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Preserving the web of life

SHELTERING AMERICA'S TINIEST TURTLE WILL PROTECT AN ENTIRE ECOSYSTEM

The tiny, elusive bog turtle spends most of its life half-buried in the muck, far from sight. What impact could its survival possibly have on the grand scheme of things?

Plenty, says our wildlife scientist Dr. Tim Male. Besides occupying an important niche in mid-Atlantic wetlands, the turtle may provide insight into how to restore and maintain vanishing ecosystems. More than 11,000 animal and plant species are now threatened with extinction. Not since an asteroid hit Earth 65 million years ago have so many species been at risk.

Biodiversity loss, says renowned biologist Edward O. Wilson, is the one thing for which our descendants are least likely to forgive us. Unless we change our ways, he warns, half of all species could vanish by the end of this century.

The damage is more than aesthetic. Many threatened species are critical to preserve the pool of genetic variations on

which we all depend for evolution. "Every species has the potential to teach us something new," adds Male.

Since most endangered species inhabit private lands, Environmental Defense partners with landowners to restore habitat. "To make a difference, we have to enlist the support of regular people who share their land with these animals and plants," explains Male.

AN UNLIKELY MASCOT

The bog turtle's habitat—wet meadows and other shallow, sunny wetlands—is fast disappearing as farm pastures are swallowed up by development and non-native vegetation. America's smallest turtle is also threatened by the high price it brings through the illegal pet trade—up to \$2,500 in Tokyo pet shops. Bog turtles in the Northeast have declined by 50% over the past two decades.

Because bog turtles and livestock

Please see Cover Story, p. 2



Former dairy farms that are now overgrown, like this one in the Northeast, can welcome rare wildlife with the help of livestock. Cows and sheep fill an ecological niche left vacant when yesterday's grazers—bison, elk and mastodon—vanished.

This election, let's put the environment above politics



As president, Theodore Roosevelt did not just talk about conservation; he threw the full weight of his office behind it. At a time of intense industrial

expansion, he quadrupled the national forests and preserved 18 areas as national monuments, including the Grand Canyon.

As the election nears, it seems fitting to call upon the candidates to exercise the political courage of Roosevelt. If we are to tackle the big environmental challenges of our time—global warming and oceans protection—we need to elect leaders willing to put the environment above politics.

As voters, it is our responsibility to demand environmental commitments from the candidates—and to hold those elected accountable, not just at the federal level but at the state and local levels as well. Important initiatives, like California's landmark law to limit global warming pollution from vehi-

We must demand commitments from candidates.

cles, often pass by slim margins. The people we choose to represent us do make a difference.

The environment should not be a partisan issue; we all share the same planet. Jimmy Carter understood this when he expanded protection for the Arctic National Wildlife Refuge in the

midst of the energy crisis. So did the elder George Bush when he championed the 1990 Clean Air Act amendments, driving down power plant emissions and reducing acid rain.

Fortunately, there are ways to help the environment that also help the economy, such as using market incentives to achieve the greatest pollution reductions at least cost. By building an environmental majority and appealing to the best in our political leaders, we can protect America's natural heritage far into the future.

The election offers a special opportunity to restore the environment to its rightful place as a top priority. I urge you to make your voice heard.

COVER STORY: Landowners bring species back from the brink

Continued from page 1

can live side-by-side in wet pastures, we're teaming up with farmers like 83-year-old Isaac McGhee in northern Maryland. Recently retired, McGhee still leases his crop fields to other farmers, but his dairy herd is long gone. Today, the pastures are overgrown with invasive red maple and thistle.

"Back when I was grazing cows, the land was open," he recalls. "You could see a rabbit run across it. You couldn't see an elephant run across it now."

Work has already begun to cut back the invasive plants, and McGhee is now



Brian Zarate

The future of the bog turtle is in our hands.

considering reintroducing cows or goats to keep the land open for the benefit of the turtle and other rare wetland species like the Baltimore checkerspot butterfly, sedge wren and lady slipper orchid.

McGhee is one of dozens of landowners we're working with in Maryland, New York and Pennsylvania to save the bog turtle. The project, part of our Back from the Brink campaign, serves as a model for restoring ecosystems nationwide. The landowners' efforts are funded in part by conservation monies we helped secure in the Farm Bill. "Some rare species thrive if we simply set land aside," says Male, "but many, like the bog turtle, require active management."

TEN YEARS OF SAFE HARBOR

This year marks the 10th anniversary of our Safe Harbor program, which encourages landowners to restore habitat voluntarily with the promise of no new restrictions on their property after endangered species arrive. More than two million acres have been enrolled, helping protect

such species as the San Joaquin kit fox, nene goose and golden-cheeked warbler.

"This is about more than individual species," says Male. "It's about restoring ecosystems that are integral to America's natural heritage."



For more information on helping endangered species, visit www.backfromthe-brink.org.

Solutions

Editor: Peter Klebnikov

Environmental Defense, 257 Park Avenue South, New York, NY 10010. Main number 212-505-2100.

Membership questions: Call 800-684-3322 or email members@environmentaldefense.org

Mailbag: Mail to address above, call 800-242-3251 or email editor@environmentaldefense.org

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New York • Washington • Oakland
Boulder • Raleigh • Austin • Boston
Project office: Los Angeles

Online at www.environmentaldefense.org

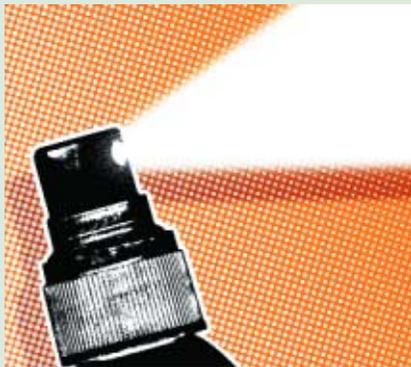


MAILBAG

Editor:

I would like to thank you for publishing "Toxic trail leads to your door" (May-June *Solutions*). I was appalled by the array of chemicals in our everyday products. I immediately checked the labels on the products that I use. I am working with my parents to find alternatives to the products we use with chemicals that were mentioned in the article.

Gabrielle Miller
Midland, MI



What you don't know about your household cleaning products can hurt you.

Editor:

I'm encouraged by your "Where We Stand" article (July-Aug. *Solutions*). Environmental Defense seems to be successfully pursuing a nonpartisan approach. I'm a conservative Republican and support environmental issues. I don't mind your disagreeing with the current administration (I disagree with them on a number of environmental issues), but the way you do it appears to be aimed at getting the best solution politically possible.

I hope you continue this approach. Environmental issues should transcend political leanings and find support from all political persuasions.

Jack James
Vilas, NC

PLEASE WRITE US!
See addresses at left.

Washington watch



Court victory on snowmobile pollution

With Congress and the courts deadlocked over whether snowmobiles belong in national parks, Environmental Defense won a victory to clean up these dirty machines nationwide.

A single snowmobile can pollute as much as 100 cars, but affordable technologies can cut pollution 90%. When EPA issued snowmobile standards requiring only 70% of machines to cut pollution by 2012, we filed suit. In June, the federal appeals court in D.C. agreed that EPA had no good reason for exempting so many snowmobiles from clean air standards.

The ruling requires EPA to reconsider its standards and justify the loophole, something we think it will be hard pressed to do.

"EPA's snowmobile loophole makes no sense," says our attorney Janea Scott. "It's the agency's legal responsibility to require that all snowmobiles meet basic clean air standards." We're pressing EPA to set standards that protect Americans' health and the environment.

EPA faces pressure to strengthen mercury standards

Despite a nationwide outcry over weak mercury standards, EPA has yet to agree to analyze stronger measures.

EPA's proposal, announced last December, would delay significant cuts in mercury from power plants until 2018, even though the technology exists to cut the toxic pollutant by 90% years earlier. The proposal provoked a record half a million comments from the public—including tens of thousands through our action alerts.

The agency in 2001 convened an advisory group, including our air pollution expert Michael Shore, that recommended strict regulations. But last year, EPA abruptly disbanded the panel and developed its weak proposal behind closed doors.

We're pressing the agency to go back to the drawing board. "EPA can't justify ignoring the science, ignoring the experts and ignoring the unprecedented public demand for stronger mercury standards," says Shore.



Jeff & Alexa Henry/Peter Arnold

Should machines always have the right of way?

To tackle pollution, China tries out a market approach

“Enough shovels of earth—a mountain. Enough pails of water—a river.”

Traditional Chinese proverb

When Environmental Defense chief economist Dr. Dan Dudek attends meetings between Chinese and U.S. officials, he invariably finds his nametag on the American side. He always moves it, to sit with his Chinese partners of nearly ten years. “Business in China is intensely personal,” he explains, “based on relationships, *guanxi*.”

“Many Americans come for a year, see no return and shutter their doors, leaving only suspicion. From the beginning, Environmental Defense made a long-term commitment and tried to understand the Chinese way of thinking. We found the most dynamic place on Earth, the most receptive to new ideas.”

With China’s environment suffering the consequences of rapid growth, such optimism is crucial. Already the world’s second-largest energy consumer, China

will double its energy use by 2020, requiring 100 new power plants. Its car market is growing 80% a year. Half its urban residents breathe unclean air, and China is the world’s biggest emitter of sulfur dioxide (SO₂), a major component of acid rain. Pollution already costs China \$70 billion a year—and doesn’t stay home: Gobi Desert dust storms pick up toxics in China’s industrial belt and carry them all the way to Texas.

Environmental Defense saw an opportunity, and in 1996 we began what our climate program director Peter Goldmark calls “the world’s biggest environmental experiment.” We had recently pioneered a U.S. emissions trading program allowing companies that cut SO₂ emissions more than required to sell credits to companies that don’t. Dudek, who’d helped persuade the first Bush administration to adopt that market approach, offered two pilot projects to China, one in the rust-belt city of Benxi and the other in the modern, light manufacturing city of Nantong.

CREATING LOCAL ENVIRONMENTAL CHAMPIONS

“You have to get your hands dirty at the local level,” says Dudek, “to create local champions, people who can stand up and tell their story.” Over time, the program grew from a municipal to a provincial scale. Environmental Defense was officially named in a series of

decrees as manager of China’s expanding SO₂ trading regime. Working with the national environmental agency and Beijing universities, we have trained 1,000 policy makers and enforcement officials, published two books, created a Chinese-English web site and brought Chinese

**In 1996 we began
“the world’s biggest
environmental experiment.”**

officials to the United States to visit power plants and SO₂ brokers.

Moving to a still bigger scale, Dudek has begun developing cooperative agreements across provincial boundaries. Most recently, he and our trustee Frank Loy, former U.S. undersecretary of state for global affairs, helped launch the Yangtze River Delta pollution-reduction project in Shanghai, Jiangsu and Zhejiang provinces. “If any place can be the nucleus for a national program,” says Dudek, “it will be this delta, which is China’s most sophisticated region and the real engine of its economic development.”

To date, China has completed ten



For many Chinese, prosperity has arrived at a dizzying pace.

Tim Connor



The areas covered by our programs (shown in dark green) encompass one-third of China’s sulfur dioxide emissions.



Dr. Dan Dudek

trades totaling 25,000 tons of SO₂, the first few pails in a very big river.

Fortunately, China's environmental consciousness is growing almost as fast as its energy consumption. The government has created a new 40,000-person pollution prevention agency and is developing a new economic indicator, a "green GDP," that takes into account the costs of environmental damage.

Leading the way in all this has been Jiangsu province. It did the first SO₂ trade, the first trans-boundary trade and the first offset transaction, achieving net zero SO₂ emissions for a new power plant. Jiangsu was also the birthplace of Dudek's two adopted daughters, Laura Ling and Ella. "Everything in our house is made in China, including our kids," he jokes. Seems he's definitely in it for keeps.

In the market for a tax break?

Your real estate can benefit the environment—and you—in a variety of ways.

- Donate your real estate: receive a tax deduction and avoid capital gains tax.
- Use your real estate to establish a charitable trust or gift annuity.
- Remain in your property during your lifetime, giving Environmental Defense the remainder interest

To explore these options—and others—please contact Anne Doyle. Environmental Defense, 257 Park Avenue South, New York, NY 10010; 877-677-7397; ospreys@environmentaldefense.org



This dragon breathes fire

In the next 30 years, China will become the biggest economy in the world. In the past two years alone its energy use grew by an amount equal to Brazil's total energy output. As the 21st century's powerhouse, China is paying an immense environmental price. Damage to air, water,

ecosystems and human health costs 8% of China's GDP, degrades the quality of life, and stirs tensions across the Pacific region. To help rein in these costs—outlined below—Environmental Defense is exporting its market based solutions to China, with growing success.

Of the world's 20 most polluted cities, 16 are in China.

By 2020, China could pass the U.S. to become the world's biggest source of global warming pollution.

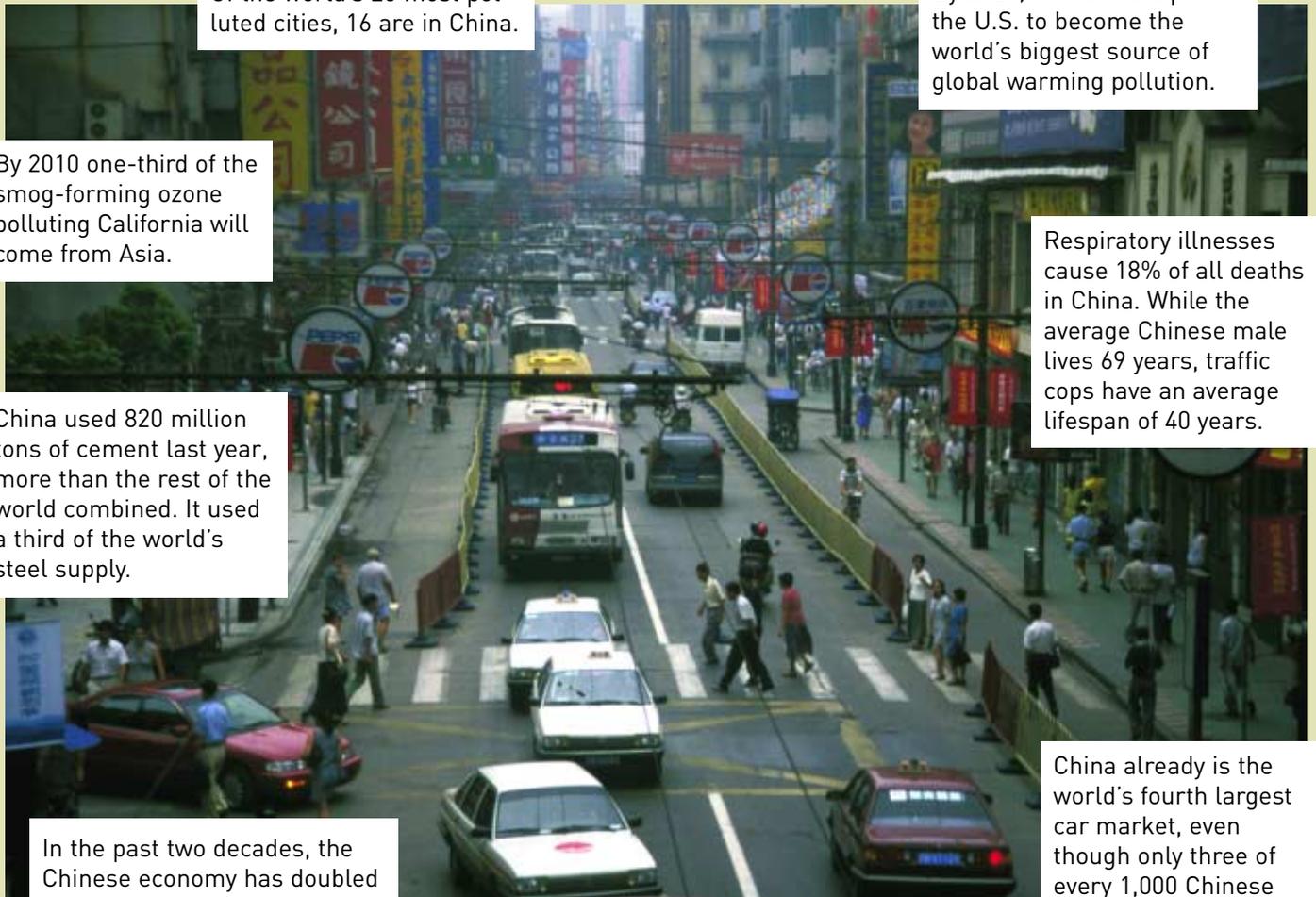
By 2010 one-third of the smog-forming ozone polluting California will come from Asia.

China used 820 million tons of cement last year, more than the rest of the world combined. It used a third of the world's steel supply.

Respiratory illnesses cause 18% of all deaths in China. While the average Chinese male lives 69 years, traffic cops have an average lifespan of 40 years.

In the past two decades, the Chinese economy has doubled in size every six years.

China already is the world's fourth largest car market, even though only three of every 1,000 Chinese own a car today.



Regional update

Religious and environmental groups forge new connections

“The idea that taking care of the environment is a religious duty is new to many faith communities, but one that’s beginning to resonate,” says Alice Loyd, coordinator of Climate Connections, an “interfaith eco-justice network” in North Carolina. Environmental Defense has partnered with Climate Connections to explore what people of faith can do about global warming. Together, we will spread the word about climate change at three conferences next spring.

Such religious-environmental collaborations are increasingly common. Last year, Environmental Defense and the New Mexico Conference of Churches cosponsored a conference, “Is Global Warming Too Hot to Handle?” One result was the Sustainable Energy Campaign, an ambitious, long-term vision for New Mexico that calls for a 70% reduction of greenhouse gas emissions by 2025.

Spreading the word on global warming

Our trustee, the Rev. Sally Bingham, has long devoted herself to “deepening the connection between ecology and faith.” Her Regeneration Project’s “Interfaith Power and Light” campaign already has enlisted close to 1,000 churches, synagogues, mosques and temples in 14 states to help wean the U.S. from fossil fuels. The campaign focuses on global warming because faith traditions include taking responsibility for the poor, who will be devastated by unchecked climate change.

Loyd has a simple explanation for the growing involvement of faith communities in the environment: “A lot of ordinary people may not find scientific arguments that persuasive,” she says. “Many are looking for moral guidance.”



Ariel Skelly/Corbis

Congregations are increasingly buying green power.



Wilma E. Frey

On a clear day, you can see a future for wilderness in New Jersey.

New Jersey bills demonstrate best and worst of land-use planning

In politics they say that to get something, you need to give something up. The question is, how much? Last month Environmental Defense celebrated a major victory against urban sprawl when Governor James McGreevey signed a bill to protect 145,000 acres of open space in New Jersey’s vital Highlands region. But, with no real input from the environmental community, the governor then turned around and signed another bill, widely seen as payback to the construction industry. The new bill would allow “fast-track” development permits and undermine federal environmental programs. We are prepared to challenge this “EZ Pass for Polluters” in the courts.

Protection of the Highlands has long been a priority for Environmental Defense. Relatively undisturbed until recently, the Highlands are close to New

York City and provide clean drinking water to some 14 million people. But new interstates have brought huge development pressures to the region.

The Highlands bill establishes transferable development rights, an anti-sprawl tool we helped pioneer in New Jersey’s Pinelands and

Politics could weaken protections

Long Island’s Pine Barrens, which allow towns to direct growth away from undeveloped areas to areas where increased density has less environmental impact. “Unfortunately,” warns our general counsel James Tripp, who chairs the Highlands Coalition that helped write the Highlands bill, “much of the environmental value of these provisions could be undermined by the fast-track bill.”

Saving a small fish could help bigger fish, too

MENHADEN BRINGS ENVIRONMENTALISTS AND RECREATIONAL FISHERS TOGETHER

Next to a sport fisherman rowing out to hook a striped bass, the huge industrial fishing boats prowling the Chesapeake Bay look like something out of Star Wars. Aided by spotting planes circling overhead, these 170-foot long “mother ships” deploy smaller boats to encircle schools of fish with an immense “purse seine” net, dragging them into the ship’s refrigerated hold. Delivered to a Virginia processing plant, the fish are ground for animal feed or squeezed like a load of olives for their most valuable component, oil.

A single Houston-based company, Omega Protein, harvests two-thirds of the entire East Coast catch of this small oily fish, called menhaden, or sometimes bunker or pogies. Much of this



Robert K. Bringham/NOAA

Coming soon to a vitamin store near you. harvest is turned into Omega-3 oil nutritional supplements.

But humans are not the only species eager for the high fat and nutrient content of these foot-long fish. Juvenile menhaden make up 80% of the diet of a mature striped bass, and Chesapeake Bay is the spawning ground for 90% of all striped bass. If menhaden are being depleted in the bay, that could be one

cause for the loss of body mass among the Chesapeake’s striped bass. The average Bay bass now has 25% of the fat found in a healthy fish. This loss of fat may contribute to the growing incidence of mycobacteriosis and piesteria.

Shared concern for the role of menhaden as a key forage species has now spawned an unprecedented alliance between Environmental Defense and the Coastal Conservation Association (CCA), which represents 95,000 recreational fishermen from Texas to Maine. The two organizations have not always agreed: while we worked to defeat “Freedom to Fish” bills in 11 states, CCA helped pass Maryland’s bill, which makes it nearly impossible to protect critical habitat from recreational fishing. But as CCA’s Dick Brame says, “That’s what I like about Environmental Defense. Even when we disagree, it’s not a parting of ways. We move on to the next thing.”

In this case we’ve joined forces to reform menhaden management in Virginia’s half of the Chesapeake Bay, to insure that enough little fish are left for the big fish, osprey and loons to eat. Most other Atlantic states have banned industrial menhaden fishing, but Virginia is home to Omega’s biggest processing plant. While it delegates every other fish to its marine resource commission, the Virginia state legislature manages menhaden itself.

Thanks to our efforts with CCA, however, the Atlantic States Marine Fisheries Commission will meet this fall to frame a better management plan. “We need to develop new scientific tools to detect localized depletion of



NOAA

Each year, Omega’s giant nets scoop up 300 million pounds of menhaden from the Chesapeake Bay.

forage species,” says our marine biologist Dr. Michelle Duval. “And we need to complete multi-species models to address the cascading impacts of the harvest on other fisheries and species.” As filter feeders, feasting on algae, the menhaden have yet another ecological

The fish are harvested for animal feed and fish oil.

role, helping clean the water of excess nutrients. Such filtering is key to the health of major estuaries like the Chesapeake and Pamlico Sound, which have serious water quality problems.

Only by addressing these ecosystems as a whole can the menhaden, and the striped bass, thrive.



Bill Schittd/Corbis

Striped bass, a favorite among sport fishermen, depend on abundant menhaden.

Paradise regained?

NEW STUDY SHOWS CALIFORNIA'S MAGNIFICENT HETCH HETCHY VALLEY CAN BE RESTORED



Tim Connor

Yosemite Valley refreshes millions. A reclaimed Hetch Hetchy could too.

Picture paradise: Waterfalls cascade off soaring cliffs. Groves of pine and oak shade a meandering river. Such images bring to mind California's Yosemite Valley, but few know that a second magnificent valley once graced Yosemite National Park.

John Muir praised the Hetch Hetchy Valley as "one of nature's rarest and most precious mountain temples." Today the valley lies submerged under 300 feet of water, a giant storage tank for the Bay Area.

Environmental Defense will soon release a report outlining cost-effective alternatives for continuing the supply of high-quality Tuolumne River water while returning Hetch Hetchy Valley to the American peo-



Tim Connor

Behind the 312-foot-high O'Shaughnessy Dam lies a sunken treasure.

ple. "There's no question that Hetch Hetchy Valley can be restored," says our water analyst Spreck Rosekrans. "The only question is who will have the vision and imagination to lead the way."

DISCOVER HETCH HETCHY CAMPAIGN LAUNCHED

Congress preserved Hetch Hetchy Valley in 1890 but two decades later allowed the valley to be inundated, despite a nationwide outcry.

Now a historic opportunity has arisen to restore Hetch Hetchy Valley as San Francisco upgrades its water system. We've joined with the Sierra Club and Restore Hetch Hetchy to press for restoration based on our proposal, developed with leading industry consultants.

"Can you imagine today's teenagers, like my own, visiting the valley when they're 30, and then 40, and watching it come back to life?" asks Rosekrans. "That would be an amazing experience."



What you can do: Visit www.DiscoverHetchHetchy.org to join our campaign and take an interactive tour of the valley as it once was, and could be again.

Doctors deliver a prescription for clean air

Dr. Bonnie New will never forget trying to show some visitors the Houston skyline. "The air was so dirty we could not see a single building," says New. "It doesn't take a physician to understand that's a health problem."

New decided doctors needed to be part of the clean air debate in Houston. The city's air is the second dirtiest in the nation.

"Medical research ties bad air quality to health problems like asthma. Every doctor I know is concerned about it," New says. "But you don't see doctors testifying before legislatures. I wanted to make it easy for doctors to make their voices heard."

New emailed a few dozen colleagues in March 2003 and Doctors for Clean Air was born. The group partnered with the Texas office of Environmental Defense.

"Environmental Defense helps us keep on top of air quality policy development, so we know where to speak out," New says.

Already, the doctors' coalition has testified against EPA rules that would allow increased industrial air pollution and confronted the Texas Legislature, which then passed a \$650 million bill providing incentives to replace old diesel engines.

Now the group is calling on EPA to set tighter limits on airborne particulates linked to cardiopulmonary problems.

Doctors for Clean Air recently became Health Professionals for Clean Air, bringing nurses, researchers and others to the effort. Partnerships in other cities are in the works. Interested health professionals can join by visiting www.hpcatx.com.



Colin Rowan

In this video image, Dr. New links pollution and health.

51 Club members aid fight to cut 'carbs'



More than 330,000 people have signed a petition to secure her future.

Members of our 51 Club amassed an Environmental Defense Action Fund war chest of more than \$800,000, helping kick into high gear our campaign to win 51 Senate votes and pass the McCain-Lieberman Climate Stewardship Act. The bipartisan measure will cut 'carbs'—the carbon dioxide pollution that causes global warming.

Drive less, pay less for auto insurance

Drivers have reason to celebrate. GMAC Insurance, one of the nation's largest auto insurance providers, has begun offering discounts in some states to motorists who drive less than 15,000 miles a year.

"This is a huge step forward," says our transportation director Michael Replegle, a leading advocate of the pay-as-you-drive concept. "It is one of the few strategies that could cut pollution and reduce traffic congestion while saving money for consumers—and at no cost to government." Economists predict that pay-as-you-drive incentives, if adopted nationwide, could result in a 10% reduction in annual miles driven.

Last year, 16,000 Environmental Defense activists pledged to buy pay-as-you-drive insurance if it was available. We also worked with the Oregon Environmental

The contributions from more than 10,000 donors will help fire up grassroots efforts in five key states: Arkansas, Louisiana, Nebraska, Ohio and Tennessee. The support also allows us to inundate television, radio, newspapers and the Internet with our message. "I want to extend my heartfelt appreciation to every 51 Club member," said our

president Fred Krupp.

These hard-hitting citizen efforts will counter the massive public relations campaigns of entrenched opponents. We aim to gather one million petition signatures demanding action from Capitol Hill. As the bill's co-sponsor Senator John McCain said recently, "There is nothing like a flood of phone calls or a

flood of e-mails to get the attention of an elected official."



WHAT YOU CAN DO: Visit www.undoit.org to sign the Climate Stewardship Act petition and recruit others to sign.

Most chemical companies agree to provide health data



Image State

We need to know which chemicals are unsafe.

Environmental Defense in 1997 published a landmark study, *Toxic Ignorance*, demonstrating that the public lacks basic health information for most common chemicals. Our findings sparked a voluntary program with EPA and the American Chemistry Council challenging manufacturers to provide the missing data.

Our recent report on the High Production Volume Chemical Challenge shows producers of 90% of these chemicals have agreed to supply basic hazard data. A few hundred common chemicals remain "orphans"—their producers have declined to supply data on them. "It's frustrating to see some companies shirking their responsibilities when, as a whole, the challenge is on track to be incredibly successful," said our scientist Dr. Richard Denison. We're using the report to pressure "deadbeat parent" companies to act.

We also want companies to provide health information voluntarily on all recently introduced high volume chemicals. If they don't, EPA should require them to.

Council to help pass a state law that provides tax credits to insurers who offer pay-as-you-drive policies.

"GMAC's leadership on this issue could pave the way for more rational pricing," says Replegle. "Hopefully others will follow suit."



WHAT YOU CAN DO: Take the pay-as-you-drive pledge at: www.environmentaldefense.org/go/actioncenter.



Image State

Another reason to leave it in the garage: cheaper insurance premiums.

Building blocks

The National Association of Home Builders (1201 15th Street, NW, Washington, DC 20005; 800-368-5242; www.nahb.org) holds its National Green Building Conference March 13-15 in Atlanta, GA.

The Healthy House Institute (430 North Sewell Road, Bloomington, IN 47408; 812-332-5073; www.hhinst.com) offers assistance to do-it-yourself green home builders.

An online guide to nontoxic paint is at www.healthyhomedesigns.com/articles/information5.php. RD Coatings are available from Acryltech (167 Avon Street, Stratford, CT 06615; 203-380-9466; info@acryltech.com).

Non-toxic wood preservative brands include NatureWood (www.osmose.com/wood/usa/preserved/naturewood/product), Wolmanized Natural Select (1955 Lake Park Drive, Suite 250, Smyrna, GA 30080; 866-789-4567; www.naturalselect.com) and ACQ Preserve (www.treated-wood.com/products/preserve).

Composite decking is made from a mixture of reclaimed wood and plastic. Trex (800-289-8739; www.trex.com), Weatherbest (www.weatherbest.lpcorp.com), Nexwood (1327 Clark Boulevard, Brampton, ON Canada, L6T 5R5; 888-7NEXWOOD; www.nexwood.com).

All-plastic decking is available at U. S. Plastic Lumber, Ltd (2300 Glades Road, Suite 440W, Boca Raton, FL 33431; 561-394-3511; www.usplasticlumber.com).



Michael Keller/Corbis

Environmentally friendly renovation used to cost much more. No longer.

Green building comes of age FOR BOTH BUILDERS AND REMODELERS, NEW TECHNIQUES AND MATERIALS ARE AT HAND

In the early 1990s, actor Dennis Weaver (*McCloud*) made news by moving into a solar-heated house he called an “earthship.” Today few would notice. The industry’s leading trade group, the National Association of Home Builders this year published model green home building and remodeling guidelines to “take green to the mainstream.” According to the group, some 19,000 U.S. homes were built under local green building ordinances between 1990 and 2001. In 2002 alone, an additional 13,000 green houses were constructed.

“The natural building movement is where organic food was 20 years ago,” says Joe Kennedy, co-editor of the book *The Art of Natural Building*.

Today’s green builders, construction companies and do-it-yourselfers can draw on recent (and ancient) sustainable building experience while applying the latest technology to save energy and materials. And building-supply retailers, including home improvement chains like Home

Depot and Lowe’s, have caught on, thanks in part to pressure from environmentalists. Stores now stock their shelves with a full range of green building materials.

Green services and materials may come at a modest price premium, but eco-design is no longer just for the rich. In fact, it can be very cost-effective. “Going green can, in fact, save money, particularly when costs are calculated over the life cycle of the building,” points out Washington, DC-based architect Harry Gordon.

Ready to start hammering out a plan? Here are a few basics:

- Sustainable wood.** The Forest Stewardship Council certifies lumber from sustainably managed trees. Wood products bearing its label are now widely available. “Virgin” wood can also be complemented with reclaimed boards taken from old barns and shipping pallets.

- Natural decks.** Until the end of 2003, the wood used in decking, kids’ playground

Guest columnist Jim Motavalli is editor of E/The Environmental Magazine (for subscription information: 800-967-6572 or www.emagazine.com). Opinions are the author’s and not those of Environmental Defense staff. Environmental Defense makes no endorsement of the products for sale.

equipment and other outdoor uses was pressure-treated for longevity with chromated copper arsenate (CCA), which contains carcinogens. Several nontoxic wood preservatives are available as alternatives. Recycled plastic wood or composites made from a mixture of reclaimed wood and plastic will not splinter, never need a preservative, and win high marks for strength and durability.

•**Low-emission paint.** We've removed lead from paint, but not the toxic solvents known as volatile organic compounds (VOCs). These substances, including formaldehyde and benzene, are known carcinogens. Environmentally friendly



Robert W. Ginn/PhotoEdit

Green building skills have entered the mainstream.

paints, some of which are certified organic and use plant oils as solvents, are labeled "no-VOC" or "low-VOC." Milk-based paints like those used in colonial times are VOC-free, but not necessarily long-last-

ing. For a super-durable finish (lasting up to 20 years), look for waterborne acrylic RD Coatings from Belgium, just emerging as a house paint after decades of use painting bridges and other big things (like the Chrysler Building).

•**A house of straw?** There are good green alternatives to the wood framing used in 90% of new U.S. homes. These include steel framing (which has a high recycled content); straw bale (unlike the "Three Little Pigs" version, the straw sits within wood or masonry frameworks); adobe brick and concrete; and rammed earth (clay, sand, water and cement in a form).

By Jim Motavalli

ENVIRONMENTAL DEFENSE ACTION CENTER

September: Decision time in Congress

After months of wrangling, Congress could finalize two multi-billion dollar measures this month that will profoundly affect Americans' health, quality of life and environment. Here's the latest on the massive measures facing Congress and what you can do to prevent an environmental debacle.

Transportation Equity Act

A House-Senate panel hopes to finalize a bill to determine how nearly \$290 billion in tax dollars are spent on transportation projects over the next six years.

The proposed measure weakens the Clean Air Act, allowing increases in pollution that contributes to asthma, heart disease and cancer. It also strips protections for parks, wildlife refuges and historical sites. And it limits local participation, paving the way for unwanted roads to be bulldozed through communities. "Rather than rushing to complete this measure, Congress should come back next year with a new transportation bill that reflects the priorities of communities, not the road building industry," says our transportation director Michael Replogle.



Tell Congress to drop its transportation funding fiasco. Go to: www.environmentaldefense.org/go/actioncenter.

Water Resources Development Act

A fight is brewing in the Senate over a measure to authorize \$13 billion for Army Corps of Engineers flood control and dredging projects on beaches, rivers and wetlands nationwide. The National Academy of Sciences and others have called for comprehensive reform of the Corps, noting that its massive projects often waste tax dollars and needlessly



Nathan Benn/Corbis

Should a great river be sacrificed for a few barges?

harm the environment.

We've joined ranks with Senators Russ Feingold (D-WI), John McCain (R-AZ) and others to try to win amendments that would submit Corps projects to independent review and strengthen environmental protections, such as requiring the Corps to replace each acre of wetlands or wildlife habitat it destroys.

Our reforms face concerted opposition from senators who support unjustified projects, such as a \$2.4 billion plan to expand upper Mississippi River locks despite declining barge traffic. "It's time for the Corps to revive the nation's rivers and coasts instead of destroying them," says our water resources specialist Scott Faber. "We'll fight to make sure that happens."



What you can do: Write your senators. Urge them to support authentic reform of the Army Corps and to oppose costly, damaging projects. Go to www.environmentaldefense.org/go/actioncenter.

Moscow holds the key to Kyoto climate treaty

ENLISTING RUSSIA'S BIGGEST COMPANIES TO SLOW GLOBAL WARMING



Sprawled across its vast territory, aging industries could be an unexpected boon to Russia's economy.

Amid the medieval landscapes of Russia's far north lies one of the country's most progressive companies. The sprawling Arkangelsk Pulp and Paper Mill is working to voluntarily reduce its greenhouse gas emissions by 390 tons annually while boosting productivity. The initiative is one of several launched with the help of Environmental Defense to encourage Russia to take a stand on global warming.

For the Kyoto global warming treaty to go into force, it must be ratified by Russia. Early on, we recognized the importance of partnering with the biggest

Russian companies to demonstrate the environmental and economic benefits of reducing emissions.

Our involvement with Russian corporations began in 2000 when we were approached by Russia's electric power monopoly, Unified Energy Systems, to help monitor and reduce the company's greenhouse gases. Its 365 aging power plants account for 2% of the world's carbon emissions—more than the entire state of California.

Following that successful partnership, Environmental Defense was asked by Russia's largest aluminum company and by the country's natural gas monopoly to help reduce their global warming pollution.

For these companies, Kyoto's carbon market would be a godsend. Under the treaty's proposed emissions trading scenario, Russia has pollution credits it can sell to more polluting countries. It stands to earn up to \$20 billion in desperately needed foreign investment to revitalize its industry. "We're creating a brand-new commodity here," exults Mikhail Rogankov, head of the nonprofit Carbon Energy Fund.

The Russian government has listened. In May, President Vladimir Putin pledged to "speed up" Russia's ratification of the Kyoto treaty. Putin's commitment followed concerted efforts by

Environmental Defense and allies to show the dangers of global warming and the economic benefits of emissions trading. We revealed that by cutting carbon dioxide, conventional pollutants would also be reduced, preventing at least 35,000 deaths per year.

As we help create a robust market in pollution reduction, our partnerships with business are bound to increase. Says our economist Dr. Alexander Golub: "Russian business is ready and willing to take action to prevent global warming."



Earth index

- Percent of China's rivers that were severely polluted in 2000: 42%. In 2002: 71%
- Amount of unwanted fish discarded globally each year: 60 billion pounds. Percent of world's catch discarded: 25%
- Number of beach closings and pollution advisories in 2003: more than 18,000
- Number of dams higher than 50 feet built since 1950: 45,000
- Percent of America's 128 million workers who use public transportation: 4.7%
- Increase in global wind power capacity in the past six years: 415%

 **Solutions**

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Paradise regained? New study shows Hetch Hetchy Valley can be restored

Imagine yourself in Hetch Hetchy on a sunny day in June, standing waist-deep in grass and flowers, while the great pines sway dreamily.... Those are the words of the great 19th century naturalist John Muir, who praised Hetch Hetchy Valley as a twin of nearby Yosemite, with comparable soaring cliffs and cascading waterfalls.

Today, we have to take Muir's word for it. Hetch Hetchy lies submerged beneath 300 feet of water, the result of San Francisco's damming the valley in the 1920s to create a giant water storage tank for the Bay Area.

But now the city is making plans to mend and upgrade its water-supply infrastructure, which is in serious disrepair. San Francisco's \$3.2 billion water system overhaul provides a once-in-a-lifetime opportunity to reassess the need for the dam.

Environmental Defense is about to release a report showing how, with the removal of the dam, Hetch Hetchy Valley could be restored to its former glory. Our analysis, the most in-depth study conducted to date, finds there are cost-effective engineering solutions that would continue to supply the Bay Area with the same high-quality drinking water from the Tuolumne River while returning Hetch Hetchy to Yosemite National Park.

"There's no question that Hetch Hetchy Valley can be re-



This hand-tinted 1913 photograph suggests how a restored Hetch Hetchy Valley might appear.

Bancroft Library

stored," says our water analyst Spreck Rosekrans. "The only question is who will have the vision and imagination to lead the way."

RECOVERING A NATIONAL TREASURE

Hetch Hetchy Valley lies along the western slope of the Sierra Nevada mountains, 160 miles east of San Francisco and 3,700 feet above sea level. The same glacial forces that sculpted Yosemite Valley created Hetch Hetchy. Glaciers gouged through the Tuolumne River canyon, leaving towering granite domes and cliffs bejeweled with waterfalls that plunged hundreds of feet to the grassy valley floor.

Congress preserved Hetch Hetchy Valley in 1890 as part of Yosemite National Park. But just two decades later, in a stunning political turnaround, Congress approved San Francisco's petition to dam Hetch Hetchy, despite a nationwide outcry. The 312-foot-high O'Shaughnessy Dam is the only dam of its scale

Discover Hetch Hetchy: Get involved!

This special in-depth feature—exclusively for our California members and friends—provides a sneak preview of our new Discover Hetch Hetchy campaign. Please see the back page for ways you can help spread the word.

Continued on back page

Valley's future could mirror its past splendor

Picture paradise: Waterfalls cascade off soaring cliffs thousands of feet above a flowering mountain meadow. Groves of pine, fir, dogwood and oak shade the banks of the meandering Tuolumne River. This was Hetch Hetchy Valley before the construction of O'Shaughnessy Dam in the early twentieth century. And this is Hetch Hetchy as it could be again.

A drought in the 1970s left the Hetch Hetchy Reservoir nearly empty and provided a rare glimpse of lands that had been inundated for decades. In a 1988 National Park Service study, biologists and resource managers used their knowledge of local ecology to forecast what would happen if the dam were removed.

Among their conclusions: The Tuolumne River would reoccupy its original channel and return to pristine condition. Willows would recolonize the riverbanks. Meadows would reappear with grasses, sedges and other plants, thanks to the proximity of seed sources. Animals would return from nearby habitats.

Some human assistance would be needed to limit the potential of invasive species and to restore natural contours and soil types, allowing plant communi-



Tim Connor

A National Park Service study found that a restored Hetch Hetchy Valley would rebound, beginning to resemble its neighbor Yosemite Valley (above) within 50 years.

ing, with the oldest trees reaching up to 90 feet.

Indeed, Hetch Hetchy as it might have been seen by our forebears could be seen again in all its splendor by our children and grandchildren.

UNDOING A TRAGEDY

Native Americans lived in the Yosemite region for thousands of years before the 1849 gold rush lured prospectors to the area. Soon, homesteaders descended on Yosemite Valley.

Alarmed by this onslaught, John Muir and other naturalists lobbied Congress to protect Yosemite. In 1864, President Lincoln signed a bill to preserve the area for "public use, resort and recreation...inalienable for all time." In 1890, Yosemite National Park was born, encompassing Hetch Hetchy Valley.

The ink on the bill establishing the park had hardly dried, however, before San Francisco proposed damming the valley as a water reservoir. Teddy Roosevelt's administration ruled against

the idea as "not in keeping with the public interest." But after the devastating 1906 San Francisco earthquake and fire,

The Hetch Hetchy Valley of our forebears could be a restored park for our children.

a sympathetic Congress acquiesced to the city's request.

The loss of Hetch Hetchy devastated John Muir and mobilized a new generation of conservationists, determined to protect natural treasures that are too precious to lose.



Library of Congress

John Muir was heartbroken when Hetch Hetchy was sentenced to vanish under 300 feet of water.



Bancroft Library

Even chief dam engineer Michael O'Shaughnessy came to appreciate Hetch Hetchy Valley. He sent an image of it to friends in a 1919 Christmas card.

ties to reestablish themselves. The "bathtub ring" on the cliffs surrounding the reservoir would disappear naturally over time. After 50 years, forests would be well established, though still develop-

www.DiscoverHetchHetchy.org

What we propose: A safe, reliable and affordable plan

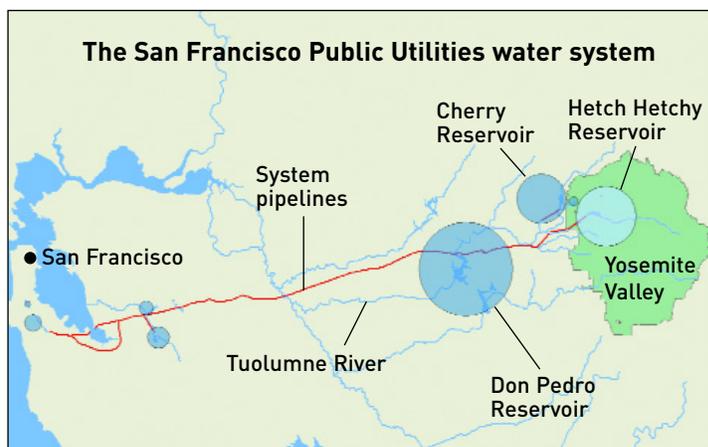
Hetch Hetchy Valley can be restored only after putting in place a safe, reliable and affordable plan to replace the water storage and hydropower currently provided by Hetch Hetchy Reservoir. The new Environmental Defense study will unveil just such a plan.

Under our proposal, San Francisco would continue to rely on Tuolumne River water for the vast majority of its needs. In winter and spring, the river's natural flow would provide ample water and power to the Bay Area, as it does today. In summer and fall, reservoirs outside Hetch Hetchy would provide enough water for all users, while leaving adequate "carryover" supplies as insurance.

Our plan would call for San Francisco to access its other reservoirs and its water bank in Don Pedro Reservoir. To

access its water bank—which can hold nearly double the volume of Hetch Hetchy—San Francisco will need to modify its agreement with Don Pedro's owners, the Turlock and Modesto irrigation districts.

In the driest years, which occur once every five years, the extra water needed (up to 25% of total demand) could be supplied in a variety of ways already used throughout California, including increased local surface storage,



The blue circles are proportional in size to San Francisco's storage capacity in system reservoirs. Improving the city's access to other reservoirs would make Hetch Hetchy unnecessary, our study concludes.

groundwater exchanges or transfers with irrigation districts.

The cost of retrofitting the water and power infrastructure in these ways is significant, although far less expensive than the water system overhaul already underway in San Francisco. In the process of restoring Hetch Hetchy, the interests of those who depend on the Tuolumne River must be protected, while the costs should be apportioned among all those who would benefit.

DESIGNING OUR PROPOSAL

In developing our proposal, we created a computer model to evaluate water supply alternatives for the Bay Area. We were joined by three of the most respected consulting firms in the field:

- Schlumberger Water Services provided engineering analyses and modeling assistance.
- Eisenberg, Olivieri and Associates analyzed water quality issues.
- Somach, Simmons & Dunn assessed the legal landscape.

Academic experts provided peer review of the study. The San Francisco Public Utilities Commission, the Bay Area Water Supply and Conservation Agency, and the Turlock and Modesto irrigation districts also provided information to help ensure a complete and accurate report.

Hetch Hetchy dream team

A leading player in state water politics once referred to our California regional director and attorney Tom Graff as "the brains of California's environmental movement." *California Lawyer* magazine just calls him "The Godfather." In the more than 30 years since he opened our first California office, Graff has helped shape the state's water policy. He pioneered water-marketing arrangements, allowing thirsty farms and cities to meet their needs without building dams.

While Graff navigates the politics, Spreck Rosekrans works the details. Rosekrans, a mathematician,

fell in love with the Sierra as a child and regularly rafts its rivers. Using computer models and other tools, he shows how water systems can protect fish and wildlife while meeting the needs of people.

Graff and Rosekrans worked with our economist Dr. Nancy Ryan, water analyst Ann Hayden and others on our staff to develop restoration options for Hetch Hetchy.

"Can you imagine today's teenagers, like my own, visiting the valley when they're 30, and then 40, and watching it come back to life?" asks Rosekrans. "That would be an amazing experience."



Attorney Tom Graff



Water analyst Spreck Rosekrans

Launching our new Discover Hetch Hetchy campaign

Continued from front page

ever erected in a national park.

The idea of restoring Hetch Hetchy Valley isn't new. President Reagan's Interior Secretary Don Hodel proposed it in 1987, and the National Park Service completed a study showing the valley would recover fully over time.

Nor is the idea of removing a dam new. For decades, the public has supported removing obsolete or unwanted dams. At least 465 dams have been removed from the nation's waterways since 1912. California alone has dismantled 47.

Nonetheless, returning Hetch Hetchy Valley to the people will require a broad public effort, and the new Environmental Defense study helps inform that process. We have joined forces with the Sierra Club and Restore Hetch Hetchy and will soon ask local, state and federal officials to review our findings and involve the public in a plan to restore the valley.

With a little imagination, the cooperation of government officials and the support of dedicated Americans, Hetch Hetchy Valley can recover its natural glory.

HELP RESTORE A NATIONAL TREASURE!

Environmental Defense needs your help to spread the word about the historic effort to restore Hetch Hetchy Valley. Please show your support by signing the "Discover Hetch Hetchy" pledge below and returning it today.

In honor of your pledge, we'll send you a special



A restored Hetch Hetchy Valley would be a popular destination for lovers of the outdoors.

refrigerator magnet with a hologram-like image that alternates between depictions of the submerged and restored valley.

And be sure to visit www.DiscoverHetchHetchy.org, where you can get the latest news and educate and involve your friends with our easy-to-use "tell a friend" features, like an emailable postcard showing what Hetch Hetchy could be like.

'DISCOVER HETCH HETCHY' PLEDGE

YES, I enthusiastically support the Environmental Defense campaign to restore Hetch Hetchy Valley in Yosemite National Park. Please keep me informed about your progress. I have marked the ways I'd like to help as opportunities arise:

- I'd like to receive email updates on the Discover Hetch Hetchy campaign. My email address is: _____
- I am willing to send letters to public officials in support of restoring Hetch Hetchy.
- I am willing to attend public meetings to support restoring Hetch Hetchy.
- I am willing to write a letter to the editor of my local newspaper.
- I'll help spread the word about the Discover Hetch Hetchy campaign to my friends and family.
- Other: _____

Signature _____ HH

3 EASY STEPS

- (1) Mark the ways you'd like to help;
- (2) Detach this form; and
- (3) Mail it back to us (using the envelope in the center of this newsletter)



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