

Global Warming Could Raise Sea Level Up to 20 Feet

Emissions of greenhouse gases projected over the next century may lead to the disintegration of the West Antarctic Ice Sheet, according to an article published May 28 in the scientific journal *Nature*. This would cause a 13- to 20-foot rise in sea level and major coastal flooding. Dr. Michael Oppenheimer, EDF atmospheric physicist and author of the peer-reviewed article, concluded that if emissions continue unabated, the gradual loss of land-based ice into the ocean is most likely to occur over the next five to seven centuries, and could become irreversible within 100 years.

Eventually, if complete collapse of the West Antarctic Ice Sheet occurred, all of South Florida and more than 25% of Louisiana would be permanently submerged, as would parts of Washington, DC, and other coastal cities. Areas where 10 % or more of the population of Florida, Louisiana, South Carolina, Virginia, New York, and New Jersey now live would be



Art Wolfe/Tony Stone

Global warming could ultimately cause the huge West Antarctic Ice Sheet to disintegrate, leading to increased calving of icebergs and a 13- to 20-foot rise in sea level worldwide.

permanently lost, according to an earlier National Academy of Sciences report.

The West Antarctic Ice Sheet is composed of ice streams, vast rivers of land-based ice that end at floating ice shelves. Warming of the deep ocean by only a few degrees, which is expected to occur in the

next 100 years, could cause one or more of the floating ice shelves surrounding West Antarctica to thin and eventually break up. Since ice shelves float, their disintegration does not increase sea level. But if the flow of the West Antarctic Ice Sheet into the ocean increased as a result, global sea level would rise. The rapid collapse of smaller ice shelves along the Antarctic Peninsula in recent years raises the possibility that the West Antarctic shelves might disintegrate quickly once they have been thinned by warming.

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How You Can Help

Join the EDF Action Network and support action to reduce global warming; to join, send your name, e-mail address, and address where you vote to congress@edf.org. Or call EDF's Membership Office at 1-800-684-3322 and ask for "20 Simple Steps to Reduce Global Warming," or go to www.edf.org/more/10501.

EDF Seeks to Curb Pollution from Factory Farms

Corporate farms housing thousands of hogs and poultry in assembly-line conditions have multiplied in recent years, spreading into many states that lack adequate environmental controls. These "factory farms" produce an estimated two trillion pounds of animal waste per year, posing one of America's serious pollution threats.

A typical factory hog farm containing several thousand swine produces millions of gallons of liquid waste (urine, feces, and water) annually. Huge volumes of hog waste are stored in primitive open-air holding ponds or lagoons and then aerially sprayed on adjacent land. Improper collection and disposal of



Robert Willet

Once primarily a feature of family farms, hog production has increasingly become a corporate enterprise involving thousands of animals and assembly-line methods.

untreated animal waste has harmed groundwater and human health. Nutrients and bacteria from animal waste can cause fish kills and harm shellfish in contaminated streams, creeks, and estuaries. Dangerous and offensive odors and other air pollutants are also emitted.

The Environmental Protection Agency has proposed a strategy for controlling factory farm pollution, but EDF and other environmental and family-farm groups believe it falls far short of addressing environmental and public health threats. Most notably, EPA's draft strategy would not require many factory farms to implement better pollution controls until the

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As concern grows about pollution from shrimp farms worldwide, EDF is working to create a better approach on the Gulf Coast of Texas.

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An attack on the scientific consensus on global warming had one major problem: Its science was badly flawed.

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In environmental work just as in basketball, attorney Jim Marston has learned to improvise.

7 Tips for a Greener Office

By making simple choices, office workers can make a big difference.

State Court Upholds Long Island Pine Barrens Protection Plan

The world's second largest pine barrens ecosystem recently won further protection when a New York State court upheld the Long Island Pine Barrens Protection Plan, which preserves 52,500 acres of pine barrens on eastern Long Island and fosters compact development in an adjacent 47,500-acre growth area. The Long Island pine barrens is not only a unique ecosystem, it also sits atop the main recharge zone for Suffolk County's drinking water supply.

The developer WJF Corporation, owner of 272 acres of dwarf pine barrens within the protected core area, had challenged the constitutionality of the plan's Transfer of Development Rights (TDR) program. TDRs allow landowners within the protected core to transfer their development rights to nearby areas deemed suitable for higher density development. The Suffolk County Supreme Court ruled that, "The TDR provisions...do assure preservation of the real economic value of the development rights as they existed when still attached to the underlying property."

EDF General Counsel James T.B. Tripp, who helped engineer the TDR plan and is chair of the Pine Barrens Credit Clearing House, welcomed the ruling. "The plan



J. Kirk Conayles

Jim Tripp in the Long Island Pine Barrens, which sits atop an underground aquifer that is the main source of drinking water for Suffolk County.

protects a valuable ecosystem and assures the continued protection of safe drinking water for Long Island," Tripp said.

NY State Weighs Alternatives to Expanding I-287

The task force assembled by New York Gov. George Pataki to discuss alternatives to widening I-287 held its first meetings this summer. The proposed \$400 million expansion of I-287, one of the New York-New Jersey metropolitan area's most congested highways, has been a major target of EDF's efforts to slow growing traffic volume and to remedy air quality problems in the Northeast.

EDF and others sued in 1994, to ensure that I-287 was not expanded without full evaluation of all other transportation alternatives, including better transit service, car-pooling incentives, and tolls that would vary by time of day and by a vehicle's number of occupants. Last January, Governor Pataki canceled the widening plans and agreed to assemble the task force. He appointed five state officials and 12 advisory members to the group, including EDF General Counsel James T.B. Tripp.

"This task force has the opportunity to create and implement the first comprehensive demand-reduction program in a congested suburban corridor in the United States," said Tripp.

Acid Rain Program Incentives Are Spurring Utilities to Reduce Sulfur Dioxide Emissions

Responding to the incentives of the 1990 Clean Air Act's acid rain program, formerly high-emitting power plants in the Midwest and South have cut their emissions of sulfur dioxide (SO₂) by 30% more than the law requires. The "cap and trade" program, which EDF helped write, gives power plants a financial incentive to reduce their SO₂ emissions below the mandatory level. It is too early to say for certain that the SO₂ reductions are curbing acid rain, but in 1995 the U.S. Geological Survey recorded a noticeable decrease in rainfall acidity of the sort associated with SO₂ emissions.

EDF has urged the Environmental Protection Agency and states in the Eastern

United States to cut emissions of nitrogen oxides (NO_x), which likewise contribute to acid rain. NO_x travels long distances and also leads to the formation of urban smog, a major problem in cities in the Midwest and Northeast.

Several years ago, EDF proposed a region-wide cap on NO_x emissions, since the long-distance movement of NO_x makes state-by-state controls insufficient. States in the Northeast have adopted this approach and the EPA recently put forward a proposal to extend it to the entire Eastern United States.



Larry Ulrich/Tony Stone

An Adirondack mountain lake. Acid rain has wiped out entire fish populations and other aquatic life in nearly 100 lakes in New York's Adirondack mountains, which lack buffering minerals to neutralize rain that can be as acidic as lemon juice.

EDF Letter

Editor: Norma H. Watson
Assoc. Editor: Tim Connor
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National Headquarters

257 Park Avenue South
New York, NY 10010
212-505-2100

California Office

5655 College Avenue
Oakland, CA 94618
510-658-8008

Rocky Mountain Office

1405 Arapahoe Avenue
Boulder, CO 80302
303-440-4901

Texas Office

44 East Avenue
Austin, TX 78701
512-478-5161

Capital Office

1875 Connecticut Ave., NW
Washington, DC 20009
202-387-3500

Membership Line:

800-684-3322
Fax: 202-234-6049
Internet: members@edf.org

North Carolina EDF

2500 Blue Ridge Road
Raleigh, NC 27607
919-881-2601

Project Office

6 Faneuil Hall Marketplace
Boston, MA 02109
617-723-2996

Director's Message

Fairness on the Road

Car use not only causes air pollution and greenhouse gas emissions, but also leads to loss of open space and wildlife habitat through highway construction and urban sprawl. New approaches, such as tolls that vary by time of day and number of vehicle occupants, have shown promise in reducing congestion, pollution, and the pressure to build new roads. EDF has been in the forefront of advocating such efficient solutions.

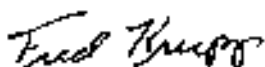


Fred Krupp

But transportation solutions must also be equitable. People without cars or with limited access to cars are disproportionately low-income people of color, low-income women, the elderly, and the disabled. Equitable transportation policies must insure that all people have access to jobs, food stores, health care, loved ones, churches, parks, and the other basic needs of life that many of us take for granted. The average American commutes more than 10 miles to work. Without a car, or fast transit service, a person's livelihood and independence are at risk.

EDF is committed to fairness on the road. Last year, we helped win a victory that will bring \$1 billion of additional bus service to Los Angeles, the city with the greatest unmet demand for public transportation. Now we are working with policy makers and the U.S. Department of Transportation to extend the lessons of the Los Angeles case to other cities.

A sustainable environment requires policies that are equitable and just and that affirm the environmental rights of the poor and people of color. The transportation planning process needs to include community and grassroots organizations, civil rights groups, and environmental justice advocates. New revenue from programs such as variable tolls on highways can support better transit services in disadvantaged communities, which in turn will bring expanded economic opportunity to those communities. The benefits of efficient and fair transportation will accrue to all citizens—and to the environment.



Texas Will Control Shrimp Farms

Pressure from EDF and a broad citizens' alliance led to the first-ever requirement that Texas shrimp farms must obtain state wastewater discharge permits. Shrimp farms in Texas have operated for nearly 20 years without important environmental safeguards, causing water pollution that threatens the state's coastal ecosystems and the clean waters of its shallow bays and lagoons.

Texas had actively promoted shrimp farming in the hope of creating jobs and diversifying the coastal economy. The state exempted shrimp farmers from water rights permit requirements and created regulations favoring the industry. But the number of jobs and the other benefits to coastal communities have proved small compared with those of other industries, and the environmental damage caused by the shrimp farms has spurred local opposition.

Huge volumes of polluted waste-water discharged by the farms threaten tourism, sport fishing, and other coastal activities. Wild shrimp fishers fear that exotic shrimp species and disease could spread from the farms and cause ecological and economic damage throughout the Gulf of Mexico.

EDF, led by fisheries biologist Pamela Baker and economist Dr. Peter M. Emerson, helped organize an alliance of local, regional, and national environmental groups, local governments, and sport and commercial fishers, to identify coastal communities' needs and strengthen regulation of shrimp farming.

New Discharge Permits Must Be Strengthened

EDF is now working to strengthen the newly required permits, which currently may encourage farms simply to dilute their pollutants rather than reduce them. EDF also aims to eliminate an exemption that has allowed one shrimp farm to be classified as a "research facility," even though it is a commercial operation that produces the same pollutants as other farms.

Shrimp farms can be designed to do less environmental harm. Recently, EDF and the Lower Laguna Madre Foundation secured three key protections in a permit



Raymond Gray

Pamela Baker examines the water quality of a Texas shrimp pond. High water quality is key to environmentally sound shrimp farming.

for a new shrimp farm. The farm must: (1) limit total discharges of water and waste material to coastal bays, (2) use best management practices to minimize pollution, and (3) allow citizens to monitor opera-

Huge volumes of polluted waste-water threaten tourism and coastal activities.

tions. EDF is working to have these measures added to all state permits.

To reduce the spread of exotic shrimp species and disease, EDF advocates classifying them as "pollutants," which must be regulated, and is working with the state to develop effective monitoring and quarantine procedures. EDF also urges Federal action to develop a comprehensive plan to manage shrimp viruses.

Concern is growing worldwide about the environmental and social problems caused by coastal shrimp farming. EDF's work in Texas can serve as a model for South Carolina, Florida, Hawaii, and for 50 countries around the world where coastal shrimp farming is virtually unregulated.

Become an Activist for the Oceans!

EDF members can help protect oceans and coastal ecosystems by joining EDF's Oceans Action Network. At no charge, ocean activists will receive e-mail messages from EDF when important decisions are about to take place in Congress, state legislatures, and regulatory agencies. To join, send your name, e-mail address, and the address where you vote to oceans@edf.org.

Using Phony Science to Discredit Global Warming

By EDF trustee Dr. John W. Firor, a physicist at the National Center for Atmospheric Research in Boulder, Colorado.

At the Kyoto climate change negotiations last December, thousands of national delegates, interest groups, observers, and press people were present, but only a dozen or so climate scientists. This statistic is not surprising; the issue being discussed in Kyoto was not the nature or present state of climate change science. Instead it was what we should do given the reasonable probability that, if allowed to continue unabated, the human-induced change in the climate will give our world a lot of trouble.



John Firor

That there is such a reasonable probability is widely accepted among national leaders worldwide, among climate experts worldwide, and clearly among the official delegations in Kyoto. This also is no surprise, since scientists have studied a human-induced climate change for a hundred years, and governments of major countries and the United Nations have reviewed the scientific progress repeatedly, generally concluding that the probability of trouble is high enough to warrant action.

In the United States, however, anyone observing the raucous, anti-Kyoto, nature of some statements appearing in pamphlets and the press might surmise that the issue is still at the starting gate.

Petition Appears in Thousands of Mailboxes

Much of this confusion seems to come from a group of people, many associated with the George C. Marshall Institute in Washington DC, who have set themselves the task of opposing any consideration of what to do about the probability of trouble. The group is somewhat mysterious, with unannounced funding sources, but the Marshall Institute is known for having published several anti-climate-change pamphlets since 1989. In addition, of course, many industrial and fossil fuel businesses openly oppose any cutbacks in fossil fuel use—cutbacks implicit in the Kyoto agreement.

Recently, the strangest and most convo-

luted message from this group appeared in tens or hundreds of thousands of mailboxes. The package consisted of an op-ed piece about climate change science published earlier in the *Wall Street Journal*, an unpublished article disguised as a reprint from a reputable scientific journal, a short note from a famous retired scientist, and a petition to be signed by the recipient asking the U.S. government to ignore Kyoto and “any other similar proposals.”

This is a strange set of documents—the article, for example, has numerous references, but it contains out-of-date calculations, mislabeled figures, misquoted numbers, and assertions shown to be wrong years ago. Everybody makes mistakes, of course, but scientists generally have their work reviewed by colleagues, a process that reduces the chance of serious errors. This material evidently did not have a critical outside look before it was distributed—almost every paragraph and graph is either a half truth or needs correction.

Here are examples: One graph in the article tries to show that something called flux correction, used to overcome a problem in climate model calculations, is much larger, and therefore more important, than is the effect of greenhouse gases. In fact, up-to-date models do very well with no flux correction at all, much less a large one, and these models continue to show troublesome climate heating if we continue to emit massive amounts of carbon dioxide.

Another graph has two problems. It purports to show a big difference between model projections of global surface climate heating from 1978 to 1988 and actual temperature change. But the projected heating shown is about twice as large as in the reference quoted, and it is compared, not with measurements of the surface temperature as projected by the model, but with measurements made higher in the atmosphere, measurements whose connection with surface temperature is not yet established.

Later, some publicity about the petition claimed that it had been signed by 15,000 scientists. No attempt was apparently made



Pete Carmichael

Global warming debunkers say increased carbon dioxide will be beneficial in stimulating plant growth, but in fact the effect of increased CO₂ in natural ecosystems such as this rainforest is highly uncertain. Most scientists believe it is unlikely to counteract the harmful effects of rapid climate change.

to verify the credentials of the signers, however, since the names of entertainers and fictional characters appear among the signatories.

Use of science in the public arena frequently requires clarifying and simplifying, but not untruths. These documents, sadly, only add to public confusion about the climate issues in front of governments today, and they do nothing to further public discussion about these issues.

Let's clear the air

You can help do that and much more through a Life Income gift to EDF. Together, we can create a wholesome environment for all living creatures.

Here's how: Join EDF's Charitable Gift Annuity program with a gift of \$10,000 or more. The benefits to you are a life income and a charitable deduction.

For information, contact Anne B. Doyle, Dir. of Planned Giving, EDF, 257 Park Avenue So., New York, NY 10010. (212) 505-2100.



EPA Backs the Public's Right to Know Chemical Risks

As part of an expanded "environmental right-to-know" program, the Environmental Protection Agency joined EDF's call for chemical companies to conduct basic health tests on about 3,000 widely used chemicals and make those data publicly available. EPA threatened to require such



EDF Executive Director Fred Krupp joined Vice President Al Gore in announcing the new testing initiative.

disclosures if the industry doesn't make them voluntarily.

EDF launched a campaign for this testing in July 1997, when it released an EDF study, *Toxic Ignorance*. The study documents that basic health-effects test data are missing from the public record for most chemicals produced in annual quantities of more than one million pounds.

"This EPA initiative is a big step toward effective public health protection," said EDF

attorney Karen Florini, a coauthor of *Toxic Ignorance*. Florini noted that, in recent Congressional testimony, Dr. Kenneth Olden, the director of the National Institute of Environmental Health Sciences, stated that "We are clearly in a state of toxic ignorance." Said Florini, "EPA is now saying that ignorance is no longer acceptable, beginning with chemicals that are used in large volumes."

Toxic Ignorance is available for \$10 from EDF Publications, c/o the Washington office. The full report is also available online at www.edf.org/more/10504.

Internet Scorecard Hits Home

A few days before EPA's announcement, EDF unveiled its Chemical Scorecard, on the Internet at www.scorecard.org. Visitors to the site can enter their zip code and see a map highlighting local pollution sources. The "fax local facilities" feature has spurred Scorecard visitors to begin dialogues with companies to ensure that adequate testing has been done to assure that their community is not at risk.

Chemical Week, a major industry magazine, featured the Scorecard in a cover story, entitled "Internet Bomb: Web Access Hits Home." Commenting on the website's impact on the industry, *Chemical Week's* editor wrote, "But fundamentally, the answer for industry has to be a renewed onslaught on emissions," suggesting that the Scorecard could help drive emissions to zero.

"EDF will post companies' responses, as long as they evaluate the threat posed by their emissions and support the response with data," said EDF toxicologist Dr. William Pease, who designed the Scorecard. "Generating a dialogue about chemical hazard is what Scorecard is all about."

UPS Reusable Shipping Envelope Cuts Waste

The shipping industry's first reusable express envelopes are now available for all United Parcel Service Next Day Air Letter shipments. This new two-use envelope, catalyzed by a joint project between the Alliance for Environmental Innovation and UPS, will cut express envelope packaging waste and pollution in half.

"Reusability is the fastest and most efficient path to reducing the environmental impacts of express shipping packaging," said Alliance project leader Elizabeth Sturcken. "UPS's leadership in introducing reusable packaging into the express shipping business is commendable and promises both environmental and customer benefits." The Alliance, a joint project of EDF and The Pew Charitable Trusts, continues to work with UPS on



T. Charles Erickson

The new UPS Next Day Air Letter can be identified by a green "Reusable" oval on the front.

improving environmental performance across all of the company's air express packaging.

The UPS reusable envelope is made of 80% post-consumer recycled fiber using a bleach-free process. It can be identified by a green "Reusable" oval on the front and by a second adhesive flap that folds down to reveal the package for its second use. The new envelope is available in both letter and legal sizes.

The Alliance study, *Preferred Packaging: Accelerating Environmental Leadership in the Overnight Shipping Industry* (\$10 prepaid), is available from EDF Publications, c/o the Washington office. The full report is also available online at www.edf.org/more/10503.

Celebrate Recycling and Win a Dream House!

Sunday, November 15 is the second annual America Recycles Day, when communities across the country will celebrate the



Sgt. Robert Portillo of Fort Hood, TX, won last year's Green Dream House, which is now being built for him.

environmental benefits of recycling and buying products made from recycled materials. To draw attention to the increasing practicality of using recycled materials, an entire house built primarily from such materials will be given away in a drawing that day. The "American Green Dream House," valued at \$200,000, will be built for the winner, with up to \$35,000 allotted for the purchase of land.

To enter the American Green Dream House contest, print your pledge to recycle and buy recycled along with your complete name and address on a 3" x 5" piece of scrap paper and mail it before November 15 to America Recycles Day Contest, c/o Remanufactured Industries Council International, P.O. Box 10807, Chantilly, VA 20153-0807.

For more information or to help with America Recycles Day events in your state, call your state coordinator. Coordinators' phone numbers are available from EDF member services at 1-800-684-3322 or go to www.edf.org/more/10502.

Attorney Jim Marston Keeps His Eyes on the Ball

Texas attorney Jim Marston was worried. With Austin temperatures frequently soaring above the 100-degree mark, many of his over-40 basketball buddies weren't showing up at the Marston backyard slab on Sunday afternoons as usual. "Where is everybody?" he wondered one blazing afternoon as he and two of his 10 regulars shot and sweated. "Y'all think we ought to switch to nine in the morning?"

Basketball is big for Marston, whether he's watching college hoops on TV, traveling to Fort Worth to see his beloved Texas Christian University Horned Frogs do battle, or playing the role of the proud dad as his 10-year-old daughter perfects her game in scrimmages at the Lady Longhorn summer camp. "Amanda is better with her left hand at 10 than I was at 15," says Marston, still ruddy-cheeked and boyish at 45.

"What's great about basketball," he adds, "is that it's a combination of planning and spontaneity. It's a little bit like politics or environmental work. You can plan, but when they start to double-team you, you've got to improvise."

And improvise he does. "Marston has the best public-policy instincts I've ever seen," Austin mayor Kirk Watson says. "Everyone relies on his talent to get good results and cut through any messes."

From Civil Rights to Environment

Marston's own basketball career ended with high school in Tulsa, but as political operative and environmental lawyer, he's a 20-year veteran. After graduating with honors from TCU in 1975, he was accepted as a Root-Tilden Scholar at New York University School of Law. "I thought I was going to be a civil rights litigator," he says. "I came of age, at least politically, during the Civil Rights era, and the folks I admired were the ones standing up for civil rights."

But an internship at the Natural Resources Defense Council and a roommate's interest in environmental law combined to shift the focus of Marston's career. "I decided the environment was an important area to work in," he recalls, "so I came back to Texas and worked on environmental law in attorney general John Hill's office."

As Assistant Attorney General for Environmental Protection, Marston worked primarily on toxic waste issues. "We had the



Comfortable in settings that range from down home to big city, Marston is able to work with diverse constituencies on the environmental issues he cares about.

first case in Texas in which there was a penalty of more than \$100,000," he recalls, "for a toxic waste site in West Dallas."

In 1980, Marston became a partner in the law firm of state Senator Lloyd Doggett, a former University of Texas student body president who represented an Austin district. (Doggett is now a U.S. Representative.) "Doggett was still a kid Senator in his 30's," Marston recalls, "but he was a hero to me. He was unafraid. He didn't want to be in office just to be part of the club. He passed consumer protection laws, sunset laws, campaign finance reform."

Marston was with Doggett's firm for nine years. When Doggett was elected to the Texas Supreme Court in 1988, Marston and his colleagues had to take stock of their own careers. "I wanted to go back and do environmental work," he recalls.

Opening EDF's Texas Office

It was Austin environmental attorney Rick Lowerre who asked Marston to work full-time on opening EDF's office in Austin. "Jim's ability to set up a truly professional office convinced a lot of funders to get involved," Lowerre says. "It was quite an accomplishment, because Texas wasn't all that interested in environmental issues." EDF's Texas effort was a success, Marston says, not only because a great many people

worked hard to make it happen, but because more and more Texans were becoming aware that the state had serious environmental problems.

Today, eight years after the office's opening, Marston works alongside fellow EDF attorney Melinda Taylor, economist Dr. Pete Emerson, and scientists Dr. Ramón Alvarez and Dr. Carlos Rincon. They are engaged on issues ranging from electric power plants to wildlife habitat to pollution prevention along the U.S.-Mexico border, where Marston travels frequently.

When he's not traveling for EDF, Marston enjoys traveling with his wife, Annette LoVoi, and daughter Amanda. LoVoi, who worked on insurance issues for former Texas Governor Ann Richards, is now executive director of the Texas Appleseed Foundation, an initiative of the Texas bar that deals with education, welfare, and

"Everyone relies on Marston's talent to get good results and cut through any messes."

immigration issues.

"Annette and I are different in many ways," Marston says. "She's introspective and intellectual; I'm more action-oriented. She likes ballet; I like basketball. The two things we share are politics and travel."

Marston and LoVoi went to China in 1985, Eastern Europe in 1992, and South Africa this summer. They took Amanda with them. "We went to South Africa because we thought it was a fascinating place with interesting politics," he says. "And we wanted our daughter to know more about apartheid and about students her own age who had been out in the streets saying *no* to apartheid."

Thinking back to the time Amanda was born reminds Marston of why he wanted to get involved in defending the environment. "Having Amanda made me think about what was important," he says. "I realized that the lessons I learned from my parents were not what they told me but what they did. I had a chance to do something that would show her what I thought was important. So I took a chance." EDF and the Texas environment are the better for it.

By Joe Holley

Easy Tips You Can Use to Make Your Office “Greener”

If you're one of the more than 50 million Americans who work in an office, it may surprise you to learn how great an impact we office workers have on the environment. Whether your office is large or small, whether it's in a large corporation or at a local community group, school, or church, there are plenty of ways you can help the environment in the choices you and your co-workers make every day.

Each day, office workers consume approximately 145 million gallons of fuel while commuting to work and generate some 1.4 million tons of heat-trapping carbon dioxide, the primary greenhouse gas. En route and during the day, we drink about 49 million cups of coffee—mostly from disposable cups—and either recycle or discard some 40 million newspapers. Once on the job, we produce more than our own weight in waste paper each year—about 360 pounds per person, nine million tons in all.

Today, U.S. businesses are generally polluting less and becoming more energy efficient. But there are still many simple steps that offices and workers can take to save energy, reduce waste, and even save money. All the following tips have worked out well at EDF's own offices.

Use Devices That Shut Themselves Off

Installing light switches with motion detectors can save a lot of electricity, since these devices shut off the lights automatically whenever a room is unoccupied. Similar savings come from copiers, computers, and other equipment that can be programmed to turn off after a period of inactivity. Look for the Environmental Protection Agency's "Energy Star" symbol as one indication of these power-saving features when buying new office equipment.

Here's an easy idea: Buy a reusable travel mug for your morning commute and to use at the office. You'll save natural resources, conserve energy and landfill space and, if you fill up at home, you'll save some money, too.

If you commute by train or subway, you'll find many stations now have designated bins for recycling newspapers. Use them.

If you drive, consider car pooling, riding a bike, or walking to work or to a nearby mass transit station. If your company permits it, telecommute. More than eight million Americans now telecommute at least one day a week. Telecommuting cuts down on pollution, saves energy, and may even



T. Charles Erickson

Computers are key to many “green” actions you can take—from telecommuting to using e-mail instead of paper and setting your machine to turn off after a period of inactivity.

increase staff productivity. In a two-year pilot project, Northern Telecom found that having 500 employees work at home three days a week saved about 200 gallons of gasoline annually per employee and increased productivity by an average of 30%.

Whether you work in the office or at home, reducing paper consumption and recycling used paper is a must. Where possible, use e-mail instead of paper memos. Make sure your business cards have your e-mail address on them, and ask for the e-mail addresses of others. Eliminate cover sheets when faxing. Post or circulate materials whenever possible, rather than making multiple copies. Program your printer and photocopier for two-sided printing. Publish or distribute documents electronically whenever possible. And, before you print a document, always use the Spell Check and Print Preview functions first!

In nearly every community, you can

recycle paper, steel, aluminum, glass, and some kinds of plastic. Set up convenient recycling areas in the office and post instructions for recycling each material. You can also reuse envelopes for interoffice mail and cut up used paper for note pads.

Buy Recycled!

If you're in charge of purchasing office supplies, choose stationery and other office supplies with the maximum post-consumer recycled content available, at least 20%. And buy the lightest-weight paper possible for the job.

Look for unbleached or “totally chlorine free” supplies and paper first. If you don't find these in stock, ask your suppliers how to order alternative products. Avoid “manila” folders and envelopes, which are actually bleached and then dyed to achieve their distinctive color; look for unbleached varieties instead. Whenever possible, avoid deep-hued and

Office workers produce more than their own weight in waste paper each year—about 350 pounds per person.

neon-colored papers, envelopes with plastic windows, and peel-and-stick labels, all of which can interfere with the recycling process.

Office managers can provide a supply of reusable coffee mugs, plates, and utensils, and encourage their use. When ordering take-out or having an event catered, select establishments that use reusable food service ware.

And of course, don't forget to turn off your lights, computer, and monitor before leaving for the day—and remember to take your travel mug home for tomorrow morning's commute!

By Cheryl Roberts

West Antarctic Ice Sheet Could Disintegrate

Continued from page 1.



Michael Oppenheimer

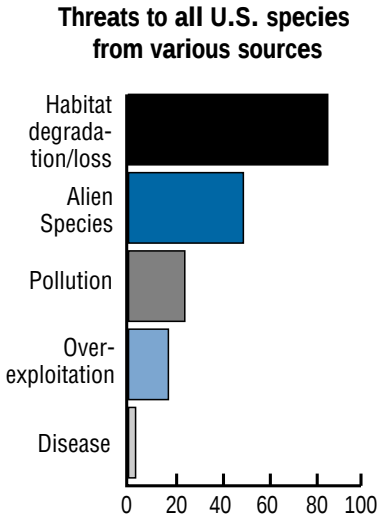
Oppenheimer examined other plausible scenarios, which he considered less likely: (1) continued melting of some of the floating ice shelves accompanied by an increase of the land-based ice due to additional precipitation; (2) very fast collapse of the West Antarctic Ice Sheet within as little as

250 years. He largely ruled out a catastrophic collapse occurring within less than a century.

“The good news is that collapse of the West Antarctic Ice Sheet is not imminent, but the bad news is that warming gases emitted during the next century could make its future collapse inevitable,” Oppenheimer said. “We cannot afford to take such a high-risk gamble. The potential for unprecedented loss of coastal regions should move policy makers to take swift and responsible action against global warming. Once the ice sheet begins to disintegrate, there will be no turning back.”

What Are the Greatest Threats to Endangered Wildlife?

Although scientists generally believe that habitat loss is the major threat to endangered species, few studies have ever quantified the actual threat from this and other suspected factors. Now, an article published in the August issue of the journal *BioScience* confirms that habitat loss is the greatest single threat to species, imperiling 85% of endangered species in the continental United States and Hawaii. The spread of non-native species ranks next, affecting nearly half of endangered species. Pollution, overexploitation, and disease are lesser threats (see graph), although, for aquatic species, pollution is second only to habitat loss as a cause of endangerment.



(Percentages total more than 100 because more than one source may be a threat.)

The article, "Quantifying Threats to Imperiled Species in the United States," represents the most comprehensive assessment of threats to U.S. endangered species. It ranks the threats to birds, mammals, reptiles, amphibians, fish, plants, and certain groups of invertebrates. Given the magnitude of harm caused by habitat destruction, it also examines in greater detail the extent of harm from specific activities, such as agriculture, commercial development, dams and other water projects, grazing, and outdoor recreation, including use of off-road vehi-

cles. The study was a collaborative effort by the Association for Biodiversity Information, EDF, The Nature Conservancy, and the Network of State Natural Heritage Programs.

EDF ecologist Dr. David S. Wilcove, lead author of the peer-reviewed article, noted that while habitat loss leads the list of threats, it is followed rather closely by harmful non-native species. "Controlling these alien plants and animals will require active management of the habitat, such as pulling up weeds and trapping out invasive exotic animals," he said.

"We must find a way to provide landowners with financial and regulatory incentives to undertake the proper management of the habitats on their property." EDF has encouraged such actions through programs such as Safe Harbor, in which more than one million acres of privately owned lands are being managed for the benefit of endangered species.



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Two whooping cranes. (Reprinted with permission from the cover of *BioScience*, Vol. 48 No. 8, August 1998.)

Plan Could Clean Up Factory Farms

Continued from page 1.

year 2005. EPA and the U.S. Department of Agriculture are now developing a control strategy.

EDF is working at both the national level and in several states to strengthen environmental standards for factory farms. EDF also urges a nationwide moratorium on new and expanding factory farms until effective Federal and state programs are in place to protect air and water quality and rural communities. EDF recommends the following steps to prevent today's problems from getting worse and improve conditions at new and existing factory farms:

- Enforce existing laws and regulations.
- Hold all animal owners accountable for any environmental violations.
- Clean up abandoned manure lagoons.
- Phase out use of manure sprayfields and anaerobic (oxygen-free) manure lagoons.
- Control odor and pollution by eliminating atmospheric emissions of ammonia and other offensive gases.
- End manure runoff and spills that contaminate groundwater and surface water.

"New growth of factory farms must be halted until an effective plan is developed to clean up the environmental and health problems created by thousands of existing ones," said EDF scientist Dr. Joseph Rudek. "Federal, state, and local governments should promptly reign in serious and long-standing problem, which is a growing threat to citizens and the environment."



Joseph Rudek

Address Corrections to:
P. O. Box 96969
Washington, D. C. 20090-6969
EDF Office Addresses on page 2.
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Texas Endangered Species Need More Protection, EDF Finds

EDF scientists are calling for economic incentives to protect the state's endangered wildlife, particularly its rare plants and wildflowers. In a recent report, EDF revealed that two-thirds of Texas plants and wildflowers are in decline, twice the national average, despite Federal protection under the Endangered Species Act.

"Only 7% of Texas's listed plants are showing stability or improvement, compared with the national average of 30%," said EDF attorney Melinda Taylor. "And data are simply unavailable for more than one-quarter of the listed plant species in Texas. Clearly, Federal listing alone is not protecting these vital species from eventual extinction."

"Key to the decline of these plants," said Taylor, "is that over 97% of the Texas land base

is private property. The law does not require private landowners to protect rare plants."

EDF is working to promote voluntary, private cooperation in protecting the state's endangered plants through landowner education and incentives such as tax credits, payments, and cost-sharing agreements.

EDF's report also shows that 35% of Texas's listed animal species are stable or recovering, but that 19%—including the golden-cheeked warbler, the black-capped vireo, the red-cockaded woodpecker, and the ocelot—are facing increased

threats. Safe Harbor, an incentives-based program first advocated by EDF, is being used by agencies to address threats on private land. It is part of the draft bill to reauthorize the Endangered Species Act.



© Middleton/Littschwager 1994

The ocelot is one of several species that are facing increased threats in Texas.

Factory Farming Threatens Colorado Environment

Recently, thousands of new factory-farm operations have sprung up in Colorado and other states that have little experience with factory farming and few or no environmental controls. Notorious for their threats to the environment and human health, factory farms—especially massive hog operations which may produce more than two trillion pounds of animal waste each year—have already come under sharp scrutiny in North Carolina, Maryland, and other states. Groundwater contamination, fish kills, toxic shellfish harvests, and offensive air pollution are just a few of the issues that states and the courts are trying to address.

In Colorado, EDF has helped forge a coalition of environmental, family farm, and sustainable agriculture groups to stem the tide toward factory farming, which has also prompted national efforts in Congress and proposals from the Environmental Protec-

tion Agency (See related story, page 1). EDF considers EPA's proposed national standards as only a baseline and is advocating stricter state policies in the form of a ballot initiative called, "Protecting Colorado's Water and Economy."

EDF is gathering signatures for the initiative, which calls for regulations to protect water and air quality, more corporate responsibility for environmental and health damages, and better waste management systems. If EDF and its allies can collect enough signatures to qualify this issue for the ballot, Coloradans will have a chance to vote on it this November.

EDF MEMBER ACTION ALERT

EDF members can help support the initiative campaign by calling EDF's Rocky Mountain office at (303) 440-4901 or by sending e-mail to co_action@edf.org.

EDF Coalition Fights for Colorado Wilderness

Together with the League of Conservation Voters and the Wilderness Society, EDF is helping to form a coalition calling for the wilderness designation of six Colorado sites managed by the Federal Bureau of Land Management (BLM). A joint member action alert



John Fielder

Conservationists are urging BLM to designate the scenic Castle Peak roadless area as wilderness.

garnered unprecedented support to protect nearly 200,000 acres in Bangs Canyon, Castle Peak, Pinyon Ridge, South Shale Ridge, Vermillion Basin, and Yampa River Valley.

The effort produced more than 160 letters of support to Colorado Senator Wayne Allard, who held a hearing in Grand Junction in June to review redesignation of the BLM lands. About 100 representatives from timber, mining, and off-road vehicle special interests voiced their opposition at the hearing, but they were outnumbered three-to-one by wilderness supporters.

"These areas protect endangered plants and animals, ancient petroglyphs, colorful escarpments, pristine forests and rivers, and incomparable recreation opportunities," said Scott Ingvoldstad, EDF outreach coordinator in the Rocky Mountain office. "A statewide poll commissioned by EDF and the League of Conservation Voters last fall found that four out of five Coloradans support the wilderness designation, yet these pristine areas remain unprotected."

EDF members can voice their support by joining the Colorado Action Network at www.edf.org/rockymtn.

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National Headquarters

257 Park Avenue South
New York, NY 10010
212-505-2100

California Office

5655 College Avenue
Oakland, CA 94618
510-658-8008

Capital Office

1875 Connecticut Ave., NW
Washington, DC 20009
202-387-3500

Membership Line:

800-684-3322
Fax: 202-234-6049
Internet: members@edf.org

Rocky Mountain Office

1405 Arapahoe Avenue
Boulder, CO 80302
303-440-4901

North Carolina EDF

2500 Blue Ridge Road
Raleigh, NC 27607
919-881-2601

Texas Office

44 East Avenue
Austin, TX 78701
512-478-5161

Project Office

6 Faneuil Hall Marketplace
Boston, MA 02109
617-723-2996

Partnership of EDF, General Motors, and Community is Promoting Sustainable Manufacturing

Working with an alliance of industry, environmental, neighborhood, and government representatives, EDF has developed a "how to" plan for achieving environmentally better vehicle manufacturing and healthier communities. EDF's Pollution Prevention Alliance, General Motors, and other partner organizations have outlined a model Alternative Regulatory System for GM based on three fundamental principles: better environmental performance, increased opera-

tional flexibility, and more public involvement.

In the alternative regulatory model, environmental and environmental justice groups and plant neighbors are part of the process from the start. Dayton, Ohio, area groups such as the Edgemont Neighborhood Coalition and the Citizens Policy Center, along with EDF's Alliance staff and



General Motors

GM has made efforts to reduce waste and introduce pollution prevention technologies at its Orion, MI, assembly plant.

the Ecology Center of Ann Arbor, all took part in efforts to address pollution threats from future GM operations.

Integrating workers, product designers, and process engineers into the planning process insures better environmental per-

formance and operational flexibility.

"The Alternative Regulatory System should not only improve the environment and the manufacturing process but also democratize the way these decisions are made," said Kevin Mills, director of the Pollution Prevention Alliance, which now

represents more than 200 non-profit groups throughout the Midwest. "Environment and community welfare can no longer be treated as problems at the margin of a company's attention, but must become core business challenges, part of the corporate mission."

Illinois Court Upholds 1997 Victory Over Oil Pipeline

Illinois communities and EDF's Pollution Prevention Alliance hailed a second court victory against construction of a potentially harmful, and arguably unnecessary, crude-oil pipeline that would have stretched from Western Canada to Chicago-area refineries. In a unanimous decision, the Illinois Court of Appeals upheld the 1997 Illinois Commerce Commission decision denying eminent domain for the pipeline.

"The pipeline project posed several dangers, including water contamination, forest loss, soil degradation, methane generation, fish kills, and explosions," reported EDF engineer Lois Epstein, who was an expert witness in the Illinois case. "But what turned the case against the pipeline company was the lack of public need for additional lines to the Chicago area, not the potential for environmental damage," Epstein explained.

"Federal pipeline regulations are inadequate, yet states are not allowed to exceed Federal safety requirements," Epstein added. "The current system is biased toward pipeline interests and against concerned communities. Any meaningful pipeline reform will require a broad base of support and very hard work."

To protect communities nationwide from similar, ill-planned pipelines, EDF has joined Friends of the Earth, labor unions, local governments, grassroots organizations, industry groups, and others to form the National Pipeline Reform Coalition.

Wisconsin Holds the Line On Permits for New Mines

After withdrawing their first mining proposal, the Nicolet Minerals Company (formerly Crandon Mining) is again seeking state approval for a controversial copper and zinc mine in northern Wisconsin. Given concerns about this kind of mining, and this mine in particular, a broad coalition of groups, including EDF, joined together to oppose this project.



Menominee Indian Tribe of Wisconsin

Waste from the proposed mine threatened the Wolf River, one of the last wild rivers in the Midwest.

In response to Wisconsin members' concerns, EDF investigated the Nicolet mine and submitted comments on the potential impacts to the Wisconsin Department of

Natural Resources. Citing concerns about groundwater and lake contamination, Governor Tommy Thompson signed legislation on Earth Day that requires mining companies to prove there will be only minimal environmental impact before new operations are approved, a major obstacle to Nicolet's permit for its potentially hazardous mine.

Copper compounds leach from tailings ponds and are persistent, acutely toxic substances that damage human health and kill natural algae that are crucial to aquatic ecosystems. Past discharges into lakes from copper mines have even created sediment strata with mineable quantities of copper.

"The Nicolet mine would create a tailings pond more than a half square mile in size and would have major impacts on distant ecosystems," said EDF Great Lakes specialist Bill Davis. "The company has proposed to pipe waste to the Wisconsin River, 38 miles away, and even to discharge directly into the pristine Wolf River, which empties into the Great Lakes. If these types of mines are allowed to continue business as usual, it would be a major detriment to the future health of the Great Lakes."

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512-478-5161

Capital Office

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Washington, DC 20009
202-387-3500

Membership Line:

800-684-3322
Fax: 202-234-6049
Internet: members@edf.org

North Carolina EDF

2500 Blue Ridge Road
Raleigh, NC 27607
919-881-2601

Project Office

6 Faneuil Hall Marketplace
Boston, MA 02109
617-723-2996

EDF Urges North Carolina to Get Tougher on Hog Farms

North Carolina's hog farm industry is second only to Iowa's, and unlike farms in the Hawkeye State, most North Carolina hog farms are concentrated in one area—in a handful of counties on the state's coastal plain. The combination of high water table, heavy rains, and an abundance of nutrient-sensitive wetlands and rivers makes the area especially vulnerable to hog farm runoff. (See related story, page 1.)

In August 1997, at the urging of EDF and other environmental groups, North Carolina's General Assembly imposed an 18-month moratorium on new hog farms and ordered the state Department of Agriculture to draw up a plan to phase out the current use of primitive methods of disposing of manure in open-air lagoons and sprayfields.

Unfortunately, the department's proposed plan does not address key problems. "The

proposal talks about the cumbersome permitting process, but fails to address lagoons and sprayfields," said North Carolina EDF Director Jane Preyer. "The reality is that the moratorium is on the verge of being lifted with no meaningful solutions in place."

EDF is developing its own lagoon phase-out proposal and is asking the state to examine alternative technologies, such as biogas recovery and aerobic treatment systems, which show promise to help control the waste produced by the state's 10 to 13 million hogs. "No one specific system solves all the problems yet," said Preyer, "but there are some promising technologies out there."

EDF is urging the state to extend its moratorium and to create an effective phase-out plan to help existing farms convert to safer waste disposal techniques before permitting future expansion of the industry.

Conserving Essential Habitat Areas for Carolina Fisheries

EDF's long effort to shore up fishery management programs in the Southeast is paying off. In the 1996 reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act, EDF pushed for and won a provision requiring regional fishery management councils to designate "Essential Fish Habitat" (EFH), areas that provide essential habitat for all life stages of important commercial fish species, or species complexes of closely related fishes.

The councils must designate EFH for commercial fish species by October. EDF's

North Carolina staff is urging the Mid-Atlantic and South-Atlantic councils to extend EFH designations beyond the geographic boundaries of their jurisdictions. Meanwhile, the EFH provision has come under fire from home-builders' associations and other groups that want to develop shoreline areas.

EDF MEMBER ACTION ALERT

EDF members can support the Magnuson Act's Essential Fish Habitat provision in letters to state and national legislators and at public hearings and council meetings. Call 919-881-2601 for information on dates and times.

EDF is also urging North Carolina's fisheries, water quality, and coastal management divisions to coordinate their efforts under the state's year-old Fisheries Reform Act. Similar to the Federal fishery management process, this act requires the state Division of Marine Fisheries to develop Coastal Habitat Protection Plans. These plans will provide protection for coastal fish habitat and ensure that the actions of the three divisions are consistent with one another.



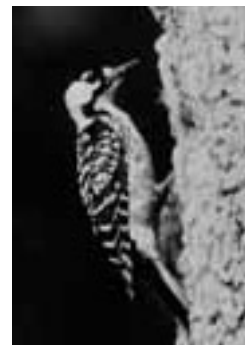
Biologist Doug Rader leads EDF efforts to protect Southeastern coastal and ocean areas.

L. Rader

Red-Cockaded Woodpeckers Get Statewide Safe Harbor in South Carolina Program

The first state-wide "safe harbor" habitat protection program is underway in South Carolina's longleaf pine woods.

More than seventy million acres of longleaf pine forest once covered the Southeast. Today, following intensive forestry and development, only three million acres remain. South Carolina is home to 369,000 acres, much of it on private lands.



A. Morris/VIREO

Red-cockaded woodpecker on a longleaf pine tree.

Among the many species dependent upon this habitat is the endangered red-cockaded woodpecker, which requires mature pine woods occasionally swept by fire that reduces the understory. EDF, which developed the safe harbor idea, worked closely to launch the new program with the South Carolina Red-Cockaded Woodpecker Conservation Coalition; state officials; landowners; forest-products company Westvaco; forest industry representatives; and the U.S. Fish and Wildlife Service. So far, 15 landowners—representing 84,000 acres and 150 woodpecker colonies—have committed to sign onto the agreement. We believe their success will encourage other landowners to sign up.

Safe harbor agreements encourage landowners to manage habitats to benefit endangered species while protecting the owners from incurring added legal liability for endangered species that move onto their land. EDF is monitoring the South Carolina agreement and working to secure financial incentives to assist landowners with the cost of protecting large tracts of mature timber and administering prescribed burns.

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EDF Works with Church Groups to Promote Green Power

Now that all California residents can choose how their electricity is produced, the Episcopal Diocese of California's Commission for the Environment hopes to purchase its own wind turbine to meet the electricity needs of parish facilities, clergy, and parishioners. By reducing demand for traditional, environmentally harmful ways of generating electricity, such as burning fossil fuels, the Commission hopes to set an example of how human needs can be balanced with those of nature.



Wind power emits no pollution and has little impact on the land.

Dubbing their efforts the "Episcopal Power and Light" program, advocates such as San Francisco's Rev. Sally Bingham, an EDF trustee, are working with more than 80 parishes to recruit at least 1,000 "green energy" customers before October 17, when the Diocese will vote to endorse the purchase of a 750-kilowatt windmill. Green Mountain Energy Resources, selected by the Diocese

Commission, will absorb the windmill construction cost if 3,000 green energy customers can be recruited within a year.

"We believe that choosing renewable energy sources is an appropriate and moral response to the crisis of global warming that now confronts humanity," said Rev. Bingham, who also has helped forge the Interfaith Taskforce on Renewable Energy, a coalition of Jewish, Lutheran, Methodist, and other religious groups. "EDF has been vital to our efforts,

providing technical assistance on global warming, coal mining, and the environmental impacts of electricity use," she said.

EDF MEMBER ACTION ALERT

EDF members wishing more information about the Episcopal Power and Light Program can contact Rev. Sally Bingham by e-mail, at EcoSal@aol.com.

Critics Seek Major Redesign Of Bay-Delta Restoration Plan

In response to criticism by EDF and other environmentalists, CALFED, a state-Federal partnership, has agreed to redesign its draft plan for restoring the San Francisco Bay-Delta ecosystem and improving water management. The CALFED proposal was issued for public review in March.

EDF comments charge that CALFED's proposals are too dependent on building water projects—dams and canals—that caused many of the environmental problems. For example, the proposal:

- assumes the severely-depleted Bay-Delta system can supply "new" water for more consumption as well as for restoration;
- fails to recognize the value of price and market incentives in efficient water use;
- fails to clarify who will pay for the new dams and canals;

- fails to emphasize that a restored ecosystem is critical to secure the benefits of better water management; and
- does not ensure that ecosystem health will be restored and sustained over time.

CALFED has made significant progress in launching the ecosystem restoration program required to achieve long-term stability for California's water resources. Most evident are the more than \$150 million in new ecosystem funds awarded in the past several years through CALFED's "Ecosystem Roundtable" process. EDF staff serve as appointed members on the Roundtable's policy and scientific advisory panels.

EDF welcomed CALFED's decision to issue a revised draft for public review late this year. EDF will work to ensure that the final plan remedies these problems.

Voluntary Trading Plan Will Reduce Calif. Farm Runoff

With support from the U.S. Environmental Protection Agency, California farmers and EDF scientists have created an innovative program to reduce polluted agricultural runoff. Following the recommendations of EDF's 1994 report, *Plowing New Ground*, an independent regional farm group is implementing a new program to reduce polluted runoff from farms by 15% through a tradable discharge allocation program. It promises to cut pollution from a key source that existing regulatory programs have failed to address.

The California program is the first agricultural trading program to require that specific pollution limits be met. Its focus is selenium, a toxic element that is leached from the soil by irrigation water and discharged into one of California's most degraded rivers. Selenium levels exceed health standards in the San Joaquin Valley and other California areas and have severely damaged fish and wildlife.

"By focusing on selenium, farmers will also dramatically reduce the amounts of other toxins now polluting the river," said Dr. Terry F. Young, EDF scientist and advisor to the farm group. "The associated cut



T. Charles Erickson

EDF's Terry Young is helping California farmers use economic incentives to reduce polluted runoff.

in irrigation will ultimately improve conditions throughout the region. These farmers are proving that economic incentives and partnership can successfully go where no regulation has gone before."

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