

The Natural Resource

ENVIRONMENTAL AND NATURAL RESOURCES LAW & POLICY PROGRAM NEWSLETTER

NaturalResourcesLaw.Stanford.edu

Fall 2003

Stanford Environmental Law Clinic Fights to Protect Sea Turtles

Stanford's Environmental Law Clinic has embarked on a number of efforts to strengthen domestic protections for sea turtles, including a recent victory in the Ninth Circuit Court of Appeals. Sea turtles are among the oldest, and most imperiled, species on the planet. Their precipitous decline in recent decades is a prime example of the "tragedy of the commons" writ large. Often migrating across thousands of ocean miles in their lifetimes, sea turtles are faced with assaults on virtually every front – destruction of beach nesting habitat, entanglement and drowning in fishing gear, ingestion of marine debris and other pollution, and human poaching of eggs, hatchlings, and even adults. While the efforts of Stanford's clinic and other U.S. lawyers, scientists, conservation groups, and government agencies cannot, by themselves, solve the sea turtle crisis, they can help position this country as the international leader in the struggle to pull these ancient and magnificent creatures back from the brink of extinction.



Leatherback sea turtle

Although once abundant, only seven species of sea turtles survive on Earth today, and all six of the ones found in U.S. waters are

listed by the government as either "endangered" or "threatened." Of the remaining species, the Pacific leatherback (*Dermochelys coriacea*) is probably the most imperiled. Worldwide, the estimated adult female (e.g., breeding) population of leatherback sea turtles, which reflects breeding potential, plummeted from 115,000 individuals in 1982 to only 34,500 in 1996. In the East Pacific, once thought to

host at least fifty percent of the global population of leatherbacks, the number of adult females has fallen from 91,000 in 1980 to well under 3,000 only two decades later – a breathtaking collapse that has led leading sea turtle biologists to conclude that this critical population is quite literally on the verge of extinction.

Leatherback sea turtles are amazing animals. Weighing in at as much as 1,300 pounds and averaging over five feet in length, leatherbacks are arguably the largest living reptile and have plied the Earth's oceans for 100 million years. Alone among extant sea turtles, leatherbacks are uniquely able to maintain their

— continued on page 6 —

New Environmental Research Initiatives & Faculty at Stanford

The Stanford Environmental and Natural Resources Law & Policy Program (ENRLP) remains in an active building stage. As described elsewhere in this newsletter, the Stanford Environmental Clinic, which the Law School runs jointly with the EarthJustice Legal Defense Fund, continues to train students to be effective environmental advocates while helping to solve real environmental problems. The Stanford Environmental Workshop again hosted a wide range of legal and other scholars from throughout the country (see listings of presentations on page 9). ENRLP also continues to develop and update environmental case studies for use in law school classrooms around

the world (just visit our website at <http://www.law.stanford.edu/programs/academic/enrlp/casestudies.html>).

The program's current focus, however, is on increasing faculty and course offerings, developing a number of ambitious research programs, and building further interdisciplinary ties with the rest of Stanford University. Dr. David Victor, a political scientist at Stanford's Center on Environmental Science and Policy (CESP), has teamed up with Professor Tom Heller to offer new environmental courses, including a course on Energy and the Environment. Michelle Friedland, who is serv-

— continued on page 8 —

Environmental and Natural Resources Law & Policy Program (ENRLP)

Buzz Thompson, JD/MBA '76 (BA '72), *Vice Dean, Stanford Law School, and Robert E. Paradise Professor of Natural Resources Law*

John Barton '68, *George E. Osborne Professor of Law, Emeritus*

Hank Greely (BA '74), *C. Wendell and Edith M. Carlsmith Professor of Law*

Tom Heller, *Lewis Talbot and Nadine Hearn Shelton Professor of International Legal Studies*

Robert Rabin, *A. Calder Mackay Professor of Law*

Meg Caldwell '85, *Director, ENRLP, and Lecturer in Law*

Josh Eagle, *Director, Stanford Fisheries Policy Project, and Lecturer in Law*

Deborah Sivas '87, *Director, Earthjustice Environmental Law Clinic, and Lecturer in Law*

Michelle Friedland '00 (BS '94), *Lecturer in Law*

Michael Lozeau, *Staff Attorney, Earthjustice Environmental Law Clinic, and Lecturer in Law*

John Farrow, *Researcher, Stanford Watershed Project*

Cynthia Delacruz, *Program Coordinator, ENRLP*

New Fisheries Research Released

Researchers at the Stanford Fisheries Policy Project continue to grapple with some of today's most challenging environmental policy issues. This summer saw the completion of several major studies. First, project researchers completed a major study this summer, funded by the David and Lucile Packard Foundation, on environmental and economic problems in the salmon fishing and farming industries. Led by Josh Eagle and Roz Naylor, a senior fellow at the Center for Environmental Science and Policy, this project resulted in two peer-reviewed publications. One of the articles, which will be published in the journal *Environment* this fall, describes the impacts that salmon farming has had on communities in the Pacific Northwest and proposes policies to mitigate those impacts. The authors found that large amounts of farm salmon entering the global market have reduced prices for salmon over the past decade by up to 90%. These price declines have led to severe economic hardship in fishing communities. Surprisingly, though, lower prices have not resulted in significantly lower catches. Governments have kept catches high through monetary subsidies and through greater use of artificial stock enhancement in the form of hatcheries.

The second paper, slated for publication in an upcoming issue of *Marine Policy*, examines the advantages that salmon farmers use to outcompete fishermen in world markets, and the legal obstacles that prevent fishermen from responding to the farm challenge. Current fishery laws not only make fishing

more expensive than it needs to be, but they also hinder the fishing industry's ability to compete on quality and availability – two of the strengths of the farming industry. These problems can be mitigated through institutional changes, including the increased use of fishing cooperatives and individual quotas, that would result in a more competitive and sustainable fishing industry.

Second, Josh Eagle, Buzz Thompson, and Sarah Newkirk finished a one-year study of the eight Regional Fishery Management Councils that manage United States coastal fisheries. This study, funded by the Pew Charitable Trusts, examines the question of whether the councils, which are made up primarily of fishing industry representatives, are well-suited for regulating commercial and recreational fisheries. Island Press will publish the report on the councils, entitled *Taking Stock of the Regional Fishery Management Councils*, later this fall. It will contain both the results of the study and recommendations for improving U.S. fisheries management.

To examine how well the councils are managing the fisheries within their jurisdictions, the Stanford team surveyed members of the four major councils, examined how each council addressed fishery issues, and obtained relevant documents from the National Marine Fishery Service through the Freedom of Information Act.

Although the study examines a wide variety of issues, it focuses on three issues of particular concern: the fishing industry's dominance of council membership (which denies the councils the diversity of perspectives essential for effective decision making), the significant conflicts of interest on the councils (which undermine both the councils' credibility and their ability to examine issues objectively), and the pairing of conservation and allocation decision making (which encourages the councils to set high quotas in order to make allocation decisions easier).

The next major undertaking of the Fisheries Policy Project will be a second study on the use

— continued on page 8 —



Buzz Thompson and Josh Eagle (Photo by Steve Gladfelter)

Stanford Law School Helps Make Public Interest Careers Financially Possible

Most Stanford students, including those interested in environmental work, enter the Law School wanting to do some kind of public interest work during their professional careers. The question is, will that career choice be a real option given the financial burdens that come with three years of graduate work? Thanks to Stanford's Miles and Nancy Rubin Loan Forgiveness Program (commonly referred to at Stanford as "LRAP"), public interest law careers are financially sustainable choices for our graduates. For eligible applicants who take low-paying public interest jobs and have substantial educational debt, Stanford Law School lends the funds to help meet their monthly educational loan payments. If the Stanford graduate remains in qualifying public interest employment for a sufficient number of years, a portion of the loans made by

the Law School may be canceled altogether. Up to 100% of such loans may be forgiven for a qualifying graduate working in the public interest. To qualify for LRAP, Stanford graduates must work for organizations qualifying for tax exemption under IRS Code §501(c)(3), §501(c)(4), or §501(c)(5); federal, state, or local governmental units; or private employers for which 50% or more of their work provides legal services on a pro bono, reduced, or court-awarded fee basis to persons or organizations that would otherwise not be able to obtain comparable services. For more information about LRAP and Stanford's Public Interest Law Program, see <http://www.law.stanford.edu/students/admits/lrap/> and <http://www.law.stanford.edu/programs/pip/>.

Student Profile: Trisha Miller

Trisha Miller '04 came to Stanford Law School with the express goal of equipping herself with the skills, knowledge, and judgment necessary to represent those unable to defend their environmental rights. Most people who know Miller would say that she's already done just that. While at Stanford, she's taken the study and practice of public interest law in the environmental and land use field to a new level.



Trisha Miller

An Indiana native, Miller began her environmental advocacy career when she headed her high school's environmental club. Later in college, she teamed up with Detroiters Working for Environmental Justice and es-

tablished an environmental action clearinghouse to involve students in political decision making and to engage them in direct public service within their community. Between college and law school, Miller worked at the Massachusetts Attorney General's office on neighborhood initiatives to clean up brownfields. She also picked up a Masters Degree at MIT in city planning.

Miller's background in environmental justice and urban land use planning has been a perfect platform for her studies and work at Stanford Law School. During her first two years at Stanford, she's worked on and taken advantage of almost every conceivable public inter-

est and environmental practicum outlet available. She has done this consciously. "For low income and minority communities," she says, "environment and public health issues are embedded in a broader struggle for basic civil rights. So I need to integrate legal skills and knowledge with traditional social justice tools in order to be an effective advocate for environmental justice."

On top of her normal student course load at the Law School – which has included both the Environmental Law Clinic (<http://www.law.stanford.edu/clinics/elc/>) and the Youth and Education Law Clinic (<http://www.law.stanford.edu/clinics/yelc/>) – Miller has headed up community projects and outreach for the Environmental Law Society and outreach for the Environmental Law Society (<http://elj.stanford.edu/els/>); served as the outreach chair and a panel coordinator for the 2002 Public Interest Law Conference at Stanford (Shaking the Foundations); organized a dinner for law students to meet with Lois Gibbs, Goldman Environmental Award

— continued on page 10 —

Robert García '78 (BA '74) Connects the Dots for Environmental Justice

After serving on the Stanford Law Review's Board of Editors during his last year of law school, Robert García collaborated with some of the Civil Rights Movement's giants. Now he is one of those "giants." García directs the City Project at the Center for Law in the Public Interest, a national nonprofit law firm in Los Angeles. The City Project works with diverse coalitions in strategic campaigns to improve parks and recreation, playgrounds, schools, and transit for the poorer areas of the city. Its mission is "to achieve equal justice, democracy, and livability for all the people of the Los Angeles region ... by connecting the historical dots to understand why the City is the way it is, and how it could be better."

Before joining the City Project, García served as Assistant United States Attorney for the Southern District of New York, prosecuting organized crime, public corruption, and international narcotics trafficking cases. He then served as Western Regional Counsel with the NAACP Legal Defense & Educational Fund, Inc. He has taught at both Stanford and UCLA law schools. García has published widely on law and society, with a

chapter on the urban park movement forthcoming in Dr. Robert Bullard's book on environmental justice. His chapter on equal access to the California coast will appear in a book by Columbia Law School about the national civil rights roll back. The Planning and Conservation League recently created the Robert García Environmental Justice Award named in his honor and made him the first recipient, citing his work to improve the environment for all the people of California, particularly in Los Angeles.

As Director of the City Project, García sees himself as a problem solver for whom impact litigation is a last resort and

only in the context of a broader campaign. His approach is creative and interdisciplinary. In the Los Angeles River Project, for example,

he combined the visionary work of the late Frederick Law Olmsted with the central lessons of the environmental justice movement. In 1930, Olmsted had developed a comprehensive park, recreation, open



Cornfield in downtown Los Angeles

space, and circulation plan for Los Angeles, which García recognized as a potential blueprint for bringing open space and recreational opportunities to downtown L.A. Combining Olmsted and environmental justice, García built a coalition of low-income and minority

— continued on page 8 —

Investing in Watershed Services

Both environmentalists and policy makers have touted the possibility that the often valuable “natural services” provided by intact ecosystems might encourage governments and private entities to invest in protecting those ecosystems. Stanford Law School co-hosted an interdisciplinary workshop in 2001 exploring this possibility and examining what is known about the value of such ecosystem services. The workshop was the culmination of an EPA Science to Achieve Results (STAR) grant, directed by Professor Jim Salzman of American University, examining various policy issues surrounding ecosystem services.

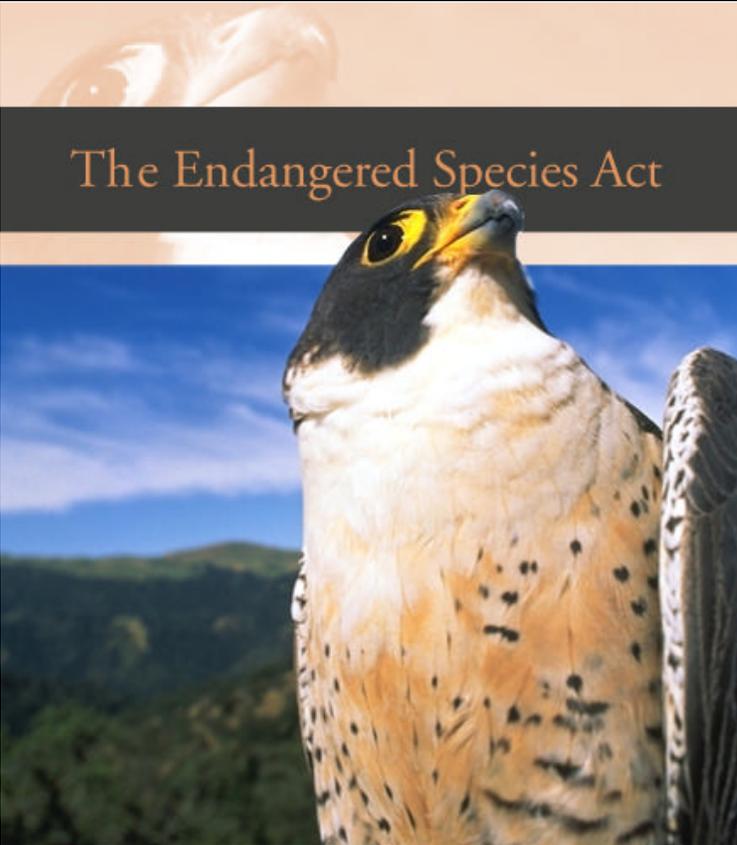
To date, however, few researchers have looked to see the degree to which governments and private entities already are investing in ecosystem services and what obstacles stand in the way of greater investment efforts. This is the goal of Stanford’s new Global Watershed Project, headed up by Professor Buzz Thompson and Dr. Sandra Postel, director of the Global Water Policy Project. The Global Watershed Project is part of a larger Research Initiative on the Environment, the Economy, and Sustainable Welfare that is examining the sustainability of human welfare in the face of limited natural resources. The William and Flora Hewlett Foundation is funding the initiative through a grant to Profes-

sors Kenneth J. Arrow and Lawrence H. Goulder here at Stanford.

The natural services provided by watersheds provide a particularly attractive opportunity for investment. Preserving and managing watersheds may be able to provide a number of valuable services more effectively and at less cost than technological options. Leaving forests intact or managing watersheds to prevent land degradation, for example, can help provide cleaner drinking water, reduce the risks from floods, and control sedimentation. And watershed management in theory may be able to achieve these goals at less cost than purification plants, flood control projects, and other technological approaches.

Perhaps the best known example of an entity investing in watershed management for the watershed’s ecosystem services is New York City’s decision to preserve and regulate lands in the Catskills watershed for drinking water quality in order to avoid spending up to \$8 billion for a filtration system (not to mention \$300 million in annual operating expenses). Many other cities throughout the world, however, also have taken steps to protect their drinking water supplies by preserving or managing their watersheds. One of the questions for the Global

— continued on page 9 —



The Endangered Species Act

The Stanford Environmental Law Society

“A user-friendly guide to navigate through the ESA’s policy and practice. . . . Written in an extremely accessible manner, the book is intended for a wide audience. . . . The best single treatment I have found in communicating the ESA’s practical requirements and implications.”

Professor James Salzman, Washington College of Law, American University (Conservation Biology, Feb. 2002)

***The Endangered Species Act:
A Stanford Environmental Law
Society Handbook***

July 2001, 312 pages

Table of Contents

<i>Introduction</i>	The Modern Extinction Crisis and the Endangered Species Act
<i>Chapter One</i>	A Brief History of the Endangered Species Act
<i>Chapter Two</i>	Section 4 — Listing, Critical Habitat Designation, and Recovery Plans
<i>Chapter Three</i>	Section 7 — Requirements for Federal Agencies
<i>Chapter Four</i>	Section 9 — Protecting Members of Listed Species
<i>Chapter Five</i>	Section 10 — Incidental Takes and Habitat Conservation Plans
<i>Chapter Six</i>	International Aspects of the ESA
<i>Chapter Seven</i>	Section 11 — Bringing Suit
<i>Appendix</i>	The Endangered Species Act
<i>Bibliography</i>	
<i>Index</i>	

paper isbn: 0-8047-3843-2 \$19.95
cloth isbn: 0-8047-3842-4 \$55.00

Copies are available for purchase through Stanford University Press at <http://www.sup.org> and <http://amazon.com>.

Profiling ENRLP's New Faculty: Michelle Friedland '00 (BS '94), David Victor, and Cary Coglianese

In her second year as a lecturer in law, Michelle Friedland is teaching environmental law and policy, as well as federal jurisdiction. Friedland earned her BS in ecology and population biology at Stanford and, before attending Stanford Law School, studied political theory and environmental ethics as a Fullbright Scholar at Oxford University. After law school, Friedland clerked for Judge David S. Tatel, United States Court of Appeals for the District of Columbia Circuit, and Justice Sandra Day O'Connor, United States Supreme Court [during which time the landmark land use and environmental regulatory takings case *Tahoe Sierra Preservation Council v. Tahoe Regional Planning Agency*, 122 S.Ct. 1465 (2002) was decided by the Court]. She is in the final stages of completing an article on the due process implications of judicial campaign speech, a timely topic given U.S. District Judge William M. Hoeweler's recent removal from the Florida Everglades case. Next, Friedland's research and writing will focus on one or more pressing environmental regulatory issues. For example, she's considering collaborating on an article on better ways to address the problem of nitrogen deposition.



Michelle Friedland

She's also intrigued by the problems of "genetic drift" and pesticide drift onto organic farms from farms using genetically engineered seeds and/or pesticides. When students corner Friedland and ask her to reminisce about her stint in Justice O'Connor's chambers, her face lights up and she describes aerobics classes with Justice O'Connor in the Supreme Court's basketball court, being subject to a nasal swabbing by a naval officer (along with all the other clerks, court employees, and the Justices) after anthrax was found in the court, and discussing cases with Justice O'Connor over outdoor lunches in the courtyard across from her chambers.

Dr. David Victor is a Senior Fellow with Stanford's Center for Environmental Science and Policy and Director of the Program on Energy and Sustainable Development. At Stanford Law School, Victor co-teaches courses on energy and environmental law with Professor Tom Heller. Dr. Victor's program, established in September 2001 with core funding from the Electric Power Research Institute, focuses on the economic and environmental consequences of energy consumption. Initial studies are examining the development of the North American and global natural gas markets, reform of electric power markets, and other topics. Much of the Program's research examines how the availability of modern energy services, such as electricity, can affect the process of economic growth in the world's poorest regions. Recently, Victor's group, including researcher Gwen Parker '00, has been working on strategies for improving access to modern energy services in very low income (primarily rural) villages in developing countries. Victor and Tom Heller also are collaborating on a new project called "After Kyoto," where they will look beyond the Kyoto Protocol to the possible international regimes that might succeed or replace Kyoto.



David Victor

Previous to joining Stanford's faculty, Victor directed the Science and Technology program at the Council on Foreign Relations in New York, where he studied the sources of technological innovation and the impact of innovation on economic growth. His research also examined global warming policy, forest protection, and genetically modified food. Before joining the council, Victor directed a three-year multinational research project on the implementation of international environmental treaties at the International Institute for Applied Systems Analysis (IIASA) in Laxenburg, Aus-

tria. His IIASA research examined how the international system monitors, verifies and enforces compliance with environmental treaties. He holds a PhD in political science (international relations) from the Massachusetts Institute of Technology and a BA in history and science from Harvard University.

Beginning in January 2004, Dr. Cary Coglianese will join Stanford's faculty as the Irvine Visiting Professor of Law and will teach courses on legislation and regulatory policymaking. Coglianese is Associate Professor of Public Policy and Chair of the Regulatory Policy Program at the John F. Kennedy School of Government, where he conducts interdisciplinary research on issues of regulation and administrative law and has taught classes in environmental policy, public law, research design and professional ethics. His research focuses on the empirical analysis of alternative regulatory strategies and the process of regulatory policymaking, with a particular emphasis on cross-cutting issues such as regulatory decision making, the role of private actors in policy making, and the use



Cary Coglianese

of innovative regulatory instruments. His recent research falls into five principal areas: (1) the effects of consensus building on regulatory policy making; (2) management-based regulatory strategies; (3) the design and implementation of performance-based regulation; (4) information technology and the rulemaking process; and (5) the role of science and economics in regulatory decision making. Cary received his JD, MPP (public policy), and PhD in political science from the University of Michigan.

Protecting Sea Turtles

— continued from page 1 —

body temperature several degrees above ambient water temperatures and can dive to cold depths of up to 4,000 meters, making them in many ways physiologically closer to marine mammals than other turtles. Today, a migrating adult female leatherback may navigate thousands of miles of the Pacific Ocean from the beaches of Australia or Indonesia to as far north as Alaska, only to return again to her natal beach to nest. But although Pacific leatherbacks survived the extinction of the dinosaurs, many scientists now believe they will not survive the next two decades without drastic changes in policy and practice.

One of the major threats to the species is the loss of nesting beach habitat to human development and the direct poaching of eggs and hatchlings on those nesting beaches that remain. Sea turtles exhibit fidelity to their natal beaches; reproductive age females return to lay eggs on or near the beaches where they were born. Today, nesting beaches for the Pacific leatherback are located primarily in Indonesia, Southeast Asia, Australia, and Central America, beyond the reach of U.S. laws and courts. The primary tool that conservation biologists and activists have to protect such habitat is the power



of persuasion and public education. For example, in Mexico, which harbors many of the most important leatherback nesting beaches, the threat of virtual extirpation and the promise of ecotourism dollars associated with the extremely photogenic turtle hatchlings as they move from the nesting sands back into the ocean has led to significant habitat protection measures.

While protection of nesting beaches continues to be a high priority, there is now clear evidence that gillnet and longline fishing activities also are taking a terrible toll on leatherbacks. Air-breathing animals that spend much of their life in the open ocean, sea turtles frequently become entangled in mile-long floating gillnets or the dozens of miles of fishing hooks used by the longline industry and sub-

sequently drown. Given the precarious state of the population, the loss of even a relatively small number of breeding adults each year in fishing gear incidents may substantially impact the species' long-term prospects for survival. Three years ago, Stanford's Environmental Law Clinic initiated litigation to force the National Marine Fisheries Service, the primary federal agency with jurisdiction over the protection of sea turtles, to study and evaluate the consequences of the California/Oregon offshore gillnet fishery on leatherbacks and other sea turtles as required by the "consultation" requirements of the Endangered Species Act.

Through that suit and a follow-up enforcement action, the clinic was able to obtain regulations imposing seasonal geographic closures on this fishery to protect leatherback and loggerhead (*Carretta caretta*) sea turtles in those areas and at those times of the year when they are most vulnerable to entanglement, injury, and death.

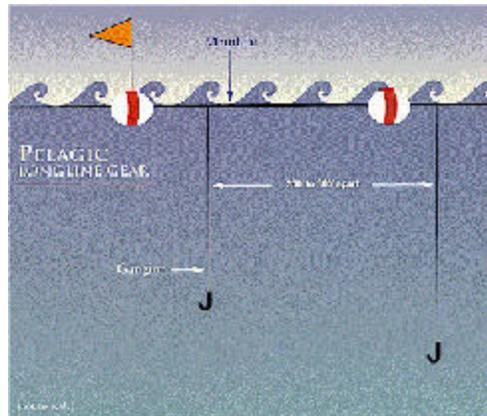
More recently, Stanford's clinic brought a similar suit over the National Marine Fisheries Service's failure to undertake consultation for the domestic high seas longline fishery that lands its catch of swordfish in San Diego and, in the process, kills dozens of sea turtles and endangered sea birds each year. (A similar suit has resulted in the imposition of environmental restrictions on the equally destructive Hawaii-based longline fishery.) The clinic appealed an initial unfavorable ruling from the trial court, and the Ninth Circuit reversed, finding that the agency does have an obligation under the Endangered Species Act

to complete the necessary biological consultation before issuing permits to fish. *Turtle Island Restoration Network v. National Marine Fisheries Service*, 340 F.3d 969 (9th Cir. 2003). The prevailing brief in the case was written by Matthew Sanders, a former clinic student and an alumnus of the Class of 2002. The clinic's victory is one more step in the long process of compelling the National Marine Fisheries Service and other

federal agencies to give serious consideration to the impacts on sea turtles and other unintended "bycatch" species of the fishing activities they authorize.

Clinic students at Stanford also have prepared petitions to "uplist" and separately protect isolated subpopulations of sea turtles and are currently advising conservation groups on potential legal and policy strategies for affecting change in the practices of foreign fishing fleets. The latter efforts provide a real-world opportunity for the students to grapple with the peculiar challenges and frustrations of protecting transnational resources. Within the scientific community, there continues to be debate about the most significant cause of the Pacific leatherback's precipitous plunge toward extinction, but there is little dispute that nesting beach impacts and high seas fisheries are the two most important threats to its survival and, in combination, have proved disastrous. While "enlightened self-interest" provides some hope for continued efforts to protect nesting beaches around the Pacific Rim, as the Mexico example suggests, that concept

— continued on page 12 —



Typical longline fishing gear



Stanford's New Interdisciplinary Environmental Major

Students attending Stanford Law School now have the opportunity to gain a Masters of Science degree from the University's new Interdisciplinary Graduate Program in Environment and Resources (IPER). The new JD/MS program is designed to provide Stanford law students with rigorous training in interdisciplinary environmental problem solving, as well as additional course work in the natural sciences, social sciences, and engineering. Joint JD/MS students will study interdisciplinary skills along with PhD students in IPER's core classes and take other classes carefully chosen to match each student's specific career interests. Students planning to work for land trusts, for example, might enroll in courses in conservation biology, economics, and business. Students interested in marine conservation might enroll in courses at Stanford's Hopkins Marine Station.

Stanford University started IPER in 2002 to train environmental problem solvers for the 21st century. IPER's PhD and joint MS programs both start with the belief that, to solve environmental and resource issues in this century, our focus must shift from the single-issue perspective that has dominated in the past to one on multiple interacting stresses, and from a disciplinary and multidisciplinary approach to an interdisciplinary one. With that in mind, IPER students are expected to make significant headway along each of three intellectual dimensions:

(1) Recognition and evaluation of the linkages between physical and biological sys-

tems, and understanding of the potential environmental consequences associated with the dynamics or evolution of these joint systems.

(2) Recognition and evaluation of the interplay between human activities and the Earth system, and understanding of how human influence on the environment (e.g., through methods of production or patterns of consumption) are affected by social and economic institutions, legal rules, and cultural values, and how resources and environment in turn affect human actions and decision making.

(3) Development of skills for gauging the potential impacts of alternative public policy options for dealing with environmental problems, for evaluating such policy alternatives according to various normative criteria, and for integrating scientific research into policy formulation.

All IPER students, including joint JD/MS students, take three core classes as part of their curriculum. In "Interdisciplinary Analysis," students explore the analytical tools, models, and approaches that are central to interdisciplinary research on the world's leading environmental issues. Included in the course's topics are computation and modeling approaches to complex problems (conceptual, quantitative, semi-quantitative, simulation models, GIS, etc.) and the translation and integration of alternative disciplinary approaches to research, analysis, and uncertainty. In "Case Studies in Environmental Problem Solving," students explore a number of interdisciplinary case studies on topics that

range from the CALFED Bay-Delta project to the Kyoto Protocol. In each case, students explore multiple sources of information and knowledge to evaluate the data, modeling, and analytical frameworks needed to understand causes, consequences, and solutions. The final core class, the "Environmental Forum Seminar," takes advantage of the multiple environmental seminar series already in place at Stanford. After attending lectures by Stanford and outside environmental experts, the students meet with core faculty members to discuss the presentation, addressing such issues as the conceptual framework of the topic, the approaches used in the analysis, the validity of conclusions from an interdisciplinary perspective, and alternative approaches that would have added to the contribution.

Professor Buzz Thompson has served on IPER's Executive Committee since the program's inception, and several other members of the Law School faculty are part of IPER's core faculty. More information about IPER is available on the University's web site at <http://iper.Stanford.edu>.

Looking for new teaching materials? Faculty interested in trying case studies as part of their environmental or natural resource classes can find copies of the Stanford case studies and accompanying teaching notes at <http://casestudies.stanford.edu/>.

Stanford Environmental Law Clinic Provides Students with Court Experience

During the Spring 2003 semester, a number of students in Stanford's Environmental Law Clinic made their debuts in court. In each case, the students, who were certified to practice under the supervision of clinic attorneys, spent countless hours helping to draft the briefs and ultimately presented the clients' arguments in court. Two students (Perlette Jura '04 and Brigham Bowen '04) presented summary judgment motions in the U.S. District Courts for the Northern and Eastern Districts of California, respectively, on cutting edge, critical habitat



Ron Fein '03

questions under the Endangered Species Act. Two others (Ron Fein '03 and Chris Jensen '04) presented novel Clean Water Act arguments to two separate divisions of the California Court of Appeals. Most recently, Karli Sager ('04) presented a National Environmental Policy Act case to the U.S. Court of Appeals for the Ninth Circuit involving scientific issues related to the management of goshawks in National Forests in the Southwest. Bragging rights aside, all five students made excellent presentations, more than holding their own against experienced private firm and government attorneys on the other side. As one student remarked, "it was the highlight of my law school experience."

Fisheries Research

— continued from page 2 —

of “marine reserves” – areas of the ocean where fishing is banned – as a tool in protecting the marine environment. Over the past several years, a team led by Paul Armsworth of the Center for Conservation Biology has been modeling the net economic effect of creating marine reserves, focusing on a case study of tuna fisheries in the Gulf of Mexico. The next step of the marine reserve project will be to synthesize recent studies of the political, economic and ecological impacts of reserves in an effort to determine how and where they are most easily and beneficially created. Unlike previous studies, the study will go beyond the net benefits of reserves to an



investigation of how to make their creation and implementation more politically feasible and efficient.

In another upcoming project, the SFPP will conduct a study of the British near-shore fisheries management system, known as the Sea Fisheries Committees. The

British Council recently awarded Josh Eagle an Atlantic Fellowship in Public Policy. Josh will be based at the University of Portsmouth's Center for the Economics and Management of Aquatic Resources for seven months beginning in January.

Research Initiatives & Faculty

— continued from page 1 —

ing as a two-year faculty fellow after completing her clerkship with Justice Sandra Day O'Connor '52 (BA '50), is teaching the introductory Environmental Law course. Finally, Dr. Cary Coglianese, a professor at Harvard University's Kennedy School of Government who has worked extensively on environmental issues, will be visiting Stanford Law School in Spring 2004 and teaching courses in both legislation and regulatory policy. Detailed profiles of our new faculty members are found on page 5 of this newsletter.

Stanford's Fisheries Policy Project, which the Law School and Stanford's Hopkins Marine Station jointly run with a grant from the David & Lucile Packard Foundation, was the first in what will ultimately be up to half a dozen empirical research initiatives in environmental policy. As described on page 2 of this newsletter, the fisheries project is currently in the process of releasing several major articles and reports on both aquaculture and the Regional Fishery Management Councils that govern coastal fisheries in the United States. Two other research projects have joined the Fisheries Policy Project this year. The first is the Stanford Water Policy Research Initiative, which has launched a major study of global watershed management, discussed at page 4. The other new research initiative is the Stanford Digital Environmental Governance Project, which is an outgrowth of Professor Buzz Thompson's recent NSF grant looking

at the use of computer technology in environmental compliance. Meg Caldwell currently is developing a fourth research initiative in the area of land use planning. The overarching theme of all the research initiatives is that better empirical research is necessary in order to formulate effective solutions to the environmental problems facing the nation and the world.

Finally, the Law School is playing a central role in several new interdisciplinary programs at Stanford University. As described in an article on page 7, Stanford Law School students now have an opportunity to enroll in a joint JD/MS program with Stanford University's new Interdisciplinary Program in Environment and Resources (IPER). Professor Buzz Thompson is both teaching in IPER and serving on IPER's Executive Committee, and IPER's PhD. students are enrolling in Law School classes as part of their interdisciplinary training. On October 9, 2003, Stanford President John Hennessy also announced that Stanford will be starting a new institute on the environment to promote interdisciplinary research and training at Stanford. ENRLP will be affiliated with the new University-wide institute, which will draw on faculty and resources from all seven of Stanford's schools. Professor Thompson again is serving on the Provost's Committee on the Environment, which has responsibility for launching the institute.

Robert García

— continued from page 3 —

groups to stop federal funding for a 32-acre warehouse project and secure \$35 million to create a state park in the Cornfield, an abandoned and contaminated rail yard along the Los Angeles River that is the last large open space in downtown LA and part of Olmsted's original plan. The *Los Angeles Times* referred to the park as a “heroic monument” and a “symbol of hope.” The BBC is producing a half hour documentary featuring the City Project's work on the Los Angeles River.

To Olmsted's plan, Garcia added the insights of what he considers the four central lessons of the environmental justice movement: “that communities of color and low-income communities disproportionately suffer from environmental degradation, are disproportionately denied the benefits of public wealth like parks and recreation, do not have adequate information to understand the impact of public policy decisions on their lives, and are denied full and fair public participation in the decision-making process.”

The City Project's strategy for addressing environmental justice problems is a multifaceted approach that puts the affected community at the center. First, the project helps communities develop their own “vision.” Second, it engages in active coalition building and public education both to learn what people want and to find collective ways of getting it. Third, the project helps people undertake public policy and legal advocacy outside the courts by showing them how to participate in planning and administrative processes, as well as ballot measures and election campaigns. Fourth, the project assists with strategic media campaigns. Fifth, it engages

— continued on page 10 —



A locked gate with barbed ribbon wire blocks access to public beach in Malibu. The sign at right reads: “Right to pass by permission and subject to control of owner.”

Environmental Law Workshop Spring 2003 Presenters and Papers

ENRLP's Spring 2003 Environmental Workshop featured six scientists, eight law faculty, and one social scientist presenting their research and working papers on a variety of pressing environmental and natural resource law and policy issues. The full listing of presenters with links to their papers and related readings is available at <http://www.law.stanford.edu/library/workshop2003/c-ebwrsylS033.html>

MARC POIRIER

Seton Hall University School of Law
The NAFTA Chapter 11 Expropriation Debate Through the Eyes of a Property Theorist

JIM RASBAND

Brigham Young University Law School
Who Provides the Habitat? Reckoning with the Perplexing Question of Allocating ESA Responsibility for Harm Caused by Multiple Water Diverters or Land Users

TERRY ROOT

Stanford University, Center for Environmental Science and Policy
Fingerprints of Global Warming on Plants and Animals

HOLLY DOREMUS

UC Davis School of Law
Takings and Transitions

CARY COGLIANESE

Harvard University, JFK School of Government
Management-Based Regulation: Prescribing Private Management to Achieve Public Goals

PETER KAREIVA

Pacific Conservation Region, The Nature Conservancy
Setting Priorities and Measuring "Success": The Dark Side of NGOs

RICHARD LAZARUS

Georgetown University Law Center
The Making of Environmental Law

DAVID DANA

Northwestern University School of Law
A Behavioral Economic Defense of the Precautionary Principle, and Some Preliminary Research Results

DAN TARLOCK

Chicago Kent College of Law
Land Use Law and Water Law: The New Intersections

BUZZ THOMPSON, JOSH EAGLE, AND SARAH NEWKIRK

Stanford Law School, Stanford Fisheries Policy Project
Reforming the Governance of Marine Fisheries

ALEXANDRIA BOEHN

Stanford University, Civil and Environmental Engineering
Beach Closures

JIM WATANABE

Stanford University, Hopkins Marine Station
Environmental Assessment—A Scientist's Approach and Perspective

CAROL BOGGS

Stanford University, Center for Conservation Biology
Scientific, Ethical and Legal Aspects of Species Introductions

Watershed Services

— continued from page 4 —

Watershed Project is where watershed protection makes financial and scientific sense for water suppliers – and how public policy might encourage greater investments.

Preservation and management of watersheds can also produce a bundle of complementary ecological services of great instrumental value, including onsite erosion control, carbon sequestration, biodiversity, instream flows, scenic beauty, and recreation. However, many of these services are poorly understood, not properly valued, or neglected as nonmarket goods. Thus, existing incentives and institutional structures may fail to produce ecological services at socially optimal levels. Another question for the Global Watershed Project thus is the degree to which efforts to preserve watersheds for their water quality services also help protect other watershed services.

Management of watersheds for water quality and other benefits requires a significant amount of site-specific scientific and economic information. The Global Watershed Project will assess the adequacy of science to assess and manage the linkages between watersheds and the ecological services they provide. The project will also assess the current ability to assign economic valuations to these services, and to value the opportunity and transaction costs that are incurred in harnessing them.

The coordination of multiple upstream providers of watershed services (land users) with multiple downstream beneficiaries is a complex undertaking. The project will evaluate what kinds of market and nonmarket arrangements can provide incentives for watershed management and overcome transaction cost barriers. The project is assessing

issues involving appropriate scale, centralization and decentralization, definition of commodities, joint production of public goods, and public versus private provision.

John Farrow has taken the leading role in the project's research to date. The project has completed its initial review of the literature and is now beginning to work on case studies of watershed management in Costa Rica, Columbia, and California. The project is also examining the role played by international development lending in the choice of natural versus technological approaches to providing clean drinking water and other hydrological services. The project expects to have a finished report by the fall of 2004.

Trisha Miller

— continued from page 3 —

recipient and leader of the effort to evacuate the residents of Love Canal, New York; volunteered with Stanford Streetlaw at the San Jose Juvenile Detention Facility; served as a teaching assistant for an AnthroScience course on sustainable development; externed with Sierra Club's National Legal Department working on environmental litigation for the low-income African American community in Turkey Creek, Mississippi; and advised undergraduate Stanford students in the Stanford Urban Studies Department who are interested in law school.

The combined effect of meeting Lois Gibbs, working with Luke Cole (BA '85), Director of the California Rural Legal Assistance Foundation's Center on Race, Poverty & the Environment, on a special conference panel on environmental justice, and helping with the residents of Turkey Creek, Mississippi, has convinced Trisha that she can do more to improve the health, vitality, and political power of low-income communities in the deep South who are suffering from racial and environmental discrimination. Founded by freed black slaves during the Civil War, the historic neighborhood of Turkey Creek remained politically and economically marginalized through the Jim Crow era. Residents were prohibited from relocating to housing outside the low-lying floodplains of Turkey Creek and were denied basic municipal

services such as sewer and water connections. In 1969, the hamlet was the site of the "wade-in," a political demonstration to desegregate Mississippi's beaches. Last year, Turkey Creek residents combined forces with the Sierra Club to challenge approval of a development permit to fill hundreds of acres of wetlands, which would result in flooding part of the Turkey Creek community.

Under guidance of the Law School's Public Interest Law Program, Miller is seeking financial support from a number of special fellowship programs, including Echoing Green, New Voices, and Equal Justice Works, to continue her work in the South. She has conceived a project that builds on her Turkey Creek experience and aims to provide direct legal advocacy and community education to communities of color in the Gulf region of Mississippi, Louisiana, and Alabama on en-

vironmental and civil rights matters. More importantly, according to Miller, the project will also "empower these same communities to participate more effectively in land use decision making and hold agencies accountable for the health and environmental impacts of development." Miller plans to partner with local and regional advocacy and community organizations, such as the



Trish Miller (sitting, right-center) organized an ELS dinner with Goldman Environmental Award recipient Lois Gibbs (seated left of Miller)

NAACP, the Lawyers' Committee for Civil Rights, and the Sierra Club, to help prosecute citizen suits and to launch environmental justice community education outreach regionally. Her goal is to help communities build their own capacity to engage legally and politically. As Miller explains, "while advocates play an important role in combating environmental threats to minority communities, the greatest benefits result from the collective knowledge and perspective of those communities who actually experience these threats."

Robert García

— continued from page 8 —

in extensive research and analysis, including complex demographic analyses using census data and GIS mapping tools, to illuminate inequities. Sixth, the project "creatively engages opponents to find common ground." When all else fails, and only within the context of a broader campaign, the project turns to impact litigation.

García's work at the City Project is back on the front pages of the Los Angeles Times and has become a featured topic in Gary Trudeau's *Doonesbury* comic strip. He's now taking on the touchy subject of equal access to California's beaches. And he's gone straight to the wealthiest communities in the Los Angeles metropolitan region to prove his point. Why are parks and beach access important to the City Project's fundamental mission? According to García, public access to

beaches, like parks, is integral to democracy and equality. "Beaches are a commons where the democratic vision can be expressed in everyday life," explains García. "In a democratic society, our commons should not be privatized." García cites in support a decision of the Connecticut Supreme Court two years ago that held that a municipality may not constitutionally restrict access to a beach to its own residents and their guests on the ground that non-residents have a First Amendment right of access to exercise free speech. [*Brenden P. Leydon v. Town of Greenwich*, 257 Conn. 318 (Ct.2001)].

García is quick to point out that "what is at stake is not just the beach. . . . The fundamental values at stake are equal justice, democracy through full and fair participation in the decision making process, and livability for all." That's García's way of connecting the

dots. For more information about the City Project, visit <http://www.clipi.org/cityproject.html>.



Guatemalan Nobel Peace Laureate Rigoberta Menchu recently joined Robert (in rear, second from left) to call for the creation of parks in the inner city as "a way of saying no to violence, no to war." This is one of Robert's proudest moments, as he came to the United States from Guatemala at the age of four.

ENRLP Publications, Activities, Appointments & Honors

BUZZ THOMPSON

Publications:

Environmental Law & Policy: Concepts and Insights

(Foundation Press, 2003) (with James Salzman)

“Answering Lord Perry’s Question: Dissecting Regulatory Overfishing,” *Ocean and Coastal Management* 46: 649-679 (2003) (with Josh Eagle)

“Constitutionalizing the Environment: The History and Future of Montana’s Environmental Provisions,” 64 *Montana Law Review* 157 (2003)

“Providing Biodiversity Through Policy Diversity,” 38 *Idaho Law Review* 355 (2002)

“Conservation Options: Toward a Greater Private Role,” 21 *Virginia Environmental Law Journal* 245 (2002)

Activities & Appointments:

U.S. EPA Committee on Valuing the Protection of Ecological Systems and Services

Member, Board of Directors, Resources Legacy Fund & Resources Legacy Fund Foundation

Chair, Board of Directors, Natural Heritage Institute

TOM HELLER

Publications:

“Carbon Intensity of Electricity Generation and CDM Baselines: Case Studies of Three Chinese Provinces,” with Chi Zhang and Michael May, *Energy Policy*, (forthcoming)

“Beyond Kyoto: Development and Climate,” with P. R. Shukla, Pew Center on Climate Change, (forthcoming)

JEFF STRNAD

Publication:

“Taxes and Nonrenewable Resources: The Impact on Exploration and Development,” 55 *Southern Methodist University Law Review* 1683-1752 (Fall 2002)

MEG CALDWELL

Publication:

“International Environmental Law 2002 Annual Report,” *The Year in Review: 2002 Environment, Energy, and Resources Law* (American Bar Association, 2002)

Activities & Appointments:

Member, Board of Directors, Waterkeepers Northern California
Vice-Chair, International Environmental Law, ABA Section of Environment, Energy, and Resources

Selection Committee Member, Rick Sutherland Fellowship Fund
Participant, Biocomplexity LWI/CC Workshop: Designing a Capstone Experience for Recent PhDs Engaged in Interdisciplinary Careers (October 2002)

Moderator, CGF Environmental Forum: “Land Use Planning and the Budget” (October 2002)

JOSH EAGLE

Publications:

“Answering Lord Perry’s Question: Dissecting Regulatory Overfishing,” *Ocean and Coastal Management* 46: 649-679 (2003) (with Buzz Thompson)

“Why Farm Salmon Outcompete Fishery Salmon,” *Marine Policy* (Spring 2004) (with Roz Naylor and Whitney Smith)

“Salmon Aquaculture in the Pacific Northwest,” *Environment* 45(8): 18-39 (2003) (with Roz Naylor and Whitney Smith)

Activities & Appointments:

“Managing Fisheries: Science and Law,” Sea Grant Law Conference, University of Georgia, Athens, Georgia (June 2003)

“Answering Lord Perry’s Question,” Annual Meeting of the Marine Fish Conservation Network, Washington, D.C. (June 2003)

“State of Salmon: The Market,” Annual Meeting of the American Association of Law Schools, Washington, D.C. (January 2003)

Vice Chair, Marine Resources Committee, American Bar Association

Honor:

Atlantic Fellowship in Public Policy (from the British Council)

DEBORAH SIVAS

Publications:

“Inactive Sites – The Superfund Cleanup Process,” in *Environmental Law Practice Guide* (Michael B. Gerrard ed., 2003) (in press)

Contributing Author, *Brownfields Law and Practice: The Cleanup and Redevelopment of Contaminated Land* (Michael B. Gerrard ed., 2003)

Activities & Appointments:

“Federal Environmental Policy in 2003,” Presentation to Thursday Morning Dialogue (September 2003)

Legal Chair, Board of Directors, Turtle Island Restoration Network

MIKE LOZEAU

Activities & Appointments:

Testimony before the U.S. Senate’s Fisheries, Wildlife and Water Subcommittee regarding the Administration’s implementation of the federal Clean Water Act (September 16, 2003)

Coauthor, article commenting on the Administration’s reactions to the Supreme Court’s 2001 ruling in *Solid Waste Agency of Northern Cook County v. Army Corps of Engineers*, 531 U.S. 139 (2001); to be published in the Environmental Law Institute’s *National Wetlands Newsletter*.

Board of Directors of the San Francisco-based transportation reform advocacy group, Transportation for a Livable City.

Honor:

Chosen by the *San Francisco Chronicle* as one of the Bay Area’s “Top 25” attorneys (and the only environmental law practitioner) (May 2003)

Sea Turtles

— continued from page 6 —

has never proved successful in restraining destructive fishing practices on the open ocean, as evidenced by the collapse of many international fisheries around the globe. There is no particular reason to believe it will work any better to rescue the leatherbacks.

While U.S. gillnet and longline fisheries have unquestionably contributed to leatherback mortality and incidental take of other bycatch species, there are other nations with equally substantial and in some cases probably more destructive fishing fleets that also ply the waters of the Pacific. There is little doubt, for example, that the Chilean and Peruvian swordfish fisheries have had a substantial impact on the East Pacific leatherback population, and large fishing fleets out of Japan, Malaysia, and other nations are likely having similar impacts on the west side of the basin. Given this reality, sea turtle advocates and their lawyers often face the question of why our domestic fisheries should be cur-

tailed or required to utilize mitigation measures that may put them at a competitive disadvantage vis-a-vis other countries when this transnational crisis cannot possibly be solved by a single nation.

For the lawyers and students who are working in Stanford's clinic to save sea turtles the answer is simple: as the richest and most powerful nation in the world, the United States can and should lead by example. The United States can hardly ask or expect less prosperous nations to impose environmental protections that we have not. While international cooperation and agreements can be exceedingly difficult to obtain, they are not impossible. In 1992, an international ban on the extremely destructive practice of driftnet fishing took effect on the waters of the high seas in response to worldwide outrage over its catastrophic effects on all manner of marine life. In the case of leatherbacks, increased domestic sea turtle conservation efforts can pave the

way for an international consensus on saving one of the planet's most ancient and remarkable lifeforms. The alternative is unthinkable.

Suggestions for additional reading:

Crowder, L., "Leatherback's Survival Will Depend on an International Effort," *Nature* 405, 881 (2000).

Eckert, S. A., "Distant Fisheries Implicated in the Loss of the World's Largest Leatherback Nesting Population," *Marine Turtle Newsletter* 78:2-7 (1997).

Spotila, James R., et al., "Pacific Leatherback Turtles Face Extinction," *Nature* 405, 529-531 (2000).

Spotila, James R., et al., "Worldwide Population Decline of *Dermochelys coriacea*: Are Leatherback Turtles Going Extinct?" *Chelonian Cons. Biol.* 2, 209-222 (1996).