Research Letters* and another in press at *Water Resources Research*—both prestigious trade journals, and have presented the results to Everglades National Park managers. “We have an important piece of the puzzle now,” says Saiers. The results of their research show how hydrologic processes influence the rates at which waterborne chemicals, such as phosphorus, spread across the wetland landscape.

“A lot of people perceive the Everglades as a swamp,” Saiers says, “but it has a subtle beauty, with striking sunsets, exotic wildlife and thick mangrove forests that shelter a network of inland waterways. We’re excited to be producing the science to support the restoration of this important ecosystem.” **EY**

# The 2005 Environmental Sustainability Index

## Gaining Momentum and Believers

By Alan Bisbort

When Jens Stoltenberg, the Norwegian Prime Minister, requested a briefing a few years ago with him in Davos, Switzerland, Daniel Esty, J.D. '86, had every reason to expect an upbeat encounter. After all, the 2002 Environmental Sustainability Index (ESI)—Esty's pet project from its inception as a pilot program in 1999 (see "The Environmental Sustainability Index: A New Paradigm for Global Decision Making," Spring 2003)—had just been released at the World Economic Forum, and Norway ranked second out of 142 participating countries. Esty, director of the Yale Center for Environmental Law and Policy, knew that Norway was blessed with a large, sparsely populated land area and abundant natural resources, but he also sensed that Stoltenberg's government was on the right track with its environmental policy.

"Instead of celebrating the high ranking or calling a press conference to jointly announce it to the world, he [Stoltenberg] spent all his time asking what Norway needed to do to improve and wanted to know how they could overtake Finland in first place," said Esty, laughing in retrospect.

Fast forward to Davos in January 2005, where and when the new, 408-page 2005 ESI was released to an even more intense audience, as well as worldwide media attention. Again, the Yale team's research and writing partner was Columbia University's Center for International Earth Science Information Network (CIESIN), and its main collaborator was the World Economic Forum. This time, however, the index has gained momentum and credibility—not to mention four more participating countries, bringing the total to 146, with 98 percent of the world's population represented—as well as a new collaborator, the Italy-based Joint Research Centre (JRC) of the European Commission. The JRC adds another layer of scientific scrutiny, as well as an even more pronounced multinational dimension to the index (available in its entirety at [www.yale.edu/esi](http://www.yale.edu/esi)).

The 2005 ESI built on the framework of the 2002 ESI, integrating 76 data sets into 21 indicators of environmental sustainability. This, in turn, allows comparisons among five core components (environmental systems, reducing environmental stresses, reducing human vulnerability to environmental stresses, societal and institutional capacity to respond to environmental challenges, and global stewardship). Since two new indicators (vulnerability to environmental disasters and productive management of ecosystems) have been added, as well as a sensitivity analysis prepared by the JRC, the 2005 ESI rankings are not directly comparable to the 2002 scores.

Nonetheless, the overall conclusions of the 2005 ESI are consistent with those from the 2002 ESI—yes, Finland and Norway are again ranked 1 and 2, respectively, to Stoltenberg's presumable dismay—and provide more corroborative evidence to support Esty's longtime mission for the ESI: "We want to change the nature of environmental debate, drive policy on data and end the partisan screaming matches. The ultimate goal of sustainability is to be 'footprint-neutral' as a nation."

Much of the ESI's success and growing influence have to do with its staying power. A pilot index was begun in 1999 (and released in 2001), followed by the first full index in 2002, a companion tool known as the

Environmental Performance Index (EPI)—a work-in-progress that Esty hopes will eventually "establish targets" for all participating countries and "measure the distance from those targets"—and now the 2005 index. It also helps that the collaborators are all nongovernmental.

"We're not afraid to hit countries with bad news because we have no vested interest in the outcome," said Esty. "We take a scientific approach and put the data out there. People gravitate to the ESI because it is comprehensive. It is not a one-issue gauge. Environmentalism is different from other policy realms in that you have to juggle 21 balls at once."

The scientific approach also entails listening to feedback and criticism. To that end, one of the ESI's nine appendices is devoted to "Critiques and Responses," and in anticipation of criticisms regarding the inconsistency of data gathering—in order to qualify for ESI rankings, a nation must gather reliable and verifiable statistics to cover 60 percent of all data sets, leaving varying gaps of data that need to be imputed or simulated—the JRC prepared a sensitivity analysis, included in a 50-page review of methodology. The conclusion of this independent review is: "For most countries, the possible scores and ranks are rarely at odds with their actual ESI score when tested against various combinations of assumptions in the sensitivity analysis. For 90 out of 146 countries, the difference between the ESI rank and the most likely (median) rank is less than 10 positions, given that all sources of uncertainty are simulated simultaneously. This outcome implies a reasonable degree of robustness of the ESI."

Esty never doubted the ESI's robustness or its ultimate goal. From its inception, and from candid follow-up meetings with leaders like Stoltenberg, as well as government representatives from lower-ranked countries like Mexico, Belgium, South Korea and the Philippines, Esty realized that nations are eager to see how they stack up against other countries in their peer group.

"Haiti is not interested in how it stacks up against Finland," he said. "They will, however, pay attention when measured against a peer group country like Cameroon."

Without that sort of context, he said, it's difficult for policy makers to judge who's doing well, who's lagging and whether current policies are having a positive impact.

"We are much more focused and relevant, we have upgraded data and we've expanded the issues encompassed by the index," Esty said of the 2005 ESI. "The most encouraging sign is that governments are digging in. We sent out data well in advance of publication and asked nations for help with things that seemed anomalous or missing. Sixty nations responded with advice and more data."

A diverse array of nations, besides Norway and Finland, take the index to heart, so much so that it has shaken some governments to their core.

South Korea took the index ranking particularly seriously. Its business community launched something called the 136 Group (taking its name from its 2002 ESI ranking) in order to address those things dragging the country down. Due in part to these efforts, South Korea's rank improved to 122 overall and 14th in their peer group cluster. Clusters are seven



categories into which countries with similar environmental circumstances are placed for the purpose of comparison.

Young Keun Chung of South Korea's state Korea Environment Institute was quoted in *The New York Times*: "The first time [after the 2002 ESI] we were shocked. Our government wanted to improve our situation. So we concentrated on improving environmental policy, pollution problems, traffic problems and everything."

In the Philippines, Congressman Nereus Acosta, the chair of the Committee on Ecology, has pushed since 2002 to have the ESI shape discussions in environmental budget hearings and for its measurement criteria to be utilized as a benchmark for the landmark Philippine Clean Air Act. "I am confident that the Philippine government will see fit to move toward more empirically based policy formulation, notably in the environmental realm, with the ESI as an example," said Acosta.

The country whose 2005 ESI performance generated the biggest media storm was the United States, ranked 45th, the same as in the 2002 ESI, though considerably lower than the ranking of 11 (out of 122 nations) in the 2001 ESI.

The rank of the United States is what Esty called "high middle," which he said "is shockingly low to Americans but shockingly high to Europeans."

An editorial that appeared in *The Boston Globe* in January, however, was less inclined to parse disclaimers for America's performance. "This is even more ridiculous based on who is ahead of us," wrote *Globe* columnist Derrick Z. Jackson. "The United States, with a gross domestic product of \$37,800 ... trails Gabon, Peru, Paraguay, Costa Rica, Bolivia, Colombia, Albania, Central African Republic, Panama, Namibia, Russia, Botswana, Papua New Guinea, Malaysia, Congo, Mali, Chile, Bhutan, and Armenia. Those 19 nations all have GDPs of under \$10,000. ... The average American has 54 times more money in GDP terms than the average person in Congo. Yet the Congolese exhibit better stewardship of the planet."

"The truth is that the U.S. performance is uneven," said Esty. "Relative to drinking water and technical expertise, we are the best in the world. Relative to greenhouse gas emissions and generating waste, we are in the bottom tier. It is as if the United States has a report card with an A, a B and a D-minus, and it all averages out to a B-plus."

Perhaps more disturbingly, the United States lags against those nations in its own peer group cluster of resource-rich and low-population-density nations, which includes Canada, Australia, New Zealand, Finland, Iceland, Norway and Sweden. The United States also is ranked 13th out of all (36) Organization of American States member countries, just behind Chile and barely ahead of Cuba.

"I would argue that no country in the world is more endowed with natural resources than the United States, so we should be doing much better than we are," said Esty. "We have no excuse not to be near or at the top of the rankings."

Esty has noticed that, despite the increasingly maligned environmental policies of the Bush administration, American companies are facing the music.

"They operate in a global marketplace and they can't avoid these issues, even if the U.S. government would let them," he said. "They've begun coming forward to say that they want to address these things in a long-term way." **EY**

*Funding for the ESI was provided by the Coca-Cola Foundation, the Samuel Foundation and George Kailis, an Australian businessman.*

## Yale Delegation

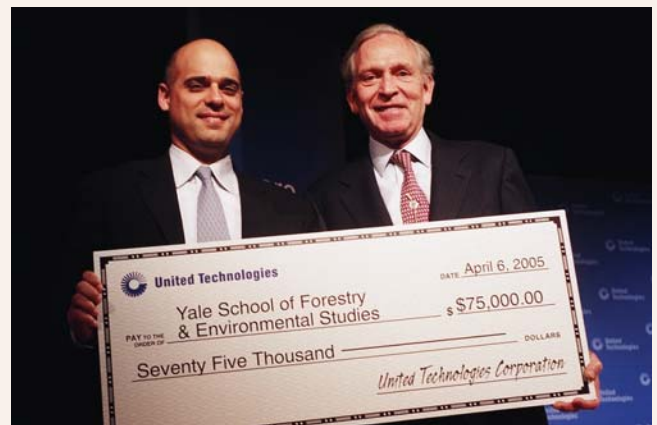
CONTINUED from page 17

Jenny Frankel-Reed '06 regarded the trip as a unique opportunity to observe the gaps between global environmental policies and local impacts. "Studying UNEP's mandate and performance revealed how far away we are from achieving global environmental governance with authority and vision," she said. "We've fallen short of where we should be—managing resources wisely, protecting livelihoods and building institutions to represent people and the planet."

Ivanova noted that the course was more than an academic exercise. "A results-oriented combination of academic rigor and policy relevance, it involved students in firsthand international environmental consulting. The trip also offered the students the unique opportunity to experience both the global and local aspects of environmental governance," she said.

Geballe pointed out that the course showcased F&ES and Yale as global institutions. "Our group of 28 represented 10 countries and spoke 21 languages. We met the objectives of the course to study an international policy process and the organization that sponsors it. We went beyond expectations by providing an external evaluation that was taken seriously by the organization's leadership. We heard directly from a Nobel Peace Prize winner and were able to participate in the program that she established and for which she won the prize." **EY**

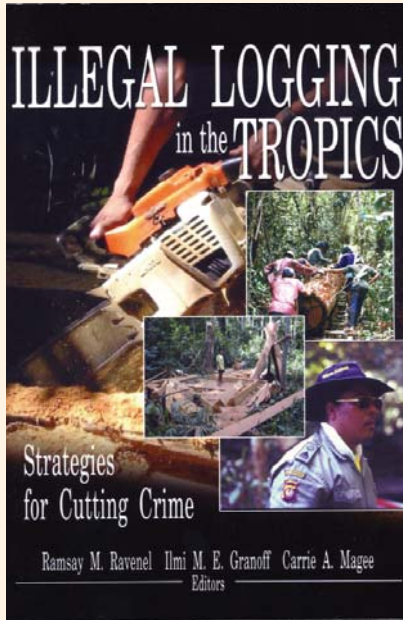
*Christine Kim contributed to this article.*



### UTC Funds Yale Poll on the Environment

Daniel Abbasi, left, associate dean of public affairs and strategic initiatives at F&ES, receives a check for \$75,000 from George David, chair and chief executive officer of United Technologies Corp., for funding a biannual poll on the environment. The Yale Center for Environmental Law and Policy, in cooperation with Global Strategy Group, a New York-based public opinion firm, will conduct the poll to investigate how Americans understand and relate to environmental issues, and examine the apparent disconnect between the values of the American public and prevailing political, educational and corporate practices. Last year, the center, directed by Professor Dan Esty, J.D. '86, polled 1,000 adults nationwide, revealing that Americans are seriously concerned about the country's environmental health and want more dialogue and action on the environment, particularly at the national and international levels. The United Technologies Corp., based in Hartford, Conn., provides high-technology products and support services to the building systems and aerospace industries.

# BookShelf

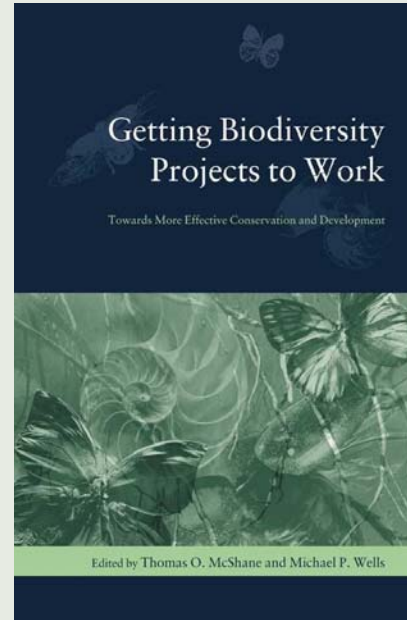


## Illegal Logging in the Tropics

**I**llegal Logging in the Tropics: Strategies for Cutting Crime suggests specific policy interventions aimed at curbing illegal logging and identifying solutions to forest crime. It presents both thematic analyses of illegal logging at the global level and case studies on both the local and national levels in Africa, Latin America and Asia. The contributors draw on their experiences in Benin, Brazil, Cameroon, India, Indonesia, Mexico and Vietnam.

The book also examines global governance, with a cross-country regression analysis of deforestation and various aspects of governance; global forest trade, with extensive reviews of data on global trade in forest products; community perspectives on illegal logging; the efforts of NGOs to combat illegal logging; and how illegal logging is typically symptomatic of broader failures of governance.

Haworth Press published the book, edited by Ramsay Ravenel '02, Ilmi Granoff '04 and Carrie Magee '02. To purchase a copy, visit [www.haworthpress.com](http://www.haworthpress.com).

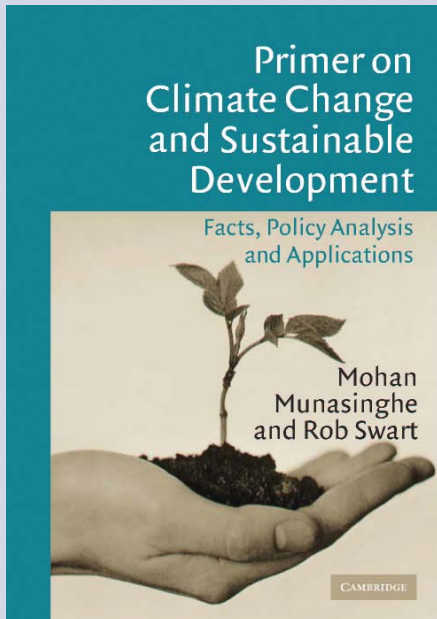


## Getting Biodiversity Projects to Work

**P**arks and reserves are on the front line in the campaign to conserve biodiversity. However, these protected areas have limited future prospects without the cooperation and support of local people, especially in developing countries. Integrated Conservation and Development Projects (ICDPs) set out to reconcile the necessities of park management and local needs by emphasizing social and economic development among local communities. Although ICDPs have managed to attract the most funding for biodiversity, the results so far have been disappointing. There is little consensus on when or where an ICDP approach to protected-area management is appropriate and likely to be effective.

*Getting Biodiversity Projects to Work: Towards More Effective Conservation and Development* draws on the lessons from the ICDP experience to inform the next generation of biodiversity conservation programs. The contributors explore the theoretical and practical challenges to better inform conservationists and decision makers of the role that conservation and development approaches can and should play in conserving biodiversity. The book is edited by Thomas McShane and Michael Wells '86, and was published by Columbia University Press. To purchase a copy, visit [www.columbia.edu/cu/cup](http://www.columbia.edu/cu/cup).



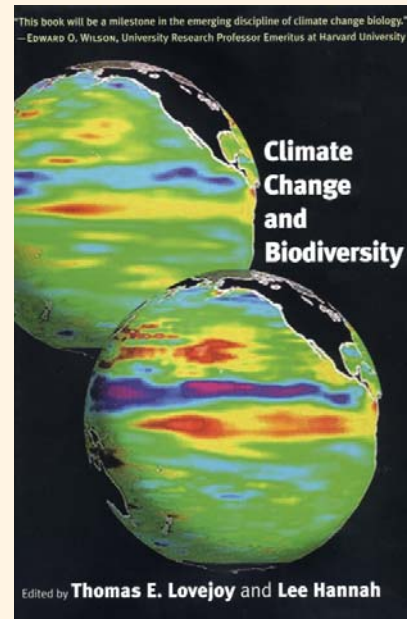


## Primer on Climate Change and Sustainable Development

Climate change has become the primary environmental concern of the 21st century, and its potential impacts and mitigation need to be analyzed within the context of sustainable development. How does climate change affect sustainable development prospects? How can climate-change response measures best be incorporated into broader development strategies?

*Primer on Climate Change and Sustainable Development: Facts, Policy Analysis and Applications*, published by Cambridge University Press, gives an up-to-date, comprehensive and accessible overview of the links between climate change and sustainable development. Building on the main findings of the last series of Intergovernmental Panel on Climate Change (IPCC) assessment reports, the book summarizes the latest research linking the two.

The authors are Mohan Munasinghe, an adjunct professor at F&ES, chair of the Munasinghe Institute for Development and vice chair of the IPCC; and Rob Swart, manager of the European Topic Centre on Air and Climate Change of the European Environment Agency. To purchase a copy of the book, visit [www.cambridge.org](http://www.cambridge.org).

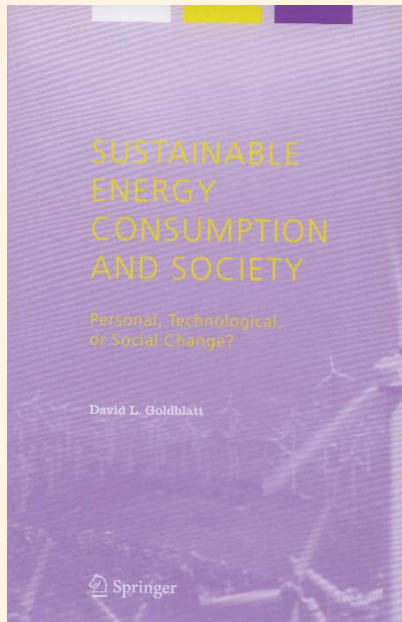


## Climate Change and Biodiversity

*Climate Change and Biodiversity* was written for the specialist, as well as the concerned citizen, and provides a comprehensive view of the newest research and thinking on climate change and its effects. Contributors to the volume, all leading researchers in their fields, discuss what is known about past climate changes in different areas of the world, recent trends in climate change and projections for the future, ways that particular organisms are responding to climate change, conservation challenges that include social and policy issues, and other critical topics in climate-change biology.

The book was edited by Thomas Lovejoy, Ph.D. '71, president of the Washington, D.C.-based H. John Heinz III Center for Science, Economics and the Environment, and Lee Hannah, a senior research fellow at Conservation International, and published by Yale University Press. To purchase a copy, visit <http://yalepress.yale.edu/yupbooks>.

# BookShelf

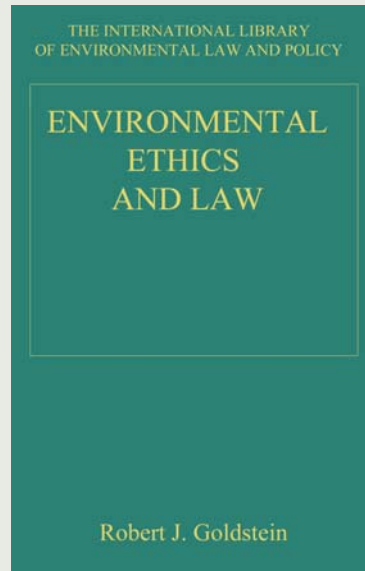


## Sustainable Energy Consumption and Society

**S**ustainable Energy Consumption and Society: Personal, Technological, or Social Change? explores consumer-driven interventions for sustainable energy consumption in developed countries. Few treatments of energy and the environment approach the problem through the larger social science framework of sustainable consumption, while sociological studies of consumption eschew quantitative modeling. This book uses theories, research and computer-aided interviews to illustrate the range and relative effectiveness of interventions that support sustainable energy consumption.

David Goldblatt '94 describes sustainable consumption, analytical approaches to energy and environmental problems and risk communication with the public.

Written by Goldblatt, the book was published in the Springer's Alliance for Global Sustainability book series. To purchase a copy, visit [springeronline.com](http://springeronline.com).

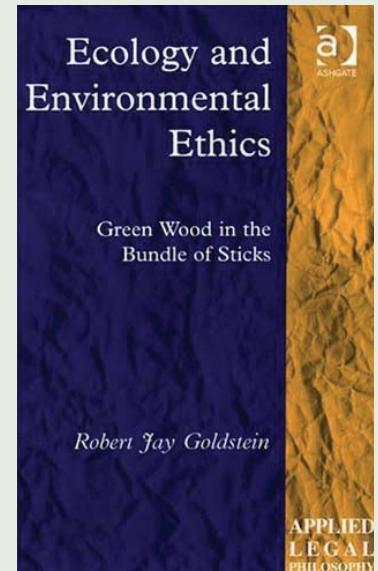


## Environmental Ethics and Law and Ecology and Environmental Ethics

**E**nvironmental Ethics and Law, edited by Robert Goldstein '95, explores a broad range of topics, approaching environmental ethics from many different angles. The writings analyze ethical principles that underpin practical environmental policies and law. Topics range from the ethical strands of environmental law to animal activism, and contain several articles on the Endangered Species Act of 1973.

**I**n another book, *Ecology and Environmental Ethics: Green Wood in the Bundle of Sticks*, Goldstein examines the successes and failures of three decades of environmental law, and reconsiders some of the policies that were intended to remedy centuries of abuse of the planet. The book acknowledges the advances made using technology to effect pollution control, as well as rudimentary systems that regulate the use of land at the local level. However, as the author observes, these systems have limitations in solving vexing problems such as sprawl and non-point-source pollution. He recommends a system, called "Green Wood in the Bundle of Sticks," which employs objective criteria based on science and is tied to a land-ownership system that also takes into account societal concerns.

Ashgate published both books. To purchase copies, visit [www.ashgate.com](http://www.ashgate.com).





# AT THE School

## Two Environmental Leaders To Join F&ES as Visiting Fellows

One of the top environmental leaders of the past several decades and the president of a nongovernmental organization that works on environment, development and women's issues in the Caribbean region will be visiting fellows at F&ES during the 2005-2006 academic year.

Canadian David Runnalls will join the visiting faculty next fall. He is the president of the International Institute for Sustainable Development (IISD). "Under Runnalls' leadership, IISD has become one of the truly outstanding policy research centers on environment and development issues internationally," said Dean Speth.

In addition, Runnalls is co-chair of a task force on WTO and Environment for the China Council for International Cooperation on Environment and Development and a former director of both the North American office of the International Institute for Environment and Development and the Environment and Sustainable Development Program at the Institute for Research on Public Policy in Ottawa.

Angela Cropper of Trinidad has been named the Dorothy S. McCluskey Visiting Fellow for Conservation for spring 2006. She was the first executive secretary of the Convention on Biological Diversity, having previously been a leader of the World Conservation Union (IUCN).

Since 2000 she has been president of the Cropper Foundation in Trinidad. She also co-chairs the assessment panel of the Millennium Ecosystem Assessment, is chair-elect of the board of trustees of the Center for International Forestry Research and is a member of the board of the Trinidad and Tobago Environmental Management Authority and trustee of its Environment Fund.

Cropper was a member of the World Commission on Forests and Sustainable Development and, in that capacity, the principal author of *Our Forests, Our Future*, published by Cambridge University Press in 1999. She is a former chair of the board of trustees of the Iwokrama International Centre for Rain Forest Conservation and Development in Guyana. She is also a member of the F&ES Leadership Council.

"She fits perfectly Dorothy McCluskey's hopes for her Fellow," said Dean Speth.

## Governing Through Markets Wins Sprout Award

A recently published book that explores the ability of the marketplace to reverse global forest destruction has won the International Studies Association's 2005 Harold and Margaret Sprout Award for the best book of the year on environmental policy and politics.

*Governing Through Markets: Forest Certification and the Emergence of Non-State Authority*, by Benjamin Cashore, associate professor of environmental governance and sustainable forest policy at F&ES, F&ES research assistant Graeme Auld and Deanna Newsom of the Rainforest Alliance, analyzes a 10-year, multimillion-dollar effort by nongovernmental organizations to transform global environmental governance by embracing marketplace incentives, rather than governments, for rule-making authority.

The selection committee lauded *Governing Through Markets* for its "excellent empirical research" and for "breaking new ground on one of the hottest topics in both the practice of and scholarship on international environmental politics."

Published by Yale University Press, the book presents an innovative framework designed to trace the competition for legitimacy between the Forest Stewardship Council certification program, which has widespread support from many of the world's leading environmental groups, and alternative programs initiated by industry and forest-owner associations.

The authors uncovered significant differences across several industrialized nations, both in support for forest certification programs and in what was required of companies to be recognized as environmentally and socially responsible. Their analysis points to the need to conduct systematic research on the effects of different approaches to improving forest ecosystem structure and function and the communities that depend on them.

The 2005 Sprout award was announced March 4 at the International Studies Association's annual convention, "Dynamics of World Politics: Capacity, Preferences and Leadership," in Honolulu. Established in 1972, it is awarded annually by the association's environmental studies section to recognize books that make a "contribution to theory and interdisciplinarity, show rigor and coherence in research and writing, and offer accessibility and practical relevance."

Previous winners include Edward Parson (2004), for *Protecting the Ozone Layer: Science and Strategy*, and Elinor Ostrom (1992), for *Governing the Commons: The Evolution of Institutions for Collective Action*.

## Dean Speth Named Lee Kuan Yew Fellow

Dean Speth has been named Lee Kuan Yew Distinguished Fellow for 2005 in Singapore.

The Lee Kuan Yew Distinguished Visitors Program hosts academics and scholars from around the world, and was established in 1983 in honor of the former prime minister of Singapore. Dean Speth visited Singapore from January 15 to 22 and presented public lectures at the National University of Singapore, Nanyang Technological University and the Singapore Environment Council.

Cheong Hin Fatt, dean of the School of Design and Environment, National University of Singapore, said Dean Speth's visit coincided with his university's 100th anniversary. "The Lee Kuan Yew Distinguished Visitorship is a highly prestigious award offered to internationally eminent and outstanding academics and scholars," said Dean Cheong. "While the program has brought many distinguished visitors from various disciplines, this is the first time that it brought a world leader in the field of the environment."

At the National University of Singapore, Dean Speth examined whether international environmental law is adequate to address global environmental challenges in his talk, "International Law and the Global Environmental Crisis." At Nanyang Technological University, he reviewed the urgency of the climate change challenge, what this challenge will mean for business and the need for a revolution in technology in his address, "The Severity of Climate Risks, the Business Community, and the Coming Technological Revolution." At the Singapore Environment Council, he assessed the seriousness of major global-scale environmental threats, examined the approaches that have been adopted thus far to deal with them and proposed eight steps to a sustainable future in "The Crisis of the Global Environment: How Real? How Urgent? What Must Be Done?"

# AT THE School

## Students Press IUCN to Establish Young-Professionals Program

A resolution formulated by F&ES students that establishes a young-professionals program for the World Conservation Union (IUCN) was adopted at the IUCN's World Conservation Congress last November in Bangkok, Thailand.

"The resolution was an extraordinary achievement, and the resulting program will be immensely valuable as young professionals enter the conservation world in increasingly large numbers and need to acquire the necessary skills to move into leadership roles and key decision-making positions," said Amity Doolittle, Ph.D. '99, program director of the Tropical Resources Institute (TRI) at F&ES.

The resolution grew out of a course, "Current Issues in Conservation: Towards the World's Conservation Congress and Beyond," which was taught last spring by Gordon Geballe, associate dean for student and alumni affairs, and Keely Maxwell, Ph.D. '04, then a doctoral student and now a lecturer in environmental studies at Bates College. As a course project, students designed and implemented an international survey to assess the concerns and needs of young conservation professionals. At the congress, F&ES students lobbied voting members to support their resolution and led a workshop in which they presented the results of their survey and discussed concrete recommendations to establish a young-professionals program.

The F&ES delegation also witnessed two days of debates around the wording and implementation of resolutions that were negotiated on controversial issues in conservation. Debates were organized by the Inuit people, requesting permission to harvest and trade sealskins as part of their indigenous culture and traditional economy; by small nongovernmental organizations requesting a moratorium on the further release of genetically modified organisms; and by large conservation agencies requesting that there be times when aggressive conservation measures be allowed to take priority over local peoples' livelihoods.

"These multifaceted debates demonstrated that the congress' theme, 'People and Nature—Only One World,' had different meanings for participants," said Doolittle. "Seeing the debates between academic researchers and conservation practitioners, human rights lawyers and animal rights advocates, and representatives of indigenous peoples and Washington-based conservation professionals was one of the most powerful learning experiences for our students."

The delegation was composed of 18 master's and doctoral students and two faculty members. It was the first to participate in the IUCN congress since the signing of a memorandum of understanding between IUCN and F&ES in January 2003, followed shortly by TRI joining the IUCN as a member organization. The delegation also hosted a reception for alumni, prospective students and friends. Many old acquaintances were renewed and much networking took place.

"We hope that Yale's attendance at the congress is the beginning of a long and fruitful relationship between F&ES and the world's premiere conservation organization," said Doolittle.

## Journal of Industrial Ecology Translated into Chinese

As China's role in the global environment grows, so too does the importance of high-quality scientific research and communication. As the

sixth-largest economy and most populous country in the world, China's development plays a crucial role in the future of the global environment.

To help foster increased international dialogue, the *Journal of Industrial Ecology* has translated summaries (abstracts) of all of its articles into Chinese. These translations are available at the journal's website: <http://mitpress.mit.edu/jie/translations>.

The *Journal of Industrial Ecology* is the premier journal in the rapidly growing field of industrial ecology, which systematically examines local, regional and global uses and flows of materials and energy in products, processes, industrial sectors and economies. Industrial ecology focuses on the potential role of industry in reducing environmental burdens throughout the product life cycle: from the extraction of raw materials to the production of goods, use of those goods and management of the resulting wastes. Owned by Yale University, published by The MIT Press and headquartered at F&ES, the journal is a highly regarded peer-reviewed quarterly, which has been praised for both its readability and timely relevance to key environmental issues. It is the official journal of the International Society for Industrial Ecology.

Funds for the translation were provided by the Henry Luce Foundation as part of a larger project, Collaborative Industrial Ecology in Asia (CIEA), which aims to increase educational and scientific exchange in industrial ecology between Asia, especially China, and Yale University. The project, now drawing to a conclusion, has supported scientific exchange, student scholarships and the translation of books and summaries of articles into Chinese, as well as library subscriptions to the journal for Asian universities and institutions.

"The CIEA project is especially timely because the Chinese government has announced the 'circular economy' as a centerpiece of Chinese environmental policy," says Reid Lifset, editor in chief of the *Journal of Industrial Ecology*. "The circular economy and industrial ecology strongly overlap. Both emphasize loop closing—recycling in the broadest sense—as a means of moving toward an environmentally sustainable economy."

Dean Speth said, "China's economy is growing by leaps and bounds; its environmental performance and role in the world are a central issue in sustainable development. Translating the abstracts of articles in the *Journal of Industrial Ecology* is one of the best things we can do—bring a forward-looking, preventive environmental framework to the attention of the Chinese and engage them as partners in the development of this new field."

Last November, 50 academics from 32 Chinese universities joined a group of faculty, students and staff from the Yale Center for Industrial Ecology for a workshop on "Education in Industrial Ecology" at Tsinghua University in Beijing. The workshop was led by Tom Graedel, professor of industrial ecology at F&ES, and Qian Yi, professor of environmental engineering at Tsinghua University.

The three-day workshop brought together Chinese academics from disciplines that are the hallmark of industrial ecology—environmental and chemical engineering, management, environmental sciences and social sciences. The participants discussed curricula, examined research, described teaching techniques, inventoried educational resources, tried out classroom exercises and toured an industrial facility.



# ClassNotes

## 1907

An inquiry about the late **Charles Parker Wilbur** from organizers of the 100th anniversary (1906-2006) of the appointment of a state forester for New Jersey prompted this Class Note. He was a forester with the State of New Jersey beginning in 1911, and served as the second state forester from 1922 until his departure from state service in 1946 or 1947. He served the school as president of the Alumni Association from July 1, 1937, to June 30, 1939. Additional information about his career appears in a 1953 issue of the *Yale Forest School News*. In 1937, he was awarded the Cornelius Amory Pugsley Silver Medal Award to recognize his services in the forests and parks of New Jersey. The Pugsley Awards, currently administered by the American Academy for Park and Recreation Administration, were begun in 1928 to recognize contributions to public parks at the national, state/regional and local levels.

## 1941

**Henry Kernan** was featured on the member spotlight page of *The Empire Envoy* (Nov.-Dec. 2004), the official publication of the Empire State Forest Products Association. Since 1947, Henry has managed 1,200 acres in Delaware and Chenago Counties; he has distributed over 50,000 seedlings during his annual May giveaway at his tree farm. Henry's career in forestry began as a summer job cutting pulpwood in Quebec's Laurentide Provincial Park. In conversations with supervisor-forester Gustav Anderson from Sweden, Henry was inspired to attend Yale to study forestry. During WWII when a disability kept him out of the military, he ran cruise lines for International Paper in South Carolina and marked timber for Potlatch Forests in Idaho, supplying the magnificent white pines to the war effort. Henry opted to hunt for cinchona trees in Colombia in lieu of an extended time of snowshoeing around Idaho, returning home near the end of the war. After a stint consulting to Northeastern states on the war's impacts on forest resources, Henry decided to invest in forestlands. In 1950, he launched a career in international forestry with a United Nations mission to Bolivia. His career spanned 43 years and took him to 45 countries. His longest stint, in Iran, allowed time to found a forestry school. He also was visiting professor of international forestry at SUNY CESH. Based on his extensive experience, Henry believes forest policies need to be "defined and applied within the local context."

## 1942

### CLASS SECRETARY:

**HAMLIN WILLISTON**  
williston@watervalley.net

**Dick Jorgensen's** wife, Kay, died in late August 2003, 62 years after they honeymooned briefly at the end of the 1941 summer fieldwork session at Great Mountain Forest.

## 1946

### CLASS SECRETARIES:

**PAUL BURNS** pyburns@lycos.com

**DAVID SMITH** david.m.smith@yale.edu

**Cliff Bryden's** wife, Burne, writes from Roseburg, Ore.: "Cliff is now 88 years old. His first wife, Shirley, passed away in 1982. Cliff and I were married in 1986. Cliff retired 26 years ago as general wood manager for Roseburg Forest Products. We have traveled all over the world these past 19 years. Cliff was diagnosed with non-Hodgkins lymphoma of the chest wall in January 2003. So far there appears to be no return of lymphoma." burneb@mcsi.net

**Paul Burns**, who lives in Baton Rouge, La., recently has exchanged memoirs with **John Gray '42**, who lives in Little Rock, Ark. They knew each other at Yale in the fall of 1941, and a few years ago discovered they were both born on the same day, July 4, 1920. Both John and Paul were married in 1942; John's wife, Toney, died in 2001, and Paul's wife, Kathleen, died in 2004. Paul was interviewed in 2004 when the Voices of Civil Rights Bus Tour, sponsored by AARP and commemorating the 1961 Freedom Rides, rolled through Baton Rouge. He spoke about his efforts to end racial segregation in the 1960s. His personal story, along with others from people across the country, was placed in the Library of Congress. The History Channel aired a one-hour documentary about this historic journey.

## 1947

### CLASS SECRETARY:

**EVERT JOHNSON**  
swede-doc@mindspring.com

## 1948

### CLASS SECRETARY:

**FRANCIS CLIFTON** fhcpbyfor@webtv.net

## 1949

### CLASS SECRETARY:

**FRANK ARMSTRONG**  
farmst1037@aol.com

As a temporarily reincarnated class secretary, **Herb Winer** finally responded to the reasonable request that a "brief report" on our 55th reunion—May 14 to 16, 2004—be submitted before our next reunion in 2009. Herb writes: "The class of 1949 was represented by **Jim Carlaw**, **Dan Dick**, **Tom Lynch** and **Herb Winer**, who were able to join in the field trip to Yale-Myers, the symposiums on Aldo Leopold and Paul Sears, the keynote address by David Orr, the play *A Sense of Wonder* on the life and works of Rachel Carson and the ceremonial tree planting at Marsh Garden. The reunion reflected the dramatic changes the school has made since our student days, when most of us were preparing to help avert the still-impending threat of a 'timber famine.' At the Saturday morning session on the Marsh lawn, Gus Speth

responded to Dan Dick's question as to whether the M.F. program is still alive. 'Yes,' the dean responded. In January 2004, the S.A.F. continued its accreditation of the M.F. program at Yale. The fact remains, however, that Dean Speth and the faculty have truly transformed the school 'from a national school of forestry to a global school of the environment,' as today's times demand. As Pinchot and Graves spearheaded the effort to train forest managers at Yale a century ago, so the school today—five generations later—is working impressively to train some of those who will confront the far more intractable problems facing our globe and its inhabitants. Long before Reunion Weekend 2004, we had received the *Yale School of Forestry Class of 1949 Virtual Reunion* book, initiated and compiled by **Dan Dick** and **Dave Fordyce**. To them, as well as to **Kath Schomaker '96** and **Drena Howard '05**, we all owe our thanks."

## 1950

### CLASS SECRETARY:

**KENNETH CARVELL** kencarvell@aol.com

## 1951

55th Year Reunion

### CLASS SECRETARY:

**PETER ARNOLD** arnoldp@nccn.net

## 1952

### CLASS SECRETARY:

**MILTON HARTLEY**  
redhedded@olympus.net

## 1953

### CLASS SECRETARY:

**STANLEY GOODRICH** slmygood2@cox.net

## 1954

### CLASS SECRETARY:

**RICHARD CHASE** RACHase@aol.com

## 1956

### CLASS SECRETARY:

**JACK ROSE** jackrose@iopener.net

## 1958

### CLASS SECRETARY:

**ERNEST KURMES**  
ernest.kurmes@nau.edu

## 1959

### CLASS SECRETARY:

**HANS BERGEY** hberg16@aol.com

**Bruce Sahlman** writes: "With great pleasure, I note that **Herb Winer '49** has been presented with a Distinguished Alumnus Award. I had the good fortune to be a student under his leadership in the late 1950s, both at New Haven and Crossett. When I reflect on the mentors who influenced my career as an industrial forester, he stands out as an exceptional educator.

# ClassNotes

FRANCES BEINECKE TO BECOME PRESIDENT OF THE NATURAL RESOURCES DEFENSE COUNCIL



Frances Beinecke

Frances Beinecke '74 will become president of the Natural Resources Defense Council (NRDC) next January, according to the organization's board of trustees. Beinecke, who has been the organization's executive director since 1998, will replace John Adams, NRDC's founding executive director.

"Frances Beinecke is an extraordinarily talented, visionary leader

who has helped steer our successful efforts through periods of both great promise and tremendous challenge," said Adams. "She is a dear friend and outstanding colleague who will stand tall in the fight to protect human health, preserve our natural heritage and guard the world's wild habitats."

The move comes at a time when NRDC is bolstering its efforts to promote environmental protection and protect the nation's water, air and wildlife.

"We have tremendous opportunities to meet the environmental challenges of the modern world; our job is to make it happen. NRDC is working hard to help business and political leaders deliver the solutions we need for the 21st century," Beinecke said.

Beinecke joined NRDC in 1973 and has had a distinguished career in conservation. She headed a comprehensive restructuring that kept NRDC at the strategic forefront in environmental advocacy. She is on the boards of trustees of the World Resources Institute and the New York League of Conservation Voters. An avid defender of habitat and wild places, she also has chaired the boards of the Wilderness Society and the Adirondack Council. She was recognized last year with an F&ES Distinguished Alumna Award.

The Natural Resources Defense Council is a national, nonprofit organization of scientists, lawyers and environmental specialists dedicated to protecting public health and the environment. Founded in 1970, NRDC has more than 1 million members and online activists nationwide, served from offices in New York, Washington, Los Angeles and San Francisco.

Professor Winer took a personal interest in his students and was extremely thorough. In fact, I am almost reluctant to write this for fear of erring in my spelling, punctuation or grammar, and receiving a 'constructive review' from him. In addition to his other achievements and contributions, Professor Winer deserves the award for his efforts as a wonderful teacher. As a former student, I say, "Thank you, Herb, and may God bless you."

1960

CLASS SECRETARY:

JOHN HAMNER [jgham@bulloch.com](mailto:jgham@bulloch.com)

**Evangelos Biblis, D.F. '65**, writes: "I have been retired from Auburn University since 1998. I am a grandfather of two from my son John. My son Chris is getting married on the Greek island of Santorini to an American girl. We all will go to Santorini in May. I kept my office in Auburn, and since my retirement I have been going to my office every day without pay! Also, since my retirement I have published 12 research papers. One of them was published in the March issue of the *Forest Products Journal*."

**Len Rolph** writes: "Enjoying retirement at the foot of Mt. Adams. Keeping busy with the horses. Riding 50 miles or more, cross-country skiing, hunting and fishing. Finished the 2,650-mile Pacific Crest Trail, Mexico to Canada—every inch! Mostly leading a single horse."

**Roger Long** writes: "I am retired but still active after a long and rewarding career with the USFS. I made my dream come true. In the process, I acquired five children, six grandchildren and three great-grandchildren. I am living with my cat, Tiger Lily, the most intelligent Tabby around. I do a few volunteer projects melded around bridge games."

**Karl Davidson** writes: "While I am sure I will not be able to attend the 45th reunion this year, I do feel that some news about where I am is timely. I left the forestry profession upon my retirement from the U.S. Forest Service in 1985. At that time, I had served as associate deputy director of Northeastern Area, State and Private Forestry, in Broomall, Pa. I had planned to spend my time fishing and camping in all the various ecosystems I had not been able to visit on the job. While accomplishing much of that goal, I also renewed my affiliation with the aviation community. I prepared a set of plans for an airplane based on old, but proven, design features, and am using an automotive engine. I completed a flying airplane after five years of work. I am still flying it. That introduced me to the Experimental Aircraft Association. I now serve as a board member of two fly-in organizations, one of which hosts the world's second largest aviation convention, Sun 'n Fun in Lakeland, Fla. Joyce and I now reside in Winter Haven, Fla. We have one child, a daughter in Flagstaff, Ariz. I have been blessed with good health, and still camp and fish in remote parts of North America as time allows."

**John Hamner** writes: "I retired from Union Camp Corp. in 1994, following 37 years of employment, all in forest management work in the southeast United States. Annette and I returned to Bellville, Ga., following retirement to a home we had previously established along the way. We are both in reasonably good health and able to do most anything we desire, and are enjoying retirement. We travel some, but mostly live a quiet life at home, somewhat involved in community activities, church work and family. We have three children and six grandchildren, all within reasonable visiting distance from Bellville."

**Pete Hannah** conducted a 10-day tour of New England forests in September for a group of 40 foresters from the Society of Irish Foresters. **Michael Bulfin '72** was a member of the tour group.

**Lee Herrington, Ph.D. '64**, is teaching full time at the SUNY College of Environmental Science and Forestry in Syracuse. Last year, Lee was named a SUNY Distinguished Teaching Professor, a rank above full professor. He teaches classes in resources information management (primarily raster and vector geographic information systems). He is also director of the laboratory for applied GIS, chair of the college's Council for GeoSpatial Modeling and Analysis and chair of the New York State GIS conference management group. He also represents the college on the board of the Institute for the Application of GeoSpatial Technology (IAGT), and is a manager of Spatial Logic, a subsidiary of IAGT. This year marks Lee and Nancy's 50th wedding



# ClassNotes

anniversary. They have four children and seven grandchildren.

**Clark Lantz** writes: "Barbara and I had the great pleasure of entertaining several of our close friends and classmates from our Yale Forestry School class of 1960, from May 5 to 9, 2004, at our home in Granbury, Texas. Helge and **Tom Byrne** from St. Louis and Sissel and **Thomas Fearnley** from Hakadal, Norway, joined us for the celebration. Unfortunately Astrid and **Ed Daly** (Natchez, Miss.) could not attend due to a sudden illness. We were all amazed at how little we had changed over the years. There were a few gray hairs here and a few extra pounds there, but all things considered, we are still in good shape! We spent some very enjoyable days sightseeing in Granbury and Ft. Worth, fishing in Glen Rose, eating some delightful meals and drinking some outstanding wine. Thomas was a most knowledgeable wine steward and introduced us to some fabulous wines. Most of all we just enjoyed being together and reminiscing about 'the good old days' in New Haven, the Great Mountain Forest and spring camp at Crosset. In just five more years it will be time for our 50th reunion, and we will be ready!"

**Thomas Fearnley**, now 71, is residing on his farm, Aas Gaard, in Hakadal, Norway, with his wife, Sissel. He is running the family business with Sissel, daughter Desiree (40), and sons Nils Thomas (34) and Anstein (30). The family business covers a large area of activities: 25,000 acres of forestry and farming, Raasjoen Hunting Lodge with hotel and restaurant ([www.fearnley.no](http://www.fearnley.no)), Raasjostua ski restaurant and 40 miles of cross-country ski tracks for tourists. The latest venture is to be opened in July—a nine-hole golf course and driving range. The full plan will be finished in 2007, which is Aas Gaard Golfpark—a 27-hole golf course, including a driving range and training facilities, hotel and restaurant with a catering business on the main farm ([www.hakadalgolf.no](http://www.hakadalgolf.no)). Thomas still keeps in close touch with many of his classmates from Yale, visiting them in the United States. Some of them have visited Thomas in Norway. He has two grandchildren, Nicolay (16) and Sonia (2).

**Leo Teller** retired as a UNESCO representative in China in 1991 after seven years in that position in Beijing, following 10 years in UNESCO's ecology division in Paris. Prior to that, he spent five years as an associate professor in the Department of Watershed Management at Colorado State University, having served with the U.N. Food and Agricultural Organization in Rome for three years. Since retirement, Leo has had honorary positions as president of a local community Ecocentre, deputy chair of the Victorian Alpine Resorts Commission and president of the Victorian branch of the Australian Institute of International Affairs. Four children and three grandchildren are scattered between London, Perth and Melbourne (Australia). Leo and wife, Lorna, enjoy their retirement in the bayside suburb of Elwood in Melbourne. "Life in half a quonset hut on the Yale polo field seems very long ago!"

## 1961 45th Year Reunion

**CLASS SECRETARY:**

**ROGER GRAHAM**

## 1962

**CLASS SECRETARIES:**

**JAMES LOWE JR.**

**LARRY STAFFORD**

[lsaffordnlh@earthlink.net](mailto:lsaffordnlh@earthlink.net)

**Jeff Burley** writes: "I was the keynote speaker at the CIF-SAF convention in Edmonton, and I hope to attend the Yale alumni reception."

## 1963

**CLASS SECRETARY:**

**JAMES BOYLE** [jim.boyle@orst.edu](mailto:jim.boyle@orst.edu)

**Mike Whitney** is semi-retired in Pownal, Maine, but is still chair of the board of LandVest, the forest management arm of which he and **Wade Staniar '64** helped establish four decades ago. The timberlands staff now has 35 foresters and manages 600,000 acres in the Northeast and South. He reports that **Joe Taggart '98** has established their Southern headquarters in Americus, Ga., and operations in that region are growing rapidly.

## 1964

**CLASS SECRETARY:**

**G. WADE STANIAR**

## 1965

**CLASS SECRETARY:**

**JAMES HOWARD** [jhoward@sfasu.edu](mailto:jhoward@sfasu.edu)

## 1966 40th Year Reunion

**CLASS SECRETARY:**

**HOWARD DICKINSON JR.**

## 1967

**CLASS SECRETARY:**

**ROBERT HINTZE** [bclues@aol.com](mailto:bclues@aol.com)

## 1968

**CLASS SECRETARY:**

**GERALD GAGNE**

[Gerald.gagne@sympatico.ca](mailto:Gerald.gagne@sympatico.ca)

**Keshab Pradhan** and his wife, Shanti, are keeping busy with NGOs in the Himalayan state of Sikkim. He heads the Sikkim Development Foundation, and she leads the Women's Council.

## 1969

**CLASS SECRETARY:**

**DAVIS CHERINGTON** [cheringvt@aol.com](mailto:cheringvt@aol.com)

**Jack Fryer, Ph.D. '82**, of the Australian Centre for International Agricultural Research, and his wife went

to a eucalyptus forestry conference in Portugal in October. They returned to Canberra by a round-the-world route that included visits to Yale and old Yale acquaintances on both coasts.

## 1970

**CLASS SECRETARY:**

**WHITNEY BEALS** [wbeals@neforestry.org](mailto:wbeals@neforestry.org)

## 1971 35th Year Reunion

**CLASS SECRETARY:**

**HAROLD NYGREN** [tnygren@juno.com](mailto:tnygren@juno.com)

**Ron Wilson** writes: "I have just recently retired from Forests New South Wales (previously State Forests, and earlier Forestry Commission of NSW) and am continuing to work as a forestry and timber consultant. I also am chair of the Institute of Foresters, NSW Division." [rwil6851@bigpond.net.au](mailto:rwil6851@bigpond.net.au)

## 1972

**CLASS SECRETARY:**

**RUTH HAMILTON ALLEN**

[ruth.allen@aehinstitute.com](mailto:ruth.allen@aehinstitute.com)

**Jerry Melillo, Ph.D. '77**, recently joined the board of the Heinz Center. Jerry is in his 26th year as a research scientist at the Ecosystems Center of the Marine Biological Laboratory in Woods Hole, Mass., and he serves as the center's co-director. His research includes work on climate change, disruption of the global nitrogen cycle, ecological consequences of tropical deforestation and sustainable management of tropical agro-ecosystems. He founded the Marine Biological Laboratory's semester in environmental science, a program that enables undergraduates from liberal arts colleges and small universities to learn and practice environmental science in Woods Hole. He also has a strong interest in science policy, having served as the associate director for environment at the Office of Science and Technology Policy in the executive office of the president in 1996 and 1997. He is president of the Ecological Society of America. On the Heinz Center, Melillo said: "The Heinz Center, through efforts such as the State of the Nation's Ecosystems project, has been effective in building meaningful consensus on the scientific basis for sound environmental policy, and innovative in articulating workable solutions to environmental challenges." (Adapted from *Crossroads*, Vol. 2, Issue 1, the Heinz Center, 2004.)

The town of Guilford, Conn., joined **Harvey Smith** in mourning the passing of his wife, Diane, on December 4, 2004. The couple had co-founded Strawberry Hollow Farm in 1970, and over the years had turned it from a basic strawberry farm into a reproduction of an 18th-century working farm. A gift shop added in the 1980s was one of Diane's pet projects. She also raised Morgan horses and worked with the Dudley Quilting group to raise money from quilt raffles for the Dudley Foundation, a nonprofit working farm. Harvey and Diane had traveled around

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the United States and to Spain and Aruba, with Yosemite National Park a particular favorite. Harvey has two daughters, Rachel of Charlotte, N.C., and Jennifer Figuerelli of Killingworth, Conn., and three grandchildren.

**Gary Drobnack** is president of Weyerhaeuser International, which deals with operations outside North America.

**Jim Grace** is the state forester of Pennsylvania.

## 1973

### CLASS SECRETARY:

**LAUREN BROWN** [leb481@aol.com](mailto:leb481@aol.com)

**Lloyd Irland, Ph.D.**, taught at the school during the fall 2004 semester on forest finance and a new one-credit reading course in professional ethics. He is producing an essay on the Montreal Criteria and Indicators for the Roundtable on Sustainable Forests, and is usually doing some short outlook piece on forest industries for one client or another. Also working on sustaining long-term silvicultural and ecological studies, Lloyd would welcome hearing from other alums about less-well-known examples of plots that have been under continuous remeasurement for three decades or longer anywhere in the world. [irland@aol.com](mailto:irland@aol.com) or [lloyd.irland@yale.edu](mailto:lloyd.irland@yale.edu)

## 1974

### CLASS SECRETARY:

**JAMES ROGERS**

[Jimrogers3@aya.yale.edu](mailto:Jimrogers3@aya.yale.edu)

**Jim Rogers** writes: "I am a senior consultant with Homeland Energy (HE) Resources Development, founded in June 2001. HE is a developer of alternative energy/conservation projects, and serves as marketing rep for American Honda's alternative-fuel vehicle program in New York and New England. I am managing New York State and renewable New Jersey projects. I'm driving a Honda GX, a vehicle fueled with compressed natural gas, which costs only one-half to two-thirds of the price of a gallon of gasoline. The EPA recognizes it as the cleanest-burning internal combustion engine on the planet (an ultra-low-emissions vehicle or ULEV). It goes 220 miles on a full tank that costs only \$9. However, refueling is a nightmare because there are no publicly accessible refueling stations in New Jersey, and I have to go into New York City or New York State. We aim to change that and fuel use habits in general. HE will finance an energy development project using renewables preferentially and take the bulk of the energy savings as its fee. So, I'm applying much of what I know to a new field. The U.S. Congress Contract With America (1994) and Christie Whitman sealed the demise of the environmental industry; most of my competitors are out of business and doing something else. On the F&ES front, I'm really excited about our new LEED building and want to get up to speed on it."

## 1975

### CLASS SECRETARY:

**ANN CORCORAN**

**Arthur Weissman** writes about his business: "Green Seal is a nonprofit organization with an environmental mission to make the economy more environmentally responsible and sustainable. We recommend and certify products and services that meet our leadership-level environmental standards, but we don't sell or distribute them, nor of course do we have any financial interest in either the products or the companies that provide them. We also work with large institutions, including universities and government agencies, to help green their procurement, operations and facilities management. We also work with particular industry sectors to help them become more sustainable; for example, we have a growing green lodging program."

## 1976

30th Year Reunion

### CLASS SECRETARY:

**HOWARD CORCORAN**

## 1977

### CLASS SECRETARY:

**JAMES GULDIN** [jguldin@prodigy.net](mailto:jguldin@prodigy.net)

## 1978

### CLASS SECRETARIES:

**SUSAN CURNAN** [curnan@brandeis.edu](mailto:curnan@brandeis.edu)

**MARIE MAGLEBY** [lomag@comcast.net](mailto:lomag@comcast.net)

**REGINA ROCHEFORT**

[regina\\_rochefort@nps.gov](mailto:regina_rochefort@nps.gov)

**Bruce Larson** attended a Yale Forest Forum leadership seminar in fall 2004, and delivered a presentation to an F&ES audience on October 14. Bruce is chair of silviculture at the University of British Columbia, focusing on forestry at the stand level and above. His research is on development and growth of forest stands and efficient management of multiple forest resources. Recent research projects range from competition between individual trees and its effect on stand growth to considerations of multiple resource modeling. He is involved with studies on stand density relationships with wood quality, management of boreal mixed woods and changes in forest management associated with forest certification.

**Luke Umeh** has retired from the African Development Bank.

**Pat Korotky** writes: "Still down at the Jersey Shore, still working at Cooper Environmental Center, Cattus Island Park in Toms River. I recently became a grandmother (eek!), and still sorry I didn't make it to Tomfest and the 25th anniversary of the class of '78."

**Marie Magleby** writes: "The classes of 1977 and 1978 celebrated their first (biennial?) Western reunion at the southern tip of Puget Sound on

Harstene Island. **Kate Troll '77** and **Bob Gipe** were the driving force. Kate is the Americas director for the London-based Marine Stewardship Council, and author of *Eco-nomics and Eagles: A People's Guide to Economic Development AND the Environment*. Bob is vice president for investor relations with Weyerhaeuser Realty Investors. Kate's husband and classmate, **Bill Hanson '77**, who is branch chief for the Southeast Alaska office of the U.S. Fish and Wildlife Service, flew down from Juneau bearing flash-frozen sockeye salmon. The sockeye joined the kings and silvers for a festive 'Shrimp Fest'—a toast to Bill Burch and his 1999 Festschrift. Oyster stuffing, crab soup and, of course, shrimp salad, thanks to Bob and his family, rounded out the reunion banquet. **Jose Cuervo** made a cameo appearance. Soon thereafter, all were dancing to the tunes provided by **Tim Glidden '77**, director of the Land for Maine's Future program. Tim's compilation of rock and roll hits spanning all our formative years will soon be released as a box set. **Carol Aubry '77** arrived Saturday morning to join us on a hike along McMicken Beach. Carol is a near native to South Puget Sound, having lived in Olympia since 1985 and been with the U.S. Forest Service in forest genetics since 1981. Afternoons are made for sailing, and in South Puget Sound the late July afternoon sun heats the Olympic Mountains until a stiff southerly breeze begins to flow. **Andy Schwarz**, a complete novice to sailing though an encyclopedia of Red Sox trivia, took the helm and soon was sailing wing and wing. Andy is a principal with Industrial Economics, a consulting firm in Cambridge, Mass. The Nature Conservancy was well-represented. **Tom Rumpf**, associate state director, Maine Chapter, and vice chair of the Town Council in Freeport, Maine, provided insightful comments on our left-of-center politics. **Loring LaBarbara Schwarz**, deputy director of the Massachusetts chapter of TNC and acting director of the U.S. Virgin Islands Country Program, contributed immensely to the group's energy, but nowhere did she challenge us as when she said, "Why not hold the next biennial reunion on a chartered sailboat?" From Bob Gipe: "So classmates, if you were to join us in 2006, where would you prefer to be? On a catamaran in the Virgin Islands or a sloop in the Aegean? Let us know. Caribbean? Mediterranean? What do you think?" Contact **Bob Gipe** ([robert.gipe@wri-online.com](mailto:robert.gipe@wri-online.com)). Sometimes planning an event has its own rewards. For us, the rewards were touching bases with the likes of **Phil Hoose '77**, **Pam Kohlberg**, **Ben Gregg '77**, **Dave Hall '77**, **Chuck Hewitt '77** and **Keith Aubry '77**. We are all schedule-challenged, so these classmates could only send their regrets and greetings."

**Michael Rees** writes: "We're doing fine in Denver although the population growth and urban sprawl are definitely taking a toll here. I've been working as a natural resource planner for almost 14 years for the National Park Service's Denver Service Center. DSC is the Park Service's national center for planning, design and construction. I'm working on six general management plans for Channel Islands NP, Badlands

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NP, Chickasaw National Recreation Area, Apostle Islands National Lakeshore, John Day Fossil Beds National Monument and Canyon de Chelly National Monument. Plus, I'll be starting work on writing wilderness management plans for Lake Mead National Recreation Area. Last year, I finished a wilderness study for the Apostle Islands, which Congress recently designated as wilderness. We love to travel, both in the United States and abroad."

## 1979

### CLASS SECRETARY:

**JOHN CAREY** [carey@aya.yale.edu](mailto:carey@aya.yale.edu)

The Mitchell Agency, an international tourism enterprise, recently announced **Hob Calhoun** as co-leader of the Peruvian Odyssey tour in June 2005 ([TmitchelAg@aol.com](mailto:TmitchelAg@aol.com)). Hob is an ornithologist and outdoor enthusiast. He led two state independent Audubon Societies in Rhode Island and Maryland. His Audubon work included organizing a statewide breeding bird atlas, as well as reptile and amphibian surveys. He most recently spent a year studying medical genetics at the University of Connecticut. He is the co-director of the science program at the DaVinci Academy of Science and the Arts in Ogden, Utah. Hob is active within his community, he enjoys field trips with his students to the Ogden Nature Center, and his field studies included a study of the Ogden River Watershed.

## 1980

### CLASS SECRETARY:

**SARA SCHREINER-KENDALL**  
[sara.kendall@weyerhaeuser.com](mailto:sara.kendall@weyerhaeuser.com)

In December, we learned that **Al Sample, Ph.D. '89**, had just returned from China, where he helped lead a forest policy development seminar for national and provincial forestry leaders in Haikou (Hainan Province) and Beijing. His most recent book, *Forest Conservation Policy*, was published in 2004 by ABC-CLIO Press. Al continues as president of the Pinchot Institute in Washington, D.C., and encourages F&ESers interested in an internship or postgraduate fellowship on forest policy to contact him there ([alsample@pinchot.org](mailto:alsample@pinchot.org)). Al is finishing his second term as president of the F&ES Alumni Association, and welcomes inquiries from alums interested in serving on the newly revitalized executive committee or as an AYA delegate.

**Jean Tam** writes: "After nearly 20 years of working on GIS projects for the Alaska Department of Natural Resources, I retired in January. My husband and I will continue to live in Anchorage and explore wilderness areas in his small plane. I plan to continue my work with loons via the Loon Cam ([www.anchorageaudubon.org/loonsnaps/looncam.html](http://www.anchorageaudubon.org/loonsnaps/looncam.html)). Classmates are welcome to drop in for a visit." [jtam@gci.net](mailto:jtam@gci.net)

**Ruben Rangel** writes: "Family and I still live in Santa Fe, N.M., and enjoy the outdoors as best we can.

The mountains and deserts offer many avenues to enjoy recreation. We hike, ski, snowshoe, camp, fish, offroad, geocache and run in hills. The children are teenagers now, developing just fine and exerting their independence. Beatriz still teaches at a public school. She enjoys it, but it is hard and tiring work. I am a health physicist doing occupational radiation protection services at Los Alamos National Laboratory. I ride my bike 10 miles a day to catch a bus to and from work. In 2004, I logged 950 miles commuting all year long. Besides spending a lot of time with my children and wife, I do many odd jobs and hobbies. Last fall, I started renovating my 1963 T-bird. It's a joy to drive and fix. I usually spend more time on my bicycles than on my cars. We invite you all to stop by and visit when in the area."

**Tricia Johnson** writes: "I am in my second year of teaching science at Common Ground High in New Haven. Our school's charter is to teach with an ecological foundation and relate the interconnectedness of all endeavors. We have a great faculty and staff, and our kids are primarily urban New Haven students who do not have much experience in working with or thinking about the environment and the outdoors. They can really be a challenge, but most are great kids. We have an organic garden, animals (pigs, a goat, a sheep, ducks, chickens, turkeys, a rabbit and a resident cat). We are located at the base of West Rock State Park, and have the entire park as a working classroom. We took our bio-inventory and orienteering class on a field trip to Great Mountain last spring and it was a huge success. We hope to return again this spring—if Star will have us! For anyone contemplating a change that can make a difference, I heartily endorse teaching."

**Tom McHenry** reports that **Bob Comer** has defied the Peter Principle and been named regional solicitor for the Department of the Interior in the Rocky Mountain Region. Others who have defied the Peter Principle include **John Echeverria**, for his success in the academic and policy world on behalf of the Georgetown Environmental Policy Project.

**Hank Margolis** is on sabbatical as a visiting scientist in the biospheric sciences branch of the NASA Goddard Space Flight Center, where he is working on carbon cycle research related to the North American Carbon Program and the Fluxnet-Canada Research Network.

**Fran Rundlett** writes: "I am enjoying teaching botany and human anatomy for art students at the prestigious Atlanta College of Art, and the students are certainly teaching me the artist's perspective on life. I also have a small environmental consulting practice that keeps me busy. Our two Russian children are now active teenagers, so there is never a dull moment. Meanwhile, Stuart and I do lots of hiking, and we just passed our halfway mark (26 states) on our goal to hike the state high points. Admittedly, we have done the easiest ones in the East, and may never get to the high points of Alaska and Wyoming!"

**Jane Sokolow** writes: "I have been and continue to be a consultant to OASIS—Open Accessible Space Information System ([www.oasisnyc.net](http://www.oasisnyc.net))—a coalition of 40 nonprofits, grass-roots groups, educational institutions, public agencies, businesses and individuals whose mission is to enhance the stewardship of open space and ecosystems in and around New York City. The website is the first citywide website that puts the power of GIS in the hands of anyone with a computer and provides a common, free, online open-space inventory. I am coordinating a strategic planning effort to ensure that OASIS is self-sustaining and continues to grow; it was initiated by the USDA Forest Service as a pilot urban project. In addition, I am president of the Friends of Van Cortlandt Park, and continue to work to preserve, protect and improve the park. It looks as if the City's Department of Environmental Protection will succeed in building the water filtration plant in the Park for the Croton water supply. It has been a difficult 10-year battle, and sets a terrible precedent for use of public parkland for city infrastructure services."

**Phil Brylski** writes: "I've been working for the World Bank since 1994, developing natural resources management and environment projects in Europe and Central Asia (mainly in the former Soviet Union, but also the Balkans). Recently, I changed regions and jobs, and am now the environment and social coordinator for our program in Vietnam, based in Hanoi. Visitors are welcome."

## 1981 25th Year Reunion

### CLASS SECRETARIES:

**FRED HADLEY** [Mrm@evansville.net](mailto:Mrm@evansville.net)  
**CAROL YUELL** [envstew@snet.net](mailto:envstew@snet.net)

## 1982

### CLASS SECRETARIES:

**BARBARA HANSON**  
**KENNETH OSBORN**  
[forstman@fidalgo.net](mailto:forstman@fidalgo.net)

## 1983

### CLASS SECRETARY:

**STEPHEN BROKER** [lkbroker@snet.net](mailto:lkbroker@snet.net)

## 1984

### CLASS SECRETARIES:

**THERESE FENG**  
[Therese\\_feng@yahoo.com](mailto:Therese_feng@yahoo.com)  
**ROBERTA TABELL JORDAN**  
[rjordan@clinic.net](mailto:rjordan@clinic.net)

**Louisa Willcox**, director of NRDC's Wild Bears Project, was interviewed for NRDC's *Nature's Voice* (Nov.-Dec. 2004) in "Yellowstone Grizzly To Lose Protection." She warns: "Now is not the time to be taking chances with the grizzly's future. If protections are removed too soon and critical habitat destroyed, these bears will never be safe from extinction. The



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U.S. Forest Service believes it's time to remove the Yellowstone grizzly from the Endangered Species List because its population has clawed its way back to more than 500. NRDC plans to sue the federal government if it attempts to remove the grizzly from the list."

## 1985

### CLASS SECRETARIES:

**ALEX BRASH** alex.brash@parks.nyc.gov  
**MARGARET KING** theskings@attbi.com

**Henry Whittemore**, director of the governor's forest certification initiative for the Department of Conservation, Maine Forest Service, visited F&ES in October to speak on "Discounted Cash Flows, TIMO and Forest Certification." He is responsible for developing and implementing a forest certification program for private and public industrial and nonindustrial lands with a goal of reaching 10 million acres of certified forestland in Maine by 2007. He also is responsible for directing the Maine's Future Forest Products Economy project, a one-year intensive study that is examining Maine's unique position in a rapidly changing global forest products market. Prior to joining the Maine Forest Service, he was Northeast regional manager for the Hancock Timber Resource Group's 675,000 acres in Maine, New Hampshire, Vermont and New York. He has negotiated many transactions to protect important public values on privately owned land throughout northern New England and has served on local planning boards. He serves on the boards of the Forest Society of Maine, a working forestland trust, and the Kennebec Land Trust. He is a licensed Maine forester and is certified by the Society of American Foresters.

From an *Asia Inc.* website profile in December 2004: "**Molly Harriss Olson** and husband, Phillip Toyne, set up EcoFutures, an international strategic planning policy company that works on building sustainable strategies for industry and business. 'The latest climate research shows that by 2015 we will already be locked into a 2 percent increase in global temperatures. That could mean we would eventually lose up to half of Kakadu's wetlands in the Northern Territories and half of the tropical rainforests of Northern Queensland, as well as suffer serious coral damage throughout the Barrier Reef. Australians have the highest per capita rates of greenhouse gas emissions, and we need to figure out a way to radically reduce that consumption to avoid climate catastrophe. Already, companies like BHP Billiton, DuPont, Visy, Interface, Fuji Xerox and so many more are ahead of government policy. So this is where my efforts and strategies are focused,' said Olson."

The F&ES community sends condolences to **Chris Donnelly** on the death of his brother and sister-in-law.

## 1986 20th Year Reunion

### CLASS SECRETARY:

**CAROLINE NORDEN**  
cnorden@maine.rr.com

**Craig Ramsey** writes: "I finished my postdoc work with the University of Florida, Milton campus, under Dr. Shibu Jose. Our research involved agroforestry projects with pecans and cotton, longleaf pine regeneration, site preparation for loblolly pines and cogongrass control. During my three-and-a-half years in Milton, we had at least eight graduate students working on each of these projects. In December 2003, I married Nazroon, who hails from Trinidad and Tobago. Last August, I accepted a position with USDA-APHIS in Fort Collins, Colo. The 'front range' is a beautiful place to live and work. I will finally see snow again after working 13 years in the Southeast. I will work with invasive weed control across all 50 states. Hopefully I can play a small part in keeping our forests and natural areas free from these 'dangerous' plants."

**Tom Duffus** writes: "After 17 years with The Nature Conservancy, I am now state director (Minnesota/Wisconsin) with The Conservation Fund."  
tduffus@conservationfund.org

## 1987

### CLASS SECRETARIES:

**CHRISTIE COON** cacoon7@aol.com  
**MELISSA PALY** mpaly@aol.com

**Peter Pinchot** recently contributed his opinion in a *Wall Street Journal* article, "Landscape Architects: Deer Are Designing Future Look of Forests." As abundant whitetails munch through the underbrush, Pinchot points out, "Deer have stopped the regeneration of our forests in many areas." That means little trees aren't growing up to eventually replace big trees. It was Pinchot's grandfather, Gifford Pinchot, who helped bring back whitetail deer a century ago, and who founded the Yale Forest School. As the first director of the U.S. Forest Service, he pioneered a conservation movement to save forests and restore wild species that were dramatically dwindled by commercial hunters. In 1898 the whitetail population was no more than 500,000 nationwide, but today whitetail population estimates range from 20 million to 33 million nationally—more than when Columbus arrived five centuries ago, wildlife historians believe. The ground-level vegetation of the forest "has been severely degraded by over-browsing in many regions, eradicating critical habitat for many plants and birds." Pinchot added, "That's way too many deer to allow forests to regain their health and diversity." Peter is director of the 1,400-acre Milford Experimental Forest on the Poconos Plateau in Pennsylvania.

## 1988

### CLASS SECRETARIES:

**DIANE STARK** dsstark@comcast.net  
**PHILIP VOORHEES** pvoorhees@ncpa.org

**Betsy (Greer) Edwards** writes: "After 20 years in the private sector (energy and software industry), I now am executive director of Washington's National Park Fund. We raise funds and grant them for preservation programs in Washington's national parks—Mount Rainier, North Cascades and Olympic National Parks. It is great to be doing work that I trained for at Yale, and our family likes the frequent outings to the parks. My husband and I have three children, Robson (8), Mats (7) and Kate (4), and they spend most weekends in good weather in the parks. If you have the occasion to visit out West, please look me up."  
bedwards@nationalparks.org

**Jeff Campbell** came back to Yale for the Think Tanks and Foundations Paths panel in Luce Hall on February 18. Jeff was born and raised in India, and spent over 36 years in Asia. He has been a program officer at the Ford Foundation since 1991, spending five-and-a-half years working on community forestry issues in the New Delhi office and three-and-a-half years in the Jakarta office. He is senior program officer in the community resources development unit in the New York office, having served for two years as deputy director of the unit.

## 1989

### CLASS SECRETARIES:

**SUSAN CAMPBELL**  
susan.campbell@comcast.net  
**JANE FREEMAN** jane@ewalden.com

There was an FE&S alumni gathering in Seoul, South Korea, on February 5. **Yajie Song, Ph.D. '95**, executive director of the Yale-Tsinghua Environment & Sustainable Development Leadership Program, **Professor Eunshik Kim, Ph.D. '88**, dean of the department of forest resources, College of Forest Sciences, Kookmin University, and **Jeongeun Hae '04**, doctoral candidate and deputy director, natural resources division, Ministry of Environment, South Korea, and friends, including Dr. Hyundong Park, attended this get-together over lunch. Attendants shared their progress and explored possible research and development opportunities to link F&ES and Korea. (See website for photo.)

**Mary (Nelligan) Robbins** writes: "I work for the Worcester County (Mass.) Ecumenical Council. It's very social-justice oriented and I love it. I am part paid staff and part volunteer, which works great for me."

**Kyle Datta** writes: "I am the managing director of the Rocky Mountain Institute, and just co-authored *Winning the Oil Endgame: Innovation for Profits, Jobs, and Security* with Amory Lovins and others. I am still happily living in Kona, Hawaii, with Ann and

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daughter Ariana.” Kyle came back to Yale in February for a discussion on his new book and to recruit summer interns.

**Stephen Kelleher** writes: “I am deputy director of the IUCN’s forest program in Switzerland. I do a lot of work with our regional African offices, as well.”

## 1990

### CLASS SECRETARIES:

**JUDY OLSON HICKS**

**CAROLYN ANNE PILLING**  
capilling@gds.org

**C.A. Pilling** writes: “I live in Washington, D.C., and teach high school science (mostly Advanced Placement Environmental Science) at Georgetown Day School (GDS). I also am a dean and coach, and serve on the admissions committee. I thoroughly enjoy having my summers off. I have worked as a guide for various bike-tour companies, which has allowed me to travel extensively throughout the western United States and Europe. I have traveled to Ethiopia to design a service-learning trip for our students at GDS. Our main project is to build a school with Save the Children, and support it financially for the next eight years (part of the Save model). It has been a wild ride as far as fund-raising goes—I do not like this part, but it must be done. All in all, I am loving life!”

**Catherine Bealle** and **Lawrence Statland** are still happily settled in Victoria, B.C., Canada. They have a son, Max, now 7 years old, and request that all visitors please look them up!

## 1991 15th Year Reunion

### CLASS SECRETARIES:

**DOROTHY BEARDSLEY DEBPDC@aol.com**

**KRISTIN RAMSTAD**  
kramstad@odf.state.or.us

**Chris Rogers** writes: “I am director of capital projects and government affairs at the Seattle Art Museum, where I oversee the development of the 8.5-acre Olympic Sculpture Park on Seattle’s downtown waterfront. Scheduled to open in early summer 2006, the park is featured in an exhibition on international landscape design at the Museum of Modern Art in New York.”

**Kristin Ramstad** writes: “I hope all of you are doing well. Here in western Oregon, the daffodils are pushing up, the red maples and camellias are blooming, the mornings are foggy—daytime temps in the 40s to 50s. If any of you are in or near the Portland-Salem area, contact me. I’d love to catch up with you face-to-face.”

## 1992

### CLASS SECRETARY:

**KATHERINE KEARSE FARHADIAN**  
farhadian@aya.yale.edu

**Mark Zimsky** is a senior biodiversity specialist at the GEF Secretariat in Washington, D.C. His new e-mail address is [mzimsky@hotmail.com](mailto:mzimsky@hotmail.com).

**Nuria Muniz** writes: “I still work for the EPA brownfields program in New York (I also have a couple of projects in Puerto Rico and the Virgin Islands), and am still living in Summit, N.J. Feel free to have any of the students call me if they wish to know about the brownfields program or working for EPA. These days I travel a lot less since I have 1-year-old twin girls, Andrea and Kasia.”

## 1993

### CLASS SECRETARIES:

**DEAN GIBSON** [deang@duke.edu](mailto:deang@duke.edu)

**MOLLY GOODYEAR**  
[mandm4@mindspring.com](mailto:mandm4@mindspring.com)

**HEATHER MERBS** [hmerbs@aol.com](mailto:hmerbs@aol.com)

On December 9, **Margaret Williams**, editor of *Russian Conservation News* and director of the Center for Russian Nature Conservation, gave a lecture and slide presentation on “Conserving Wild Russia: Russia’s Role in Protecting the Remote Places of Northern Eurasia” at the Harvard Museum of Natural History in Cambridge, Mass. By way of background, Margaret writes: “Russia and the other states of the former USSR cover 8.65 million square miles of Northern Eurasia—almost twice the size of the United States. This area presents one of the last chances for the world to save large pristine ecosystems. Nowhere else in the world is an area so vast still so wild—home to over 25,000 species of vascular plants, 1,100 bryophytes, almost 200 species of amphibians and reptiles, 765 species of birds and 360 species of mammals. About 10 percent of these are threatened or endangered. Well-known examples include the Siberian Tiger, Saiga Antelope, Baikal Lake Seal, Red-breasted Goose, Siberian Crane and Amur Sturgeon.” Her presentation showed the vast and complex world of Northern Eurasian biodiversity and the efforts being made by Russians to support and enlarge the system of protected natural areas. Margaret’s editorial work in *Russian Conservation News* provides the first English-language publication on nature conservation in the former USSR. For more information on Russian conservation efforts: [www.russianconservation.org](http://www.russianconservation.org) or [www.wild-russia.org](http://www.wild-russia.org).

On February 18, the Yale International Careers Roundtable hosted an alumni panel at Luce Hall. Among the panelists was **Josh Foster**, a political scientist interested in environmental and global change decision making, particularly adaptation to climate and weather-related risks and vulnerabilities using scientific knowledge as a guide for policy and action. Since 1995, he has been a program development specialist/integrator for the National Oceanic and Atmospheric Administration (NOAA) office of global programs/climate and society division. He seeks to enhance communication

between scientists and decision makers, improve the provision of climate and weather information and services, and help society manage climate and weather-related risks.

## 1994

### CLASS SECRETARIES:

**JANE WHITEHILL**  
[janewhitehill@hotmail.com](mailto:janewhitehill@hotmail.com)

**CYNTHIA WOOD**  
[chenshaw@newenglandforestry.org](mailto:chenshaw@newenglandforestry.org)

**Jane Calvin** writes: “Isaac Calvin Bollen was born on October 8, 7 lbs., 5 oz., narrowly missing mom’s birthday by 6.5 hours! Silas, 2-and-a-half, is a doting big brother.” [jcalvin@lowelllandtrust.org](mailto:jcalvin@lowelllandtrust.org)

**Matt Black** writes: “My wife, Becky, recently became head of NBA operations in Europe, Africa and the Middle East. I will be living the dream as a stay-at-home dad, and plan to spend most of my free time sitting in Parisian cafes soaking up the local culture.” [matt@rebekahhill.com](mailto:matt@rebekahhill.com)

**Cynthia Caron** writes: “I have established two institutional linkages that I feel good about for tsunami relief. The first is with Environmental Foundation Ltd. ([www.efl.lk](http://www.efl.lk)); I have been working with them since 1995. They have recently hired two environmental scientists, one of whom speaks Tamil. They are doing policy advocacy on the 100-meter zoning policy and other issues related to coastal zone management. They may start sustainable housing projects, one on the south coast and one in Point Pedro in Jaffna. They work islandwide. The second organization is a small NGO that I have been with since June 2003, Humanitarian Brotherhood Foundation (HBF). We have opened an office in Ampara, and I was there over the weekend to see what has been happening. I will be using some of my private funds to build a temporary shelter that will double as a preschool and as a clinic in an IDP camp. My contact in the camp is the public health inspector from the Ministry of Health, so HBF is working closely with the government. Thus, if people want to channel money through me to these organizations, I can do that. On another note, **Ronnie Cherry ’96** arrived March 1, and we are looking for land for this forestry/carbon sink project we have in mind.” [Cmc41@cornell.edu](mailto:Cmc41@cornell.edu)

**Marlene Cole** writes: “At the risk of abusing this list, I’ll write a short hello and put out a quick request: If you or any capable ecologist-type person is interested in field work (private consulting) in Nevada, please drop me a line.” [marlene@aya.yale.edu](mailto:marlene@aya.yale.edu)

**Chris Filardi** moved in the fall. He can be reached at the American Museum of Natural History ([www.amnh.org](http://www.amnh.org)) in the ornithology division office.

**Stephanie Flack** is out of the office on maternity leave until mid-June. She is Potomac Gorge project director with The Nature Conservancy in Bethesda, Md. [sflack@tnc.org](mailto:sflack@tnc.org)

# ClassNotes

**James Jiler** is director of the greenhouse project on Rikers Island, a jail-to-street horticulture program for incarcerated men and women in New York City's jail system. Once released, former inmates work on landscape/horticulture projects in public and private spaces all over the City. His book, *Doing Time in the Garden*, published by New Village Press, will be out in September. James lives in the East Village, Manhattan, and has recently taken up surfing as his retirement hobby. JJiler5530@aol.com

**Joaquin Leguia** has a lot going on in Peru these days—a national award in environmental education for his Children's Land Project, an article in *National Geographic Explorer* and his first publication, "How to Implement a Children's Forest." Joaquin writes: "We are developing the Children's Forest Center in Madre de Dios, where we are starting in July nine-day training workshops for 15 people per month on how to implement a children's forest and adapt it to other ecosystems. The aim is that 1 percent of Peru's territory be managed in a sustainable manner with the participation of children, who represent 40 percent of the total population. So far, more than 300 hectares have been given to more than 1,000 children in different parts of Peru. In Acre, Brazil, the children's forest is being implemented in Chico Mendes Reserve with more than 300 children. I hope F&ES gets interested in this initiative that is creating a lot of hope and can expand to other regions of the world. Un abrazo!" ania.leguia@terra.com.pe

**Jennifer O. Palmiotto** writes: "I am enjoying my work as a water resources planner at the New Hampshire Rural Water Association. This past year I had the opportunity to work on three great projects. One was a watershed protection project in the Lakes Region of New Hampshire, focusing on the Waukewan Watershed. Lake Waukewan is the drinking water supply for the town of Meredith. It also is a lake valued by motorboat enthusiasts, anglers, snowmobilers, kayakers, etc. Developing a balanced approach to management of these water resources, with a very dedicated volunteer committee, has been enlightening and challenging. Peter (**Peter Palmiotto '92, D.F. '98**) and I are having the best time introducing our 20-month-old son, Trevor, to the wonders of sledding and playing guitar. Trevor, on the other hand, is having the best time teaching us about the world of trucks: snowplows, diggers, mini-loaders and car transporters. Recently we saw **Kathy Roy Hooke '93**, her husband, Dave, and their little boy." jpalmiotto@neruralwater.org

**Guido Rahr** writes: "Wild Salmon Center work going very well in Pacific Northwest and Russian Far East. We and partners just won an agreement to create a whole basin (headwaters to ocean) salmon sanctuary on Kol river in west Kamchatka. Amazing, pristine watershed with 10 salmon, trout and char species and mega runs. Salmon literally pour from ocean into river. Bears and poachers everywhere. On the home front, Lee and I are expecting a baby in May. It looks like a boy, which means we will soon have a pack of

three turbo-charged, toe-headed little maniacs tearing through our already chaotic house. Bring it on!" www.wildsalmoncenter.org

**Donna Stauffer** writes: "I am deputy mission director with USAID in Maputo, Mozambique. The program here is extremely interesting, covering many technical and programmatic areas. HIV/AIDS prevention, treatment and care is our largest program area, but we also work in agriculture, enterprise development, health and municipal governance. As part of our efforts to stimulate economic growth and create jobs in a country still trying to overcome several decades of civil conflict, we are about to start a program in tourism to capitalize on Mozambique's superb coastal and forest resources in the north. It has been interesting to come back to southern Africa after five years away. I have been pleased to see that the work to develop trans-frontier parks, with which I was involved in the late 1990s when I worked in Botswana, has continued. Mozambique has the Greater Limpopo Park, and USAID has supported the work of the African Wildlife Foundation to ensure that communities outside the park benefit from conservation efforts. I was on leave in the United States in December, and was delighted to meet **Marie Gunning '95**, her husband, Michael Murphy, and their baby daughter, Mary Katherine. I hope that I will be able to attend the next reunion at Yale." dstauffer@usaid.gov

**Jane Whitehill** continues to enjoy her work as a science writer and her life in East Harlem. janewhitehill@hotmail.com

**Beth Conover** writes: "I have become special advisor for sustainable development to Denver Mayor Hickenlooper. I am very excited about this new position."

## 1995

### CLASS SECRETARIES:

**MARIE GUNNING** mjgunning@aol.com

**CIARA O'CONNELL**  
ciaramoconnell@aol.com

After a semester teaching property law at Whittier Law School in Costa Mesa, Calif., **Robert J. Goldstein** joined the staff of Hudson Riverkeeper as senior attorney and Hudson River program director. He has recently published three books: *Environmental Ethics and Ecology: Green Wood in the Bundle of Sticks* (Ashgate, 2004), *Guide to Criminal Procedure in New York* (Thomson/Wadsworth, 2004, with T. Bakken and J. Bickers) and *Environmental Ethics and Law* (Ashgate, 2004).

## 1996 10th Year Reunion

### CLASS SECRETARIES:

**KATHRYN PIPKIN** kate@goodisp.com

**JULIE ROTHROCK** jarothrock@juno.com

**Alfred Gonzalez III** obtained tenure in fall 2004 as an instructor of biological sciences at Evergreen

Valley College in San Jose, Calif. He always has been involved in environmental science education, especially with educational programs to promote Chicano Latinos in postsecondary education. Last year, he celebrated his fifth wedding anniversary.

On December 2, a career panel for U.S. students of color featured **Ryan Valdez** and **Saleem Ali**, among others. **Saleem Ali** is an assistant professor of environmental planning at the University of Vermont's Rubenstein School of Environment and Natural Resources, and is on the adjunct faculty of the Watson Institute for International Studies at Brown University. His academic research focuses on the causes of environmental conflicts between indigenous communities and mining companies. He also has worked as an environmental health and safety professional at General Electric, as a consultant for the EPA, U.S. Fish and Wildlife Service and Health Canada, and as an associate at the consulting firm Industrial Economics. He also conducts conflict resolution training, and has provided environmental mediation services to the World Bank and various government agencies. Saleem received his doctorate in environmental planning from MIT. His hometown is Essex Junction, Vt.

**Ryan Valdez** is working with the Smithsonian's National Zoo and Tropical Research Institute to develop an interactive, online conservation tool that uses GIS to map activity throughout Amazonia's eight-country region. Ryan established the Amazon GIS lab at the National Zoological Park in 1999. Prior to that, he worked with the zoo's research department, continuing work on ocelot ecology with the U.S. Fish and Wildlife Service. As a field biologist, Ryan also spent time working with wolves in northern Montana and the endangered Kemp's Ridley sea turtles off the Gulf Coast of Mexico. His hometown is Brownsville, Texas.

On February 17, the industrial environmental management and energy SIG hosted an alumni panel at F&ES. **Chris Lotspeich**, founder and principal at Second Hill Group, an independent consulting and research practice on business, environment, energy and security issues, was a panelist. Chris was a 2002-2003 Batten Fellow at the Darden Business School at the University of Virginia. From 1994 to 2001, he was a senior associate at the Rocky Mountain Institute in Snowmass, Colo., where he worked on six continents and led numerous resource efficiency surveys at industrial facilities and on a Navy warship. Chris also is a volunteer emergency medical technician, firefighter and hazardous-materials technician.

## 1997

### CLASS SECRETARY:

**PAUL CALZADA** pcalz@metrozoo.net

**Shauna Alexander** writes: "My husband, Peter, and I had a baby girl, Ingrid Alexandra Mohr, born May 15, 2004. It is all a great joy, and also the reason I don't check e-mail very often. Thanks again for thinking of me and please keep me in mind for future events."



# ClassNotes

**Jon Kohl** writes from Washington, D.C., where he reports that life over the past year has been changing even faster than the climate. In 2004, he started freelance work as a protected-areas specialist and writer after seven years with Rare (formerly RARE Center for Tropical Conservation). He moved from Wisconsin to Washington, D.C., now living in the area's first green architectural apartment, and married his Costa Rican wife, Marisol Mayorga, who is finishing her master's degree in environmental education from the University of Wisconsin-Stevens Point. Their matrimonial celebration was as much a statement on low-impact living as it was an eternal union. Jon founded the Worldview Change Project to illustrate the dynamics of how worldviews change throughout human history, in hopes of finding high leverage points to speed up the transition to a sustainable society. The project produces media that help people see their own worldview from the outside, then envision new ways of viewing the future. He uses different tools, including heritage interpretation (he is working with FERMATA to create an interpretive plan for the 12,500 square miles of the Pennsylvania Wilds/Lumber Heritage Region in north central Pennsylvania), program evaluation (with Foundations of Success to evaluate The Nature Conservancy's Parks in Peril Program) and strategic planning (with the Central American Commission for Environment and Development) to create a Central America Protected Areas System, as well as writing academically, popularly and fictionally on issues related to training, systems thinking, conservation, spirituality and worldviews. Jon invites F&ES alumni to visit him at his website, which he calls the "Informationsphere," in honor of the late Dr. Donella Meadows, who argued that change comes through information and feedback. [www.jonkohl.com](http://www.jonkohl.com)

**Martin Medina, Ph.D.**, recently received his fourth consecutive award from the Global Development Network (GDN). In 2002 and 2005, he was a finalist for the GDN Research Medal for Development Award; in 2004, he received a Knowledge Fair award; and in 2003, he received second place in the GDN Outstanding Research for Development Award for his work on poverty alleviation, solid waste management and sustainable development in the Third World. GDN—sponsored by the World Bank, the United Nations, national governments and private companies—is chaired by Ernesto Zedillo, director of the Yale Center for the Study of Globalization. GDN judges include distinguished development experts, such as Nobel laureates Amartya Sen and Joseph Stiglitz. Martin also took second place in the 2001 Bremen Partnership Award for his work on decentralized wastewater treatment facilities. Since graduating from Yale, Martin has worked on solid waste management, wastewater treatment, sanitation and environmental education in Africa, Asia and Latin America. He just signed a contract for a book on sustainable consumption and production in the developing world that will be published this year. Martin is working with Harvard University in

developing a worldwide network of scavengers (I'll be happy to send more details later). He also has a "wonderful" 2-and-a-half-year-old son, Luca. "Greetings to everyone I met at Yale in the early and mid-1990s!"

## 1998

### CLASS SECRETARIES:

**NADINE BLOCK**  
[nadineblock@alumni.williams.edu](mailto:nadineblock@alumni.williams.edu)

**CLAIRE CORCORAN**  
[Corcoran\\_Claire@hotmail.com](mailto:Corcoran_Claire@hotmail.com)

**Jessica Hamburger** writes: "I have started a new job as a watershed coordinator for the Contra Costa Resource Conservation District. I will coordinate a community-based collaborative process to develop a watershed plan for the Mount Diablo Creek Watershed. I'm looking forward to the challenge!"

**Glenn Allen** writes: "After receiving an MBA from Cornell, I began a management consulting company, Sage Ventures. While my time is focused in the business world, I remain involved with the protection of rainforests and the peoples who inhabit them through the organization Land Is Life. Last summer, I attended the United Nations third permanent forum on indigenous issues, along with Land Is Life, whose many indigenous leaders from around the world greatly influenced the commission. My family enjoyed a visit by Moi Enomenga, who taught my son, Miles, 9, and daughter, Nelle, 7, how to make and throw a spear. We would also enjoy a visit from you in our new house in Ithaca."

**Peter Bryant** writes: "I am enjoying life in Switzerland with WWF and travel frequently. We have a new opening here that I'd like to get up on your job e-mail and/or e-group. My e-mail address is [pbryant@wwfint.org](mailto:pbryant@wwfint.org)."

**Chris Elwell** is an investment forester for Timberland Investment Resources (TIR). Prior to joining TIR last year, Chris was a business analyst and technical forester for Mead Westvaco, a leading paper and packaging company. As an analyst, he was responsible for management reporting, capital project analysis and tracking product profitability. As technical forester, he conducted financial analyses for land disposition and silvicultural operations, as well as harvest scheduling and fiber-supply planning. He also developed the forestry program for a regional economic development group, Appalachian Sustainable Development. Chris has experience managing Southeastern and Western coniferous forests. Chris is a member of the Society of American Foresters, and has contributed to several forestry publications. See more information at [www.tirllc.com/ourteam/ourteam\\_forestry\\_chris.html](http://www.tirllc.com/ourteam/ourteam_forestry_chris.html).

**Krieg Brown** writes: "I am no longer with Industrial Economics in Boston. I relocated to Portland, Ore., a few weeks ago, and am a senior economist for Northwest Economic Associates, a natural resource and economic consulting firm in Vancouver, Wash. Hope all is well."

**Evan Preisser** writes: "I graduated from the University of California at Davis with a Ph.D. in population biology last September, and moved to the East Coast, where I'm living with my fiancée, Carol Thornber. Carol is a marine biologist on the faculty of the University of Rhode Island, and a postdoctoral researcher at the University of Massachusetts-Amherst on the population dynamics of hemlock woolly adelgid, an invasive pest that's killing hemlock trees on the East Coast."

**Elliot Mainzer** is living in Portland, Ore., and working for the Bonneville Power Administration (BPA). He is deeply involved in the Pacific Northwest energy vortex, simultaneously managing the pricing group for BPA's energy trading division and leading the agency's renewable energy program. He has enjoyed many encounters with the ever-growing Yale energy mafia, all of whom are doing great things!

It's been a big year for **Jennifer Kefer**. She and husband, Josh, purchased a home in the D.C. area last spring. She also gave birth to their son, Ari Kefer, in June. After an eight-month maternity leave, Jennifer is back to work as an environmental consultant for Environmental Defense.

## 1999

### CLASS SECRETARIES:

**JOCELYN FORBUSH** [jforbush@ttor.org](mailto:jforbush@ttor.org)

**JENNIFER GARRISON**  
[jennifermgarrison@yahoo.com](mailto:jennifermgarrison@yahoo.com)

**CHRISTIANA JONES**  
[christiana@aya.yale.edu](mailto:christiana@aya.yale.edu)

**Jennifer Garrison Ross** writes: "On November 13, 2004, I married Darren Ross in Hollywood, surrounded by 120 of our friends and family. It was a wonderful wedding. Darren is the general manager of two hotels in Hollywood, and we are living next door to one—the best commute in L.A.! I am in my fourth year as a science instructor at Marlborough School, a girl's school in L.A., where I'm teaching environmental science, among other classes, and am the sophomore class dean. I'm trying to create more F&ES students! I know of a great hotel for anyone visiting the L.A. area!"

Since graduation, **Josh Schachter** has been publishing his photos in an array of places, from the *Navajo Times* to *The New York Times*. As his website notes: "I have always been fascinated with change—its hope, despair, beauty and irony. Photography has allowed me to be both an observer and agent of change." He has spent the past five years photographing across the globe. For his master's project, focused in community development, he

# ClassNotes

taught photography to a group of teenagers. After Yale, the Urban Resources Initiative (URI) commissioned Josh to portray faces and stories behind New Haven's urban forestry efforts. While freelancing for institutions including the Southern Arizona AIDS Foundation and Arizona-Sonora Desert Museum, Josh ventured into the deserts surrounding Tucson to continue his photographic explorations. A grant helped him undertake a project to document food systems and food security problems in southeastern Arizona and northwestern Sonora State. He showed that few of us understand where food comes from and how consumers' decisions affect many other people's lives. Josh also teaches documentary photography to young writers and photographers. <http://www.joshphotos.com/>.

**Drue DeBerry** writes that his wife, **Julia Hathaway**, was enjoying working at the Ocean Conservancy and, by the way, her boss is **David Hoskins '83**, vice president for government affairs and general counsel at the Ocean Conservancy. [www.oceanconservancy.org](http://www.oceanconservancy.org)

**Megan Hellstedt** writes: "**Erik (Hellestedt)** is working for a state and regional planning firm in South Portland, Maine. He advises cities and towns on economic development, open space preservation, zoning, etc. I'm in the second year of running a new business that does consulting on all stages of land preservation in Maine—from acquiring land and conservation easements to managing preserves—and now in places further south. In our free time, we're getting close to finishing a major house renovation and are looking forward to work-free weekends ahead."

## 2000

### CLASS SECRETARIES:

**ERICA SHAUB** [schaube@battelle.org](mailto:schaube@battelle.org)  
**ZIKUN YU** [yuzikun2001@yahoo.com](mailto:yuzikun2001@yahoo.com)

**Colin Apse** is the deputy director of the Eastern Region Freshwater Program within The Nature Conservancy in New Paltz, N.Y. He will help other states from Maine to Virginia and west to Ohio that are focusing on in-stream flow issues, dam removal and more.

## 2001 5th Year Reunion

### CLASS SECRETARIES:

**LEIGH CASH** [leigh@cultureearth.com](mailto:leigh@cultureearth.com)  
**ADAM CHAMBERS**  
[adam\\_chambers@nrel.gov](mailto:adam_chambers@nrel.gov)  
**JENNIFER GRIMM**  
[jennifergrimm@aya.yale.edu](mailto:jennifergrimm@aya.yale.edu)

**Chris Nyce** married Rukmini Read on October 16 in sunny San Diego. In attendance were **Pete Hill**, **Caroline Kuebler**, **Brett Green** and **Citlali Cortes-Mantano**. Chris writes: "The festivities were a celebration of our love!"

**Abigail Sarmac** began a new job with the Wildlife Conservation Society last December. Her first task

was to help open a new office for the region, based in Portland, Ore. With great opportunities for domestic travel, she finds it "pretty exciting to be at the ground floor of a new conservation enterprise." Her husband, **Matthew Clark**, began working with the Confederated Tribes of the Umatilla Indian Reservation, east of Pendleton, Ore. Matt is an environmental policy analyst for the tribes, focusing on a project to restore stream flows to the Walla Walla River. This river has been seasonally dry for almost 100 years. He feels good about his work, "a small counter-balance to the Bush Administration's commitment to flushing these symbolic Northwest denizens down the crapper." He commutes three hours to Portland on weekends, and Abby joins him at the little house he bought in Athena, Ore. He is likely to move to Portland full time in 2006. Abby and Matt bought and renovated an 1895 Victorian house with a nice garden in an up-and-coming neighborhood in North Portland.

From **Luis G. Rodriguez** in Quito, Ecuador, comes word of a new program on politics, the environment and the Galapagos: "The Galapagos Academic Institute for the Arts and Sciences (GAIAS), an extension of Universidad San Francisco de Quito in Ecuador (where I teach), is establishing a new program in the Galapagos Islands beginning in fall 2005. This program, aimed at students of the social sciences and planned to run concurrently with the existing semester program for students of the biological sciences, is designed to examine and explore social and economic considerations relevant to the management of fragile environments, impacts people have on fragile environments and ways in which conflicts and concerns can be resolved in just and peaceful ways. The Galapagos Islands, one of the most renowned oceanic archipelagos in the eastern Pacific, remain one of the most pristine places on Earth. Here, wildlife not only reverberates above and below the sea surface, but most plants, animals and other forms of biodiversity are unique to the rest of the planet. Today, there are some 20,000 people living permanently on the islands and around 80,000 tourists visit the Galapagos every year. The Galapagos, which were declared a World Heritage Site by UNESCO in 1978, attract the attention of international NGOs seeking to preserve the Galapagos' ecosystems largely for scientific purposes and ecotourism. There also are around 1,000 fishermen pressuring government for more rights to fish in 'no take' zones and with methods (such as the long line), which are now illegal. There are trade pressures from Asian markets for luxury marine products, such as dried sea cucumbers and shark fins. These issues generate conflicts and tensions that will be analyzed throughout the program in a series of courses and an independent study. The courses are designed to deal both with theoretical debates developed in the social and biological sciences and with the application of these theoretical frameworks to the analysis of specific issues." [www.usfq.edu.ec/GAIAS](http://www.usfq.edu.ec/GAIAS)

**Katina Henderson** writes: "I am a resource conservationist for the Natural Resources Conservation

Service in Hawaii. The cost-of-living allowance almost makes it affordable to live in paradise. I am lucky to be able to continue my work on the steering committee for land-based pollution and coral reefs that I started while working for the State of Hawaii. It is a small part of my job but definitely a highlight."

## 2002

### CLASS SECRETARIES:

**CATHERINE BOTTRILL AND**  
**ROBERTO FRAU-RODRIGUEZ**  
[Sageboy02@yahoo.com](mailto:Sageboy02@yahoo.com)

**Barbara Bamberger** won her first federal contract to do a sociolinguistic analysis on Native Alaskan communities, oil and gas development.

**Kelly Droege** writes: "I am a forestry analyst with the International Woodland Company A/S (IWC), and moved from Canada to Sweden in early January. IWC is a forest investment and consultancy company that provides advisory and supervisory services for external timber funds, as well as advisory, supervisory and investment management services for direct investments. IWC currently works with forest investments in Ireland, France, Estonia, Latvia, Brazil, Uruguay, Australia, New Zealand and the Pacific Northwest and Northeast of the United States." [www.iwc.dk](http://www.iwc.dk)

On February 17, the industrial environmental management and energy SIG hosted an alumni panel at the School. Among the panelists was **David Vexler**, a consultant for Environmental Resources Management (ERM) in the Washington, D.C., office, with over five years experience in applied environmental sciences and consulting. He has managed and contributed to numerous interdisciplinary studies, including environmental impact assessments, environmental due diligence audits for financial transactions, cleaner production studies and environmental monitoring programs. He also has developed policy and management documents on assorted environmental issues. For over a year, Dave has been conducting project appraisals for new investments and supervision audits of companies for the International Finance Corp. (IFC) environment department. He also has worked for the Overseas Private Investment Corporation (OPIC), where he conducted environmental impact assessments on projects proposed for OPIC support.

**Christian Binggeli** got his Massachusetts forester license, and now has his own consultancy business. His big project at the moment is developing a woodlands management plan for Franklin Park, Boston, which is part of Olmstead's emerald necklace. Exciting news for Christian and **Stephanie Jones '01** is the arrival of their baby last July. Aside from the adventure of becoming a parent, Christian climbed to the summit of Cho Oyu (26,900 ft.), the world's sixth-highest peak, without supplemental oxygen or sherpa support.

# ClassNotes

**Shalini Gupta** is enjoying the chilly life in Minneapolis as a project manager for the energy program at the Green Institute. She has been working on energy efficiency promotion and development of renewable heat and electricity projects (biomass and solar). Shalini has seen **Yemi Megenasa** recently and just returned from a trip to Los Angeles to have girlie fun with **Akiko Kawaguchi** and **Sarah Wakefield**.

**Yemi Megenasa** married **Heinrich zu Dohna '98, Ph.D. '03**, last year in Germany and Ethiopia! They had a blast with a whole bunch of F&ESers—**Sarah Wakefield, Shalini Gupta, Christiane Ehringhaus, Liana Reilly '01, Rajini Ramakrishnan '99, Akiko Kawaguchi**, the Skellys and **Peter Cook '98**, who joined them for the wedding party in Munich.

**Carrie Magee** is still loving life as a Jersey girl at the New Jersey Tree Foundation. Directing the Airshed Reforestation Program in Camden, a community-based tree-planting project funded by money from air pollution fines, Carrie has worked with 33 community-based groups, planting 1,052 trees (over 40 species) in 16 of Camden's 21 neighborhoods with more than 2,000 volunteers! Carrie fell in love with the guy who delivered the tree plantings, and is getting married in August.

**Mahua Acharya** is still with the World Business Council for Sustainable Development, involved in work to engage the private sector to reduce their greenhouse gas emissions and find alternative sustainable energy paths.

**Kate Giese** is based in Sun Valley, Idaho, working for the Wood River Land Trust.

**Jay McLaughlin** writes: "I am a forester for the Yakima Agency, Bureau of Indian Affairs. **Kelly Droege** and **Brad Hunter** recently helped in our timber-frame raising, and hopefully sometime in the next year, we will have a home worthy of visiting! Bridget (expecting our second in April) and Liam, 2, are doing well."

**PJ Deschenes** is Boston-based, working at BlueWave Strategies, a consulting firm he started in 2003 with **Elizabeth Bennett Carroll '98** and John DeVillars, former administrator of EPA New England. **Adam Chambers '01** and PJ raced Ironman USA together last July.

**Elizabeth Ban** is a marine advisor for St. Thomas, St. John and Water Islands, working through the University of the Virgin Islands Marine Advisory Service. She works on fisheries issues and non-point-source pollution education. Recently, Elizabeth started a snorkel tour for hotel resort guests interested in learning more about marine ecology. Elizabeth writes a Q&A column in the local paper, *Sea Scoop*, which you can access online at [www.stthomassource.com](http://www.stthomassource.com). Elizabeth is enjoying island life with boyfriend, Chuck, when he is not in Iraq working as a contractor, and her dog, Quimby (an avid snorkeler). **Liam Carr '01** has just taken a job over on St. Croix, so they are having a fun time working together and causing trouble.

**Ramsay Ravenel** loves his second year at Marshall Street Management in South Norwalk, Conn. The group is investing in various environmental finance markets: carbon, renewable energy, land conservation and clean technologies.

**Greg McLaughlin** and Jennifer got married in October 2002 and have a son, Gryphon, born July 5. They are living in Fort Collins, Colo., where Greg works for the Natural Resources Conservation Service and Jen is a licensed practicing counselor. Along with **Dylan Taylor, Jason Wilmot '03, Lyn Munno '03** and **Karen Murray '03**, Greg also contributed a chapter to *Coexisting with Large Carnivores: Lessons from Greater Yellowstone*, edited by Tim Clark and soon to be published by Island Press.

**Emily Noah** is having a fantastic time in the first year of a Ph.D. program at the University of Cambridge, England. Emily is researching multistakeholder environmental policy making processes, focusing particularly on certification programs.

**Rachel Novick** is in the third year of a Ph.D. program in ecology and evolutionary biology, spending as much time as possible in the field studying tree diseases and trying to figure out a career that combines research and conservation. Rachel got married to Tzvi Novick in June 2003.

**Nikki Aronhalt** writes: "MTBE (methyl tertiary butyl ether) cases nationwide have swept into federal court, and with it the intensity (and bureaucracy) has magnified. California has a new groundwater challenge, 1,2,3-TCP (trichloropropane), and our firm is putting together an arsenal of evidence and experts to make Dow and Shell pay for the upcoming needed remediation. And we continue to fight the DBCP manufacturers, this time in Nicaragua. Tahoe is great, especially with the winter dump of snow." Nikki and her boyfriend will be splitting their time soon between Tahoe and Nevada City, where he has bought an acre of land.

**Laura Meadors** is living in Bend, Ore., where she has been promoted to senior program manager at Deschutes River Conservancy, and is now working on launching a regional water banking strategy. Laura often goes skiing on the weekends with **Gwen Busby** at Mt. Bachelor, and saw **Phil Rigdon** when he passed through town a few weeks ago.

**Kim Danley**, Jeff and Gavin (their 1-year-old son) moved to Hanover, N.H., this fall, where Jeff started the MBA program at Dartmouth. Kim continues to work for the Trust for Public Land doing some conservation projects in the White Mountains and natural resource mapping. They are enjoying the cross-country skiing and ice skating.

**Derik Frederiksen** writes: "Ella has turned 6. (Note to all future parents: A bunch of 6-year-old girls plus cupcakes and ice cream, plus slumber party equals call your parents and see if you can have birthday party at their house, and run!). We are based in Seattle, but spend a lot of time in Alaska and on the

road. I am general manager for Sealaska Environmental Services, which is a wholly owned subsidiary of Sealaska Corp., the Alaska Native Corp. that my family and I belong to. To date, we've successfully landed \$50 million in Navy contracts!"

**Kendra Kinscherf** is in her first year of law school at Boston University, and this summer will be working at the Conservation Law Foundation in Boston. **Neal Etre** and Kendra got engaged in December. "We're really happy and looking forward to becoming Mr. and Mrs."

**Beth Cullen** is a water quality planner with the King County government in Washington state. She focuses on small lakes in King County, doing everything from water quality monitoring to noxious-weed identification and eradication, community support and education. "It's a whole bag of different things, but the best part about it is the majority of the summer is spent on a boat in beautiful lakes around King County."

**Catherine Bottrill** is a researcher in the United Kingdom at Oxford University's Environmental Change Institute. She has been working on a project that engages people on the issue of climate change. She is very much enjoying her new digs with a river view—great for those summer days England is famous for.

**Chris Nelson** has been involved with climate change-related projects for the Connecticut Department of Environmental Protection. "I have been collaborating with a number of other recent F&ES grads on these projects, including **Bryan Garcia '00, Derek Murrow '03, Kelly Levin '03, Madeleine Weil** and **Heather Kaplan '04**. The projects include the Connecticut Climate Change Action Plan 2005, a recently completed plan submitted to the Connecticut legislature and accepted by key subcommittees (see [www.ctclimatechange.com](http://www.ctclimatechange.com)); the Regional Greenhouse Gas Initiative, an initiative to develop a CO<sub>2</sub> cap-and-trade program for the power-generation sector in the Northeast ([www.rggi.org](http://www.rggi.org)); and the Regional Greenhouse Gas Registry, an effort to develop a regional registry for companies to report greenhouse gas emissions information ([www.rggr.us](http://www.rggr.us))." Chris purchased a home in West Hartford, Conn., and moved in with his girlfriend, Nina. [sporto219@hotmail.com](mailto:sporto219@hotmail.com)

## 2003

### CLASS SECRETARIES:

**BRIAN GOLDBERG**

[brian@fieldoperations.net](mailto:brian@fieldoperations.net)

**SCOTT THREADGILL**

[Michael.threadgill@aya.yale.edu](mailto:Michael.threadgill@aya.yale.edu)

**Bryan Petit** is tree mortality program manager with the Emergency Watershed Protection, San Diego County Natural Resources Conservation Service.

**Nicole Vickey** writes: "Mobile, Ala., continues to treat me well. Our baby girl, Elle, was born in November, and my work with The Nature



# ClassNotes

Conservancy has grown to include reef restoration in the Mississippi Sound.”

On December 2, a career panel for U.S. students of color featured **Veda Truesdale** and **Marissa Yao**, among others. **Veda** is an environmental planner and project manager for the New York City Department of Environmental Protection. She oversees ecological and land-use restoration projects throughout the city and its watersheds. The restorations she oversees range from mitigation projects for public works to the conversion of city landfills, to parkland. She also manages the city’s boat pump out program, which provides free pumping services to boaters at numerous city-owned marinas. Her hometown is Jersey City, N.J.

**Marissa Yao** is a member of the sustainable development group at Intel Corp. in Santa Clara, Calif. This group was formed early last year, and is part of Intel’s worldwide environmental health and safety organization. Marissa joined Intel in 2003 after graduating from Yale, where her focus areas were occupational/environmental epidemiology and industrial environmental management. Her current focus areas at Intel include environmental life cycle assessment research, occupational epidemiological analysis, program compliance implementation and supply chain environmental health and safety management. Marissa also serves as co-chair of the national electronics manufacturing initiative materials declaration data exchange project, which is tasked with implementing B2B data exchange mechanisms for product environmental data. She lives in San Bruno, Calif.

Another class member, **Derek Murrow**, participated in the February 17 alumni panel hosted by the industrial environmental management program and energy student interest group at F&ES. Derek is director of policy analysis for Environment North East in New Haven. His primary areas of responsibility are climate change policy, including the Regional Greenhouse Gas Initiative, for which he is the lead staff advocate. His previous work experience includes business strategy for hydrogen generation at Proton Energy Systems in Connecticut, and six years as an environmental consultant and business manager for Stone Environmental in Vermont, where he conducted national studies and negotiated with EPA on behalf of the agricultural chemical industry.

**Wei-Shiuen Ng** writes: “My internship at the World Resources Institute (WRI) turned into a more permanent position shortly after I started working in March 2004. I work in EMBARQ, WRI Center for Transport and Environment, and have been engaged in both project management and research analysis. I am working on the environmental and social impacts of motorization in China, which involves a wide scope of issues, ranging from fuel quality to land-use policy. I am enjoying my time at WRI and have certainly learned a lot, especially the management of an NGO.”

**Charles Brunton** writes: “I’ve been in touch with Yolanda Kakabadse (president of the World Conservation Union) and may even see her in Ecuador this July. Other than that, everything is very good. I am going in and out of World Bank contracts, and living right next door to two older F&ESers, **Tom Kelsch ’90** and **Joan Becker Kelsch ’91**, and their two kids in Arlington, Va. **Laura Pyle** and I are running a marathon in honor of her mother, who was diagnosed with lymphoma. Please check out my fund-raising website at [www.active.com/donate/tntnca04/tntncaCBrunto](http://www.active.com/donate/tntnca04/tntncaCBrunto), pass the word and I hope you can support us.” [charles.brunton@aya.yale.edu](mailto:charles.brunton@aya.yale.edu)

**Terry Miller** writes: “Kate and I are great. She has a new job at a multimedia marketing firm. We just celebrated our fifth anniversary, and are thinking about getting a puppy here pretty soon. Baby steps guys, baby steps ...”

**Jason Drebitko** writes: “I am president and CEO of the Vermont Institute of Natural Science in Woodstock, where I have had some contact with **Pete Land** and **Bill Finnegan**. Clare and I are expecting in late March, and are very excited about it.”

**Bill Finnegan** of Tamarack Media had a film shown in the 13th D.C. Environmental Film Festival ([www.dcenvironmentalfilmfest.org](http://www.dcenvironmentalfilmfest.org)) in March. *EnvironMentors Investigators II* is a series of mini-documentaries produced by several small teams of students from Bell Multicultural High School, produced and directed by Tamarack Media and Bell students. The video follows the students and their mentors as they develop in-depth research projects on endangered species and other important environmental issues. “**Vic Edgerton**, **Brynn Taylor** and I are mentoring three of the students featured in and creating the film, so we can vouch for the authenticity and fabulousness of this project and the EnvironMentors program.”

**Elizabeth Allison** writes: “I’m here in lovely Berkeley, Calif., and still a student. I spent part of winter break kayaking in Baja and kissing sea lions with **Liz Shapiro**.”

**Ryan Bennett** has been handling sales for GE Wind, working with developers in western Canada and mixing it up with some political lobbying to inspire growth in wind.

**Nathaniel Carroll** writes: “I’m working on developing markets for ecosystem services with Forest Trends.”

**Daniela Cusack** writes: “I am still working away at my Ph.D. at U.C. Berkeley. My advisor is another F&ESer, **Whendee Silver ’87, Ph.D. ’92**. I’m looking at nitrogen cycles in tropical forests and the effects of pollution.”

**Melanie Cutler** writes: “I just started teaching biology, oceanography and marine biology at Andover High School (Mass.), my alma mater. It’s super fun, very busy and the hours are great!”

**Lydia Dixon** writes: “I spent the late summer and fall traveling: hiking in New Zealand, kangaroo-watching in Australia, temple-hopping in Cambodia, elephant trekking in Thailand and, finally, taking in the Christmas markets of Germany, Prague and Krakow in December. Of note was the evening spent drinking beer, motor-scooter scooting and eating Cambodian food with **Jon Padwe ’01** and **Jenny Grimm ’01** in Phnom Penh. Quite a leap from TGIF in Sage!”

**Alison Forrestel** and Kabir are doing great in Berkeley, Calif. **Kabir Peay** writes: “I am still a doctoral student with a penchant for mushrooms and mycorrhizal fungi. I’ve recently started brewing beer, either because I have too much free time or because a Ph.D. drives a man to drink. You decide.”

**Brian Goldberg** writes: “I’m living in New York City and am an environmental planner with a firm called Field Operations. It sure is tricky to balance city life with healthy doses of green, open spaces. I’m always eager to meet up with F&ES folks, so if you’re passing through the City please let me know.”

**J. Bishop Grewell** writes: “I am finishing my second year at Northwestern Law. I will spend the summer in Chicago, working at Mayer Brown hopefully on environmental appellate work. I celebrated my 30th birthday in Vegas in January. Many stories to tell, but, of course, what happens in Vegas stays in Vegas.”

**Kat Hall** writes: “Still working hard at SEACC (Southeast Alaska Conservation Council), have been playing ice hockey and trying to teach myself guitar.”

**Kate Hammond** writes: “I am still a project manager for the National Park Service, and love being back in Colorado.”

**Krithi Karanth** writes: “I am a doctoral student in environment at the Nicholas School at Duke. Spent December and January traveling in Egypt and France. I am headed to India for the summer to begin the first phase of my fieldwork.”

**Pete Land** writes: “I am working with **Bill Finnegan** on Tamarack Media. Come visit us in our new green building in Burlington, Vt.”

**Po-chuan Lin** writes: “I am working in the purchasing department with China Man-made Fiber Corp.”

**Cherie Lim** writes: “I am the information-communication-education officer for Klima Climate Change Center, based in the Manila Observatory of the Philippines. Klima is set to launch the ‘Be on the Low Carbon Diet for a Healthy Climate’ campaign and the first-ever clean transport hub of the Philippines in March.” [www.klima.ph](http://www.klima.ph)

**Amanda Locke** writes: “In December, I became a watershed forester for the New York City Department of Environmental Protection. I’m looking for housing in Poughkeepsie, N.Y., so if anyone has any suggestions, please let me know.”

# ClassNotes

U.S. ALUMNI/AE OF COLOR SHARE EXPERIENCES AT CAREER PANEL

Several U.S. alumni/ae of color shared experiences about their current jobs, how they got interested in the environment and what it is like to be a person of color in their respective environmental fields at the second annual F&ES career panel last December. The panelists, who were given a warm reception by students, staff and faculty, were Saleem Ali '96, assistant professor of environmental planning, Rubenstein School of Environment and Natural Resources, University of Vermont; Veda Truesdale '03, an environmental planner/project manager for the New York City Department of Environmental Protection; Ryan Valdez '96, director of the Amazon GIS Project for the Smithsonian National Zoological Park; and Marissa Yao '03, an analyst with the sustainable development group at Intel Corp. Rolando Mendez-Treneman, a candidate for a master's degree in forestry in the mid-career program, served as moderator. Open to the entire university, this year's event coincided with an Admissions Office open house, offering visiting prospective students a special chance to talk personally with alums and current students of color. The event was co-sponsored by the Multi-Ethnic Student Association, the Career Development Office, the Office of Alumni/ae Affairs, the Admissions Office and the Dean's Office.



l-r: Veda Truesdale '03, Saleem Ali '96, Ryan Valdez '96, and Marissa Yao '03 with moderator Rolando Mendez-Treneman

**Brenden McEneaney** writes: "I'm working for a smaller remediation firm now in Portsmouth, N.H., but I'm stagnating a bit and feeling the urge to go West."

**Boris Mendez Paiz** writes: "I continue teaching forestry, including forest fires, silviculture, agroforestry and forest measurements at the School of Agriculture and Natural Resources, University of San Carlos de Guatemala, in Guatemala City. I do some extension work as well. I'd love to hear from F&ES alumni working in forestry issues in the United States or elsewhere."

**Christopher Menone** writes: "I'm interning for Creative Time, a public art production nonprofit in New York City."

**Florence Miller** writes: "I'm still working in education at WWF. The D.C. F&ES crowd seems to get larger by the day, which is both great and awful for my social life—I have entirely forgotten how to make friends who did not attend F&ES."

**Marni Rapoport** writes: "Since July I have been a project manager for PPM Energy, a wind development company in Portland, Ore. We just acquired an East Coast development firm, so hopefully that will take me out East more frequently. Nathaniel and I are enjoying exploring the city, the coast and the many outdoor activities of the Pacific Northwest. You are welcome to visit anytime."

**Curtis Robinhold** writes: "I am living and working in South Africa. I asked my sweetheart,

Angela, to marry me in November on the beach at the Cape of Good Hope. We'll be getting married in Oregon later this year."

**Samantha Rothman** writes: "I am still working on my Ph.D. with **Mark Ashton '85, Ph.D. '90**, and running between New Jersey and Connecticut, although John and I bought our first home this fall, so I've been spending more time in New Jersey."

**Holly Sage** writes: "I am working at the EPA Office of Inspector General, evaluating EPA water-related programs. Matt and I are engaged and getting married in the fall. We will move to Washington, D.C., in August. Matt will teach at Catholic University, and I will continue with the EPA in its office there."

**Abdalla Said Shah** is serving as national project coordinator for the Nile Transboundary Environmental Action Project.

**Liz Shapiro** is working toward a doctoral degree at U.C. Berkeley.

**Scott Threadgill** writes: "Paula, Sage and I are doing fine. We've relocated to the D.C. area, so when you're nearby give us a holler."

**Toru Uemachi** writes: "I am preparing the annual budget plan for JICA (Japan International Cooperation Agency) activities in China, while formulating a couple of projects in the field of social safety net."

**Andrew Winston** writes: "I'm working on a book on corporate environmental strategy with Dan Esty.

I also started doing some consulting, working with companies like Staples on 'green' issues. I'm still busy chasing Joshua around; he's almost 2."

**Ruiko Kato** writes: "I am working on climate change business, namely on a greenhouse gas reduction project, such as CDM/JI under the Kyoto Protocol. Some trips to exotic courtiers for the projects are the reward for hard work and tough life in Tokyo."

## 2004

### CLASS SECRETARIES:

**KEITH BISSON**

[keith.bisson@aya.yale.edu](mailto:keith.bisson@aya.yale.edu)

**DANIELA VIZCAINO**

[danielavizcaino@aya.yale.edu](mailto:danielavizcaino@aya.yale.edu)

**JENNIFER VOGEL** [jenvogel@yale.edu](mailto:jenvogel@yale.edu)

**LAURA WOOLEY**

[laura.wooley@yale.edu](mailto:laura.wooley@yale.edu)

**Liz Martin** writes: "Things are going great in D.C. I've been doing a lot of national and international climate work at ICF with the EPA, United Nations Environment Program and the European Commission. I am getting married in May on the Chesapeake Bay. We can't wait for the honeymoon in South East Asia." (See F&ES website for photo.)

**Daniela Vizcaino** writes: "I am program manager for the Latin America program for the Wildlife Conservation Society."

# ClassNotes

**Nalin Sahni** writes: “I am working on climate change and water at the Brookings Institution in Washington, D.C.”

**Rose Mannik** did a four-week hike through the Nepali Himalayas. “I heard about a possible opportunity to do some environmental work in Katmandu. I already met some friends of **Elizabeth Alison ’03**.”

**Marco Buttazzoni** writes: “As director of environmental market strategies at ERT, I focus on the policy, business and information strategies that make environmental markets work. I also assist government agencies in implementing policies and rules for ecosystem services markets; advise nonprofit organizations on climate-change policies, GHG emissions trading markets and ecosystems services markets in general; and assist companies in developing climate-change strategies and evaluating innovative GHG reductions opportunities.”

**Alison Van Gorp** writes: “I have moved to Seattle and I’m interning with the Cascade Land Conservancy. **Jen Molnar** and I have been hanging out a bit, skiing when we can find snow, and are hoping to start up a Seattle TGIF. We’re looking forward to seeing a big F&ES ’05 contingent out here this summer.”

**Keith Bisson** has been working with the Maine Forest Service and Environment Northeast for the past six months, and is moving to Washington, D.C., to work on community development and rural clean water policy. “Come visit for some Maine hospitality and apple pie.”

**Avery Cohn** is living and working in Brazil. He is eagerly awaiting word from doctoral programs, where he’d like to study food policy, trade and, of course, the environment. He misses early springtime on the East Coast.

**Amanda Farris** writes: “I am working for a nonprofit in forest conservation science in Brunswick, Maine, roaming the woods with a paint gun and flagging whenever work allows.”

**Buddy Fletcher** is pursuing direct investments in publicly traded companies that welcome additional capital and are in industries that impact the environment.

**Betony Jones** writes: “After working long, excruciating days for the League of Conservation Voters to get John Kerry elected in Oregon, I decided to rest, rejuvenate and telemark ski in Lake Tahoe. I went to Truckee, Calif., for the winter and tapped into the F&ES alumni network to get a job with the Sierra Business Council, working on a new California state conservancy, the first with a mandate for sustainability.”

**Diana Karwan** has begun the doctoral program at F&ES. She can be found wandering the halls of ESC and Greeley, and can be reached at [diana.karwan@yale.edu](mailto:diana.karwan@yale.edu).

**Brian Marcaurelle** is living in Portland, Maine, and working for the Maine Island Trail Association, a nonprofit committed to balancing conservation and recreation on Maine’s wild islands. He looks forward to spending the summer cruising the Maine coast in MITA’s stewardship vessels and dining on the occasional crustacean.

Since last fall, **Christopher Riely** has been living in the Missouri Ozarks and working as a forester for a very small business called Clearwater Forest Consultants. His work focuses on managing timberlands for institutional investors and serving private landowners in the Ozarks and adjacent Mississippi Valley. The firm is applying for FSC certification and preparing for the audit visit in the spring. In his free time, Christopher is trying to make the most of the ‘cross-cultural experience’ by learning to hunt turkeys and catching up on Big 12 and SEC football.

**Dani Simons** writes: “I am biking to work nearly every day. I am planning events and trying to increase the membership for Transportation Alternatives, a New York City-based advocacy group. I was recently reunited with several F&ESers as we tromped through Central Park to explore ‘The Gates,’ question capitalism and enjoy a somewhat sunny February afternoon.” [danisimons@hotmail.com](mailto:danisimons@hotmail.com)

**Corrina Steward** is a resource rights specialist with Grassroots International in Jamaica Plains, Mass. She is leading its Resource Rights for All initiative, which concerns land and water rights in Mexico, Brazil, Haiti and Palestine. [corrina.steward@aya.yale.edu](mailto:corrina.steward@aya.yale.edu)

**Abby Weinberg** is living in a little fishing village on the coast of Brooklyn. She is the coordinator of conservation finance at the Open Space Institute, and helps put on ecological forestry workshops, conducts assessments of conservation opportunities in specific regions and coordinates and distributes loans and grants to land trusts.

**Shona Quinn** is adjunct professor at the Fashion Institute of Technology, working on a new curriculum, titled “Corporate Responsibility in the International Business Environment,” for the International Trade and Marketing Department at F.I.T. Her near-future includes plans to develop an informational website on sustainability and apparel.

**Kevin Woods** writes: “After taking an intensive Burmese language course at Madison during the summer, I took a wonderful West Coast tour with my two roomies, **Nikhil Anand** and **Sarah Bendit**. Then I spent three months in rural northern Burma (Myanmar), where I conducted a self-funded, self-organized environmental education project for youth at various community churches, along with continuing my obsessive research on how development and the environment become cultivated by an authoritarian military regime. Now I am living in Chiang Mai, Thailand, again volunteering with various Burmese environment

NGOs and trying to coordinate a strong environmental movement advocating protection of human-environmental rights for the ethnic minorities persecuted inside northern Burma. I hope to soon go to the China-Burma border to do another environmental education project and be a consultant for a reforestation project by an ethnic, political group operating in that area. I live in an old traditional Thai house on stilts, with chickens that wake me at sunrise, picking fruit from the garden and medicine from the herbs. I like to go on motorcycle rides on trails in the woods in northern Thailand with friends on weekends. I have had some bad luck recently with motorcycle accidents, no money, no paid jobs, etc., but my Burmese astrologer says that upon turning 32 I will be immensely successful and realize many of my goals. Here is to up and up!”

**Kristen Kimball** writes: “All kids out of the house, at least part of the year—eldest Jess working in New York City and others in college—Annie at Clark University in Worcester, Mass., and Rob at American University in D.C. My husband, Dave, dog Phineas and I are looking to sell our big house and find something smaller. I hope to move to Cape Cod before too many years go by. As I was finishing at F&ES, my 20-plus-year position as adjunct biology instructor was finally converted to a full-time position. So I am now instructor-in-residence in the physiology and neurobiology department at the University of Connecticut. I am able to use some of my F&ES background, especially in ecology, for my 100-level biology courses, and try to ‘infuse’ environmental education wherever feasible. I also teach environmental science at Cape Cod Community College during summer sessions. I’m hoping to find other ways to fully utilize my F&ES degree, at least once I’m through writing lectures for three new courses I’m teaching at UConn.”

**Valerie Craig** is living in Washington, D.C., and is a project coordinator for the Seafood Choices Alliance of SeaWeb. [valerie.craig@aya.yale.edu](mailto:valerie.craig@aya.yale.edu)

**Laura Bozzi** just moved to D.C., where, thanks to a Knauss Fellowship, she is working at NOAA for the external science advisory board secretariat for the year. [laura.bozzi@noaa.gov](mailto:laura.bozzi@noaa.gov)

**Tasha Eichenseher** has been covering water issues and the Superfund as a reporter with Greenwire in Washington, D.C. [tasha@eenews.net](mailto:tasha@eenews.net) or [tkeichen@yahoo.com](mailto:tkeichen@yahoo.com).

**Robin Barr** writes: “I’m working in Sulawesi, Indonesia, on a social forestry project with the Tropical Forest Trust.” [r.barr@tropicalforesttrust.com](mailto:r.barr@tropicalforesttrust.com)

**Margarita Fernandez** is living in Vientiane, Laos, and working with Helvetas Swiss Association of International Cooperation on a project that promotes organic farming and marketing. [margaritafernandez2@yahoo.com](mailto:margaritafernandez2@yahoo.com)



# ClassNotes

**Lisa Gomes-Casseres** writes: “I work to help the EPA and states think of ways to help their money go further. I am working for a tiny environmental consulting firm, Northbridge Environmental, supporting the EPA’s state revolving fund programs, which provides low-interest loans for investments in wastewater, drinking water and non-point-source pollution. I am enjoying the fact that my job requires me to travel to great places like Puerto Rico, Denver, Los Angeles and even Guam.”

**Sarah Davidson** writes: “I’m in D.C. working at WWF along with many other F&ESers. I’ve also been spending time pouring coffee in Chicago at my boyfriend’s coffee shop. His local roaster now knows more about the environmental and social consequences of its choices.” saraherd@gmail.edu

**Kim Mortimer** writes: “I am living in the Florida panhandle, Panama City to be exact. I spend my days surveying ponds for the elusive flatwoods salamander, and my nights desperately looking for a better job that does not involve muck. But I’m quite happy in my home with my boyfriend and two kittens, living on the most beautiful beaches anywhere.” kimberlee.mortimer@aya.yale.edu

**Megan Mattox** writes: “I am living in Boston and am a portfolio analyst for the Hancock Timber Resource Group. I am responsible for analyzing timberland investment opportunities and monitoring timberland property and portfolio investment performance.” megmattox@aya.yale.edu

**Zhizhou Zhang** writes: “I live in Shanghai, China, and am a business analyst for a consulting company called CEB Monitor. My responsibility is to make analysis reports for listed companies in the Hong Kong Stock Exchange, and provide them to foreign investors in Europe and the United States.” zzzhang76@yahoo.com.cn or zhizhou.zhang@aya.yale.edu.

**Nikhil Anand** writes: “I’m doing a Ph.D. in cultural and social anthropology at Stanford University.”

**Neha Menon** writes: “I’m in Boston and just married! I am working with the Boston Redevelopment Authority and will be here until April. I’ve applied to Ph.D. programs in city planning, and should hear back from them in a month or so.”

**Daniela Vizcaino** writes: “Greetings from the Bronx Zoo. I’m a program manager for the Wildlife Conservation Society’s Latin America Program.” daniela.vizcaino@aya.yale.edu

**Amit Kapur** writes: “I am a research fellow at the Center for Sustainable Systems, School of Natural Resources and Environment, University of Michigan, since last August. My research focuses on material flow analysis and dynamic stock modeling of cement in the United States.”

**George Chih-Kuo Chiang** writes: “I am in the first year of the biology Ph.D. program at Harvard, focusing on plant genetics.” George\_Chiang@aya.yale.edu

**Jessica Barnes** writes: “I’m living in New York and in the first year of my Ph.D. in sustainable development at Columbia. I’m having F&ES withdrawal, so would love any visitors if you are passing through the city!”

**Susan Matambo** writes: “Muta and I moved to Bethesda, Md. I am a program officer for the biodiversity team in Washington, D.C., with the Global Environment Facility.” tambirai@aya.yale.edu

**Ken Shono** writes: “I’m working for the Center for Tropical Forest Science of the Smithsonian Tropical Research Institute in Singapore. I’m conducting and coordinating research on tropical rainforest restoration and reforestation.”

**Cecilia Blasco** writes: “I’ve moved to Veracruz, Mexico, where I did my research. I’m doing some environmental consulting work, looking for a full-time job, and am a kayak photographer.”

**Hahn-Ning Chou** writes: “I’m in Europe working for a chemicals manufacturer that supplies the paper industry. I’m involved with some traditional chemicals and others that are newer and more environmentally friendly.”

**Juan Carlos Espinosa** writes: “I am working at the Yale Center for Industrial Ecology as part of Marian Chertow’s industrial symbiosis research group. We are in the process of publishing some findings from the *Puerto Rico: An Island of Sustainability* project. While it has been great to be in New Haven and at F&ES for an extra year, at the end of this semester I will return to Colombia, my home country, to work on industrial ecology or environmental policy issues.”

**Ilmi Granoff** is in his first year of a J.D. program at NYU Law School, living in beautiful Fort Greene, Brooklyn. This summer he’ll participate in an interdisciplinary project that will examine Peru’s National Forest & Wildlife Law, and help environmental law professor Richard Stewart with a book on global administrative law.

**Liz Wyman** is the program supervisor at the Appalachian Mountain Club’s Highland Center at Crawford Notch, where she develops and implements educational programs on the natural and cultural history of New Hampshire’s White Mountains. ewyman@outdoors.org

**Kathleen Campbell** writes: “After recovering (somewhat) from my time with the Kerry campaign, I’ve decided to stay here in D.C. I’m starting a new job with the Union of Concerned Scientists, working on their climate change program. I’m living with **Tasha Eichenseher**, and having a great time with all the other F&ESers in D.C.”

**Heather Wright** writes: “I am working with Friends of the Osa (FOO), a newly established environmental nonprofit that was founded by Dr. Adrian Forsyth of the Moore Foundation. FOO’s commitment is to maintain and protect the marine and terrestrial biodiversity of Costa Rica’s Osa Peninsula, one of the world’s top 25 diversity hotspots. I am helping develop and execute science-based research and conservation programs in addition to getting the organization off the ground. We are working on a number of issues on the peninsula, including the management of wildlife refuges, creation of biological corridors that connect them, and local-level participation in conservation efforts. Thus far, working at a ‘start-up’ eNGO has been challenging and incredible.”

**Jennifer Vogel** writes: “I finished at F&ES in December after spending the summer working on the Yale Sustainable Food Project and the fall working as a teaching assistant for environmental writing and interning at *E Magazine*. I spent the majority of January traveling through Thailand and Cambodia. Now I am living in New York, working as a bartender, doing some freelance writing and generally playing tourist.”

**Emily Shelton** departed for a six-month internship in Brazil, where she developed an indicator system to measure the economic, social and environmental benefits of cooperatives of small-scale producers of natural resource products in southeast and northeast Brazil and the Amazon. She is living in San Jose, Calif.

## From Kathleen Schomaker ’96, Director of Alumni/ae Affairs:

Thank you for your submissions to Class Notes—we hope you enjoy reading this section of the magazine, along with all the rest of *Environment: Yale*.

Please note the following procedures for Class Notes: Class secretaries try to contact classmates, generally in February and August, to remind you to send notes. If you do not hear from a secretary, we may no longer have your e-mail address or other contact information. Please update your information at [www.alumniconnections.com/yale](http://www.alumniconnections.com/yale) or [alumni.fes@yale.edu](mailto:alumni.fes@yale.edu) or by calling 203-432-5108.

If your note misses the deadline, we will save it for the next issue. Should you choose to update your note before the following issue, simply let us know.

We publish e-mail addresses and URL sites as part of Class Notes, but we do not publish mailing addresses or phone numbers. However, we appreciate receiving your mail and phone updates as well.

As always, we enjoy hearing from you!

# Obituaries

**Herbert Angell '40** (1912-2004) was from Clinton, Iowa. After a time at Georgia Tech, he studied forestry and wood utilization at the University of Idaho, receiving a B.S.F. in 1938. An expert on wood preservation, he conducted research with the American Lumber and Treating Co. (later Koppers) in Chicago until 1956. Then he became superintendent at Honolulu Wood Treating, retiring in 1971 with his wife, Helen, to the San Diego area. He died in Santa Ana, Calif., on September 19. His son, Gregory wrote: "He had always stayed in touch with many of his classmates throughout the years, although the number was indeed dwindling. He was a dear, sweet man who lived a long life and always strove to be a good friend to all who came his way." Besides his son, Gregory, he is survived by a daughter, Joyce, a daughter-in-law, Joanne, and two brothers.

**Ronald Beasley '50** (1922-2004) was from Halifax, Nova Scotia. During WWII, he served in the Canadian armed forces as an army officer and in the navy on the North Atlantic. After the war, he attended the University of New Brunswick, and received a B.S.F. in 1949. He obtained a Ph.D. at Purdue University in 1954. From 1954 to 1959, he taught forest economics at the University of Minnesota. In 1959, he went to Southern Illinois University and spent the rest of his career as a professor of economics, with joint appointments in the departments of forestry, economics and geography. His interests and work extended to many fields and regions of the world. He spent his retirement in Carbondale, Ill., and died there on October 25. His wife, Margaret, survives him.

**Franklin Blackmer '37** (1915-2004) was from Steamboat Springs, Colo. He was a Yale College (Sheffield Scientific School) graduate. He had a 37-year career with the United States Forest Service, starting with assignments in national forests in Wyoming, Colorado, Idaho and Montana. From 1954 until his retirement in 1973, he was at the regional office in Missoula, Mont., where he was in charge of management for recreation in the Northern Rockies. He was very proud to have served as co-chair of the Missoula open space committee, which obtained the Milwaukee Railway right-of-way to create the river trail through town and secured the Mount Sentinel easement protecting the city's environment for the future. He remained active in skiing, golf, travel, church, music, open-space preservation and civic affairs. He and his wife of 66 years, Maxine, moved to Helena, Mont., in 2003. He died on November 12, and is survived by Maxine, two daughters, seven grandchildren and four great-grandchildren.

**Frederick H. Buttel '73** (1948-2005) died of cancer at his home in Madison, Wis., on January 14. Born on a dairy farm in Freeport, Ill., he earned B.S., M.S. and Ph.D. degrees from the University of Wisconsin-Madison. He spent a career in teaching and research at Michigan State University, Ohio State University, Cornell University for 14 years and UW-Madison. A leading scholar in rural sociology, he was devoted to four major areas—the sociology of agriculture, environmental sociology,

technological change in agriculture, and national and global activism relating to environmental and agricultural politics. He was a co-director of the Program on Agricultural Technology Studies, a senior fellow at the Center on World Affairs and the Global Economy and a member of the executive committee of the Science and Technology Studies Program. Among his recognitions was the 2004 Distinguished Rural Sociologist Award from the Rural Sociological Society, of which he was a past president. Active in many other professional associations related to sociology and the environment, he was an elected fellow of the American Association for the Advancement of Science, co-editor in chief of the journal *Society and Natural Resources* and editor of *Research in Rural Sociology and Development*. He is survived by his wife, Professor Pamela Clinkenbeard of Madison, and a daughter, sister, nephew and niece.

**William Eastman '38** (1911-2004) came from Seattle, where he died on November 15. He earned a B.S.F. from the University of Washington in 1933. From 1939 to 1943, he was a forester for the United States Forest Service and the U.S. Department of the Interior on the "O&C Lands" in Oregon, as well as the Indian Service in northeastern Washington. During WWII, he served as an infantry lieutenant in Italy and western Europe. Then he returned to Seattle, and was for many decades a consulting forester active in all the West Coast states. He is survived by Alice, his wife of 52 years, as well as a son, a daughter, two grandchildren, one sister and numerous nieces and nephews.

**Henry A. Froehlich '66** (1928-2004) came from a farm near Salem, Ore. After a year with the Army engineers in the Marshall Islands, he earned a B.S. in forestry at Oregon State University in 1952. He taught at Humboldt State University, and obtained a Ph.D. in forest hydrology at Colorado State University. He was a professor of forest engineering and hydrology at Oregon State University from 1969 until he retired in 1992. His activities included church work with Pacific Island natives, both in Oregon and in the islands themselves. He died in Corvallis on December 14. He is survived by Joan, his wife of 51 years, four children, four grandchildren and a sister.

**Robert LaBar '60** (1936-2005) was born in Bangor, Maine, and earned his B.S. in forestry from Penn State in 1959. He earned an M.B.A. from Gannon University in 1982. Recently retired, he had worked as a forester for the United States Forest Service in Oregon and at Allegheny National Forest in Pennsylvania. He also worked briefly for the Pennsylvania Bureau of Forestry, and later managed lands owned by Hammermill Paper in Pennsylvania and New York.

**Rev. Lester Nickless '39** (1914-2005) was born in Chicago and died on February 19 at age 90. He earned his undergraduate degree at Coe College in Cedar Rapids, Iowa. He spent several years in Arkansas with Crossett Lumber Co., working his way up to company forester by 1946.

He then moved to Alabama, where he worked for both Jackson Lumber in Lockhart and W.J. Smith Lumber in Chapman. A skilled mountain climber, Nickless climbed many of Colorado's highest peaks, including Longs Peak, which he climbed 100 times. For his second career, Nickless enrolled in McCormick Theological Seminary in Chicago in 1950. He spent his entire ministry at the Westminster Presbyterian Church in Colorado. While there, he was a member of a group that founded the first mental health center in Adams County, and he served with the Adams County Housing Authority for several years. He also directed Highlands Camp and taught horseback riding there. Nickless and his wife, Elizabeth, did an exchange of pulpits with a minister in Aberdeen, Scotland. Even after retiring as pastor of Westminster church in 1979, he served on the staff of Central Presbyterian in Longmont and as chaplain for the Longmont Police Department. He also helped establish a new church in Pinewood Springs. In addition to his wife, to whom he was married for 64 years, he is survived by a son and daughter-in-law, two grandchildren, two step-grandchildren and his sister, Margaret Hage, of Leawood, Kan.

**Clifford Pearson '42** (1914-2004) grew up in Salt Lake City, and served in the Army Air Corps in the early 1930s. In 1937, he attended Utah State University, but switched to forestry at the University of Washington, graduating in 1941. After Yale, he entered into research and production work with plywood companies in Olympia and Anacortes, Wash. For a time, he was director of research for Georgia Pacific. In 1951, he became production manager of the plywood and lumber mills of Roseburg Lumber in Oregon. He was an innovator in many areas. Long active in labor relations, he was the first in the timber industry to hire women on the basis of equal pay for equal work. He initiated systems for the control of production and sales. His research and unique machinery design led to his company being the first in the United States to produce plywood for exterior use. He retired in 1975 as executive vice president of Roseburg

Lumber, and later did consulting work in Sweden, Malaysia and North America. He and his wife also had a walnut farm in Dillard, Ore., where he developed machinery for automatic walnut harvesting. His wife, Gladys, died in 1997 of Alzheimer's disease. He died in Dillard on August 29. His two sons, six grandchildren and three great-grandchildren survive him.

**William Preuss '39** (1905-2002) was a 1938 graduate of Montana State University. During WWII, he was an Air Force captain for six years. He was director of planning and later of wood procurement for Fibreboard Paper Products in San Francisco. He retired to Laguna Hills, Calif., in 1970 and died on July 17, 2002.

**Bal Ramdial '64** was the chief forester of Trinidad and Tobago, as well as the country vice president of the International Society of Tropical Foresters. The seventh child in a family of 10, he was born and raised in Tunapuna. He held an undergraduate degree from the University of New Brunswick and a doctorate from the University of Michigan. Before becoming chief forester, he was conservator of forests in Trinidad and Tobago and head of the forestry department in Port of Spain. The dates of his birth and death could not be determined at press time.

**John B. Simeone '48** (1919-2005) came from Rhode Island, and was a 1942 graduate of the University of Rhode Island. During WWII, he served as a Navy officer in Europe and the Mediterranean. He spent his career at the State University of New York (SUNY) College of Environmental Science and Forestry at Syracuse as an entomologist. Along the way, he studied for a Ph.D. at Cornell University, completing that degree in 1960. He went on to become chair of the SUNY departments of forest entomology and environmental and forest biology. He died in Jamesville, N.Y., on January 10. His wife, Henrietta, is among his survivors.

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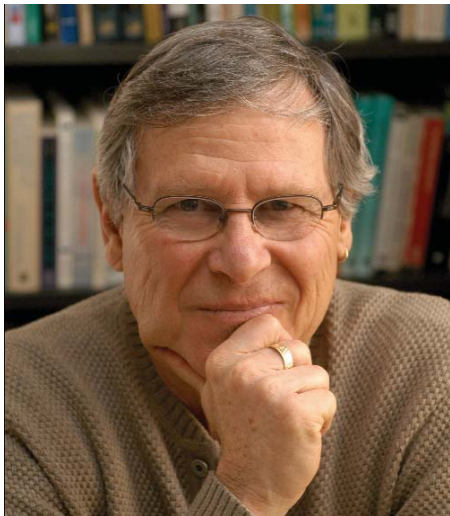
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# Commentary

## The Role of Values and Ethics in the Environmental Sciences: A Personal Account



By J. Baird Callicott

I taught the world's first course in environmental ethics at Wisconsin State University-Stevens Point in 1971, the year following the first Earth Day, which was initiated in the United States Congress by Gaylord Nelson, then one of Wisconsin's senators and a former governor of the state. Stevens Point is located about 100 kilometers northwest of John Muir's Fountain Lake homestead and northeast of Aldo Leopold's shack. Far from the centers of academic power and prestige—which often act as impediments to radical intellectual innovation, especially in the humanities—it was a good place to launch a new subfield of philosophy. There were a dozen or so four-year undergraduate institutions in the WSU system, and each of them acquired a distinct personality from the professional school peculiar to it. In the case of Stevens Point, that school was the College of Natural Resources, with programs in forestry, wildlife management, fisheries and the like. Thus I figured my course in environmental ethics would have a natural student clientele. And I envisioned a close cooperative relationship with the CNR faculty.

In the full flush of the post-Earth Day concern about a looming environmental crisis, the course did attract a large enrollment. But I was soon disabused of any expectations about a cooperative relationship with the CNR faculty. My natural resources colleagues were polite, but saw no role whatsoever for values and ethics in the environmental management sciences. They reasoned this way: Forestry and wildlife and fisheries management are based on science. Science is objective and value-free. Thus professional, scientifically informed management of natural resources is also value-free. Scientists have all the needed facts and theories for successful resource management (or if they don't they'll try to get them). Other people have values. And—as everyone knows—ethics is just personal opinion.

The idea that scientific environmental management is value-free is an illusion that can be sustained as long as there is broad social consensus about management objectives and techniques. As the last quarter of the 20th century unfolded, that consensus evaporated. In regard to wildlife management, for example, people increasingly began to voice concern for threatened species of animals, such as sandhill cranes, and to criticize wildlife and fisheries biologists for their blinkered focus on game species. The value bias in those fields was exposed by that controversy. With the emergence of an ever-more-strident animal rights movement, the ethical legitimacy of hunting and fishing and thus hook-and-bullet management science was questioned. By the time the 1980s rolled around, courses in environmental ethics had sprung up at many second- and third-tier colleges and universities—not only in the United States, but also in England and Australia—and a robust scholarly literature in the field had materialized. I found myself increasingly consulted by my colleagues in the environmental sciences, not just on my campus or in the Midwest but all over the world.

Now, during the first decade of the 21st century, I think that there is a growing consensus among environmental scientists that values and ethics are not merely a desirable accessory to “resource” management, but are central to its success. Here at the Yale School of Forestry & Environmental

Studies, for example, I am extremely pleased to note that this year's Munson Marine Conservation Lecture Series was devoted to “Conflicts at Sea: Values and Ethics in the Marine Environment.” Think of it this way: The ends of environmental policy and management are determined by values; science sets limits (bounds) on those ends and tries to specify the means for successfully realizing them. Our environmental values, however, are further constrained (limited, bounded) by ethics. Yes, all of us—environmental scientists and nonscientists alike—have environmental values. But, despite what everyone thinks they know—that ethics is just personal opinion—perhaps we *ought* to espouse some values and eschew others. That difficult and onerous question—not what do we value, but maybe what ought we to value and why—is what environmental ethics is really all about. **EY**

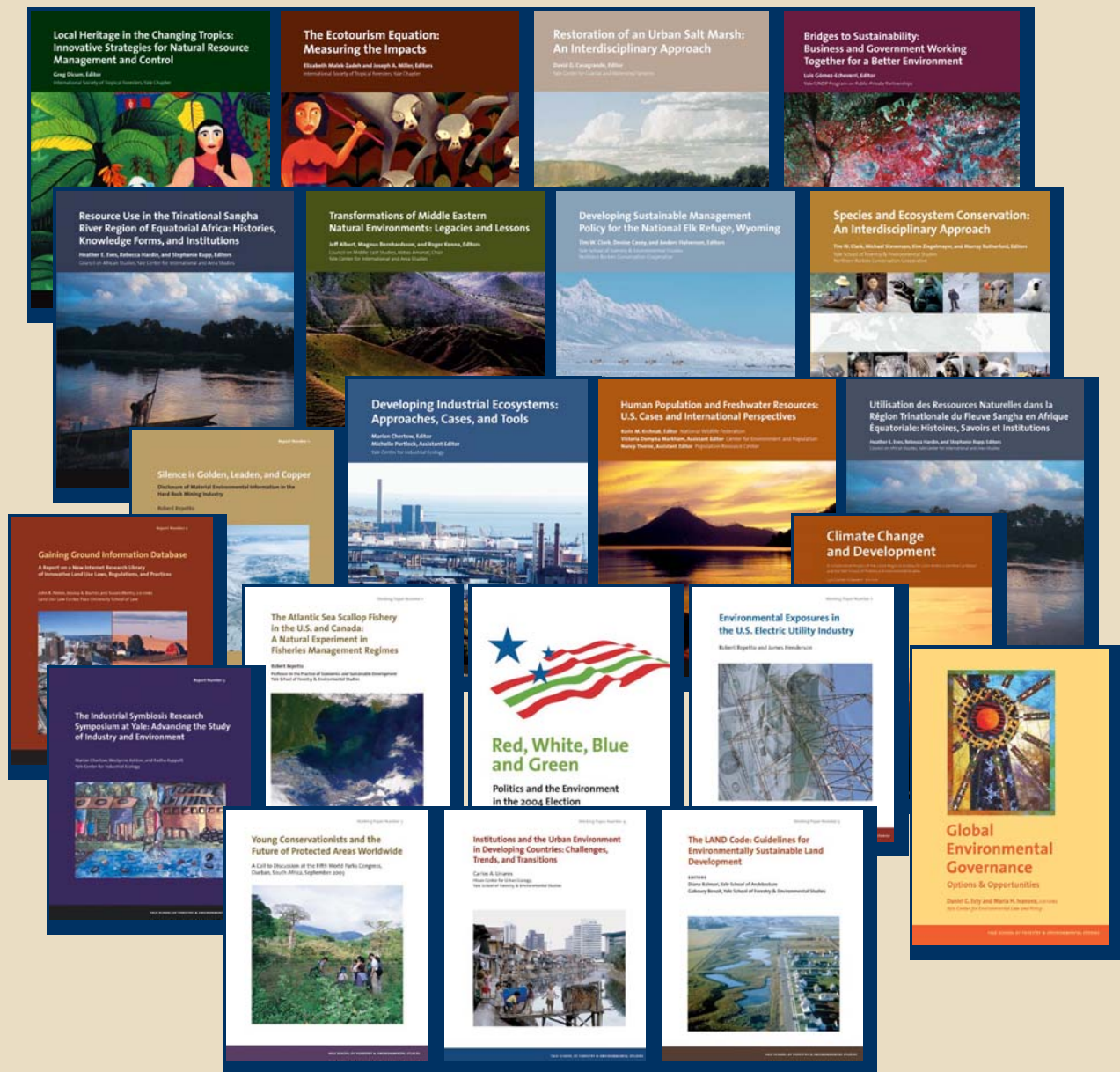
**J. Baird Callicott is a professor of philosophy and religion studies at the Institute of Applied Sciences, University of North Texas, and a bioethicist-in-residence and visiting professor of philosophy at the School of Forestry & Environmental Studies for 2004–2005.**

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J. Baird Callicott

I think that there is a growing consensus among environmental scientists that values and ethics are not merely a desirable accessory to “resource” management, but are central to its success.

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