e
ENVIRONMENTAL DEFENSE
finding the ways that work

Solutions

Vol. 36, No. 6 November-December 2005

The House has passed a bill that kills core protections for endangered species.

Urge the Senate to preserve a world still alive with the haunting cries of the whooping crane.

In Katrina's wake

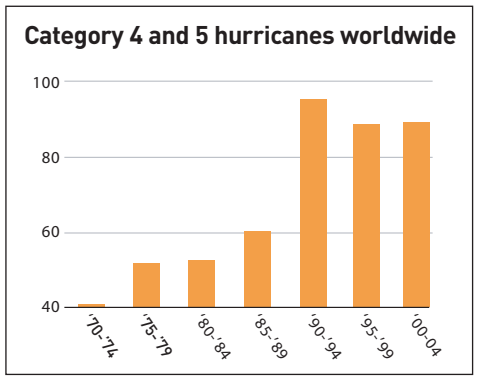
WE REDOUBLE EFFORTS TO RESTORE COASTAL WETLANDS, THE FIRST LINE OF DEFENSE AGAINST HURRICANES

As the floodwaters recede from New Orleans and lives are mended, the focus turns to the mammoth task of rebuilding the Gulf Coast. The heart-rending tragedy of Hurricane Katrina has galvanized the nation to take steps toward averting future disasters.

As a first priority, the nation must improve levees and other flood control infrastructure protecting New Orleans. It is equally important, however, that we accelerate efforts to restore the coastal wetlands that serve as buffers against storms.

More than a million acres of Louisiana wetlands have disappeared since 1930—an area the size of Rhode Island—and another 400,000 acres will vanish by 2050 if nothing is done. "New Orleans will not be safe from the next Katrina until we begin to restore this natural hurricane buffer," says our general counsel Jim Tripp, who has worked on this issue for 30 years *(see In Depth, p. 4)*. Scientists estimate 2.7 linear miles of wetlands can soak up about one foot of storm surge.

A member of a state commission on coastal restoration, Tripp helped design a



Georgia Institute of Technology

$14 billion plan, now before Congress, to restore Louisiana's wetlands. This represents the most ambitious ecological restoration effort in the nation's history.

The wetlands are disappearing primarily because levees built to control flooding funnel the fresh water and sediment of the Mississippi River into the Gulf instead of the wetlands. The restoration plan, supported by both the oil industry and environmental groups, calls for reconnecting the river to its historic delta.

Environmental Defense has teamed up with the Louisiana Hurricane Center

Please see Cover Story, p. 2

David J. Phillip/AP Photo

Will we let this happen again?

Who will lead us out of oil dependence?

With oil markets reeling from the one-two punch of Katrina and Rita, the dangers of America's oil addiction are once again exposed. Politicians have long known the risks but failed to act. One week before Katrina hit, the administration proposed standards for SUVs, pickups and minivans that would save the nation less than a month's worth of gasoline over 20 years, an embarrassingly inadequate response.

Now that America is paying attention, our leaders have an unparalleled opportunity for decisive action to reduce oil use. The best solution would be a mandatory cap on global warming gases. That would reduce oil consumption across the economy, including vehicles. Cars are our main source of oil dependence and a growing source of global warming pollution.

President Bush has called on Americans to conserve gas, but the

1 mile per gallon could save a million barrels a day

administration also needs to act. An Environmental Defense analysis shows that using off-the-shelf technologies to increase fuel economy by 1 mpg each year—twice what the administration proposed—would benefit the economy by reducing fuel costs and global warming pollution. If extended to cars and large trucks like the Ford F-250, these standards would save one million barrels of oil a day by 2015, two-thirds of Gulf of Mexico production.

Most Americans support action on fuel efficiency, but as the post-hurricane rhetoric cools, our leaders may once again cave to industry pressure. We won't reduce our oil dependence by opening up our coasts and great wild places like the Arctic National Wildlife Refuge to drilling. That would accomplish little except to pass on to our children a tragically diminished world.

Fred Krupp

SPEAK OUT!
Please ask the administration to improve fuel-efficiency standards before public comment closes November 22. Send a fax to the Department of Transportation at 202-493-2251 or visit www.environmentaldefense.org/action.

After Katrina, a nation reconsiders its priorities

Continued from p. 1

to produce an open letter from the scientific community to Congress and has been meeting with legislators and administration officials to ensure that the rebuilding package include adequate funds for coastal restoration. "We need to take this on with a 'man on the moon' urgency," says Tripp.

Some politicians have mistakenly attributed Katrina's devastation to the lack of funding for the Army Corps of Engineers. "The answer is not more money, but better priorities," says our attorney Tim Searchinger. "At the same time that the Corps allocated scant resources to New Orleans levees, it devoted millions to draining wetlands to grow more corn and soybeans."

Last year, the Corps spent $13 million dredging the seldom-used Mississippi River-Gulf Outlet. The 500-foot-wide channel was supposed to provide a shortcut for freighters bound for New Orleans from the Gulf, but never caught on. Scientists now believe it served as an express lane for the storm surge that breached the levees.

Global warming magnifies threats to low-lying coastal areas. Recent studies in *Nature* and *Science* found that the frequency of category 4 and 5 hurricanes has doubled over the past few decades. Since warm oceans power hurricanes, anything that increases water temperature could intensify their fury.

"From the tragedy of Hurricane Katrina comes an opportunity to rethink our nation's coastal management policies," says Tripp, "starting with the importance of wetlands."

Jim Watson/AFP/Getty Images

Hurricane Katrina caused 40 oil spills, releasing two-thirds as much oil as the Exxon Valdez.

e ENVIRONMENTAL DEFENSE finding the ways that work **Solutions**

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MAILBAG

Editor:
I am so happy to hear about the new policy you developed with Compass to curb the overuse of medically important antibiotics. I am a former teacher and I know how vulnerable the children who eat school lunches are. Sometimes I feel hopeless about improving our world, but actions like yours bring me back to the real world, where we can all make a difference.

Agatha Catharine Fletcher
Seattle, WA

Corbis

Editor:
Environmental Defense has, without a doubt, been the most effective environmental organization in working with business and government toward solutions. I remember that when the Mississippi River repeatedly flooded in the Midwest, you persuaded the government to reimburse flood-insured farmers and businesses only on condition that they rebuild out of the floodplain, an excellent solution.

I live on a barrier island. We have flood insurance, but if we have the misfortune of being targeted by a killer storm, I feel we should only be reimbursed once, with the proviso that we move off the flood plain to rebuild. Eventually, our island could be managed as a state park.

Robin Nadeau
St. Augustine Beach, FL

WE WANT TO HEAR FROM YOU!
See contact information at left.

Washington watch

Congress takes aim at species act

In an unprecedented move, Congress is poised to dismantle the Endangered Species Act, undermining 30 years of progress in bringing once-rare animals like the bald eagle and grey wolf back from the brink of extinction. "This is the most wide-ranging attack on the Act I have seen," says Michael Bean, chair of our wildlife program.

The House voted 229 to 193 to pass the deceptively named Endangered and Threatened Species Recovery Act of 2005, sponsored by Representative Richard Pombo (R-CA). The Senate could vote on a similar measure in coming months.

The bill repeals basic habitat safeguards. It would saddle an already overworked Fish and Wildlife Service with impossible deadlines, bury the recovery of endangered species in red tape and starve it of the resources it needs to succeed. "This bill will make extinction more likely for many species," says our ecologist Dr. Tim Male.

Most disturbing, it would force the government to pay developers for not building, based on hypothetical profits. A developer could propose a casino on endangered species habitat and, without any required permits, seek compensation for lost potential income.

Environmental Defense is working with a broad coalition of allies, including recreation and religious organizations, to help prevent this bill from passing in the Senate. To refute claims that the Endangered Species Act is ineffective, we delivered to Congress a series of success stories on species like the whooping crane, whose population has increased tenfold since the Act was passed. Our peer-reviewed analysis shows that more than half of the species listed before 2000 are improving.

"Do lawmakers really want to leave as their legacy a world without the whooping crane?" asks Bean. "Instead of dismantling the nation's most powerful conservation tool, Congress should work with citizens and states to protect our most threatened wildlife."

WHAT YOU CAN DO: Call on senators to stand up to this attack on the nation's endangered species law. Go to www.environmentaldefense.org/action.

Lightwave/Animals Animals

A whooping crane and fledgling. Cranes bond for life; our commitment to their survival should be as lasting.

Wake-up call on America's coastal wetlands

James Blair/Getty Images

Not just a pretty place: More than 30,000 fishing jobs depend on healthy Mississippi Delta wetlands.

In 1993, the Army Corps of Engineers began a project to restore coastal wetlands south of Morgan City, LA. The Corps deployed a dredging barge—named Katrina, ironically—to build up wetlands that had been wiped out by an environmentally disastrous project to maintain a shipping channel in the Atchafalaya River.

In the aftermath of Hurricane Katrina, the Katrina's mission seems prescient. With heartbreaking clarity, the hurricane's devastation of the Gulf Coast highlights the importance of coastal wetlands.

Over a period of 7,000 years, the Mississippi River created a huge delta that sheltered the region around New Orleans from storms. But the delta has been steadily shrinking since 1930, due to a complex of manmade impacts *(see box, p. 5)*. The delta loses 25 square miles of wetlands and barrier islands each year—equivalent to a football field sinking every 30 minutes. In some places, the coastline has receded 15 miles. Destruction of the Mississippi Delta is "by far the largest and most tragic loss of ecological resources in the country," says our general counsel James Tripp, who has been instrumental in bringing this issue before Congress. Louisiana's wetlands represent 30% of the coastal wetlands in the lower 48 states, but 90% of the coastal wetland loss.

While the shrinking Mississippi Delta strikes every bayou-loving Louisianan in the heart, it also hits nearly every American in the wallet. These are the most productive wetlands in America. The Delta provides almost a third of the nation's fish and shellfish harvest, and is home to hundreds of species, including 40% of America's migratory waterfowl.

The wetlands also harbor the nation's largest concentration of oil and gas infrastructure, including the only deep-water terminal for supertankers. As the Delta recedes, pipelines and oil rigs become more exposed to storms, threatening production as well as the price and distribution of oil and gas nationwide. Hurricane Katrina caused 40 oil spills in Louisiana—releasing two-thirds as much oil as the Exxon Valdez.

"Nature, to be commanded, must be obeyed," warned English philosopher Francis Bacon in 1620. In the Mississippi Delta, we've spent a century defying that wisdom. Despite warnings of environmental damage, politicians have gambled with the region's future by relaxing land-use laws and encouraging development in fragile wetlands. Cities such as Biloxi and Gulfport, MS, filled their salt marshes with casino barges that in August lay sprawled across city streets like beached whales.

LESSONS LEARNED

While the Mississippi Delta is in many ways unique, the mistakes made there hold lessons for other vulnerable areas around the country. The Corps has manipulated most of the 2,300 miles of the Mississippi for decades, erecting levees, draining side channels and destroying marshes to promote navigation and control flooding.

Congress is partly to blame. It has

Coastal myopia

In 2003, the Army Corps of Engineers approved 3,400 permits to destroy Florida wetlands. Only one was rejected.

Since 1990, the state has lost 84,000 acres of wetlands to development, making residents more vulnerable to hurricanes that perennially lash its coasts.

Corbis

'No vacancy' for nature in Florida.

The wetlands have been mostly supplanted by subdivisions and strip malls. The federal government has fueled the coastal craze by providing flood insurance and paying for the rebuilding of homes, bridges and roads in high-risk areas. With more than half of Americans now living along the coast—and the numbers growing fast—one can't help but ask: Are we courting disaster?

a history of earmarking money to pork-barrel projects such as the proposed $3.6 billion for lock and dam expansion for the Illinois and Mississippi rivers. After we revealed that the Corps had cooked the books to justify the expansion, the National Academy of Sciences reviewed the project and deemed it unnecessary.

Under the Corps' current decision-making process, a "flood control" project to drain wetlands for a shopping mall competes on equal footing with a project to protect New Orleans from hurricanes. "The government should steer funds toward projects needed to protect people in harm's way rather than to grow surplus crops or drain wetlands for development," says our attorney Tim Searchinger, who exposed Corps abuses.

As a practical matter, nobody but the Corps has the expertise to restore the Mississippi Delta to health. Thus, Environmental Defense is working closely with Congress to ensure that the best available science is used to guide restoration work. We're also backing a bill to require that projects be peer-reviewed by independent scientists and economists.

"We can restore the Delta only by working with nature, not against her," says Tripp. "We should not countenance another acre of wetlands loss."

That sinking feeling: Louisiana's vanishing wetlands

Nature has a habit of mocking our efforts to tame it. This is as true in the Mississippi Delta as it is in the American West, where fire suppression has provided fuel for wildfires. In a natural state, the mouth of the Mississippi River would shift over time, constantly gaining and losing wetlands. Today, the Mississippi Delta is the most engineered and industrialized delta in the world. Tinkering with the river to improve navigation and flood control has exacted a high cost, weakening the natural defenses that might have spared New Orleans Katrina's fury.

Dams and levees Since 1930, 29 dams and a network of levees have been built along the Mississippi, starving marshes south of New Orleans of fresh water and sediment. Spring floods that once replenished the wetlands are funneled into the deep waters of the Gulf.

Barge canals Thousands of miles of shipping canals and pipeline rights-of-way dredged by oil and gas companies have sliced the wetlands into a jigsaw puzzle, allowing lethal doses of salt water to infiltrate freshwater marshes.

Erosion In the bayou, cypress forests have been extensively harvested for garden mulch. The trees had stabilized land and reduced erosion.

Oil and gas With more than 8,000 active wells in coastal Louisiana, the extraction of oil and gas has fouled wetlands and contributed to rapid sinking of the land, called subsidence. The Mississippi Delta is subsiding faster than any other place in the U.S.

Bring Yosemite's twin valley back to the future

Less than two months after our *Paradise Regained* report was released last year, California Governor Arnold Schwarzenegger called for its review and the appraisal of other studies examining the possible draining and restoration of Hetch Hetchy Valley in Yosemite National Park. State officials held a public workshop in July that highlighted the water and power alternatives we proposed. The state's final report, expected late this year, could spur a comprehensive feasibility study involving all communities that rely on Tuolumne River water and power, as well as the broader public.

Meanwhile we've created a provocative video on the history of Hetch Hetchy. Twice Teddy Roosevelt's administration blocked the idea of damming the spectacular valley as a reservoir. But national sympathies changed after the 1906 San Francisco earthquake. The DVD explains how better solutions today can cost-effectively replace the water and power supplied by the dam. It includes a breathtaking animation of the water draining from the valley, which then comes back to life.

A national treasure could now be restored.

"Clean water and electricity are important, especially in California, but they can be provided in other ways," says our water analyst Spreck Rosekrans. "A restored Hetch Hetchy Valley would have immeasurable value for people around the world."

Get your copy: The Hetch Hetchy DVD is available for $10 by calling 1-800-387-0034, Ext. 3353.

Photo Construction by Greg Richardson/ Level Par

A National Park Service study found that a restored Hetch Hetchy Valley would rebound within 50 years.

Gibson Stock Photography

Our project has boosted the fortunes of the traditional fishing communities of New England.

Cape Cod fishermen try working as a community

"One big saltwater taffy shop." That, says our marine conservation advocate Sally McGee, was where Cape Cod fishing communities were headed, as cod populations fell below 20% of historic levels and federal regulators kept shrinking the number of days fishermen could fish. "I've been fishing for over three decades," said Chatham hook fisherman Peter Taylor, "and these past winters have been the worst I've ever experienced. It's time to protect these cod so I can get back to making a decent living."

Now these fishermen have a chance. With help from McGee, who sits on the New England Fishery Management Council, they've formed a cooperative and persuaded regulators to let them try something new. In exchange for accepting a fixed cap on their harvest—a percent of the total sustainable catch—the co-op gets to decide for themselves how many days to fish, how much gear to set and how many fish to catch each day. The better care they take of the fishery, the more valuable their share becomes.

Because hook-and-line is the most environmentally friendly way to fish here, we want to help the co-op expand. So we're working with retailers who may pay a 30% premium for fresh "line-caught Chatham Cod." Now herring, red crab, scallop and other cod fishermen in the Northeast want our help establishing their own cooperatives.

"It's time to protect the cod so I can make a decent living."

Is there a healthier future for fish farming?

Will the oceans go the way of the American prairie, transformed into industrial-scale farms that fatten fish like hogs? Already, aquaculture provides 40% of the fish and 60% of the salmon consumed by people.

Until now, most marine farming has been in coastal waters. A new administration proposal, however, calls for leasing offshore waters and increasing domestic aquaculture fivefold. A Senate bill aims to create a $5 billion open ocean aquaculture industry—but doesn't protect ecosystems, wild fish or traditional fishing.

Fortunately, Environmental Defense has been leading efforts to address aquaculture's environmental challenges. Our scientist Dr. Becky Goldburg serves on a USDA task force drafting the first U.S. organic standards for farmed seafood, and has now joined a task force developing national standards for ocean farming. We also are working toward partnerships with major seafood suppliers and retailers on purchasing standards for farmed fish.

Here are four key strategies we are exploring to improve salmon farming:

Jeff Greenberg/Photo Edit

Large-scale aquaculture could displace traditional fishermen.

1 THE PROBLEM: Farming depletes the food supply of wild fish. Catching small forage fish to feed farm-raised salmon can deprive wild fish of a critical food supply. It's also inefficient, currently using about three pounds of wild fish to produce one pound of salmon.

A BETTER WAY: Although the best fish to farm are generally plant-eaters like tilapia or filter-feeders like mussels, even salmon can be fed a semi-vegetarian diet, sometimes with a "finishing" of fishmeal and oil. We're also improving management of the small fish at the bottom of the marine food chain.

2 THE PROBLEM: Toxic substances accumulate in carnivorous farmed fish. Most farmed salmon are higher in cancer-causing dioxins and PCBs, which accumulate up the food chain.

A BETTER WAY: Wild chum salmon are low in contaminants thanks to a plankton-rich diet; as are wild Alaskan King salmon because they eat forage fish from cleaner waters. The same strategies work for farmed fish: Feeding less wild fish, or using forage fish from cleaner South American waters, reduces the concentration of toxic substances.

3 THE PROBLEM: Escaped fish weaken the genetic makeup of wild populations. Millions of fish escape from farms each year. Interbreeding can reduce the fitness of native fish populations to survive in the wild, particularly for endangered North American Atlantic salmon. "It's like breeding dogs with wolves," says Goldburg.

A BETTER WAY: More secure containment can help prevent escapes. And farming native North American salmon, rather than European strains, can reduce the impacts of interbreeding.

Derek Kapp/Animals Animals

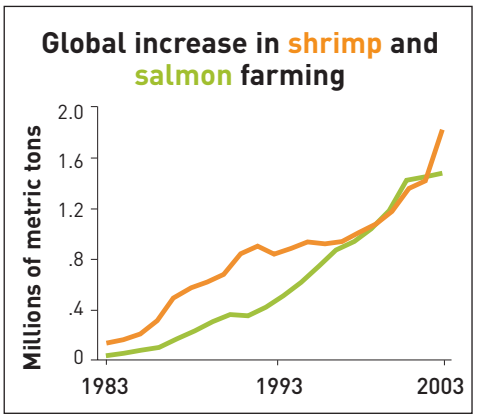
Herded and coralled: Fish are the new livestock.

4 THE PROBLEM: Farms pollute ocean ecosystems. If federal plans proceed, fish feedlots could discharge as much nitrogen as all of North Carolina's hog farms, creating algae blooms and dead zones. Farms also spread parasites, as when Atlantic salmon grown in the Pacific transfer sea lice to migrating pink and chum salmon.

A BETTER WAY: Dispersing salmon farms, away from wild salmon runs, will isolate parasites and allow flushing of waste. Better still are integrated systems where mussels and seaweeds are grown nearby to recycle wastes.

A handy guide for the seafood shopper

The best way to choose fish that's healthy for your family—and for the oceans—is with our Seafood Selector. Find it online at www.environmentaldefense.org/go/seafood.



source: U.N. Food and Agriculture Organization

Farming of shrimp and salmon has grown explosively. For example, it accounts for 75% of Safeway's seafood revenues.

A new face to tackle a Los Angeles clean air challenge

Andrew Takeuchi

Mendoza brokered a $500 million clean-up package for LAX; now she's focused on the port.

Having promised to make the port of Los Angeles the nation's cleanest, Mayor Antonio Villaraigosa appointed Environmental Defense attorney Jerilyn Lopez Mendoza to the L.A. Harbor Commission. It marks the first time a professional environmentalist has been named to the group charged with managing one of the world's largest—and dirtiest—ports.

"It's a daunting challenge," Mendoza says of her task of cleaning up the port. "But it's a great opportunity to close a diesel pollution loophole."

Together, the Los Angeles and Long Beach ports are Southern California's largest source of air pollution. On a typical day, 15 ships call on the ports, spewing tons of diesel pollution. Most arriving ships are not regulated by EPA. Annually, they emit more smog-forming nitrogen oxides and unhealthful particulates than 400,000 cars. These pollutants pose dangerous health threats to the city's residents, including increased chances of heart attacks, asthma attacks, reduced lung function and bronchitis.

FRESH SOLUTIONS

As the Harbor Commission's vice chair, Mendoza will lead efforts to find solutions to these critical environmental and health problems. These include engine retrofits, cleaner fuels, speed reductions and alternative power sources for ships in port.

In addition to improving air quality, the commission will look into cleaning up the harbor's beach and reducing impacts on neighboring communities, especially Wilmington and San Pedro, which bear the brunt of port operations.

"The public health stakes are high," says Mendoza. "But there's a full range of solutions available to cut pollution and make the L.A. port the nation's greenest."

For each fisherman, a share of the catch

Some years ago, Texas Governor George Bush wrote Senator Kay Bailey Hutchison to promote a new approach for protecting Gulf Coast fisheries. "Catch shares" would grant each fisherman the right to harvest a given percentage of the total allowable catch, a total that would increase as a fishery recovers. "Importantly, this tool vests fishermen with an incentive to conserve the fishery," wrote Bush. "I join...Environmental Defense" in supporting this market-based management approach.

Last month, President Bush repeated that endorsement: His secretary of commerce, Carlos Gutierrez, asked Congress to amend the Magnuson-Stevens Fishery Conservation and Management Act to spell out the rules governing catch shares, and support doubling the number of catch-share programs nationwide.

The benefits of these programs for both ecosystems and fishermen have been demonstrated in Alaska and New Zealand. We provided the White House with advice and analysis, drawing on our years of experience developing catch share systems in the Gulf of Mexico, Cape Cod and the Pacific. We also brought an insider's knowledge: five years ago, our oceans program director David Festa was the top policy adviser to the commerce secretary.

Catch shares are the wave of the future, the best way to save both fisheries and fishermen. Instead of limiting the days fishermen can operate, catch shares give them the flexibility to decide when market and weather conditions are right. That means safer fishing, reduced costs, fresh fish year-round and big reductions in the killing of unwanted bycatch.

Until now, it made economic sense for fishermen to deplete fisheries and hurt ecosystems. Catch shares change that: if a fishery recovers, each share becomes more valuable, so fishermen gain a direct financial benefit from protections for nurseries and fragile habitat. As Festa told *The Washington Post*, this is "probably the single largest change we can make to advance conservation."

© Allan Morgan/Peter Arnold

More for everyone: Catch shares preserve fish and allow fishermen more control over their livelihood.

Reef burial: Spotlight on indiscriminate dredging in Florida

Azure Computer/Animals Animals

Environmental Defense protected reefs frequented by the endangered hawksbill turtle.

When dredging industry lobbyists descended on the Florida legislature with plans to rush the approval for dredge-and-fill projects along state beaches, we were ready. Environmental Defense helped coordinate divers, fishermen, surfers and other coastal users to block efforts to weaken reef protection. Studies have shown that such projects are environmentally damaging.

"Massive beach dredging projects don't last, and they bury shallow reefs that are federally designated as essential habitats for important fisheries," says our scientist Dr. Ken Lindeman.

The coalition helped remove legislative language that would have loosened state oversight of reef protection. We also supported legislation that created an expert panel to guide coastal management reform and published new research on Florida's fisheries. "These are important steps," says Lindeman, "but we need long-term solutions such as limits on new contruction in areas subject to continuous erosion."

Doctors sue EPA over mercury rule

Citing threats to children, some of the nation's leading health groups have launched a legal challenge against EPA's inadequate plan for regulating mercury emissions from power plants. The agency's rule requires far fewer reductions than would be achieved by fully enforcing the Clean Air Act, and could actually increase emissions.

This summer the American Academy of Pediatrics, American Nurses Association, American Public Health Association and Physicians for Social Responsibility filed suit against EPA. Environmental Defense also filed suit, as did 14 states. "It is remarkable that any health group would go to the point of suing the government," says our health program director Dr. John Balbus. "This underscores the administration's failure to address mercury exposure."

An estimated 630,000 babies are born in the U.S. each year with unsafe mercury levels in their blood. Mercury exposure, which generally arises from eating contaminated fish, can lead to developmental delays in children and worsened heart disease in adults.

The federal court of appeals is expected to rule in the cases next year.

Lester Lefkowitz/Corbis

The developing brain is "exquisitely vulnerable" to permanent damage from mercury, says pediatrician Dr. Katherine M. Shea.

Putting pollution out to pasture

William R. Culver/Getty Images

It's official: Contented cows are healthier.

Some farmers might "have a cow" if asked by an environmental group to change the way their dairies handle manure. But waste from poorly managed animal operations can be a major source of water and air pollution.

To spread news of greener pastures, Environmental Defense recently joined with farm associations, scientists and government officials to form the National Dairies Environmental Stewardship Council. The council will promote environmentally sound farming methods. It is working with forward-thinking members of the Sunshine State Milk Producers in Florida, spotlighting their new manure management practices, rotational grazing and cleaner, more spacious barns for their herds. The result: improved water and local air quality, healthier cows and higher profitability. Also, cleaner farms make for happier neighbors (which is nothing to sniff at).

Environmental Defense scientist Suzy Friedman says, "It's time for government agencies to help dairy, poultry and swine farms implement innovative approaches to conservation challenges."

For more information, visit www.suscon.org.

Outlets

The Alternative Energy Store (65 Water Street, Worcester, MA 01604; 1-877-878-4060; altenergystore.com) offers an online "Educate Yourself" area with information on solar and wind power and more.

The American Solar Energy Society promotes photovoltaics in a variety of forms (2400 Central Avenue, Suite A, Boulder, CO 80301; 303-443-3130; go to www.ases.org and click on "Solar Guide").

The American Wind Energy Association is a good source of information (1101 14th Street, NW, Washington, DC 20005; 202-383-2500; go to www.awea.org and click on "Small Wind Systems").

The American Council for an Energy-Efficient Economy promotes energy efficiency for home products and cars (ACEEE, 1001 Connecticut Avenue, NW, Suite 801, Washington, DC 20036; 202-429-8873; www.aceee.org/consumerguide).

Powerful reading

The bimonthly "hands-on" journal *Home Power* is available by subscription at $22.50 per year, and some stories are available online (P.O. Box 520, Ashland, OR 97520; 800-707-6585; www.homepower.com).

The Consumer Guide to Home Energy Savings by Alex Wilson, Jennifer Thorne and John Morrill offers tips on heating and cooling systems, insulation, lighting and many other topics (ACEEE, address above, $8.95).

NREL

New frontier: Middle-class households across the country are turning to alternative power.

The dream of energy independence draws closer

A NEW $2,000 TAX CREDIT FOR CLEANER ENERGY

Until recently, going "off the grid" conjured visions of hippie communes and back-to-the-land austerity, or homegrown electricity from noisy and polluting gasoline generators. Today, suburban power users have an increasing range of options, from solar arrays to wind turbines, with fuel cells and other high-tech options just offstage. Not all provide enough electricity to power a fully equipped American house, which consumes an average of 830 kilowatt-hours of electricity a month. But they're a good start.

As energy prices skyrocket, a switch to clean power can cut your utility bills and greenhouse gas pollution. And thanks to state and federal tax breaks and subsidies, the payback time may be shorter than you think. You'll save even more if you combine green electricity with energy-efficiency improvements.

Alternative power systems have dropped in cost and gained in efficiency. But they're still not cheap, and require careful accounting of savings and cost.

• **Blowing in the wind.** Because wind power is intermittent it's unlikely a wind turbine can take you permanently off the grid. But in a grid-connected system, a small turbine can reduce your electric bill by 50 to 90% (and prevent 200 tons of greenhouse gas emissions over its lifetime). When the turbine produces more electricity than the house needs, extra capacity can be sold back to the utility. Wind turbines make economic sense if you're paying 10 cents or more per kilowatt-hour for electricity and live in a place with at least 10 mph average wind speeds.

• **Solar solutions.** With its market expected to grow 35% a year through the end of the decade, home solar power is no longer marginal. Whether stand-alone

** Guest columnist Jim Motavalli is editor of E/The Environmental Magazine (for subscription information: 800-967-6572 or emagazine.com). Opinions are the author's and not those of Environmental Defense staff.*

or connected to the grid, solar makes the most sense in states (like CA, CT, IL, NC, NJ, NY and OR) that subsidize as much as 60% of the cost of new photovoltaic installations, or offer tax credits. The recently enacted federal energy bill also includes a tax credit of up to $2,000 on new solar purchases.

• **Home hydrogen?** The technology for home-based hydrogen fuel cells is not yet affordable. But such companies as General Motors and Honda are looking at home-based fuel cells as a spinoff to their automotive research, and a breakthrough could come soon. In the meantime, fuel cells are useful as backup power and for providing electricity where grid connections are not practical. The cells, approximately the size of a refrigerator, convert natural gas or other fuels to hydrogen, then produce electricity chemically without combustion.

• **Energy savers.** Installing new double- or triple-paned windows (especially with tintings and low-conductivity gas fills) can cut as much as 40% of a new home's heat loss. Compact fluorescent bulbs—which many utilities subsidize—use a quarter as much electricity as standard incandescents for the same amount of light, last five times as long and can typically be screwed into standard fixtures. Replacing older, energy-hog refrigerators and other "white goods" will also make a big difference. To measure energy drain, plug your appliances into a simple watt-hour meter, which offers a digital readout of electricity usage and can even figure out monthly costs.

By Jim Motavalli

Taxes got you down?

Join the Environmental Defense charitable gift annuity program or create a charitable remainder trust and receive immediate income and capital gains tax savings. In addition, you will be entitled to lifetime income from your gift.

To learn more about how your gift can help you and the environment, call toll-free 1-877-677-7397 or write: Anne B. Doyle, Environmental Defense, 257 Park Avenue South, New York, NY 10010.

In the Northeast, goats and turtles go together

"They used to call these Italian lawn mowers," says John Addrizzo of the goats contentedly munching leaves at a farm in rural Ulster County, NY. Addrizzo's ancestors may have used goats to clear farmland in the old country, but today these animals have a different purpose: They're thinning brush and devouring pesky exotic plants like purple loosestrife to make way for the threatened bog turtle.

Once a common resident of the Northeast and mid-Atlantic, the tiny bog turtle has declined 50% in two decades as its habitat—spring-fed, sunny meadows—succumbs to suburban sprawl and invasive species. Most of its remaining habitat is on private land, so Environmental Defense has initiated projects with 40 landowners to restore the most important bog turtle habitat in NY, MD and PA.

Historically, wildfires and grazing animals created the open space the turtle needs, but today these areas often are badly overgrown. Enter Dr. Addrizzo, retired pulmonary specialist from Brooklyn and goat farmer. For the service of clearing out turtle habitat, Addrizzo receives $1.75 per goat each day from the federal government. "It takes care of the goats and puts a little change in our pockets," says Addrizzo, who took up goat farming for the heart-healthy quality of the meat.

America's smallest turtle can fetch $2,500 in illegal trade.

Tim Connor

On duty: Brush-munching goats maintain bog turtle habitat.

But if the turtle is to thrive, it will need more than the help of voracious herbivores. So we persuaded the U.S. Agriculture Department to earmark $500,000 for bog turtle restoration—an unprecedented amount for this species.

This summer the Bush administration asked us to present our work with private landowners at a White House Conference on Cooperative Conservation. The attention comes as some in Congress seek to dismantle the Endangered Species Act, calling it a failure *(see story, p. 3)*. "These partnerships with farmers prove that livestock and turtles can live side by side," says our ecologist Bruce Hammond. "They also show that with a strong Endangered Species Act, we can bring rare species back."

To protect human health, FDA bans poultry antibiotic

A FIVE-YEAR CAMPAIGN THAT NEVER WAVERED

In a victory for human health, Bayer has been forced to stop marketing the Cipro-like antibiotic Baytril for use in poultry. Misuse of the drug had been contributing to antibiotic resistance in humans.

The action follows five years of concerted effort by Environmental Defense and others to keep human antibiotics effective. Bayer had steadfastly resisted our campaign to end the use of Baytril in poultry.

Pressure on Bayer never wavered. As chair of the nine-million member coalition called Keep Antibiotics Working, Environmental Defense lawyer Karen Florini helped line up partners such as the American Medical Association. We also rallied market leaders like McDonald's to reject chicken that had been given Baytril. Our scientist Dr. Becky Goldburg traveled to Bayer headquarters in Pittsburgh with 16,000 letters of protest from our members. And *The Washington Post* published articles critical of Bayer, the only remaining manufacturer of these drugs.

John Rae

The vigilance of our scientist Dr. Becky Goldburg helped end the overuse of antibiotics in poultry.

In July, the U.S. Food and Drug Administration (FDA) announced a ban on Cipro-like drugs in poultry. It was the agency's first-ever decision curtailing the use of agricultural antibiotics due to human health concerns. Bayer first indicated it would fight the ban in court, but in September agreed to comply.

"I am glad Bayer finally saw the light," said Florini. "Cipro is critical for treating human illness. It makes no sense to squander its effectiveness on poultry."

Now we must extend this victory to other key human antibiotics still used on farms. We have petitioned the FDA to ban the use of these drugs in animal feed to promote growth and compensate for stressful conditions. Each year, an estimated 25 million pounds of key antibiotics are needlessly administered in this way.

Looking deep into the rainforest for solutions to global warming

Greg Caire/Lonely Planet Images

Since 1970, 16% of the Amazon has been burned or cleared.

The clearing of tropical forests causes 20% of global warming pollution worldwide, nearly as much as total U.S. emissions. Yet international climate treaties so far have done nothing to slow that loss. Now Environmental Defense is winning support for its plan to make preserving forests profitable. We propose awarding carbon credits to tropical nations that reduce deforestation.

Such credits would require measuring and monitoring deforestation on a continuous basis, which technology now makes possible. As our scientist Dr. Steve Schwartzman says: "It's satellites, but it's not rocket science." To broaden awareness of the available data among international negotiators and developing nations, we convened the world's leading remote-sensing scientists in July to discuss the application of existing technology to climate agreements.

Their papers will be presented in December at the annual meeting of parties to the international climate treaty. For the first time, incentives to reduce tropical deforestation will be on the official agenda.

e ENVIRONMENTAL DEFENSE finding the ways that work

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