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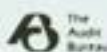
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**THE PLANET
ON YOUR PLATE**

Thank you for the most fascinating issue of *Sierra* yet (November/December 1994). The analyses of the relationship between our personal eating habits and the environment were profound and inspiring.

*Eve Abraham
Columbia, Maryland*

What especially pleased me in your November/December issue were Paul Rauber's articles ("Conservation à la Carte" and "Future Farming of America"), in which he makes explicit the connections among conservation, agriculture, and the way we eat. We have a long way to go in bringing conservation-minded people to a realization of these obvious connections, and in eliciting from them the necessary practical responses, but I think Mr. Rauber's perceptions are accurate and that his articles will help.

Far too many conservationists fall into line behind Hillary S. Tower's letter ("Last Words"). They think their food economy is "benign" and that if it is not, Gaia will forgive them. If we are going to be serious in our dealings with this particular goddess, we had better begin by granting that she has a memory. She will not soon forget the enormous violence we have done her with our teeth. I hope you will not let this subject disappear from your pages.

*Wendell Berry
Port Royal, Kentucky*

It takes a lot of courage to take on agribusiness, the American Farm Bureau, and the meat and dairy industries, and you deserve credit for finally discussing the food/environment connection openly.

*Alan Mendoz
Paradise, California*

I will admit that the subject of food choice is emotionally fraught with peril. But if *Sierra* is going to examine

the issue, I believe you have the duty to do so in a thorough and open manner. The devastating impact of cattle grazing on public lands, the health consequences of eating a meat-based diet, the ethical concerns of factory farming, and deforestation by Third World cattle-ranching countries are just a few of the important topics deserving careful examination. That you skipped over these difficult issues and chose instead to include sausage recipes in a sidebar to an article on \$150-per-meal gourmet restaurants demonstrates a lack of understanding of and/or commitment to the important environmental concerns of our time.

I can only speculate on why you chose material so neutral it could have appeared in the *Cattleman's Gazette*. Perhaps there is a fear of enlightening the donating segment of the membership that eats rainforest beef for lunch and Gila Wilderness steak for dinner, then writes a check to the Sierra Club in the mistaken belief that all is well. After all, it is easy to view lobbying and lawmaking as the answer to our concerns; it removes any personal responsibility for our actions by making the Club, not ourselves, the agent of change. However, food choice is an issue over which each one of us has deep personal responsibility and control. The answer may be found, not in the statehouse, but in the mirror.

*Jeff Pierce
Lenexa, Kansas*

An assiduous search of the November/December issue found modest support for vegetarianism: it was noted that fruit and vegetable eaters consume more antioxidants; there was a book review and one letter to the editor about vegetarian diets; and there was an acknowledgment that lactating women vegetarians may concentrate fewer biotoxins in breast milk than do lactating omnivores.

However, as scientists, physicians, and environmentalists, we feel obliged



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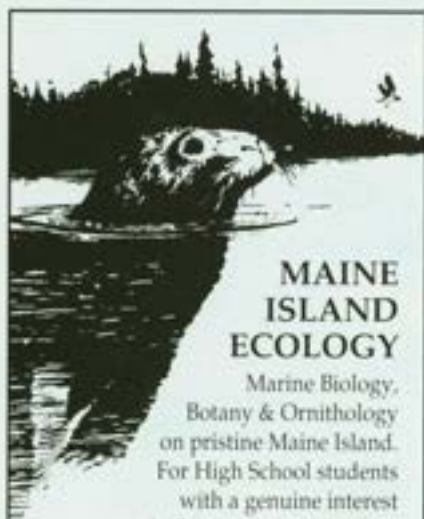
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to suggest that more planetary and human-health benefits would be realized by Americans eating less flesh than by most of the measures you suggested. By growing plants for direct human consumption rather than inefficiently processing them through other animals, we could lessen topsoil erosion, increase the amount of land that could be left wild, and decrease effluent from feedlots and pesticide use.

Readers desiring a review of related health issues may refer to our article in the May 1994 issue of the *Western Journal of Medicine*, "Health Effects and Prevalence of Vegetarianism."

Erica Frank, M.D., M.P.H.

Randall White, M.D.

Atlanta, Georgia

In "Conservation à la Carte," Paul Rauber incorrectly states that pesticide runoff into streams and rivers is the primary cause of water pollution in the United States. According to the EPA's latest National Water Quality Inventory Report, siltation and nutrients (nitrogen and phosphorus) impair more miles of rivers and streams than any other pollutants—affecting 45 and 37 percent of impaired stream miles, respectively. While pesticides have been detected in some drinking-water supplies, nitrate, a nitrogen compound, is by far the chemical contaminant most responsible for violations of drinking-water standards. Pesticides (which affect 27 percent of impaired stream miles) often seem to be used by environmental groups to gain the attention and dollars of the public, while the major causes of water pollution are ignored.

Roberta Parry

Agriculture Policy Branch

Office of Policy, Planning, and Evaluation

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THE SIERRA CLUB BULLETIN

THE NEWS FORUM FOR SIERRA CLUB MEMBERS

Open Season on the Environment

by Neil Hamilton

Quite simply, we are engaged in total war over the future of the environment," says Carl Pope, the Sierra Club's executive director. Even though the environment was rarely a prominent campaign issue, November's elections swept anti-environmentalists into power in Congress, governors' mansions, and city halls.

This new regime, after a long exile in the political wilderness, is itching to roll back three decades of protection for America's air, water, public lands, and public health. Name a place or statute, from the Arctic National Wildlife Refuge to the Endangered Species Act, and you can be sure that it appears on one hit list or another. Some anti-environmental hawks have single targets, while others seem bent on wiping the entire green agenda off the map.

A few have even gone public with their battle plans. The new House majority leader, for example, Texas Representative Dick Army, has promised: "If we don't close down the Environmental Protection Agency, we at least put a snaffle bit on them and ride



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the pony down. They're out of control."

And Wyoming's Alan Simpson, who now sits on the powerful Senate Finance Committee, has his own plans for the Interior Department. Secretary Bruce Babbitt, he predicts, "is going to be very well restrained," adding that he and fellow budget-slashers mean to "go through his little agency with a fine-toothed comb."

Such pronouncements

**Name a wild place
or an environmental
statute, and you
can be sure it
appears on one
hit list or another.**

seem strangely out of step with recent polls showing that Americans view environmental protection as vital and are willing to pay for it. An overwhelming majority identify themselves as environmentalists, a comparable number believe we need to strengthen environmental protections. So why has a determined band of congressmen declared war on the environment?

That's the question the Sierra Club and other environmental groups hope millions of voters will be asking their elected officials in coming months. By holding citizen hearings and conducting petition drives across the country, the Club hopes to activate the environmental majority to take legislators to task for their anti-environmental positions.

Dousing the firebrands may be the least of environmentalists' problems, however. The more insidious threat comes from those who are going about their work quietly in what *Business Week* calls a "stealth" campaign.

House Speaker Newt Gingrich's Contract With America, for example, never mentions the environment. Read the fine print, however, and you'll find radical anti-environmental provisions couched in terms of cost-benefit analyses, risk-assessment requirements, and unfunded mandates. One would limit the cost of federal regulations to 5 percent of the gross domestic product. Another would trigger compensation for property owners whenever federal regulations reduced the value of their holdings by 10 percent or more.

Provisions like these have a populist ring, and are calculated to tap into voters' deep frustration with government. Their aim, however, is to block future environmental and safety regulations, and force the repeal of many now on the books.

Anti-environmentalists learned from the lightning-rod reign of James Watt, Ronald Reagan's first interior



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secretary. Watt's rantings served only to fan the flames of environmentalism. The Contract does not repeat that mistake; its bombs are swathed in soothing anti-regulatory rhetoric.

Yet the Contract would place the most basic environmental statutes—the Clean Water Act, Clean Air Act, Endangered Species Act, Superfund law, Safe Drinking Water Act, and others—on the chopping block. Even fresh initiatives, such as the California Desert Protection Act, are in danger of being scaled back in the relative obscurity of the appropriations process.

A similar attack is under way at the state level, where many governors are racing Congress to see who can cut environmental funding more quickly.

The second part of the strategy, as outlined in the Contract, would drain governments' ability to enforce environmental laws. By requiring agencies to undertake a lengthy and expensive review of all regulations—and to compensate polluters and others whose profits might be diminished by behaving responsibly—these provisions could make legislators balk at any new protection.

As in November's elections, though, neither the media nor Newt's warriors—with a few notable exceptions—are shining a spotlight on the environment. That, say Sierra Club leaders, is up to us.

"We know that taxpayers are willing to pay for environmental protections," says Executive Director Pope. "We have less reason to believe that taxpayers would be willing—or should be willing—to pay polluters to obey environmental laws.

"All Americans have the right to a safe and healthy environment. Exposing and stopping this cynical ploy to price environmental, health, and safety protections beyond the reach of most citizens is the top priority of the Sierra Club this year."

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Volunteer
SPOTLIGHTYoung Club Activist Dispels
"Generation X" Myth

by Amy Wilson

David Wise is living proof that effective activism stems as readily from energy and enthusiasm as it does from experience. His first contact with the environmental community was in December of 1993. Less than a year later, Wise employed skills gained during a summer internship with the Sierra Club in Washington, D.C., to direct the Sierra Student Coalition's first-ever political program.

The Coalition was created in 1991 by Adam Werbach—now a member of the Sierra Club's Board of Directors—to encourage activism among the Club's 50,000 student members. Wise, a junior at Brown University in Providence, Rhode Island, was initially recruited by an SSC leader to work on a population campaign. As he got to know the SSC, he realized that while it had a powerful grassroots base—with more than 10,000 student activists nationwide—there was a missing link: "We needed to be connected to the bigger picture of environmental politics in Washington."

With that in mind, he spent the summer of 1994 as a Sierra Club intern, working alongside the Club's national field director, Bob Bingaman.

"In D.C., I worked with professionals who have been political activists longer than I've been alive," he says. "With Bob's guidance, I created a comprehensive plan for an SSC political campaign."

The plan called for the SSC to help elect 13 Club-endorsed candi-

dates for the Senate and House. "We used two criteria," Wise says. "The candidates had to be in districts with lots of students, and they had to be environmental champions facing tough races."

Election day proved just how tough those races were. Yet a majority of the candidates supported by the SSC prevailed.

Two razor-thin House victories in particular stand as testimony to the hard work of student activists. Incumbent Maurice Hinchey (D-N.Y.) edged past his opponent to win by 1,300 votes. More remarkable still, incumbent Sam Gejdenson (D-Conn.) claimed victory by a margin

of only two votes. The SSC was in the thick of both races, organizing students, conducting voter registration drives, and spearheading an intensive get-out-the-vote effort.

"Nobody can tell us that our activism doesn't matter," says Wise, who is considering a career in environmental policy-making. "Last fall, students became really frustrated about our nation's environmental problems. Instead of just complaining, they did something about it."

"Adults have to discard the myth that young people are apathetic 'Generation Xers' who don't care about the future," he adds. "Speaking up for what you believe in, fighting for a cause—that's what makes your time as a young person really worthwhile."



David Wise

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Outside Magazine, February 1997

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Letter from the
PRESIDENT

Defending the Environmental Agenda

As I write, Americans face new challenges to their right to a safe and healthy environment. Although last November's elections were in no sense a referendum on the environment, new forces now control powerful committees in the 104th Congress and in many statehouses, and aim to roll back many of America's environmental laws and programs of the past 30 years.

Assaults on our environment are nothing new, but the next two years seem certain to bring with them an unaccustomed ferocity. Already, one U.S. congressional committee chair has called for creation of a national parks "closure commission", old foes of the environment pledge to open the Arctic National Wildlife Refuge to oil drilling, others call for weakening the Endangered Species Act and allowing expanded cuts in old-growth forests. And Newt Gingrich's Contract With America contains a veritable poison pill box of "takings," mandatory "risk assessments," and regulatory quotas that would weaken America's environmental and public-health protections.

With such challenges ahead, what is the Sierra Club's role, and what have we been doing?

In the past six months, the Sierra Club has completed an extensive reorganization that eliminated our structural deficit, focused our financial and human resources on our core conservation values, and put in place an unprecedented grassroots campaign to defend critical environmental laws and programs.

In December, the Club's Board of Directors took the unusual step of approving a single overarching national campaign for 1995-96: Defending the Environmental Agenda. This decision mirrors grassroots priorities: in Club-wide balloting, groups and chapters

identified the need to combat the Wise Use movement and stop takings legislation as our most urgent task during the next two years.

Immediately following this decision, new "strategy teams" began laying the groundwork for coordinated campaigns to carry our message into high-priority areas across the country. That message is simple: Americans have a right to a safe and healthy environment. Don't let them take it away.

Most importantly, many former Club members have begun calling to tell us they are rejoining, and new members and activists have stepped forward to say—to quote one who wrote me personally—"there is no other environmental organization better able to respond to this 'war on the environment' than the Sierra Club."

Their views, I believe, reflect a far wider concern. Americans did not sign a "contract" in November to dismantle three decades of environmental protection. Most Republican voters want to preserve America's natural heritage and protect our public health every bit as much as Democratic voters.

Working together, we can reverse the tide of this war on the environment. Each of us can help to influence the media and elected officials in our communities. For the majority of those newly elected to Congress and to the statehouses, the environment simply was not an issue. They need to hear from us—and from local reporters and talk show hosts—that Americans still value wild lands and safe drinking water, clean air, and neighborhoods that are free of toxic chemicals and hazardous wastes.

Will you help? We need:

- Activist leaders who will help to strengthen our networks to alert mem-



by J. Robert Cox

Americans did not sign a "contract" in November to dismantle three decades of environmental protection.

bers, publicize the war on the environment, and mobilize public sentiment;

- Members who are willing to write, phone, fax, or visit elected officials and media representatives in their communities; and
- Supporters who, through their renewal of membership and annual donations, make possible the Club's vital work.

Each is a crucial link in a far larger campaign, and a voice for a safe and healthy planet, secure for our children and their children. The vision, skill, and commitment that saved the Grand Canyon from dams and won passage of the 1994 California Desert Protection Act—which safeguards more wilderness and parks in the lower 48 states than any measure in U.S. history—will help us win this struggle as well.

Join with us today. Contact your local group or chapter, or call the Sierra Club's national Campaign Desk at (415) 776-2211 to receive activist alerts with news and information on our campaign to defend the environment. More than ever before, we need to remember we have just "One Earth, One Chance."

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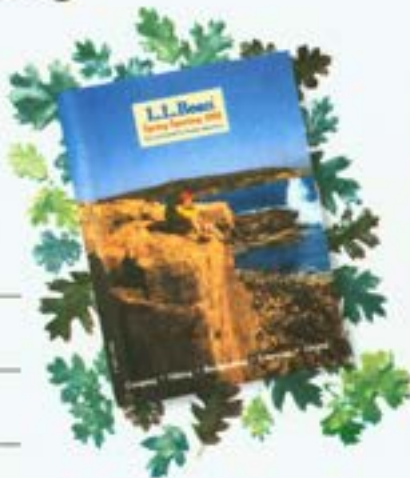
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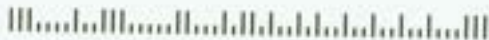
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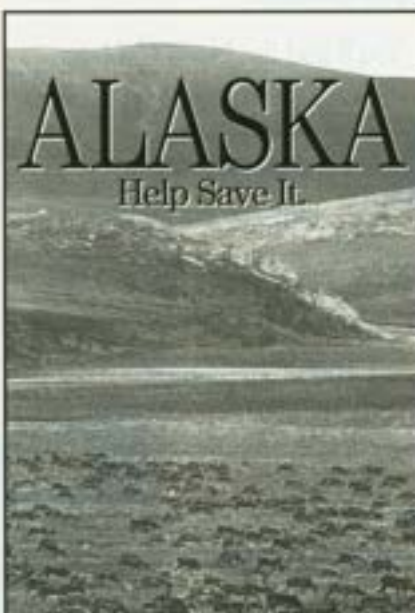
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Sierra Club and Sierra Club Legal Defense Fund: Common Names, Common Aims, Yet Distinctly Different

by Tom Turner

On September 28, 1994, the Disney Company gave up its plan to build Disney's America, a Civil War theme park just outside Haymarket, Virginia.

Criticism of the plan had been intense: from historians, who felt the park would cheapen the actual war sites that surround Haymarket, from local farmers, who feared the creeping suburbia and strip development that inevitably would accompany the project, and from environmentalists, who worried about all that plus traffic, pollution, and general degradation of a rural, rustic countryside.

At the core of the environmentalist resistance were the Sierra Club and the Sierra Club Legal Defense Fund. The organizations are old and true friends, but, despite their names, are completely independent one from the other.

The Club, with strong staff and volunteer participation, organized, lobbied, and built public opposition to the project. The Legal Defense Fund's lawyers did legal research, provided formal comments on various zoning decisions, and were in the midst of preparing legal challenges to the project when Disney pulled the plug.

This teamwork goes back nearly a quarter-century, to its roots (oddly enough) in another struggle with Disney. In the mid-'60s, Disney proposed building a huge ski resort that would have wrecked Mineral King valley in the Sierra Nevada. Political support for the proposal was broad. Appeals to reason were in vain. Finally, the Club filed a lawsuit, one of the first of its kind, seeking an injunction. The injunction was granted. The suit, known as *Sierra Club v. Morton*, wound

up before the Supreme Court. The case affirmed the right of citizens to take environmental disputes to court, it is still taught in law schools. The resort was never built.

So successful was the case that staff and volunteers for the Club sought to create a permanent legal presence for conservation. With help from the Ford Foundation, the Sierra Club Legal Defense Fund was born in 1971. It has grown to become the world's largest public-interest organization whose first priority is environmental litigation.

In order to be eligible to receive tax-deductible contributions, the Legal Defense Fund was deliberately set up with its own bylaws, trustees, staff, budget, and program. Headquarters were, and remain, in San Francisco. A second office opened in 1972 in Denver. By 1993 there were nine offices from Alaska to Florida, Washington, D.C., to Hawaii. Having started with two lawyers, the Legal Defense Fund now employs 40.

The Legal Defense Fund is supported by 135,000 individuals, dozens of foundations, and court-awarded attorney fees. It represents the Sierra Club and several hundred other organizations—national, regional, and local.

The roles of the Club and the Legal Defense Fund, though they overlap occasionally, are generally quite distinct. The Legal Defense Fund is a law firm. It represents clients, of which the Sierra Club is one of the most frequent. Unlike other litigating organizations (Natural Resources Defense Council, Environmental Defense Fund, Conservation Law Foundation), the Sierra

Club Legal Defense Fund does not bring cases in its own name. It aspires to be the law firm for the environmental movement.

Through its own, independent Environmental Law Program, the Sierra Club brings scores of lawsuits each year—often represented by the Legal Defense Fund, but more often by other outside lawyers.

The Environmental Law Program embodies the essential Sierra Club national/grassroots partnership: five volunteer and two staff lawyers provide legal and strategic expertise to chapters and groups throughout the nation. The program, which is supported by individual contributions and foundation grants, raises funds for its in-house lawyers, and for litigation fees and costs.

It is, frankly, a confusing situation. Sierra Club members often believe, quite reasonably, that their dues help support the operations of the Legal Defense Fund. Similarly, many supporters of the Legal Defense Fund think that their contributions fund Club operations, or even think that their support of the Legal Defense Fund makes them members of the Club.

Neither assumption is correct. To support both the Sierra Club and the Sierra Club Legal Defense Fund one must make separate contributions to each organization—which we strongly encourage readers to do.

Because one thing is for certain: following the November 8, 1994, elections, the environmental movement needs all the help it can get, for all the activities it engages in, especially for grassroots activism and for litigation. The political arena is going to be a very difficult place for the environment for the next two years at least. The energy of the grassroots and the equalizing power of the courts will be needed as never before.

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Carl Pope

To a Former Sierra Club Member

Dear Mr. Gingrich: Now that you have assumed your new role as Speaker of the House of Representatives, the American people will be looking to you for leadership in many areas, including the environment. You might find it useful in this regard to reflect on the years from 1984 to 1990 when you were a member of the Sierra Club, and on the clear environmental values you articulated at that time. Those values are still firmly embraced by a large majority of people in this country, citizens who expect nothing less of their leaders.

As a Sierra Club member, Mr. Gingrich, you opposed drilling for oil in the Arctic National Wildlife Refuge, calling it a "188-day quick fix" for America's energy future. "Fuel efficiency and conservation measures have a greater potential for providing long-term energy security for our nation," you said in response to a Sierra Club questionnaire. "The dramatic increases in fuel efficiency seen in America's automotive fleet are evidence of how we can meet energy needs of the future." The Sierra Club applauded those sentiments then, and the American people would do so now.

You bluntly stated your opposition to the way the U.S. Forest Service manages the national forests. "I oppose below-cost timber sales and uneconomic roadbuilding in our national forests, period," you said. "Subsidized logging operations, as well as subsidized forest roadbuilding, at the U.S. taxpayer's expense, should cease. It's unfortunate that national forest management yields too often to local special interests."

You also pledged your support for federal programs to protect wetlands. "The ecological significance of freshwater wetlands, and the significance of the rapidly declining acreage of wet-

lands in the United States, cannot be overemphasized," you warned. "It is vital that our wetlands are protected."

In 1988, you joined a majority of your colleagues in pledging support for the tough Clean Air Act that Congress later passed. You specifically advocated strong controls on toxic emissions—controls that would require the EPA to set deadlines for regulating cancer-causing poisons in our air. In all these positions you had the full support of the Sierra Club, leading us to endorse you for election on several occasions.

Now you are Speaker of the House, and have initiated a Contract With America. While public debate on this contract has focused on other aspects, buried within it is a covert attack on the environment that is wildly at odds with

*Will the real
Newt Gingrich
please stand up?*

■

the record you built up during most of your political career.

How are we to reconcile the old Newt Gingrich with the new? The old Gingrich pledged to protect the wetlands that provide us with clean water, flood protection, and abundant wildlife, while the new Gingrich would require the taxpayers to compensate any property owner, however large and wealthy, whose property value was diminished by as little as 10 percent as a result of protecting those wetlands.

Given your positive environmental record, what led you to select, as chairs of the key environmental committees in the House, members with anti-environmental voting records as extreme as Don Young's of Alaska and

Thomas Bliley's of Virginia? (Both received ratings of zero from the League of Conservation Voters last year.)

Why does your Contract advocate a radical version of risk assessment, the pseudoscientific process of judging when a poison is "safe enough" to inflict on the public? The risk assessment standards in the Contract would delay indefinitely the promulgation of those same clean-air standards you were once so eager to promote. And, when you speak of risks, what about the risks to the health and safety of the millions of Americans who are the supposed beneficiaries of your Contract?

And why, especially as a former Sierra Club member, did you use membership in the Club as a negative litmus test in questionnaires given to potential House staff employees?

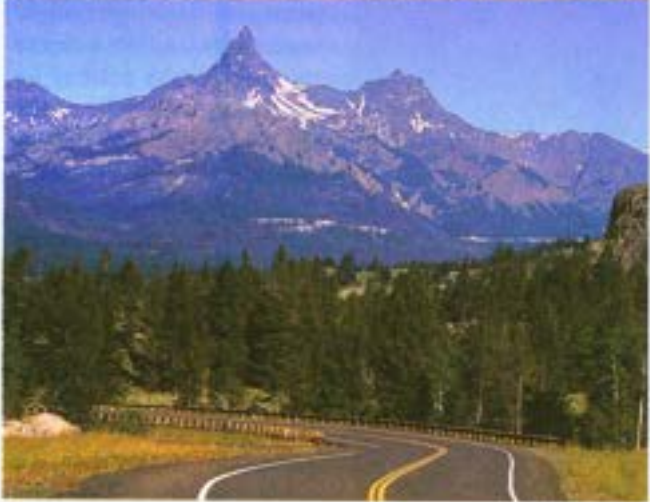
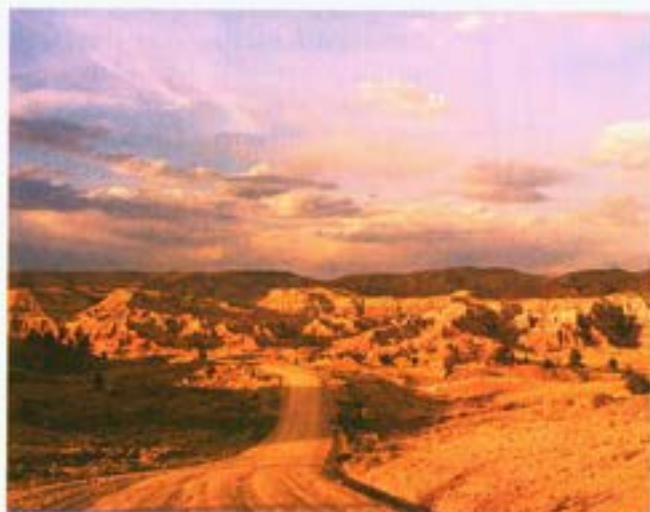
Remember what happened in the 1980s, Mr. Gingrich, when Ronald Reagan allowed James Watt and Anne Burford to take his new Republican administration in a direction far more hostile and anti-environmental than he had taken as governor of California. Both the Reagan administration and the environment suffered as a result. The American people rejected the Watt/Burford effort to sell off their environmental heritage, and the environment suffered eight years of conflict and neglect.

The question for you now is whether you wish to lead a new war on the environment, which some in the House seek (and which the Contract With America guarantees) or whether you will respond to your own better instincts and make peace with the earth.

The Sierra Club, and the American people, are waiting for your answer. ■

CARL POPE is the executive director of the Sierra Club.

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HEARTH & HOME

Backyard Biointensive

JOSEPH CANNAN

Imagine spending less time in your garden, yet growing more; imagine relaxing amid plenty while your neighbors wrestle Rototillers, swear at insects, and root in a jungle of weeds. Biointensive gardening will allow you more leisure, healthier soil, more vigorous plants, and more abundant food, all in a surprisingly small space.

In the 1920s, English horticulturalist Alan Chadwick began combining the "French intensive" method of extremely close crop spacing with "biodynamic agriculture," a system developed by Austrian educator and philosopher Rudolf Steiner that makes use of raised soil beds, organic fertilizer, and companion planting (grouping mutually beneficial plants to cut down disease and insect infestation). In the 1960s Chadwick's thriving gardens at the University of California in Santa Cruz attracted the attention of gardener and researcher John Jeavons, who was trying to grow the greatest amount of food possible on the smallest amount of land. He and others involved with the group Ecology Action began to work with Chadwick's methods. The result became what is now called biointensive agriculture.

This approach keeps the soil fertile and productive by using natural processes. Jeavons states that biointensive needs 67 to 88 percent

less water, 50 to 100 percent less purchased fertilizer, and 99 percent less energy per pound of food grown compared with typical farming practices in the United States—and yields 2 to 6 times more. Such efficiency becomes especially significant when

Dig deep—
and waste not
the recurring spring



you consider the world's shrinking amount of arable land, rapid population growth, dwindling water supply, scarcity of locally available soil amendments, and dependence on petrochemicals for both the production and distribution of food.

Using the biointensive method, Jeavons says, 2,000 to 4,000 square feet of land will produce enough food to meet the nutritional needs of one person eating a plant-based diet. (To feed one meat-eating American currently requires about 43,000 to 85,000 square feet.) A backyard biointensive gardener can grow a year's supply of fruits and vegetables (322 pounds) on as little as 100 square feet in a six-month growing season.

Here are a few steps you can take to reap a biointensive bounty from your garden (see "Resources," page 82, for further information):

- To determine what can be grown in your area, familiarize yourself with the first and last frost dates, high and low temperatures, and how many hours of sunlight your garden will receive.

- Figure out how much water is available. If your water is chlorinated like most city water, you might want to let it sit for a day or more in a baby pool or an old bathtub to allow the chlorine (which kills beneficial microorganisms in the soil) to evaporate.

- Find out what kind of soil you have, whether clay, sandy, loam, or other. Test for its mineral content, pH level, and nutrient makeup, either by sending samples to a lab, or by "reading" the vegetation growing on it.

- Prepare the soil by dou-

Sliding Scale

HANNAH HINCHMAN

ble-digging to a depth of 2 feet. For instance, dig a trench 5 feet long by 1 foot wide by 1 foot deep, then loosen the soil 12 inches below that with a digging fork. Make another trench of the same dimensions, shoveling the dirt from the new trench into the first, being careful to keep the soil in its natural stratification layers. Repeat until you've used up your allotted space, or until your neighbors begin to look at you oddly.

• If the soil tests low in nutrients, add compost before you dig. Start a compost pile with layers of dry material like straw (for carbon), greens (for nitrogen), and soil (for microorganisms). Water each layer as it is added.

• Plant in a hexagonal pattern, so the outer leaves of the plants, when fully grown, will touch the outer leaves of adjacent plants. This helps reduce evaporation, and allows the largest possible yield because no space is wasted between rows. It also shades and crowds out weeds.

• Observe the soil and crops carefully, keeping records of what works and what doesn't.

• Save some seed from open-pollinated plants (rather than hybrids, which don't reproduce well) for next year's garden.

John Jeavons has described the process of biointensive gardening as involving not only learning new techniques, but also coming to understand the interrelationships in nature and learning to work in harmony with them. That, in Jeavons' words, "requires slowing down so that our hands, hearts, and heads can fully observe, feel, and understand the whole of the environmental fabric as well as each of its threads." ■

JOSEPH CANNAN is a writer and biointensive gardener living in San Francisco.

► For more information, see "Resources," p. 82.

When I go to Table Mountain I usually don't bother asking anyone to come along. "Want to go see the solifluction lobes?" I know my friends' response would be less than enthusiastic. Table Mountain is really a mesa, its flat summit paved with short, gold grass and multicolored stones. Few people would consider it beautiful, though its horizontality exerts a strange magnetism. I am heading for the north edge, to get a closer look at the landslides I can see from more than a mile away.

If I knew how to make a scientific study of anything, I'd do it here. I'd explore, in these slides, how geology influences ecology. The best I can do now is make a map, and sketch some of the features. Along the rim of the mesa are great scarps, and sharp-edged

cracks in the ground, where the earth is literally being pulled apart. Down-slope are waves and overturnings, humps and depressions. At the bottom edge, bulging slide lobes spit out boulders and engulf much older drainages. Wildly divergent plant species grow right next to each other.

During my last walk in the slide, I came up with a theory for why this slope is so unstable. I called David Love, a geologist who seems to have walked every square inch of this part of Wyoming. "Do you know about the

Thinking like a mountain
is all a matter
of timing





slumps on the back side of Table Mountain?" I asked. "Oh yes!" he said. "They're happening right now. Have you seen the tilted trees? Some of them have multiple kinks."

He confirmed my theory that the gravel-and-cobble surface is a thin veneer over badlands-type clay layers beneath. When the water from the snow that accumulates on the north side percolates through the gravel, it hits bentonite, the material that forms Wyoming's famous "gumbo" mud. Bentonite, when wet, expands to eight times its dry volume and turns greasy, creating a fine, sliding surface, so entire sections of the flat summit go oozing down the hill. Sometimes the grassy surface stays intact and horizontal; at other times the whole mass churns itself into earthen whitecaps.

Later, Love and I walked around on the slide, and he pointed out subtle signs that I wouldn't have noticed. We discovered a number of Indian "look-outs," small stone circles within which watchers

crouched, able to survey the country without being silhouetted against the sky. One was built just below a slide scarp, and appeared undisturbed. Several yards away, another, older stone circle had been stretched apart by the slide and further disguised by currant bushes. "They may have abandoned that lookout because the ground was moving too much under it," Love said, "and then built this new one in a more stable place."

The limber pines that grow in a curve, or a series of curves, to stay upright while their roots ride down the hill, could be the real key to this puzzle. Coring them would probably show that the slide has been active for at least several centuries.

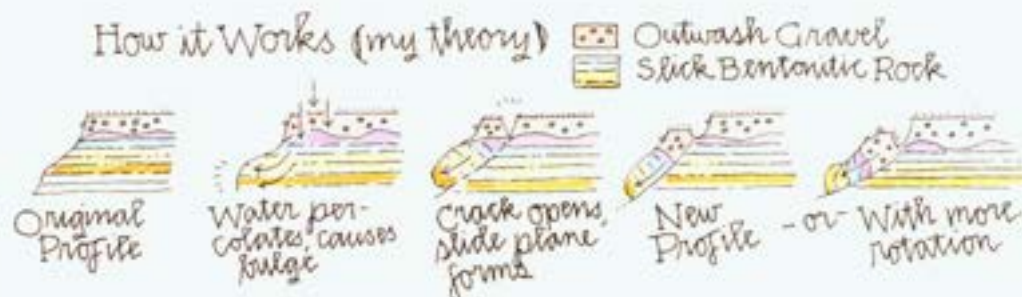
And it's still in motion. Impercepti-

ble to us, these changes are geologically sudden. Because we experience the world in "organismic time," as E. O. Wilson describes it, our awareness is limited. We lack the ability, except imaginatively, to grasp "geologic time" or even "ecological time," the realm in which the slide occurs.

Sometimes, by watching clouds form or dissolve, I try to extend the range of time that I can perceive. It's hard to do. Cloud movements occur just below the threshold of what I can register, and remind me that we inhabit a very narrow sensory band. But the cloud-training helps, if only symbolically. When I go to the slide on Table Mountain, I don't expect to see it move, but I feel the prickle of eventfulness, and that helps me visualize what is happening.

Cultivating an acquaintance with geologic and ecological time has made this whole country seem new. As I drive south along the Wind River, I can say, "Look at what just happened: the Torrey Valley glacial moraine has pushed the river over against the badlands. Now the badlands are eroding more quickly." The "just" refers to an event some 10,000 years ago, but it still seems recent, and exciting.

There is a strange corollary to all this. I struggle to picture the sequence of movements in the slide; to do that, I must imagine time compressed, as in time-lapse photography. When I return from these mental gymnastics, the present seems to have inflated, to have slowed down, and ultimately, to contain more. ■





Arctic Adagio

DOUGLAS VAUGHAN

I can't say what compelled me to head so far north; maybe it was the allure of the wilderness road. I obliged my wife and nine-year-old son to come along, claiming a perfectly healthy, if somewhat unusual, interest in arctic birds.

We would drive to the Yukon, where we would catch the Dempster Highway, a gravel ribbon reaching 460 miles north and east from the Klondike gold country to the Mackenzie River delta in the Northwest Territories. Along its way lay tundra and taiga, subarctic mountain ranges, great rivers, three crossings of the Continental Divide, and the Arctic Circle. And at the end of the road the Western Canadian Arctic, home of an aboriginal people still subsisting on caribou

and beluga and an occasional bowhead, purported last refuge of the near-extinct Eskimo curlew, and haven for one of the continent's most obscure birds, the Siberian tit.

The Dempster is a masterpiece of understatement. Its scenic repertoire is rich—boreal forests, braided streams meandering between willow-lined banks, still ponds of dark water, sheltered valleys of spruce and shadow, talus heaps and scree—but the landscape never raises its voice. No snack bars, gas stations, utility poles, billboards, or fences; no alternate routes. Then, at milepost 231, marked by a Canadian flag stretched stiff in the wind, a few amenities: gas and emergency repairs, a single-story hotel, and an RV campground—all in a setting of abandoned oil drums, blowing dust, and wheeling ravens.

In the early evening light near the Arctic Circle, in the wind-sculpted Richardson foothills, four longtailed jagers took flight upon our approach. These elegant predators, essentially pi-

ritical gulls, come ashore only to nest; by late summer they would be gone, to spend most of the year upon the vastness of southern oceans. I had seen them in the fall, far off the California coast, in direct and level flight, southbound. Here, beside the road, they cavorted, embodiments of grace above a stage of seamless green.

The next morning we paused as we prepared for our final crossing of the Continental Divide. Somewhere far to the south, the Divide had come to represent not a division between east and west, Atlantic and Pacific, but rather Arctic and Pacific. The northbound rivers have many names—Athabasca, Liard, Peace, Peel—but the many strands are ultimately gathered into one, the mighty Mackenzie, master river of the North, only to unravel again on the arctic coast in a labyrinthine delta. And as if to celebrate this symbolic final passage, we watched for a time a pair of northern wheatears, as emblematic of the treeless North as any songbird. After nesting, these reticent cousins of our familiar bluebirds strike out to the east or west, along the ancestral paths by which they invaded the hemisphere, then south to their wintering grounds in Asia and Africa. Unlike snow buntings and redpolls, wheatears re-

Landscape with
birds, in the
key of gray

main strangers to temperate North America, even in winter.

Finally we came to the end of the road, the town of Inuvik, the largest settlement in the Canadian Arctic. Just beyond lay Reindeer Station, a place to find Siberian tits. But during the night a rising wind from the northwest blew a light rain before it, and by morning whitecaps punctuated the cold waters of the river. The Coast Guard issued small-craft warnings. A local Inuit guide was willing to take us to Reindeer Station nonetheless, but even his most inspired incantations failed to arouse his ancient outboard. Bad solenoid; not today. The glowering skies matched my mood as I looked downriver, 4,700 miles from home, 20 miles from some of the rarest birds on the continent, and stranded.

The arctic skies were still brooding on our last morning in Inuvik as we made ready to retrace the Dempster. We took time to walk a ways on our ribbon of gravel, succumbing again to the peaceful countenance of the tundra, watching a golden eagle soar regally to invisibility, listening to unseen shorebirds calling from nests on the slopes below, ignoring after a few minutes the familiar road to enjoy for a last time the perfect solitude.

Months later, in September, I find myself once more on the gray Pacific off the California coast. Only pomarine and parasitic jaegers are close to shore, larger and more ponderous than their long-tailed cousins. Over deeper waters are the longtails, the adults still black-capped and yellow-frosted at the collar, but none with their showy summer streamers. As usual, they strike me as intent upon their passage, briefly harrying a tern perhaps, then on their way. An equatorial limbo awaits them, and now I see in their flight a reluctance to bear south. ■

DOUGLAS VAUGHAN lives and writes in Berkeley, California.



Flesh Wounds

MICHAEL CASTLEMAN

There are two excellent reasons to stop eating meat: your own well-being, and that of the planet.

Many studies show that a diet high in flesh, especially beef, pork, and lamb, increases the risk of heart disease and several cancers, especially those of the breast, prostate gland, and colon. A study published last July in the *British Medical Journal* compared the health of 6,000 vegetarians and a similar number of their omnivorous friends and relatives. The vegetarians' death rate from heart disease was 28 percent lower, and they had 39 percent fewer deaths from cancer.

The most troublesome fat for your health is the saturated variety. Saturated fats lurk in whole-milk dairy foods—cheeses, butter, ice cream—but red

meats are still the nation's major source. Even lean red meats can contain more fat than many nutrition authorities advise eating.

Meat's fat content and the downside of a high-fat diet may seem like yesterday's news. But meat does more than clog our arteries. It takes such a tremendous toll on our land and water that even if you're not counting milligrams of cholesterol, you might want to pass up that burger in favor of a fresh salad and a

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more than you
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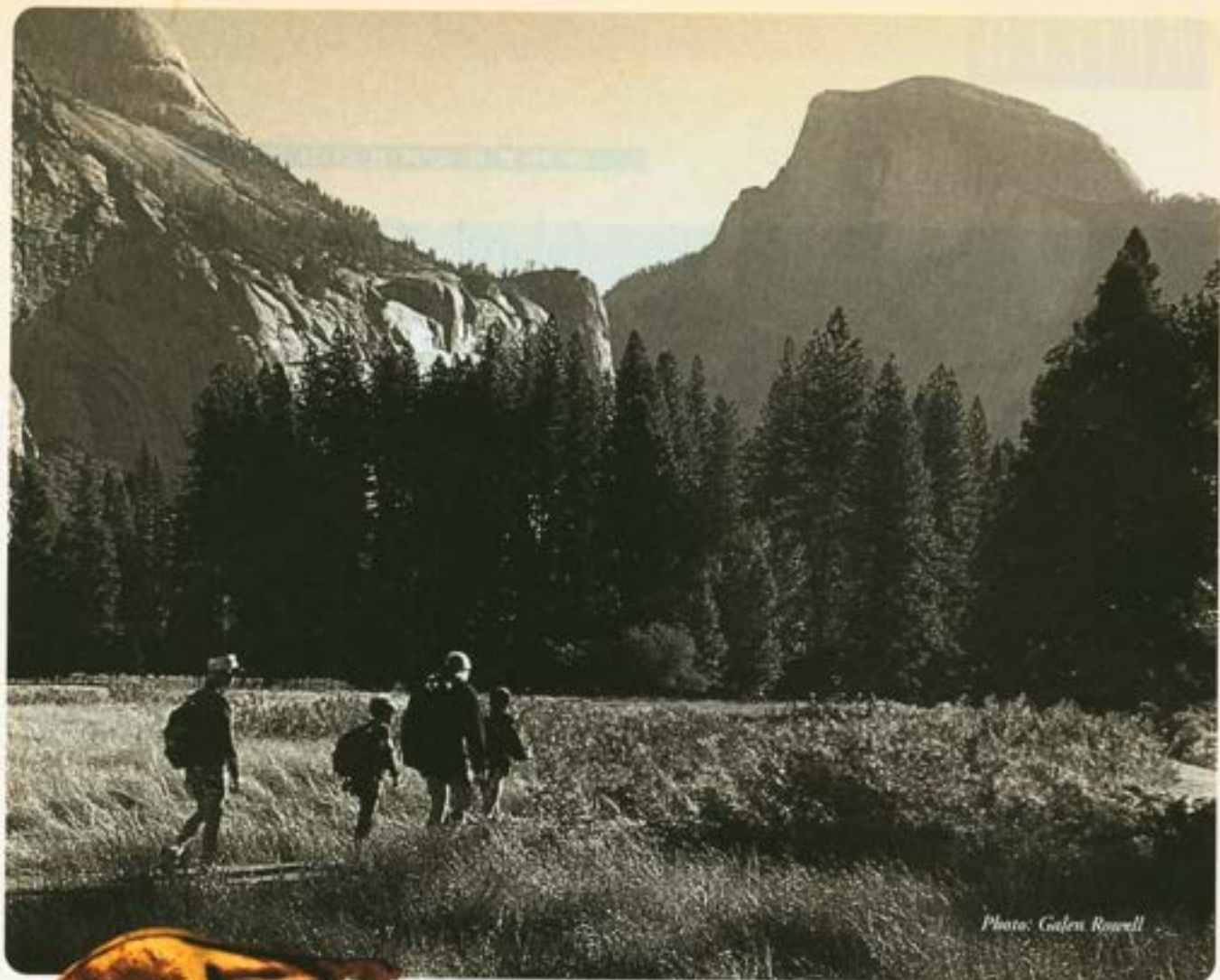
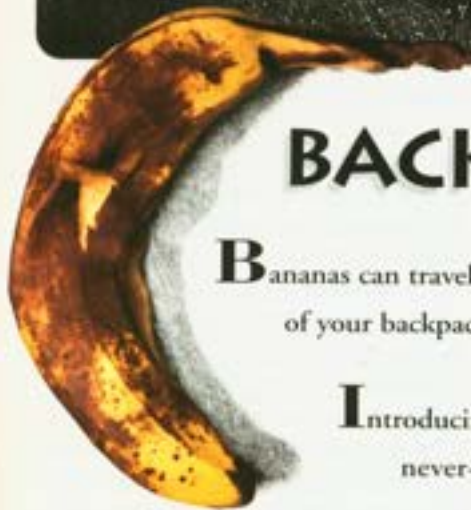


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Island of Rivers

TIM MCNUITY

hearty bowl of lentil soup.

About 50 percent of the land in the United States is devoted to agriculture; approximately 80 percent of that is used for grazing or growing feed. The situation is similar in the tropical rainforests, where more than a third of the 150 acres of jungle cleared each day are used for large-scale cattle ranching. For every burger produced from Central American rainforest, 55 square feet of forest life are sacrificed.

Cattle also use an extraordinary amount of water. About 50 percent of the water consumed in the U.S. goes to livestock. In some regions, the proportion is even higher; 75 percent of the water drawn from the Ogallala Aquifer, main water source for the High Plains, is for beef production.

Our dietary choices can make a dramatic difference: it takes about 300 gallons of water a day to provide all the food for the average vegan, a person who consumes no animal products whatsoever. For those who eschew flesh foods but eat eggs and dairy products, the figure is 1,200 gallons a day. For the typical meat-eating American, it's 4,200 gallons.

While livestock raising soaks up half the water supply, it pollutes a significant amount of the other half. The typical cow produces 20,000 pounds of manure each year; less than half is recycled into fertilizer. The remainder, along with other livestock-industry wastes, accounts for more than half of the water pollution in the United States.

According to the American Dietetic Association, a balanced vegetarian diet can provide all essential vitamins, minerals, proteins, carbohydrates, and fatty acids. But a survey commissioned by *Vegetarian Times* magazine shows that while 76 percent of Americans call themselves environmentalists, only 2.8 percent are vegetarians. Maybe it's time to eat our words. ■

► For more information, see "Resources," p. 82.

The snowmelt stream rippled brightly beneath the mossy trunks of fallen trees, paused in a rock-walled pool, then riffled over a gallery of polished boulders into sunlight. The quick splashes of silver in a side channel across the river were hard to see in all that light. But following my pointing arm, my five-year-old daughter gave a shout when she saw them. "Salmon!"

We spent the rest of the afternoon wading in bouldery shadows near the shore as the first Graywolf River pinks made the summer climb to their spawning gravels in the deep, unbroken forests of Washington's Olympic Mountains. The Graywolf pinks are unique among the wild swimmers, returning earlier and climbing higher than other pink-salmon runs in the Northwest. Because they spawn only in odd-numbered years, I was anxious for my daughter to see them. Caitlin was too young to pay them much attention on their last visit, and another cycle seemed too long to wait. We camped that night beneath valley-bottom trees, and listened as the stream whispered its news.

More than a dozen rivers rise in the glaciers and snowfields that mantle the mountainous heart of the Olympic Peninsula, radiating outward like the silvery spokes of a wheel. Each river has its own character, its own mix of forest and wildlife communities, and its distinctive races of wild salmon.

Salmon are the bearers of gifts to these island-like mountains and forests. In the downhill flow of rain and snow from the Pacific, they alone return valuable nutrients leached from the soil and flushed out to the sea,

Upon ascending the rivers of their birth, salmon spawn, laying and fertilizing their eggs in clean-washed river gravels before they die. This heroic expenditure not only ensures the continuance of their kind, but their spent carcasses remain to feed a host of terrestrial wildlife. Bald eagles, black bears, river otters, mink, even the diminutive winter wren and deer mouse share in this seasonal banquet that will help see them through the critical months of winter.

Of the many rivers that drain this range, the Graywolf holds a special magic for me. One of the last unroaded low-elevation valleys, its steep, rugged slopes were a refuge for gray wolves before they were hunted and trapped to extinction in the 1920s. The valley was still unscarred by logging a half-century later when I first came to the Peninsula to live.

Before long I had plunged into a prolonged effort to help save it—and several other Olympic valleys—from the designs of a cadre of road engineers and timber-sales specialists in the employ of the U.S. Forest Service. A decade of letters, articles, meetings, public hearings, and the support of countless individuals saw the lower Graywolf Valley protected as part of the national wilderness system. (The upper watershed, along with close to a million acres of the mountainous interior of the Olympic Peninsula, was

At the confluence of
salmon, snowfields,
and memory



already protected as part of Olympic National Park.)

Tonight the moon is a thin crescent. From our porch in the foothills, I look out over a low, timbered ridge to a gap that drops into Graywolf Canyon. Beyond it, the snowy summits of Graywolf Ridge ripple off into the interior mountains. Caitlin still gets the names of the peaks mixed up, and she sometimes confuses one river we hiked with another. It's understandable; there are so many ribboning their way down the coast, and their names, taken from the Native people who still live at their mouths, are hard for her to remember: Skokomish, Queets, Quilayute, Quinault.

But memories enfold the heart like rings of a tree, and our roots here deepen with each winter's rain. Each year Caitlin is able to backpack a little farther into these mountains, and this summer we reached a milestone. From

High Divide we looked across the upper Hoh River to Mt. Olympus, the highest central peak. Its glaciers gleamed ice-blue in the afternoon light, and the soft rumble of their gathered meltwaters reached us from a mile below.

Earlier this fall I accompanied Caitlin's first-grade class to the Dungeness River, into which the Graywolf flows. We talked about the Chinook salmon, Tyee or "Chief" to the Coast People. Development pressures, irrigation withdrawals, and erosion from logging in the foothills have taken a toll on the lower river, and the Chinook are not faring well. Fewer than 20 returned this year to spawn. As we searched among river stones for caddis-fly and stone-fly larvae, Caitlin spotted some wintering coho salmon fry in the shallows. Like the children, these small salmon spend their formative time in their home watersheds

before swimming out to explore their North Pacific world. In two years, the indelible imprint of these waters will lead them precisely back.

It's this kind of connection I try to nurture in my daughter. Not to lead her back to this place necessarily—though I'd be thrilled if she chose to live here—but to help her find her home ground wherever she lives. I want her to know these islands of childhood as part of a larger island, and the rivers that drain them as the arms of a single sea. Like salmon, our children's gift will be to bring their gathered riches back to a land made poor by taking, and plant them among the winter wrens and newly greening trees. ■

TIM McNULTY's most recent collection of poems is *In Blue Mountain Dusk* (Broken Moon Press, 1992). He is at work on a natural history of Olympic National Park.

Getting Polluters Off Welfare

House Speaker Newt Gingrich paraded into office with the promise of a brave new era of fiscal conservatism, vowing in his Contract With America to "get a handle on out-of-control spending." To demonstrate his seriousness, he has already slashed congressional budgets and staffs (though not his own), sent most of the issue caucuses packing, and eliminated three House committees.

Yet such promises are nothing new. Political leaders perennially rail against wasteful spending—Democrats just as earnestly and just as ineffectively as Republicans. Jimmy Carter had his Paperwork Reduction Act; Bill Clinton and Al Gore have been busy "reinventing" government. Ronald Reagan exuded fiscal toughness, too, until Budget Director David Stockman suggested that he should cut the military as well as social programs. Soon Stockman was sent to the woodshed, the military budget mushroomed, and the deficit grew more than it had under any previous administration in U.S. history.

Politicians' commitments to frugality are always limited by their political agenda: In this case, Speaker Gingrich could simultaneously increase revenues, decrease spending, and protect the environment by pursuing a long list of changes that the Sierra Club has been demanding for years. He could, for example, insist on



BY JOAN HAMILTON

charging royalties for hardrock minerals wrested from public lands, using the money both to restore abandoned mine sites and to reduce the deficit. He could likewise insist on raising grazing fees to fair-market value—a move that would yield \$20 million a year and, paired with regulatory changes, would dramatically improve the health of the range. He could chop federal subsidies to timber corporations, making sure that fiascos like that at Tongass National Forest, where taxpayers lost more than \$350 million, never happen again. He could melt down the most lavish corporate boondoggle of all—the billions of taxpayer dollars that prop up the lame-duck nuclear industry each year, more than \$3 billion in 1991 alone.

He might even ask why a lift ticket for ski slopes on publicly owned land in Cali-

*Cutting the budget
without
axing the planet.*

■ ■ ■

fornia costs \$42, but returns only 59 cents to the U.S. treasury, or why concessionaires in Sequoia and Denali national parks return only one percent of their millions in annual profits to taxpayers. While such businesses may well boost their local economies, it is foolhardy to allow them to do so at such a high cost to the taxpayer.

Unfortunately, however, this is not the kind of fiscal conservatism Gingrich and his lieutenants seem to have in mind. Environmentalists' idea of budget-cutting is to cut welfare payments to polluting and destructive industries, while Congress is targeting federal dollars that protect the natural commons: wildlife, wide-open spaces, clean air, and clean water.

New House Budget Committee Chair John Kasich (R-Ohio), for example, yearns to cut the environmental cleanup budget at the Pentagon so he can spend more money on "military readiness." With the military stashing a half-million tons of toxic waste at more than 14,000 sites every year, such cutting could unleash a threat more fearsome than any foreign enemy.

Utah Representative James Hansen (R), hopes that he can use the new tight-money politics to shrink the national park system. He doesn't even like Great Basin National Park in neighboring Nevada. "If you've been there once, you don't need to go there again," he told the *Deseret News* in November.

Like his mentor Ronald Reagan, though, Gingrich is not averse to pouring taxpayers' money into his own pet projects. In fact, in the first hundred days of the new Congress he has pledged to pass the so-called Job Creation and Wage Enhancement Act, a measure that would cost more than \$46 billion over the next five years—an amount more than six times the annual budget of the Environmental Protection Agency. You'd never know it from its benign title, but that bill is now the primary vehicle for "takings" legislation. It creates a new entitlement program to compensate property owners for doing just about anything that benefits the public, even basic measures

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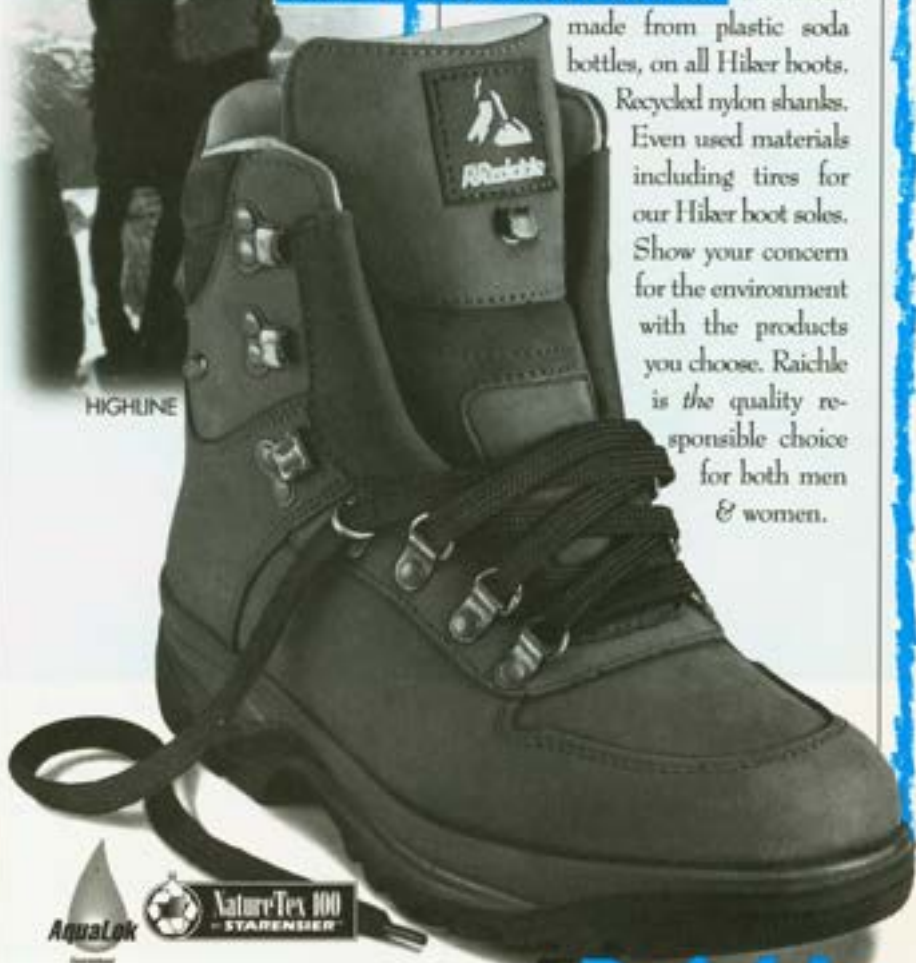
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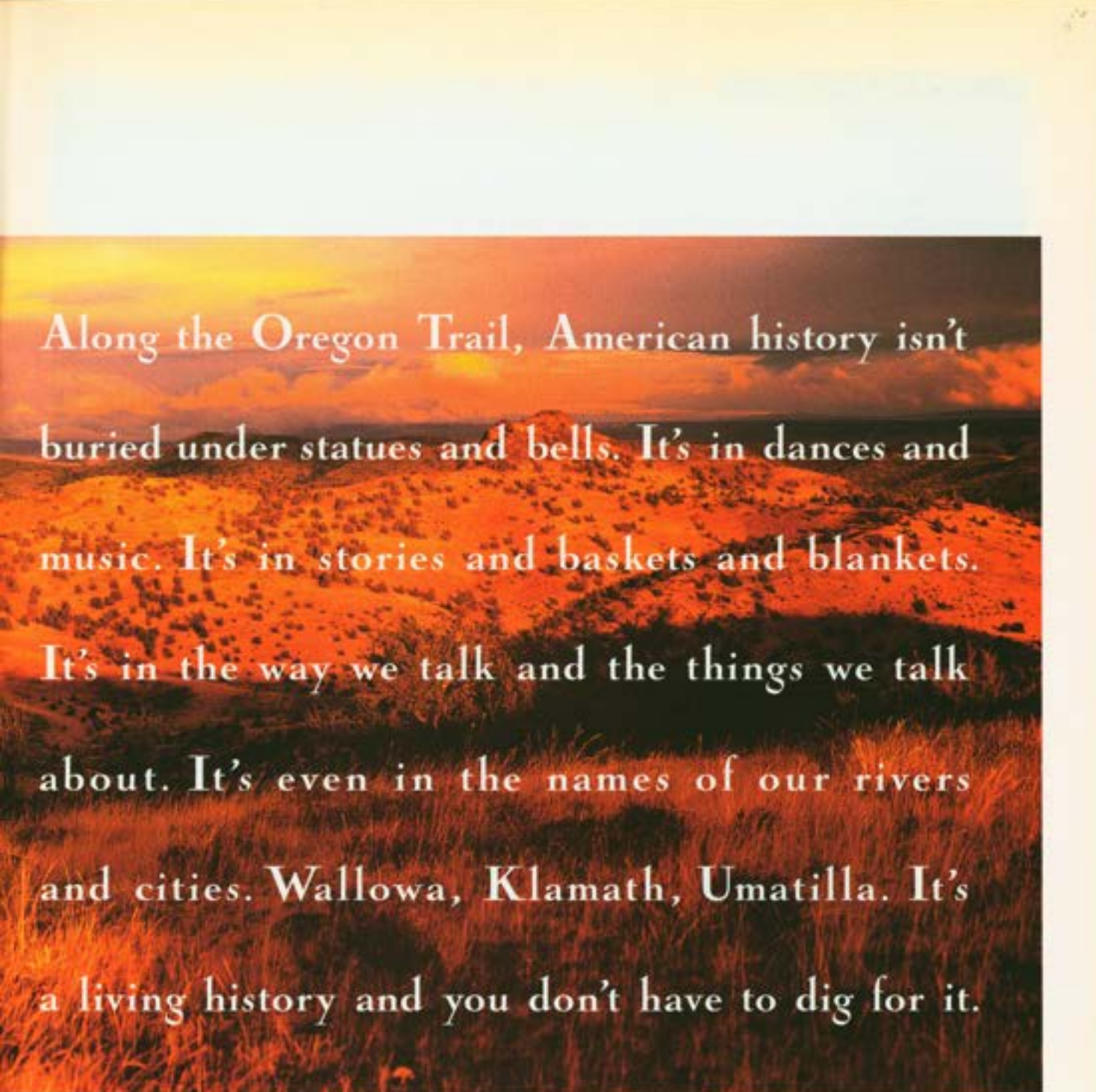
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PRIORITIES

like ensuring safe workplaces, protecting wildlife, and controlling pollution.

Payment would be required for any federal regulation that lowered property values by 10 percent or more. If, for instance, a developer dreamed of building a high-rise next to an airport, the Federal Aviation Administration would have to pay to keep the buildings low enough to ensure safe landings. Likewise, if federal emission standards re-

duced a factory's profit margins, taxpayers would have to pay the owners the difference. The provision introduces a strange and novel concept: paying businesses to obey the law.

Budget cutting is always a tricky business, as one person's waste is often another's sacred trust. But the new leadership in Congress isn't really focused on budget-cutting at all. *Business Week* calls the Job Creation and Wage Enhancement Act a "stealth environmental policy." The Sierra Club calls it

a "war on the environment." Its effect would be to increase handouts to polluting industries by making us all pay for what is our birthright: clean air, clean water, wild lands, and wildlife. It may get government off of industry's back, but not out of our pockets.

▶ For more information, see "Resources," p. 82.

The Institute for Innovative Plunder

*Polluters' bucks line
"Wise Use" pockets.*

Who benefits when you donate money to the Alliance for Environment and Resources, the Environmental Conservation Organization, the Abundant Wildlife Society, the Wilderness Impact Research Foundation, or Citizens for the Environment? Most people would be stunned to discover that their money was going to support so-called Wise Use groups that flaunt green-sounding names to sell anti-environmental messages. In a backhanded compliment to the public's enthusiasm for environmental protection, these backlash groups feel compelled to hide behind green masks.

But the Wise Use movement doesn't stop at deceptive labeling in its campaign to give industry free rein with America's natural resources. Perhaps its most cynical ploy has been the attempt to portray itself as a financially strapped populist movement going up against a powerful and well-financed "green establishment."

Pull back the drapes on this movement, however, and you find a crowded cocktail party of backers from the corporate sector and the political right. There's the International Association of Shopping Centers, the National Association of Realtors, and off-road-vehicle manufacturers. Over here, you find the Western Fuels Association, the timber and mining corporations, and other resource-extraction industries. Filling out the room are the American



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Margaret Mead,
March 21, 1977



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Legislative Exchange Council (see "Look Who's Taking," *Sierra*, September/October 1993), the National Rifle Association, the American Farm Bureau Federation, the Cattlemen's Association, a clutch of pro-business non-profit law firms, and the nation's preeminent right-wing think tank, the Heritage Foundation.

The largest "grassroots" beneficiary of such entrenched interests is People for the West, which claims some 20,000 members. It was established to defend the 1872 law that allows the mining industry to claim public lands for \$2.50 to \$5 an acre. According to its own figures, in 1991 the supposedly populist PFW received \$1.7 million in start-up funds from mining giants including Chevron, Pegasus Gold, Homestake Mining, and the American Mining Congress—each of which is represented on PFW's Board of Directors. "Those who pay, play," PFW founder Bill Grannell explains with a grin.

Another wise guise is the Environmental Conservation Organization, created in 1990 by the Land Improvement Contractors Association, a construction-industry trade group opposed to letting the Clean Water Act protect wetlands. Until recently, ECO was run out of the Contractors Association's Maywood, Illinois, office by its executive vice-president, Henry Lamb.

Add to the list the Alliance for Environment and Resource, the main wise-use umbrella group in California. It was established by the California Forestry Association and operates out of its lobbying offices in Sacramento. Similar anti-environmental front groups have also been founded and funded by the beef, paper, oil-and-gas, and solid-waste industries.

Even foreign-owned companies play a role. The Blue Ribbon Coalition, which advocates opening up parks and federal wilderness areas to off-road vehicles, got one of its first lobbying grants from the Honda Motor Company Foundation. Other early and continuing supporters of the group include Suzuki, Yamaha, and Kawasaki, whose

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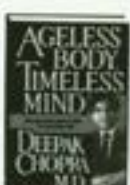
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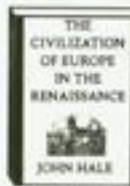
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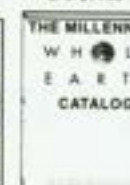
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PRIORITIES

full-page ads adorn the organization's tabloid magazine.

The Wise Use movement belies its homespun image in other ways. In legal attacks on environmental legislation (primarily through property-rights "takings" lawsuits), the anti-environmentalists have been provided with tens of millions of dollars in free legal services from a network of 22 pro-business nonprofit law firms, including the

Pacific Legal Foundation and Mountain States Legal Foundation (the former fiefdom of Reagan Interior Secretary James Watt). The firms coordinate their strategies through an annual meeting at the Heritage Foundation.

Guided by Wise Use leader Ron Arnold's dictum that "citizens' groups have credibility and industries don't," industry and its allies are quick to attribute their own lobbying successes to the "grassroots" groups. For example, conservative, Washington-based *Insight*

magazine credited small-time Maryland developer Peggy Reigle and her Fairness to Land Owners Committee with leading the fight for takings legislation in Maryland, but failed to note the high-priced statehouse lobbying efforts carried out by the Homebuilders Association, the Maryland Association of Realtors, and the Maryland Farm Bureau. In fact, most of the lobbying in the 40 states where takings legislation has been introduced has been the work of the Farm Bureau Federation (see "Down on the Farm Bureau," *Sierra*, November/December 1994) and the American Legislative Exchange Council (ALEC), which is made up of conservative state officials and operates out of the Heritage Foundation building.

Is this shadow puppetry working? In Arizona, a takings initiative that came up for popular vote in November was soundly defeated despite the fact that the National Association of Realtors, the Cattlemen's Association, and other supporters outspent opponents two to one. A statewide "Arizonans for Private Property Rights" rally held just before the election drew only 90 people.

This defeat—in the midst of a right-wing resurgence in Congress—reflects the ultimately losing hand that industry holds when it tries to work the grassroots. You can fool some of the people all of the time, and all of the people some of the time, but in the end you can't have populism without popular support. —David Helvarg

► For more information, see "Resources," p. 82.



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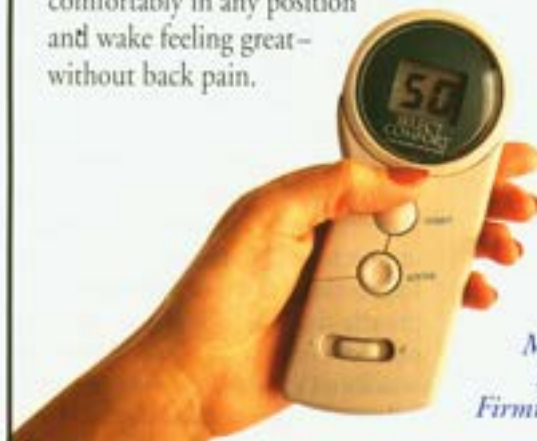
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So it was surprising when bay researchers found a flounder with lead in its liver a few years back. The mystery deepened when analysis of sediment samples turned up a startling array of other industrial chemicals, some in concentrations capable of snuffing out marine life.

The widespread contamination was a stumper: in this age of environmental regulation, how could so much pollution have landed in the bay without anyone noticing? Portland is no Pittsburgh; heavy industry is nearly nonexistent—at least now. Portland did have an industrial past, and it was there, some suspected, that the answer to the mystery would be found.

Enter historian Ed Hawes. A retired professor with wild gray hair, Hawes staked out the local historical societies and libraries and pored over dusty insurance maps, city maps, and county atlases. He interrogated anyone who might remember where old dumps and factories had been. He pounded the pavement, matching street names with his records and combing cellars and streams for clues.

When he completed his sleuthing, Hawes had identified 280 long-gone factories, filling stations, train yards, dumps, and sewer outlets. He listed the characteristic pollutants of each site, and pinpointed their location on a map of the city's watershed to predict where pollutants might have entered Casco Bay. In the end, he not only had a better idea of where all those bay chemicals came from, but also where antique pollution might still be lurking.

In so doing, Hawes helped establish a new application for environmental history, the academic discipline that analyzes eras of industrial development or matches old industries with the pollutants they produced. Hawes' new approach uses this history to generate practical, immediately useful information about a specific patch of ground.

It provides the data that can help local governments plan, settle liability



Carol Bowman and Ernie Sowers,
Save the Children Sponsors

*“What I saw
in Honduras
changed
my life.”*

Carol Bowman

Photo by E. Sowers

Sponsorship isn't new to Carol Bowman and husband, Ernie Sowers. For eight years they've been sending monthly gifts to Save the Children to help three little girls in Central America.

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But this past year, they decided to visit eight-year-old Miriam in Honduras. “Not until you're there and see how the people struggle do you realize the magnitude of their needs,” recalls Ernie. “Homes were shanties, patched with scraps of cardboard. The little water that was easily accessible was not safe to drink.

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questions, and raise public awareness. "There's a legacy we have created," says Anne Payson, who commissioned Hawes' study for the Casco Bay Estuary Project. "Even though you can't see it, and the businesses are long gone and the people who worked there are dead, this pollution lives on."

Craig Colten, who worked on environmental histories for the Illinois State Museum, impatiently hopes more planners will recognize the broad potential of such an approach. Government agencies, he complains, too often toss time and dollars to the wind as they randomly attempt to locate hazardous-waste sites.

For example, Colten investigated three former industrial areas in Illinois, using aged health-agency complaints, dusty legal records, and yellowed professional journals to help reconstruct each story of industrial development and waste disposal. One southeast Chicago site yielded a particularly telling "before and after" comparison. The state environmental agency had undertaken a big (and costly) sampling

in a former industrial district. "They just divided the area into blocks and sunk their holes on a random basis with no understanding of past land uses," Colten says. After a historical study of the same area, Colten suggested the agency use his maps and try again. Only then were they able to pinpoint the contamination.

Over the years, an out-of-sight, out-of-mind mentality has led innumerable well-intentioned communities to construct schools and homes in wildly inappropriate places. Colten tells of a pricey housing development near Chicago built on the site of a long-abandoned lead smelter. Children now play on top of its slag heaps.

During the 1920s and '30s, a marsh on the site of an abandoned Portland brickyard became a magnet for dumping. Eventually it filled with garbage. Another couple of decades passed, and with institutional memories short, the city decided to build a school on the new land. Today its walls are cracking, presumably as the castoffs under-

ground settle into their swampy bed. The dump's contents are still a mystery, as are the chemical reactions that could occur beneath the schoolyard.

These "Love Canal" scenarios occur less frequently than before, because Superfund lawsuits have scared banks into demanding at least a cursory history of a property before they'll finance it. But if someone already owns a property, no law requires them to investigate its environmental past before plunking down a mall or an office park. Only if owners are already aware of dangers underground are they required to report it.

"Every city and town should have a study, probably going back to 1900, to give itself an idea of what has happened where and what the pollutants are," Hawes says. Anybody who can locate the library and historical society can begin the research. "It's kind of fun," says Hawes. "When you're reading your industrial-pollution history, you really get to know your place."

—Hannah Holmes

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JOHN DENNINGTON AND I BOTH HEARD THE RUMBLE OF A TRUCK coming up behind us, but neither of us thought anything about it until the shot rang out from the trees.

In retrospect, we should have wondered why anyone else would have been driving out to that desolate east Oklahoma clearcut. After all, the road dead-ended where we'd parked the pickup, deer season wouldn't open for another week, and there wasn't much to see unless you were into stumps. Now my avuncular guide

"Ecosystem Management" is the latest Forest Service buzzword.

looked alarmed. "That was a high-powered rifle," he muttered. He ought to know, I supposed; when we'd met at Audrey's Cafe, he'd fished in his camo pants to pay for his Dr. Pepper and come up with a handful of shells. A professional hunting guide (he once got Norman Schwarzkopf to publicly denounce clearcutting after taking him on a turkey shoot), Dennington is also head of the Southeast Oklahoma Sportman Association ("Whoever registered us didn't spell too good," he apologized), a group of hunters as mad as he is about the ruination of their beloved Ouachita National Forest at the hands of the United States Forest Service.

Now he gave an odd whoop to indicate to anyone in doubt that

But what does it look like on the ground?

we were not a game species. "Probably someone just trying to intimidate us," he said. "If they want to shoot, I'll just get my gun, and then we'll see!" A little paranoid, I thought—until we got back to the road just in time to see the pickup peeling away.

It never did become clear just who might have been shooting or why, although my host is not universally popular in a region where cutting trees is one of the few alternatives to working in a chicken concentration camp. On the other hand, lots of locals are upset to see their spectacular pine-and-hardwood forest looking like a Christmas-tree farm. Dennington—who seemed to have forgotten about the gunplay before we even got back to the

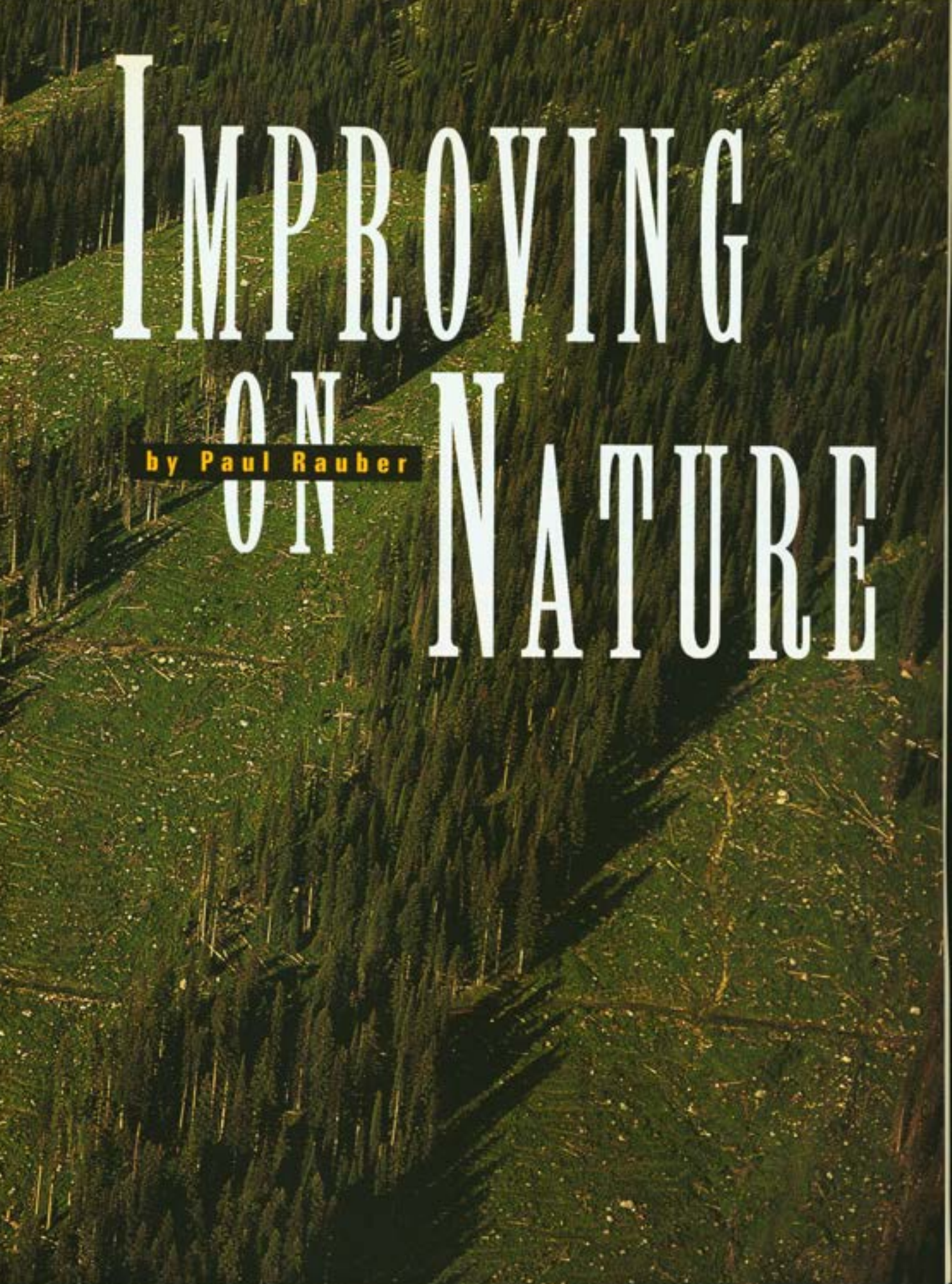
A visit to three burning and bleeding national forests.

highway—told how his Sportman Association got its start.

"I was out deer huntin' with an old buddy," he said. "He went to his favorite spot not far from here and found it clearcut. He came to me with tears in his eyes and said 'John, the sons of bitches are going to cut it all.'"

"Five months later we got 800 people down to a meeting to end clearcutting. Basically we were just a bunch of rednecks too dumb to know we couldn't beat the federal government. So we did."

WILLIE THOMAS

An aerial photograph of a forest landscape. A large, dense forest of tall, thin evergreen trees covers most of the terrain. A prominent feature is a large, irregularly shaped clearing or meadow with a mix of green grass and brown, fallen branches or debris. The lighting suggests a bright day, with shadows cast across the forest floor.

IMPROVING ON NATURE

by Paul Rauber

The United States Forest Service is the steward of more than 8 percent of the country's landmass: 191 million acres in 156 national forests. The nature of its stewardship was the subject of a famous dispute in the first decade of this century between Sierra Club founder John Muir and Gifford Pinchot, first head of the Forest Service. Muir saw the national forests as a wild counterweight to the spread of industry: "Thousands of tired, nerve-shaken, over-civilized people are beginning to find out that wildness is a necessity; that mountain parks and reservations are useful not only as fountains of timber and irrigating rivers, but as fountains of life." The utilitarian Pinchot saw the forests as mines providing the raw materials for industry. Pinchot won, and the doctrine of "multiple use" of the national forests by all interests, from logging to grazing to recreation, has informed the agency's actions ever since.

While its official mission is to be all things to all people, the Forest Service has, especially since World War II, functioned as an adjunct to the timber industry, with the overriding objective to "get the cut out." Vast amounts of taxpayer money subsidize this effort: \$614 million in 1993 alone. Even now that the agency has officially embraced the "Ecosystem Management" (EM to the acronym-mad bureaucrats) advocated by new chief Jack Ward Thomas, careers still depend on how expeditiously timber targets are met.

In fact, the agency's financial incentives actually encourage destructive forestry practices. The 1930 Knutson-Vandenberg Act (KV, of course) allows national forests to keep a portion of the proceeds from timber sales to patch up the damage the sales cause. Originally meant to fund replanting, KV now pays for a large portion of many districts' budgets, and forests easily become hooked on its perverse incentives: "The more destructive their activities," explains the Sierra Club's regional representative Beth Johnson, "the more money they can keep."

The most obvious (but by no means the only) way to destroy a forest is to clearcut it. "There are many ways to harvest trees and grow new ones," explains Weyerhaeuser on the back of its excellent map of the Ouachita (pronounced *Wah-i-tah*). "For the kinds of trees Weyerhaeuser grows, the best harvest method is one called 'clearcutting.' Blocks of trees are harvested all at the same time, so the land can be prepared and new timber stands grown in blocks. To most people, a fresh clearcut is ugly. The land looks barren and abandoned. But a clearcut is still productive land. And to us it is still a forest."

"They make a desert," the

ancient Briton chief Calgacus said of the invading Roman legions, "and they call it peace." When the Forest Service makes a clearcut, they call it "even-age management," a euphemism that includes slightly less brutal forms like the "seed-tree cut," in which a handful of trees per acre are left standing until they've reproduced. Ecosystem Management has allowed the agency's talent for obfuscation to shine. In Wayne National Forest in Ohio, for example, clearcuts now are called "wildlife openings"; in Siskiyou National Forest on the California/Oregon border, "meadow restoration." A clearcut in Oregon's Willamette National Forest that runs along a ski trail becomes "cross-country ski trail enhancement"; in Alaska's Tongass National Forest they call it "patch cutting." In the Ouachita, says Arkansas activist Sherry Balkenhol, the same thinning of "undesirable" tree species that used to be called "timber stand improvement" is now dubbed "wildlife stand improvement." A "linear wildlife opening" is another name for a road.

"Since I started fighting the Forest Service," says an exasperated Balkenhol, "I've had to learn timberspeak, acronyms, and doublespeak. Everything they say is an attempt to justify what they already want to do."

What the Forest Service wanted to do on the Ouachita in 1986 was crank out 200 million board-feet a year, almost entirely by clearcutting. The plan galvanized grassroots activists from the Sierra Club (of which Balkenhol is Arkansas conservation chair), the Ouachita Watch League, OWL (of which she is past president), and John Dennington's Sportman Association. By August of 1990, their pressure caused Senator David Pryor (D) to take a "walk in the woods" with F. Dale Robertson, then-chief of the Forest Service (and fellow Arkansan from Bald Knob), who agreed to stop classic scorched-earth clearcutting in the Ouachita.

There are more ways to destroy an ecosystem, however, than by shaving it clean. The Ouachita Mountains, which stretch from eastern Oklahoma through central Arkansas, are distinguished by their mix of softwoods like shortleaf pine with a profusion of hardwood species: oak, hickory, dogwood—35 varieties in all. While this makes for a forest

of uncommon beauty and biological diversity, it is inconvenient for the timber industry, which prefers fast-growing softwoods and nothing but.

Obligingly, the Forest Service is assisting in the conversion of the Ouachita to a monocultural pine plantation. Already 320,000 acres of what was once called its "inaccessible burning and bleeding wilderness" have been converted to tedious tree farms, monochrome slabs of evergreen against the au-



Popular pressure put an end to cut-'em-all clearcuts like this one on Arkansas' Ouachita National Forest.



The Forest Service has yet to complete its mission of converting the Ouachita's amazing diversity to a pure pine plantation.

turn riot of the surrounding hardwoods. And it isn't even indigenous evergreen. Weyerhaeuser prefers the non-native loblolly, even though this pine's wild profusion of limbs makes it useless for saw timber unless it receives a laborious poodle-cut pruning every 15 to 20 years.

A new excuse for eradicating hardwoods on the Ouachita is to restore the forest to a "pre-settlement condition," the way it supposedly was before European colonization. Conveniently, the Forest Service has determined this to be a predominantly pine forest periodically swept by fire. Ouachita Supervisor Mike Curran admits that the evidence for this theory is "still somewhat controversial," but that does not prevent him from removing hardwoods and conducting controlled burns to make sure that they do not come back, all in the name of historical verisimilitude. (A similar dodge is being employed on Missouri's Mark Twain National Forest, where two recent environmental assessments justified clearcuts as restoring the imagined "savannahs of pre-settlement times.")

Another somewhat controversial Forest Service belief is that hardwoods are deleterious to the endangered red cockaded woodpecker (you guessed it, RCW), which nests almost exclusively in pines over 75 years old. Its numbers on the Ouachita are 38 and dropping. The Forest Service blames the species' plight not on the lack of big old pines (which it considers "decadent" and eminently cuttable) or the lack of decaying trees on the forest floor (which nourish the insects the woodpeckers eat), but on a midstory of hardwoods that

supposedly impede the birds' entry into their nests.

Sherry Balkenhol took me to an "RCW Management Area" adjacent to a 170-acre clearcut. Since none of its pines were old enough to be naturally colonized, Forest Service carpenters had cut holes in the biggest they could find and inserted artificial nests. These have proven popular with other varieties of woodpeckers and with flying squirrels, but the RCWs are unimpressed; 13 of 18 birds imported to the site have vanished.

Hardwoods are also systematically exterminated in the Ouachita's logging experiments. At the "low-impact single-tree selection" demonstration cut in the "Ecosystem Management Area" Dennington took me to visit, the only "low impact" was to pines, while the single trees selected for cutting were almost exclusively healthy cherries, oaks, and other hardwoods.

The official results of this demonstration, however, will tell a different story. Dennington points out the blazes marking a handsome stand of mixed pines and hardwoods whose numbers will be tallied as representative of the project. They stand by themselves across the road, well removed from the hardwood holocaust up the hill.

"So what are you gonna believe?" he draws. "The scientific data or your own lyn' eyes?"

Other techniques of selective deforestation are periodic burning (which wipes out the hardwood understorey in the name of fire management and wildlife enhancement) and herbicide application. Up until 1983 this was done by aerial

bombardment; today the chemicals are applied at ground level, again in the name of assisting wildlife. Instead of leaving enough mature hardwoods for some to die and turn into nestable snags, for example, ecosystem managers girdle healthy hardwoods and inject them with herbicide. The Sierra Club and the Ouachita Watch League are suing the Forest Service to stop Ouachita herbicide use entirely.

Ouachita activists are bitter and frustrated. "We've tried every possible means to change the way the Forest Service operates," says Balkenhol as we bump along a logging road. "They're required to allow public participation, but they just go through the motions. When they received 11,000 comments on the 1990 Forest Plan, 7,000 of which were opposed to even-age management, they went ahead and did it anyway. In my opinion, the biggest possible waste of time is talking to the Forest Service."

"You know what I think Ecosystem Management's about?" asks Dennington. "I think it's about how to grow the most pine and fool the most people."

The broad autonomy given individual national forests allows their supervisors a lot of latitude in interpreting the vague dictates of Ecosystem Management. In central Idaho's Payette National Forest, scarred by the worst forest fires in 80 years, it may result in genuine reform.

My guide to the Payette was Forest Supervisor Dave Alexander, a Paul Bunyanesque man both in stature (6' 8") and experience: As ranger on Willamette National Forest in Oregon, he says, he "probably cut about as much timber as gets cut." We took off from a military-style firecamp outside McCall, Idaho, where up to 5,000 firefighters had gathered to battle the still out-of-control blaze. Alexander was videotaping the scene for later study, so the chopper's doors were left wide open; the effect was similar to speeding in a convertible without a windshield. Our hotdog pilot also had the disconcerting habit of aiming directly at ridgetops, only lifting over the treeline at the last possible moment. And then there was the Inferno below.

Huge swaths of forest were still smoldering. Three days earlier, the fire had threatened the town of McCall itself; locals sat on the deck of the town brewpub watching a 30,000-foot tower of smoke only a few miles away. Alexander

pointed out how densely packed stands of Englemann spruce, protected for the better part of the century by Smokey Bear fire suppression and weakened by drought and disease, had provided tinder for the firestorm.

"Some days the fires would make tremendous runs, three to four miles in an afternoon, with 300-foot flame lengths and firestorms tipping trees over hundreds of yards in advance," he said. "This was fire behavior that we have not seen in this century in this part of the country."

By the next afternoon, the weather had turned cold, with—finally—a hint of precipitation. I wanted to see French Creek, a huge roadless area slated for a timber sale, and asked a ranger which logging road would best lead me there. He smirked. "This guy from the Sierra Club wants to know how he can drive out to a roadless area," he announced to the general amusement of the office.

Chastened, I drove to the end of the appointed road, French Creek filling the valley above me, and hiked a ridge to the west, through ghostly carbon forests highlighted now by a dusting of snow on the blackened ground, with little nubs of beargrass already poking through. Sometimes all that remained of a charred tree was a long concave indentation in the duff where it had fallen, burned to ash, and blown away. This was a "stand-replacement" fire, burning groves that have withstood centuries of lesser blazes. Yet its path was capricious; one dense stand of spruce would be immolated, while a neighboring, equally flammable stand would

be spared for the fire next time.

The Payette fire was followed, as surely as fireweed, by a call for "salvage" logging. "Everyone agrees we need to move quickly so the burnt timber does not rot," announced Senator Slade Gorton (R-Wash.). On November 4, only days before House Speaker Tom Foley and Representative Larry LaRocco faced tough re-election battles, the Clinton administration announced a "Western Forest Health Initiative" to restore "fire-damaged lands and watersheds" by allowing salvage logging and thinning on more than 100,000 acres of currently roadless land throughout the Northwest. The initiative (which failed, by the way, to salvage either Foley or LaRocco) defines a healthy forest as a place "where biotic and abiotic influences do not threaten management objectives now or in the future." This obviously has more to do with bureaucracy than with conservation biology, which sees fire, death, and decay as natural,



Last summer's enormous blazes on Payette National Forest put the Forest Service's "Ecosystem Management" rhetoric to an early test.

By the way, the Clinton administration announced a "Western Forest Health Initiative" to restore "fire-damaged lands and watersheds" by allowing salvage logging and thinning on more than 100,000 acres of currently roadless land throughout the Northwest. The initiative (which failed, by the way, to salvage either Foley or LaRocco) defines a healthy forest as a place "where biotic and abiotic influences do not threaten management objectives now or in the future." This obviously has more to do with bureaucracy than with conservation biology, which sees fire, death, and decay as natural,

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indeed crucial elements of a well-functioning ecosystem. Lodgepole pine, for example, actually depends on fire to open its cones. Standing dead trees, or snags, make essential wildlife habitat, while those that fall return nutrients to the soil and nourish the ants, beetles, bacteria, and fungi that form the floor of the food chain. To paraphrase Weyerhaeuser, a freshly burned forest may be ugly, but it is still a forest.

A possible obstacle to getting out salvage cuts on 100,000 acres of roadless wilds is the Forest Service's own Ecosystem Management propaganda, which decrees a "watershed" approach to planning. In the Northwest, the agency has initiated ambitious "Ecosystem Management projects" on the east side of the Cascades and the Upper Columbia Basin, which includes the Payette. Rick Johnson, director of the Idaho Conservation League (and former northwest representative for the Sierra Club), thinks that such projects, properly grounded in science, have the potential to preserve far more wilderness than environmentalists could ever win from the current hostile Congress.

"Cuts will shrink in almost any scenario," he says. "There is simply no way real scientific analysis could recommend anything different." In the best case, the studies could open the door for a new round of wilderness designations in a region that has the fewest roads in the Lower 48.

And the worst case? That comes if scientific concerns are (as sadly usual) subordinated to politics—a likely result of last November's election. While the Sierra Club often disagreed with Larry LaRocco over the size of the wilderness bills he authored, his replacement, Helen Chenoweth (R), flatly declares that she is "opposed to one more new acre of congressionally designated wilderness." Nor can the endangered Chinook salmon, whose spawning grounds could be further damaged by salvage logging on the Payette, expect any sympathy from her. Last summer, while attending a fund-raising "Endangered Salmon Bake," Chenoweth was



Roadless areas in the Payette are being opened for the removal of ponderosa pines like these.

asked why she didn't take the salmon's endangered status more seriously. "How can I," she replied, "when you can go and buy a can of salmon off the shelf in Albertsons?"

With the broad-brush Ecosystem Management plans still some years off, forest supervisors are under great pressure to allow large-scale salvage logging. Given Dave Alexander's résumé in intensive logging, many Idaho forest activists feared the worst for the Payette—and have thus far been pleasantly surprised at his apparent conversion from timber beast to Ranger Rick. "I have no problem with capturing some economic gain from timber that was going to be dead anyway, but only above and beyond what the biological needs of the site are," he says. "We need to leave a certain amount of timber standing, need to leave a certain amount of timber on the ground, need to protect the watersheds,

need not to compound the problem. It's fairly easy to do things in salvage logging that are much more damaging than the fires themselves."

Local environmentalists, like Mike Medberry of the Idaho Conservation League, are guardedly optimistic. "At least they're using the best available information," he says. "They're doing the best ecosystem assessments, lots of computer mapping, remote-sensing data, landscape analysis, the works. We're hopeful that the agency is really changing its way of doing business, and basing decisions on good biological science."

Science, of course, is only as good as its data—a small portion of which I can personally vouch for, having collected it under the supervision of Medberry and Forest Service employee Marilyn Olsen on Cuddy Mountain, a roadless area on the western boundary of the Payette. We hiked through stands of vanilla-scented, 300-year-old ponderosa pine, retrieving little plastic cups full of dead beetles, lured to a fatal tumble by antifreeze bait. The point of the study was to compare the number and variety of bugs in an ancient for-

est with those after an even-age cut. If, as seems likely, there turn out to be fewer beetles in a cut-over area, agency scientists will be able to infer that beetle-dependent flammulated owls need a forest with trees in it to survive. Science is often devoted to proving the obvious.

Conveniently for the science, the "after" count could be conducted in exactly this same location, as the Forest Service has sold 18 million board-feet of Cuddy Mountain to Boise Cascade. Our trail, in fact, was soon to become a logging road, part of the 18 miles of new road the sale will involve. The fate of each ancient tree had already been decided: a yellow blaze meant save; red indicated the boundary of a sale area; everything else was doomed. The marking was incredibly clumsy. Sometimes trees were blazed yellow outside of the boundaries, and one grandfather pine sported both a yellow stripe and the word "cut" written in red. "Now what do you suppose a logger is going to do when he gets to this one?" asked Medberry.

Forest activists in Idaho are still holding their breath on the salvage issue, and preparing for possible civil disobedi-

BULLDOGS, LAWYERS, AND LETTER-WRITERS

FOR HUNDREDS OF MEMBERS OF THE organization John Muir built, saving forests is the bread and butter of Sierra Club activism. The secret, said one, is "the combination of scientific knowledge, a bulldog attorney, and committed activists." Here's what's working on the ground:

APPEALS

The first line of defense for a threatened stand of trees is the timber-sale appeal. In Tennessee, for example, Sierra Club activists have challenged 33 environmentally destructive timber sales on Cherokee National Forest, forcing 24 of them to be reversed or withdrawn. Most of these appeals were based on the Forest Service's failure to adequately protect biodiversity. Thanks to the Club's intervention, the Forest Service has been forced to survey its many rare plant and wildlife species—providing activists with valuable information for future appeals.

GRASSROOTS PRESSURE

No politician can resist intense pressure, endlessly applied. Bob Goodlatte, a Republican representative from Virginia, ran on a promise of "no new wilderness," but grassroots lobbying eventually led him to sponsor a bill to designate 7,580 acres in George Washington Mountain National Forest as the Mt. Pleasant National Scenic Area.

Goodlatte's interest in protecting the Mt. Pleasant area from logging, mining, oil-

and-gas drilling, and geothermal extraction was spurred by a concerted Sierra Club campaign of public education, letter writing, and district meetings. What finally won him over was evidence that developing the area would damage the abundant, high-quality drinking water Mt. Pleasant currently provides to Amherst County.

As a result of the hard work of Goodlatte and Sierra Club activists, Mt. Pleasant was designated a National Scenic Area last year.

LITIGATION

Whatever the political weather, the law is still the law. The legislation governing the Forest Service contains many high environmental standards, and local Sierra Club chapters regularly go to court to hold the agency to them. A typical example is a case now under way in Vermont, where the Club and other organizations are suing to halt a proposed timber sale and the construction of a road in the Lamb Brook section of Green Mountain National Forest. Over 5,000 acres of the Lamb Brook are currently free of roads, providing a refuge for black bear and a breeding ground for migratory songbirds.

As is often the case nationwide, this timber sale violates the forest's guiding plan. Even though the plan prohibits selling timber below cost, Green Mountain National Forest's managers are preparing to spend \$100,000 more on road construction and administration than the timber sale will

generate—in effect, a \$100,000 subsidy to the timber company. The Forest Service also began building the road before fully evaluating its environmental effects, and has yet to consider the area as possible wilderness, as required by its own regulations.

Strong environmental legislation doesn't do any good if it isn't enforced; going to court is the Club's way of keeping the agency honest.

RESTORATION

For years Sierra Club activists in Washington State have advocated converting old national-forest logging roads to recreational trails. More than hikers and mountain bikers stand to benefit; road erosion is a major source of the sediment that destroys spawning grounds, so turning roads to trails can aid in the recovery of imperiled salmon. In addition, the Forest Service is spared the expense of maintaining these roads by putting them to a new, benign use.

In the Mt. Baker-Snoqualmie National Forest, Sierra Club activists are working with the Forest Service on the closure, obliteration, or conversion to trails of more than 3,000 miles of roads. Eventually, these new trails will allow for various kinds of recreation: hiking, mountain biking, horseback riding, and even handicapped access in some areas. As a bonus, the conversion process will also provide welcome local employment.

—Melinda Pierce, Sierra Club public-lands lobbyist

ence at Cuddy Mountain. The decisions Dave Alexander makes this spring here and elsewhere on the Payette will show whether Ecosystem Management can be more than talk and acronyms. "We had committed ourselves on this forest to an ecosystem approach before these fires came," he told me. "They're just pushing us more rapidly." Now his commitment is being put to the test.

One longtime activist not won over by the glib supervisor is 86-year-old Nelle Tobias, who has lived in McCall since 1938. Like Sherry Balkenhol on the Ouachita, experience has made her a skeptic. "I've often said that visiting a supervisor is like punching a marshmallow," she told me over coffee and fruitcake in her home outside of town. "They're so nice, and you feel like you've had such a good time, and then they just go right on the way they've been going all these many years, and it doesn't make one bit of difference."

Tobias has learned, however, never to give up. She gazes out her window toward the still-forested slopes of the distant mountains. "I have friends who say, 'I can't change things, I'm going to die and be gone, so what?'" she says. "But as long as I'm here and able to, I'd like to take care of my Idaho."

As radical a departure from rape 'n' scrape as Ecosystem Management may be on some forests, it still relies on very active human intervention. In northern Wisconsin's Chequamegon National Forest, scientists and environmentalists are suggesting a simpler way to ecosystem health: just leave it alone.

This solution will not make everyone happy—not the local Forest Service, nor those who profit by its manipulations, like the three ruffed-grouse hunters coming down the trail. "Did you flush any?" asked the alpha male in that curiously clipped, nearly Canadian accent of northern Wisconsin. "One or two," I admitted, attempting simultaneously to come up with a more accurate mental tally of the rather large, sudden explosions of wings I had detonated scuffling through the autumn leaves on this "hunter walking trail" in the Chequamegon (Sha-*wha*-me-gon) National Forest. Ruffed



How to preserve diversity in Wisconsin's Chequamegon National Forest: just leave it alone.

grouse favor the edges of roads, trails, meadows, or clearcuts, and so have profited greatly from the way the Chequamegon has been managed. So too has the nearby town of Park Falls, home to the Forest Service's district office, which proudly declares itself "Ruffed Grouse Capital of the World." Every liquor store wants to "Welcome Hunters!" and home taxidermy is a major industry.

Leaving the huntsmen to their unlikely luck, I continued past groves of aspen and birch interspersed with clearcuts and plantations of red pine. It was finally clearing after days of rain, the sun behind storm clouds bathing the scene in crepuscular light. Suddenly my path was blocked once again, this time by the Beaver Corps of Engineers, who had flooded the trail. Taking off my boots and socks and rolling up my trousers, I waded. Once on the other side, it seemed a shame to put them on again; the smooth carpet of leaves was a luxury to a western boy brought up on cactus and granite. I indulged myself thus for several miles—until I looped a bend and once more encountered my hunter friends, who stared at my pink toes, gripped their shotguns a bit tighter, and hurried on.

Organized hunters are an enormously powerful political constituency in Wisconsin. On the opening morning of deer season, some 650,000 people in orange vests and caps crouch in the Wisconsin bushes; over the year they will bag 360,000 white-tailed deer. In order to ensure their success, the Forest Service devotes 3 to 5 percent of the Chequamegon to

"wildlife openings," permanent clearings—clearcuts do nicely—that simulate the meadows favored by deer, whose population is now at least two and a half times greater than it was before white settlement. (In this instance the Forest Service is unconcerned with recreating pre-colonial conditions.) This is quite literally changing the shape of the forest. The ravenous animals eat so many hemlock seedlings in the spring, for example, that regeneration is grinding to a halt. Another consequence has been to transform northern Wisconsin into a moose-free zone. A parasite called brainworm (you don't want to know) is pandemic among Wisconsin deer, which can tolerate it while moose cannot.

The amount of the Chequamegon dedicated to deer forage is the same as that dedicated to old growth, a low hurdle even easier to leap when you consider that in Wisconsin, the Forest Service considers 40-year-old aspen to be "old-growth." The Chequamegon is an infantile forest, maintained in a state of arrested development. About a third of it is now covered with aspen (compared with 5 to 10 percent in pre-settlement days), an "early successional" species that bounces back after being clearcut. Under natural conditions

it eventually gives way to other species, but the Chequamegon is managed for perpetual youth. "And of course the early successional stuff is dynamite habitat for ruffed grouse and deer," notes Supervisor Jack Troyer. "There's a big constituency for that."

The managers of the Chequamegon realize, however, that a respectable, modern, ecosystematically managed national forest ought to have *some* old growth. This, they argue, they can grow faster than nature can; when the old growth gets old enough, it can be logged and replaced with new old growth elsewhere in the forest.

The upshot of this silvicultural approach—Sierra Club Midwest Representative Carl Zichella calls it "Hubris-Based Management"—is a fragmented, biologically impoverished landscape, a forest trading its native diversity for a tree farm with easy hunting. "They're managing for what is plentiful and common," Zichella says, "and ignoring what's rare."

And that's against the law. The 1976 National Forest Management Act charges the Forest Service with ensuring "a diversity of plant and animal communities," not just those that

Continued on page 70

JACK WARD THOMAS: HAIL TO THE CHIEF?

When the appointment of wildlife biologist Jack Ward Thomas as the 13th Chief of the U.S. Forest Service was announced in 1993, environmentalists were heartened. Breaking with tradition, the Clinton administration had at last tapped a scientist to head an agency that has historically been led by professional timber-sale administrators.

The new day that then seemed at hand, however, has been slow to arrive. It may be that changing the way the Forest Service operates is a job bigger than any one person—and it may be that Jack Ward Thomas is not the person to do it anyway.

Thomas first entered the public spotlight in 1990 as bearer of the news that the northern spotted owl could not survive without a drastic reduction in logging in the forests of the Pacific Northwest (see "The Owl and the Scientist," *Sierra*, July/August 1991). Next he headed the team searching for solutions to the impasse; from among the range of options his team produced, President Clinton chose the now infamous "Option 9."

From a policy standpoint, Option 9 was a grave disappointment, its most glaring failure a lack of permanent protection for ancient forests. Even so, environmentalists were encouraged by the prominent role scientists had played in the process that generated Option 9, and hoped that under Thomas' leadership, future natural re-

source decisions in the Forest Service would continue to be founded on science rather than political pressure.

Thomas inherited an agency plagued by decades of mismanagement, timber theft, money-losing timber sales, unsustainable logging practices, and ecological devastation. His first act as Chief was a memo to all Forest Service employees laying out what he expected of them: "Tell the truth, obey the law, and practice Ecosystem Management." Remarkably, these concepts were considered a radical departure from the status quo.

Now, a year and a half into Thomas' chieftaincy, it is clear that reforming the agency will not be accomplished without a major restructuring. Part of the problem is financial. As the General Accounting Office noted last year, "[I]n most national forests—even in some where timber harvesting is uneconomic and other activities and uses are more valuable—forest managers depend on timber sales for funds." As long as Forest Service employees owe their paychecks to timber production, they will produce timber, whether or not it is ecologically sound to do so.

Another institutional barrier to reform is the agency's cumbersome and obstinate bureaucracy. The Forest Service employs 12,000 production foresters, but only 100 ecological scientists; if ecosystem management is to be anything more than a buzz-

word, the Forest Service must make room for more wildlife biologists, hydrologists, and soil scientists. Despite Thomas' efforts, the agency's leadership is still heavy with old-guard forest supervisors of the get-out-the-cut school. Even though recent legislation has provided incentives for early retirement, many remain firmly entrenched—awaiting, perhaps, the passing of Ecosystem Management into the dustbin of Forest Service fads.

Some environmentalists are even wondering whether Thomas has the political will necessary to tackle the job. Last fall, the Association of Forest Service Employees for Environmental Ethics issued a "midterm report card" giving him high marks for morale and public access, but demerits for failing to protect whistleblowers, for approving the nation's largest timber sale on Alaska's Tongass National Forest over the objections of the forester on site, and for allowing the shredding of the internal communications and background documents of the interagency team that came up with Option 9. "This is simply not the way our government operates," said AFSEE director Andy Stahl.

Real change in the Forest Service should not depend on its chief alone. It will require sweeping structural reform, continued litigation, reduction of consumer demand for forest products, and, as ever, constant pressure from an informed public. —M. P.

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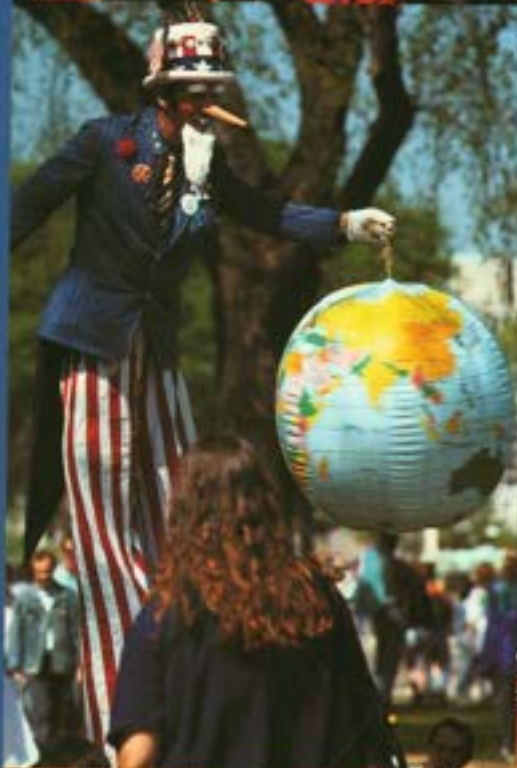
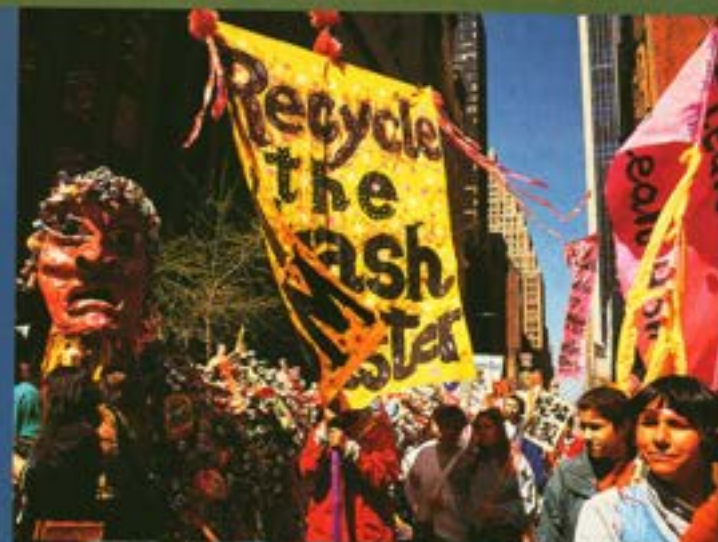
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Earth Day HEROES

The movement born on Earth Day 1970 is now 25 years old. Some people who were active then have been making a difference ever since, and not just once a year.

RECENT EARTH DAY CELEBRATIONS HAVE TENDED to focus on the easy things a person can do for the environment, like taking mass transit, toting cloth shopping bags, or buying more-efficient light bulbs. Increasingly influenced by the big corporations that now help finance the festivities, the message conveyed is simple: you can change the world by reforming yourself, so it's not necessary to try anything truly Earth-shaking. Reuse and recycle, but don't worry about passing legislation, suing polluters, or electing green politicians.

As longtime Sierra Club activist Jonathan Ela recalls in an essay on page 59, Earth Day hasn't always been so devoid of political content. Inspired by the writings of Aldo Leopold, incensed by the revelations of Rachel Carson and Paul Ehrlich, and galvanized by the first satellite photos of our tiny planetary oasis, the people who staged the first Earth Day in 1970 were also busy ushering in a legislative revolution. The Wilderness and Endangered Species acts had passed a few years earlier (1964 and 1966, respectively). The National Environmental Policy Act, which established the Environmental Protection Agency, came along in 1969, and the Clean Air Act followed in 1970. Comprehensive statutes aimed at protecting water, forests, and public lands were just around the corner. Environmentalists in those days were boldly committed to a political cause.

For some, the meaning of Earth Day has never changed. Take Olive Mayer. She's worked for 25 years to stop construction of a sprawling freeway through a state park along the California coast. So far, she's been successful, but she

doesn't plan to let down her guard. Why does she keep at it? "Because love of the earth and all its plants and animals is a basic instinct," the Sierra Club activist says. "When you see a place that you love about to be destroyed, you take action."

If you ask Mayer for Earth Day advice, she offers a challenge instead of easy answers: "Give people the facts and organize political action. Write letters. Support legislation. Demand law enforcement. Stand firm for what you know is right for the long-term health of our land and water. Expose the greed, lies, and chicanery, and help others enjoy the beauties and wonder of the earth."

You won't hear Mayer's advice trumpeted on the major networks on Earth Day 1995. Her prescriptions do not offer tie-ins with corporate ad campaigns. Instead they require political courage, unrelenting commitment, and exactly the kind of hard work that will keep our neighborhoods, our watersheds, our nation, and our planet habitable.

Fortunately, there are many others out there who give the earth more than an annual nod. In the following pages we introduce five other quarter-century veterans: Lee Botts, advocate for the Great Lakes; John McComb, defender of the Grand Canyon and Alaska; Les Reid, champion of a healthy workplace environment; Liz Frenkel, Oregon lobbyist extraordinaire; and Richard Coleman, river restorationist. For each of these people, Earth Day 1970 was not a beginning, but a welcome boost. As we near April 22, 1995, this much-ballyhooed event's 25th anniversary, their words and wisdom can provide the same to a new generation of Earth's defenders. —Joan Hamilton

LIZ FRENKEL

Corvallis, Oregon

A DOGGEDLY TENACIOUS POWERHOUSE WHO THINKS nothing of racking up \$300 home-phone bills for the environmental cause. Spent 15 years as an "envelope stuffer"/leader in her local Sierra Club chapter. For the past ten years has been the Oregon Chapter's legislative coordinator, a volunteer position to which she devotes some 60 hours a week. "She's one of the reasons there are not 25 nuclear-power plants in operation in the Pacific Northwest today," says colleague Jim Blomquist of her work on the Northwest Conservation and Planning Act. "You can't separate Oregon conservation and Liz Frenkel."

What got you started? Bob Frenkel. Husbands are significant motivators.

What keeps you going today? I refuse to deal with the successes/failures syndrome. I deal with what's there. Camus in *The Plague* had a doctor reply to the question "Why do you show such devotion?" The doctor's reply was, "There are sick people and they need curing. . . . I defend them as best I can, that's all." It's not a religion. But if I see it's there, I guess I feel I should *do* something.

How have the challenges changed? Initially you could just be for or against something. Now you had better know the facts, for and against, as well as the politics. It's lots more complicated.

Your proudest accomplishment: None. They are all reminders of what I could have accomplished if—if I had been smarter; if I had had more time; if I had had more resources.

The most satisfying thing about being an environmentalist: I enjoy meeting new people who really care about the environment, who can add to my bag of tricks, and who are excited by my pitch. The most satisfying thing, however, is getting away from all people—and enjoying the unpolluted, unspoiled, beautiful places of this wonderful Earth.

The most frustrating thing: As a lobbyist, being criticized by colleagues for being a compromising wimp when I was extracting environmental blood from a non-environmental turnip.

Environmental goals you have set for yourself in the years ahead: I don't believe in personal goals. Probably infirmity will be the constraint.

Earth Day advice: Don't get hung up on goals. It's useless to flagellate yourself for what you can't do. Do what you can. Appreciate your fellow workers. Take a hike. Share a super meal. Select your partner-for-life carefully—it pays off.



Richard Coleman

RICHARD COLEMAN

Winter Haven, Florida

A CHEMIST, SWAMP LOVER, AND SIERRA CLUB ACTIVIST. Began his fight to save Florida's Kissimmee River in the late 1960s. Eventually convinced the very organization that had encased the Kissimmee in concrete, the U.S. Army Corps of Engineers, to return the river to its meandering channel. When asked if the experiment—the world's first restoration of an entire river system—is really going to succeed, the ebullient Coleman roars back, "Hell, yes!" Patience will be required, however: "We are dealing with a living, changing riverine system. As long as we aren't done learning, we aren't done improving."

What got you started? On fishing trips just after I got out of college, I saw a lot of needless destruction that just rankled me. My next-door neighbor was working with a group of Audubon activists who had an absolute determination to right these wrongs. I liked those people.

The most satisfying thing about being an environmentalist: Conservationists are striving every day for a high goal—a goal other than lining their pocket-books. I can't think of a finer group of people to spend my life with.

The most frustrating thing: Tolerating the petty politics of the moment in all organizations.

If you had it to do over, what would you do differently? I would start sooner, be kinder, and waste less time.

Earth Day advice: Get involved in what interests you. Learn to separate the petty from the productive. Enjoy conservationists. They are the best company on Earth.



Liz Frenkel

LESLIE REID

Pine Mountain, California

TOOOL-AND-DIE-MAKER AND UNION ACTIVIST. JOINED THE Sierra Club in 1958 to climb mountains. Became a trip leader. Soon was so busy saving the California condor, parks, and wilderness that he had to stop leading trips. An outspoken advocate of workplace health and safety. The first (and only) chair of the Club's National Labor Liaison Committee. "There is only one other great grassroots movement besides the Sierra Club," Reid says. "It is the trade unions. I see my work as trying to bring these two great movements together."



Leslie Reid

Why have you chosen to work in the environmental field? It is the best way that I know of fulfilling my responsibility as a citizen.

What got you started? The postwar antinuclear movement and Rachel Carson's book *Silent Spring*.

What keeps you going today? The degradation of all the natural systems, and the need for individuals to act. If I

don't, how can I expect others to do the job?

How have the challenges changed? As our knowledge of how dependent all things are on each other increased, so did the realization that our environmental programs could not be confined simply to preserving spectacular places.

To what extent have you accomplished your goals? I have gotten a great deal of satisfaction from being able to help and participate in most of the great park and wilderness battles. My wife, Sally, has brought a knowledge and determination to our contribution that has seldom been equaled in the Sierra Club. We work well together.

Your proudest accomplishment: As a blue-collar worker, being elected to the Sierra Club Board of Directors for two terms. Persuading the Board of Directors in 1973 that workplace health and safety is a Sierra Club concern.

The most satisfying thing about being an environmentalist: Finding that you are not only aware of the major societal problems but that there are reasonable answers.

The most frustrating thing: Expecting that reasonable solutions based on good science will be accepted by the decision-makers—and being disappointed.

Environmental goals: Continuing my efforts to persuade the Board of Directors and other Club lead-

ers that our goals cannot be accomplished without the support of the poor, blacks, and ethnic minorities.

Earth Day advice: Whatever complaints you may have about the Sierra Club, there is no other organization that is even remotely as effective in accomplishing worthwhile environmental goals.

LEE BOTTS

Chicago, Illinois

TO OUTSIDERS, "LADY OF THE LAKES," "AUNT LEE" TO various Sierra Clubbers and others she has tutored in the art of effective environmental activism. In the forefront of battles to protect the Great Lakes since the late 1960s. Organized the first efforts to ban PCBs. Helped stop nuclear plants on the shores of Lake Michigan and struggled tirelessly to establish and expand Indiana Dunes National Lakeshore. Takes as much pride in the work she inspires as in the work she does. "Dozens of times she's nudged the right person at the right time and made things happen," says colleague Jane Elder. "She's always thinking about the next strategic opening, the chess moves later in the game."

What got you started? I spent summers in the Oklahoma Panhandle during the Dust Bowl with total freedom to wander and mourn as prairie dogs disappeared and trees died. But I could also capture turtles and other creatures to watch. I still have the notebook with wildflowers I collected at ages nine and ten.

What keeps you going today? New problems keep coming all the time, such as global warming. Sometimes the solutions to problems cause different problems. For example, many recycling processes create pollution. I am afraid I would sink into despair if I didn't keep busy.

How have the challenges changed? It was far easier to involve people in the late 1960s when the problems were visible pollution, heavy algae growths, and stinking sewage. The threats seemed immediate. Now it is harder to communicate about the importance of small, subtle, ongoing change, but much more crucial.

Organizing and maintaining organizations is also more difficult. As environmental groups mature, they become bureaucracies. Most groups are started by people of passion who persist no matter what. Yes, staffs of environmental groups are committed, but they also depend on paychecks, have families that need their attention, and have career considerations. I



Lee Botts

am also concerned about groups that persist with the same old strategies that are no longer working rather than asking themselves what needs to change.

Your proudest accomplishment: Establishment of the Lake Michigan Federation, which promotes citizen action.

The most frustrating thing about being an environmentalist:

The continuing need to worry about fund-raising and other organizational maintenance. When I was executive director of the Lake Michigan Federation from 1970 to 1975, I had to spend 75 percent of my time on things I hated in order to spend the rest doing what I really wanted to. Now it's more like 90 percent.

What would you do differently? I wish I had somehow gotten the law degree or Ph.D. that would have given me credentials that would have opened even more doors. I urge young people to get both practical experience and advanced education.

Environmental goals: To give way to new leadership, helping as much as I can but not expecting them to see things my way. To take time out to write about my experiences, because institutional memory is important and I do believe that history determines the future. To launch a proposal for a Great Lakes National Lakeshore to be set up when climate change causes permanent lowering of the Great Lakes.

Earth Day advice: "Do not be self-righteous" should be our 11th commandment. It is the greatest put-off for the politicians and other people we need as allies.

JOHN McCOMB

Washington, D.C.

ABANDONED AN ENGINEERING CAREER IN THE 1960s to help save the Grand Canyon from the dam-builders. Succeeded, and has never looked back. Headed the Sierra Club's Southwest and Washington, D.C., offices, as well as its Conservation Department in the 1970s and '80s. Played a vital role in passing the Alaska Lands Act, the Endangered American Wilderness Act, and the Superfund law. A techno-whiz. Brought the Club into the information age by designing its first computerized congressional database and electronic-mail network. Recently helped produce the comprehensive *Global Biodiversity: Status of the World's Living Resources* (Chapman and Hall, 1992).

What got you started? In the mid-1960s Sierra Club Executive Director David Brower was looking for anyone from Arizona who would testify against building dams in the Grand Canyon. I was hiking in Zion National Park, but a mutual friend somehow tracked me down, late on a Sat-

urday. On Sunday I drove back to Tucson, and on Monday evening I was in Washington, D.C., for the first time in my life. I was an impoverished graduate student at the time. Some friends loaned me enough money to buy a one-way ticket. I was hoping that someone in D.C. could pay my way back, and Brower did.

What keeps you going today? I have been very fortunate in my environmental activism. While many are frustrated by the labyrinthine legislative processes, I am quite the opposite. There have been few dramatic victories, but I can see that things are a little better because of my efforts—heady stuff, especially in the big leagues of Washington, D.C.

Your proudest accomplishment: Two winning campaigns come to mind. The first was the defeat of the Kaiparowits Power Plant planned for the canyon country of southern Utah. In the beginning there were only two or three of us who seemed to care. One of my goals was to have Kaiparowits opponents coming out of the woodwork. After several years of organizing there were so many of them that I felt I had lost control. I reminded myself that this had been my goal, and was rewarded when Southern California Edison threw in the towel. The campaign to protect Alaskan wildlands was very different; I was only a small cog in the Alaska Coalition, which was perhaps unique in uniting the environmental community and operating as a single well-oiled machine.

The most satisfying thing about being an environmentalist: Seeing repeatedly that one person can make a difference.

The most frustrating thing: The inability of the environmental community to pull together on big issues. Everyone seems to be doing their own thing, often at cross-purposes. Equally frustrating is the degree to which real grassroots organizing seems to have gone out of style. The anti-environmentalists have learned well the power of this organizing, while we are forgetting it.

Environmental goals you have set for yourself in the years ahead:

To continue to be personally active and to preach the rewards of activism to others in this cynical era. I am appalled by the extent to which many seem to have abandoned all hope that government might be beneficial. It may well be a self-fulfilling prophecy.

Earth Day advice: Prior to going to work for the United Nations, my father asked a close friend and longtime United Nations employee about whether he was doing the right thing. The friend responded that there are 5 billion people in the world, and my father was just one of them; if he thought he was going to save the world, he was in for nothing but grief. On the other hand, he added, if my father kept in mind the limits of what one person could do, he could make a difference and he would feel good about it. He took the job, and he did feel good about it.



John McComb

► For more information, see "Resources," p. 82.

Earth Day— **SO WHAT?**

You can't go home again. But you can remember what it meant.

BY JONATHAN ELA

FOR ME EARTH DAY WILL ALWAYS BE *THE* EARTH DAY—April 22, 1970—and its memory mixed with the misty recollections of youth and the extraordinary era of which it was a part.

My long association with the Sierra Club started the year before, when Executive Director Mike McCloskey hired me to help coordinate conservation efforts. For me at least it was a very lucky association of convenience, since (politely put) my skills were highly generalized; I was a conscientious objector in search of alternative service in the nonprofit sector, and was not exactly fussy about salary or benefits. For its part, the Club was recovering from economic and political turmoil and was stony broke. Mike desperately needed help, but was hardly in a position to screen for top talent.

The Club had also just completed a congressional session of astonishing accomplishment. The list of Club priority goals was as depleted as its staff and coffers—Redwood National Park, North Cascades National Park, the National Wild and Scenic Rivers System, and the National Trails System had all been established in 1968.

In effect the Club nearly had an institutional clean slate in the middle of 1969, just as the ferment that we associate with Earth Day was beginning to sweep the country. The organization was lean, eager, and looking for an expanded role. Suddenly membership exploded, the Club was prosperous, and the demands for its involvement multiplied.

It is a measure of how the organization has since evolved that the Board in that period debated such issues as whether

air pollution was an appropriate concern for the Sierra Club. Nearly all such questions were answered in the affirmative, and almost without trying the Sierra Club overnight found itself a nationally significant political institution.

It was a wonderful time to be involved in environmental work, particularly with the Sierra Club. Everything seemed possible, and damned near everything was. There was an incredible optimism that environmentalists would make a difference, *the difference*, and that because of our efforts the

world would not only be a better place but might actually survive.

This was pretty heady stuff for a kid just a couple years out of college. To be truly appreciated, this optimism must be contrasted with the overall anxiety of the period. Those lucky enough not to have lived through it cannot possibly appreciate the rage and despair of the Vietnam Era, the sense of numbing hopelessness that followed the assassinations of Martin Luther King and Robert Kennedy (only a few weeks apart), or the viciousness of the Nixonian pile of rubble that was all that remained of American civic discourse. To many of the disaffected, environmentalism seemed to be the one subject to which the nation was responsive in 1970—the environmental movement was an island of optimism in a truly dismal social and political atmosphere.

The concept of Earth Day had an appeal that was born of the politics of the day, but that spanned ideologies and absorbed the whole range of contemporary currents. It was Vietnam War teach-ins mixed with the pop musical *Hair*. It

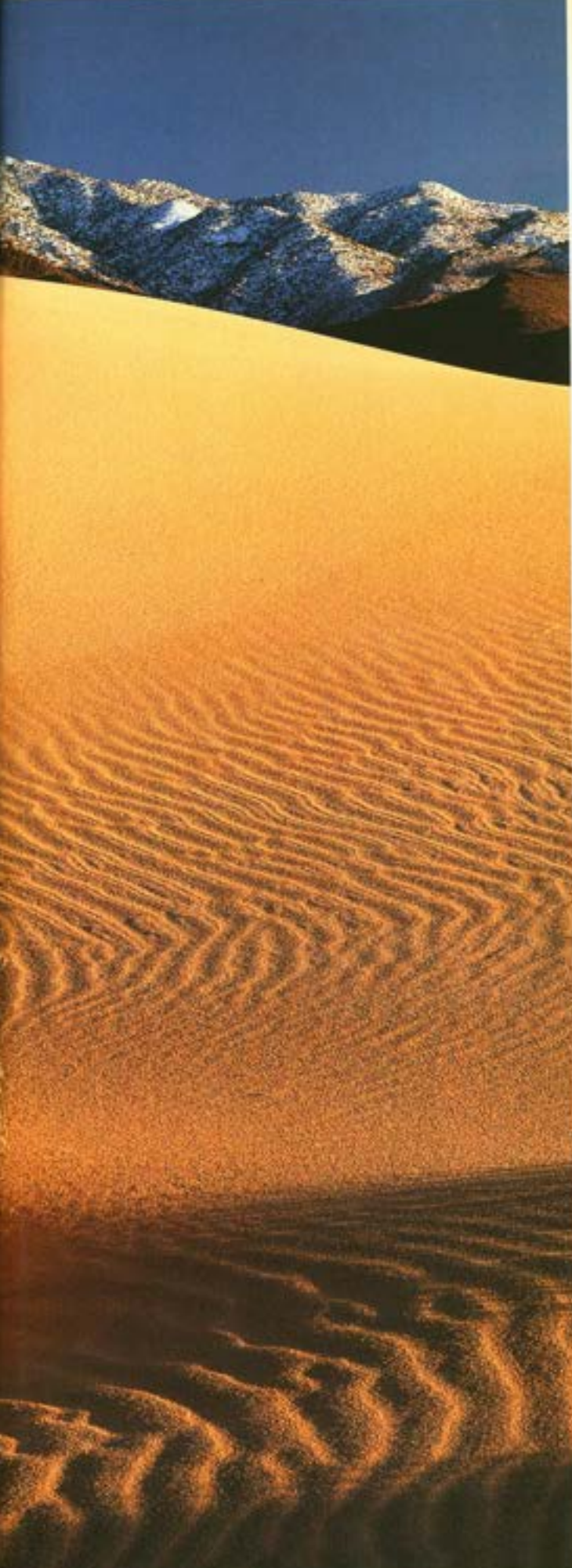
Continued on page 73



Earth Day 1970 in Philadelphia.



Kelso Dunes Wilderness



DESERT BLOOM

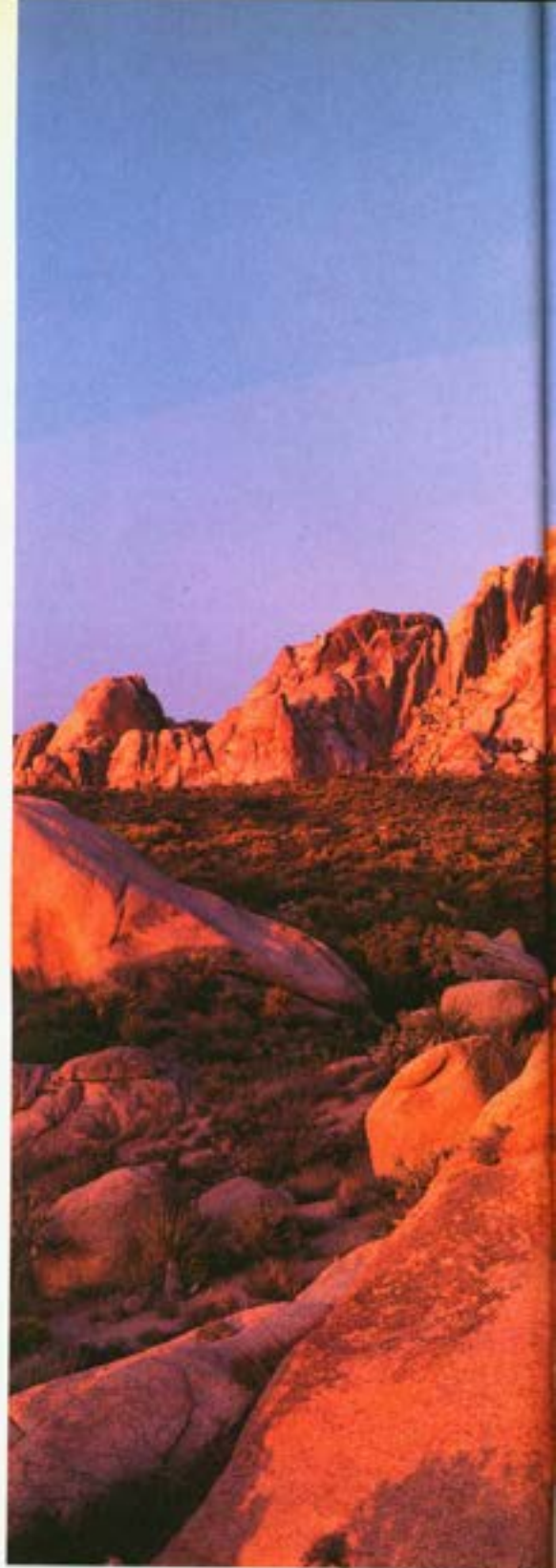
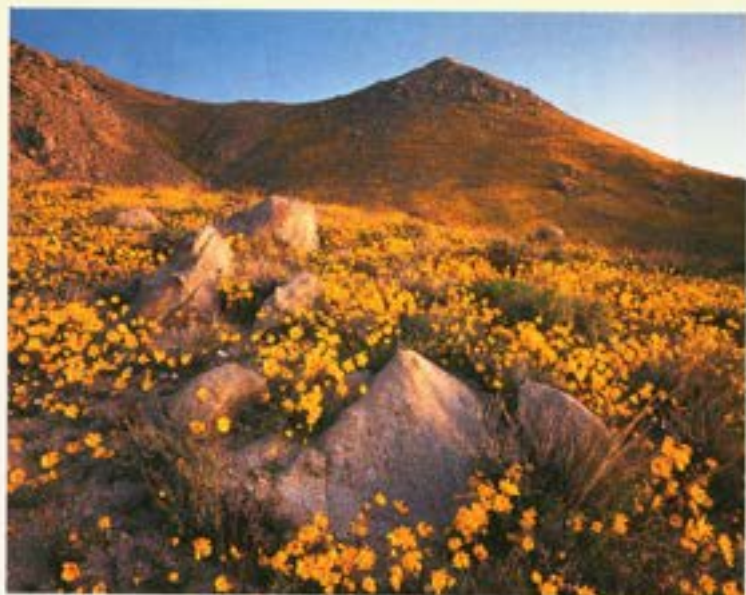
*Celebrating the splendor of
California's new national parks
and wilderness areas.*

IF CONDITIONS AREN'T JUST RIGHT, the finicky desert mariposa lily will lie dormant eight or ten years without blooming. Given a propitious mix of rainfall, warmth, and sunlight, however, this delicate perennial explodes in a knock-your-socks-off vermilion display that sweeps across California's desert valleys. It's well worth the wait, desert devotees will tell you.

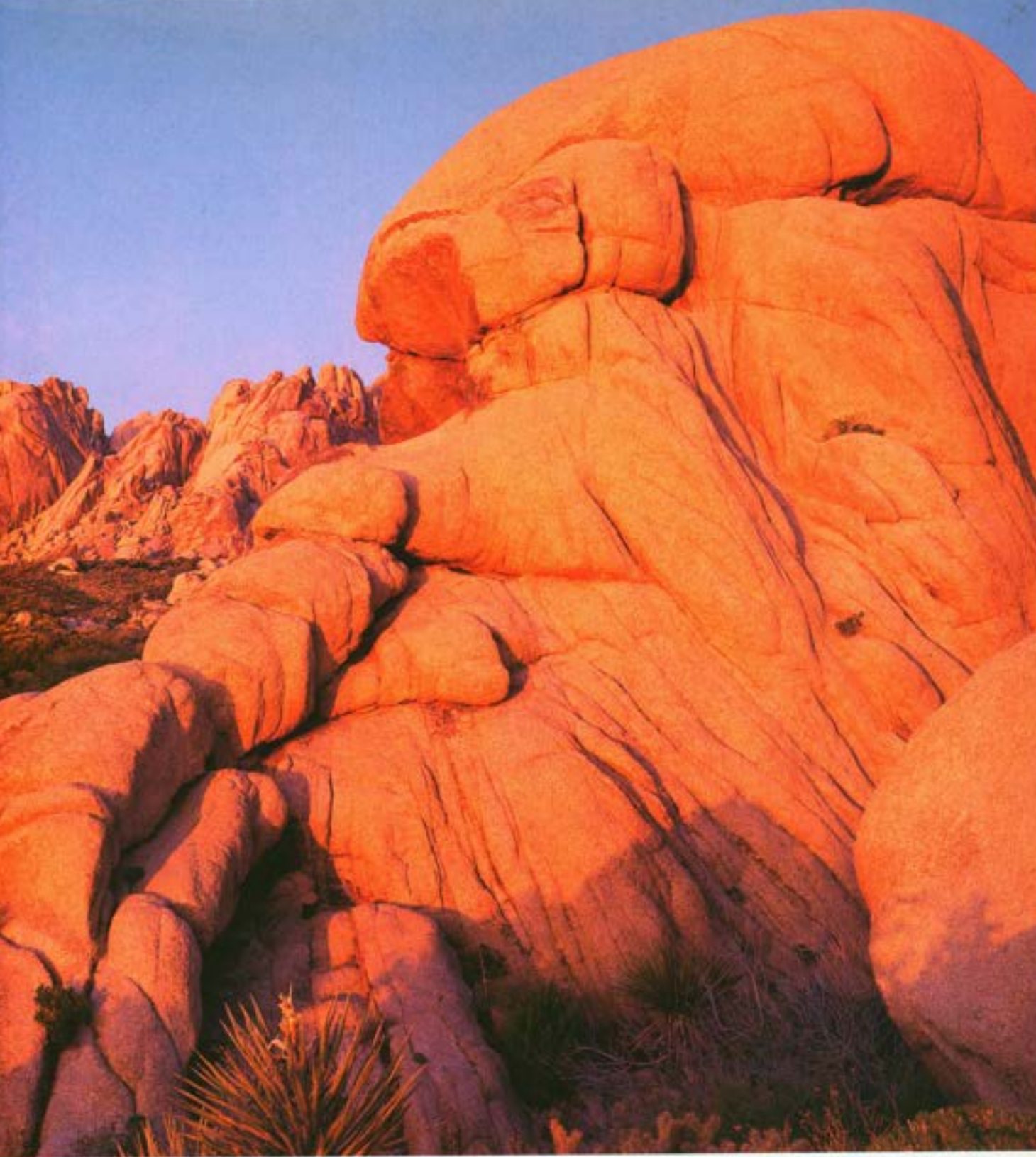
Patience and tenacity are invaluable traits in a harsh climate, and they paid off last October for hundreds of Sierra Club activists who finally won federal protection for this serene and startling landscape. After more than eight years of publicizing, poeticizing, promoting, and persuading, their efforts bore fruit in the last light of the 103rd Congress when the California Desert Protection Act became law.

The legislation protects the largest amount of wilderness outside Alaska ever set aside in one public-lands act. It ensures that some 7.5 million acres are free from the ravages of off-road vehicles and exploitation by mining interests. Death Valley and Joshua Tree national monuments are now national parks, while a 1.4-million-acre Mojave National Preserve and 70 new wilderness areas have emerged from oft-abused Bureau of Land Management territories.

Finally there's peace and quiet for the endangered desert tortoise, a creature that always came in last in the now-defunct Barstow-to-Vegas Motorcycle Race. For humans, there's serenity and solitude within freeway flight of the congested coast. Those who take the time to pull off the highway and out of their city-stressed mind-sets may discover a brilliant blossom, a stubbornly adaptive barefoot gecko, a hidden fan-palm oasis, a hulking, humpbacked mountain range. It takes patience and tenacity, but the reward is a chance to ramble in a landscape once described as "the bare bones of the earth." Here then an introduction to the wildlands the Club's labors helped to save.



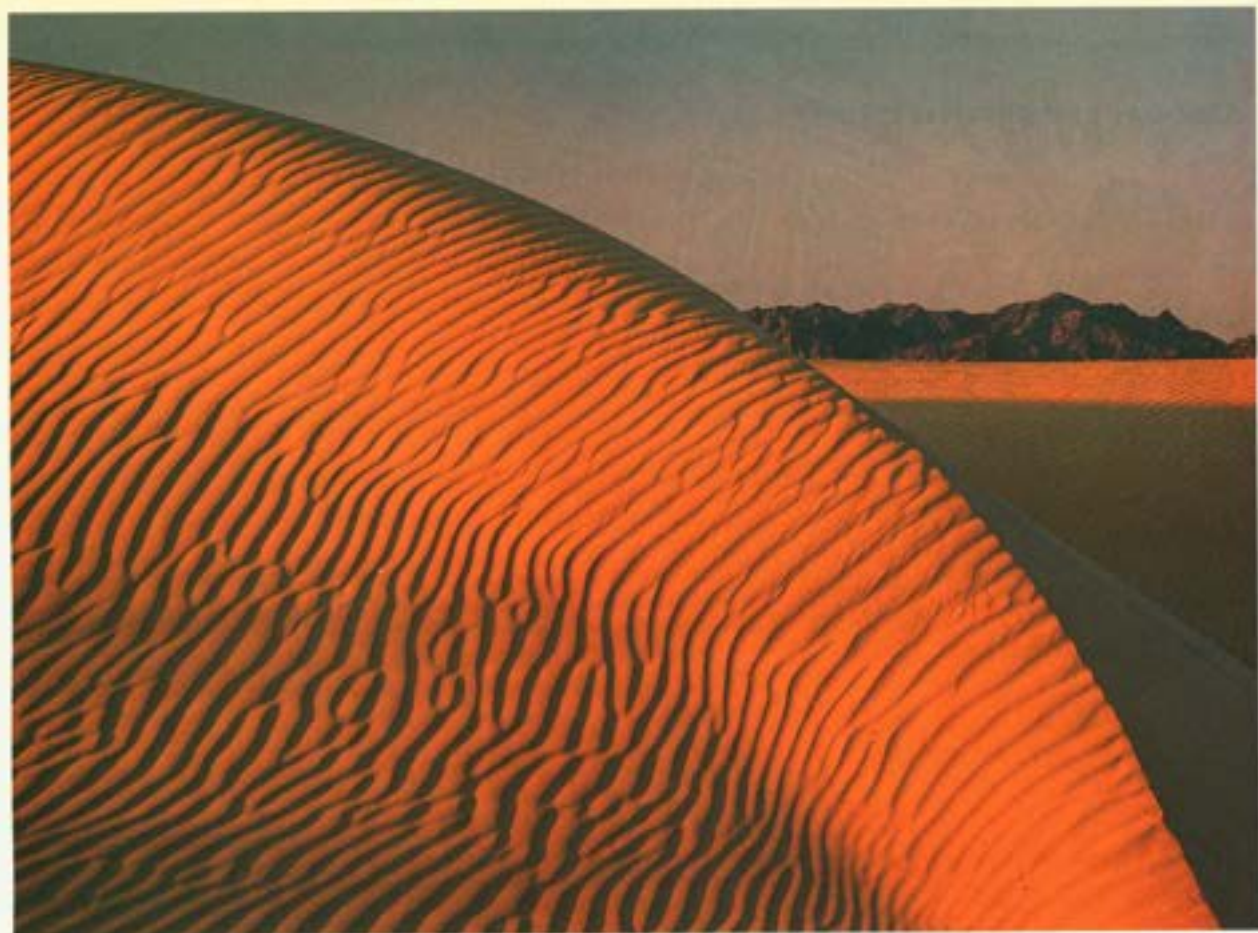
ABOVE & BOTTOM LEFT: GEORGE WANG
TOP LEFT & MIDDLE LEFT: JEFF GUNAWAN



CELEBRATING THE DESERT

Opposite page, top to bottom: Granite and Bigelow's coreopsis below the Scodie Mountains, Kiavah Wilderness; Joshua tree woodland in Owens Peak Wilderness; barrel cactus flowers in Joshua Tree National Park. Above: Granite Mountains in Mojave National Preserve.





CELEBRATING THE DESERT

Cholla at sunrise in Joshua Tree National Park (left); North Algodones Dunes Wilderness with the Chocolate Mountains (above); teddy bear cholla and Brandegea in Joshua Tree National Park (right); Darwin Falls Wilderness (below).



**An environmental
audit sounded like
a stroll in the park
to this Spartan
urban dweller.
But that was
before she met
Renate Kroesa,
eco-cop.**

THE DOORBELL RANG, AND MY LAST-MINUTE JITTERS KICKED IN full throttle. Just a week before I had been eager to undergo an environmental audit of my home, confident that when the analysis of my buying habits was through I would be awarded a shiny badge as Low Impact Homemaker of the Year. But now I was less certain. Perhaps an environmental commando was about to storm through my cabinets, pounce on environmentally suspect products, and shoot me reproachful looks. I braced for the worst and opened the door.

For a moment, I was mystified. The woman standing there, with the large eyes, the flipped-back coiffure, and the preternaturally kindly smile bore a spooky resemblance to '70s songstress Debbie Boone. But actually it was Renate Kroesa, environmental chemist and cofounder of Ecopol Consultancy Services, waiting patiently to be asked in.

Big, bad eco-cop? Hardly. Earth Angel was more on the mark. Relief gurgled out of me as I took her coat and offered her use of the bathroom. Clearly, there was nothing to worry about. She'd give my one-bedroom apartment a quick going-over, hand over my badge, and then, time permitting, stay on for a pot of tea. Moments later, when she reappeared, I was already musing on which herbal blend to serve.

"I notice," she said sweetly, "that your toilet water is greenish blue."

I congratulated myself on making a favorable first impression. It's hard to spruce up a commode, but the deodorizing tablet I had dropped in the tank just moments before was both hygienic and decorative.

"Under normal circumstances," she said, "only perfectly natural bacteria from the guts are present in the bowl. If you don't have a waterborne disease, like typhus, you don't need to disinfect. You only end up sending unnecessary chemicals into the sewer system."

Ouch. How could I have known that Mother Nature was taking it on the chin with every flush?

"Consider it gone," I assured her, steering her away. "But let's start off for real in the kitchen." My immaculate kitchen, I thought. A kitchen that has been specially prepared just for you.

With an aura of placid authority, Kroesa looked over my digs. Her inscrutability during those long moments unnerved me.

"SPRING" cleaning

by Tracy Baxter

Illustration by Lloyd Dangle



"Spartan," she said finally. "This might not be easy."

Spartan! Could any comment be more flattering to the environmentally conscious urban-dweller? I smiled humbly.

I swung open the cabinet above the kitchen sink with new confidence. "This is where I keep my most toxic substances," I babbled. "Yessiree. Nearly everything on these two shelves burns and stinks."

Kroesa's doelike eyes unblinkingly scanned the shelves, seeking among the jugs, jars, cans, and bottles for the ecologically dubious. Immediately she lit in with a flurry of

objections. The spray cans were made of aluminum, an energy-intensive metal, and can't be recycled or reused ("a complete waste" in her unequivocal judgment). The plastic spray bottles don't degrade; the cardboard boxes were oversized ("go with detergent concentrates in refillable containers"). I was mortified.

I tried to distract her with a hasty offer of tea, but she was implacable. Debbie Boone had suddenly become the Terminator. The culprit she implicated most in the ecological mayhem: chlorine. If I ever gave a thought to chlorine, it was probably when I caught a whiff of it



**In an exhausting hour,
my cheery kitchen had
metamorphosed into a
chamber of horrors.**

before downing a glass of water. Chlorine's power to disinfect is one of its remarkable qualities. Germs don't stand a chance against the stuff. It's also known for its ability to latch itself firmly onto carbon and hydrogen in combinations called organochlorines. These chlorinated compounds are the wunderkinder of the chemical industry, fastening this atom to that one in exceptionally stable bonds. Vinyl, solvents, and pesticides all derive from this union.

Yet what is good for the chemical industry is not always good for everyone else. Chlorine's talent for reacting with other molecules and then not breaking down can have nasty results for living organisms. Organochlorines take up residence in the fatty tissues of animals and people like you and me, where they bioaccumulate—a disquieting fact, given their tendency to scramble the hormonal signals regulating biological development. Even with these insalubrious features, chlorinated chemicals are widely used in the home. Why?

Because manufacturers have ways of making you buy, that's why.

"Chemical companies promote a 'disinfectant mania' among consumers to sell us toxics that should rightfully be classified as waste," Kroesa said with distaste. "They make billions of dollars getting us to buy their industrial leftovers." (Elemental chlorine, the lethal pale-green gas that is the foundation of so many household items, is actually the exhaust of another industrial process: the zapping of electrical currents through brine to create caustic soda.)

"Regulators," Kroesa continued, "are under the influence of the big industries. Few governments anywhere in the world have the guts to ban harmful products from the marketplace as long as people continue to buy them."

The government may eventually get around to phasing out chlorine, she said, but meanwhile I could get a head start by checking labels for ingredients with "chlor-" and (except for sodium chloride, a.k.a. table salt) passing them up.

So out for safe disposal went the bleach-boosted cleanser boasting the power of a mighty Greek warrior. Good-bye, pine-scented—hey, what was she doing with the Lysol? "Contains phenols," she replied, "specifically, o-phenylphenol." The toxicological rap sheet on this substance, she told me, stretched from skin and eye irritation to human mutagenic properties. Definitely not the kind of potion I wanted around. It, too, was bid adieu.

I felt forlorn and cleanser-less, staring at a nearly bare cabinet. Kroesa, bless her heart, tried to be comforting,

"Learn to tolerate a little dirt," she advised—welcome counsel to someone not very jazzed on household drudgery to begin with. Still, crud *does* build up, and a mixture of elbow grease and water goes only so far. What, then, to use?

Kroesa began setting products on the counter, a small phalanx of foot soldiers in the war on grime. Ammonia for heavy cleaning (check), white vinegar for deodorizing (check check), and baking soda . . .

Her hand halted in midair reaching for that last infantryman: a shadow of disappointment crossed her face.

"You don't have baking soda?" she asked incredulously. "Every home should have baking soda." And truly, mine normally does! I was simply *out* . . . "Yes," I nodded mutely, knowing from hints printed on its box that a little bicarbonate of soda is nifty for scrubbing tubs without scratching, degreasing drains before clogs can build, and freshening laundry.

Still, I was not yet completely defeated. With the toxic inspection completed, we could now focus on an area where I knew I would be a skosh more environmentally on target: groceries!

Chowing down for the planet: now *there's* something I know about. My larder brims nutritiously with pasta and rice, grains, and beans. It is a trove of delectable condiments and spices, all purchased in the largest quantities my storage space allows. I led her to the pantry and beamed in satisfaction.

Again, my satisfaction was short-lived. The avenging angel reached right in the pantry and brought out a can of tomatoes, regarding it with displeasure. She couldn't possibly object to canned food, I thought. I mean, really, diss the chickpea? Damn the cling peach? On what possible grounds? If you can depend on little else in your lifetime, you can be sure that one can of vegetables or fruit will look and taste exactly like the one before it.

As it turns out, that remarkable consistency is precisely the problem. If consumers fancy sameness, the mechanical processors of food conglomerates require it. In meeting the exacting standards from those two quarters, farmers must plant expensive, over-bred seeds to yield the desired uniformity. But with monoculture on this vast scale, cookie-cutter produce is not all you get. You also get plants that are unable to fight off disease without plenty of aid from pesticides and synthetic fertilizers.

Agribusiness is quick to point out the negligible nutri-

tional difference between their fare and the organic variety. A nice try at clouding the issue, Kroesa told me, but she wasn't buying it.

"If there's any controversy about whether organic foods are actually better for you," she said adamantly, "the one crucial point to remember is that organic farming, with its emphases on biological pest control, crop rotation, and companion planting, does not deplete the soil with neglectful farming methods and is therefore *always* better for the health of the planet. And that means our health too."

Then of course there is the all-important question of flavor. You'll see dimples, bumps, and lumps all over organic produce, but their taste more than makes up for it. It may cost a little more than the pretty produce at the neighborhood Shop-a-Lot, but good stewardship could not be made any yummiier.

If only we could have wrapped things up on that high

note! But now came the toughie, the question of meat. Like a glazed ham on the floor between us, the issue could not be ignored. Unsurprisingly, Kroesa doesn't touch the stuff herself, but she had two recommendations for the inveterate carnivore:

First, stick to meat raised on "happy" farms—farms that raise livestock and fowl under humane conditions. Many animals destined for human consumption live their entire lives in lockdown with little sun, limited fresh air, and loads of veterinary medicines. Some are given medication to treat specific illnesses, but the drugs are mostly administered in subtherapeutic doses to prevent disease, a questionable practice. "Animals crowded together in filthy cages and physically compromised by the strain of confinement need powerful drugs to combat bacterial infections. Some bacteria, like salmonella, are becoming more resistant to treatment,"

Continued on page 75

KINDLY ACCEPT SUBSTITUTES

Manufacturers are well aware of a strong consumer preference for ecologically benign household items, but if you've ever purchased a bottle of "clear" detergent with a label touting a drop of "real lemon juice" as an ingredient, you've fallen victim to greenwashing. The contents of the bottle were largely unchanged from the old formula, but the misleading packaging left you with an impression of wholesomeness. You can avoid being taken in by this scam by making your own cleaning products, using borax (a mineral that deodorizes and disinfects), soap (made from animal or vegetable fat and alkali, not detergent, which is petroleum-derived), baking soda, and vinegar. As the manufacturers of cleaning powders and potions are not required to disclose the exact ingredients of their goods on the labels, concocting your own homemade alternatives is the surest way to reduce the number of toxics you bring into your home. The substitutes will do the job, and be far better for you and the environment. Cheaper, too.

ALL-PURPOSE CLEANER
Dissolve one teaspoon liquid soap or

borax in a quart of warm water; store in a spray bottle. For tougher jobs, use one-half cup borax, one-half teaspoon liquid soap, and a splash of vinegar (a superb grease-cutter) in two gallons of warm water.

DISINFECTANT

Soap and hot water (!) take care of common kitchen bacteria adequately; a solution of one-half cup borax to one gallon of hot water makes for a stronger disinfectant.

SCOURING POWDER

Use table salt, baking soda, or a soap-and-feldspar product like Bon Ami.

DRAIN CLEANERS

Pour a cup of baking soda down the drain, followed by one-half cup of vinegar and cover the drain tightly for one minute. Rinse with hot water. Or mix one-half cup baking soda with the same amount of salt and pour down the drain, followed by a quart of boiling water. Let stand for several hours, then rinse with hot water.

FABRIC SOFTENER

Add one-quarter cup baking soda or one cup vinegar to the final rinse cycle of your wash.

SPRAY STARCH

Two teaspoons cornstarch dissolved in one pint of cold water makes a fine substitute for the aerosol. Store in a spray bottle and shake well before each use.

FURNITURE POLISH

Mix one teaspoon lemon juice with two teaspoons vegetable oil. Apply with a clean, dry cloth.

OVEN CLEANER

Add one-half cup ammonia to one gallon of hot water for baked-on dirt. Otherwise, use a scouring pad with washing soda (sodium carbonate) and plenty of elbow grease.

PESTICIDES (ANTS & COCKROACHES)

Caulk cracks around baseboards, sinks, pipes, and any other points of entry. Lightly dust borax in cracks and crevices.

PESTICIDES (FLEAS)

Wash your pet with warm soapy water and then groom it with a flea comb. To get rid of fleas in your home, vacuum daily for two weeks, freezing the vacuum bags after each use. Or steam clean rugs and upholstery. —Tracy Baxter

NATIONAL FORESTS

Continued from page 52

are popular and profitable. The Sierra Club is now suing the Chequamegon to force it to protect that biodiversity. Should the Club prevail, the effect will be felt far beyond the Wisconsin border, possibly changing the way forests are managed all across the country.

"Agency officials' definition of diversity is a common-sense, layperson's view," says Madison attorney Walter Kuhlmann. "They think 'Diversity—it should be different.' They talk about 'horizontal diversity,' emphasizing areas that are as different as possible from the surrounding habitat, changing all the time as you move across the landscape.

"Unfortunately, there is no scientific basis for that. It's junk science. But since it fits so nicely with their timber approach, they've seized on it."

Kuhlmann is now representing the Sierra Club and a group of botanists

from the University of Wisconsin in their suit against the Forest Service. The scientists, Stephen Solheim, Donald Waller, and William Alverson, are proposing the revolutionary common sense of letting Mother Nature preserve diversity on her own.

"A lot of the other initiatives in the last 10 to 15 years have been toward a lighter touch or 'new forestry,' says Waller. "Our proposal is radically different in that we don't trust the Forest Service. We aren't presuming that all we need to do is twiddle with the way it does business. There are good scientific grounds for protecting very large areas, and the way to manage those is essentially 'hands off.'"

The scientists and the Club propose that a number of large blocks of carefully chosen forest in the Chequamegon, on the order of 40,000 to 100,000 acres, be declared "diversity maintenance areas" (DMAs) and left alone to return to a genuine old-growth state. These areas would differ from traditional wilderness in that they

would allow all activities permitted on regular Forest Service land with the exception of logging and road-building. They would become, over time, a new species of wilderness, based not on scenic beauty or recreational values, but on biological importance.

"The Forest Service should operate from a position of knowledge," says William Alverson. "They say they can create old-growth faster, that they can mitigate loss of diversity by leaving snags and so on. Fine, that's very promising. But we won't really know for 50, 100, possibly 400 years. It's very dangerous to say that we can address all diversity concerns by simply changing our style of silviculture until we have that certainty."

"There are two main principles here," Carl Zichella says. "Science should guide the decisions, and you need to save what's rare, and that's older forests. We have lots of fragmented younger forests, but if we're going to maintain biological diversity in this region, we have to focus on



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Why We Must Reduce Immigration From Over One Million to 100,000 a Year

It Makes No Sense for Our Nation to Permit Massive Immigration

We now allow over one million immigrants to settle here every year. If our fertility rate remains at 2.0, continuing immigration at that level would swell our population to nearly 500 million before the end of the next century. **That would almost double our present size!**

Such growth would be intolerable. It would destroy our environment, our standard of living and the quality of our lives.

With a present population of 262 million, our country is already vastly overpopulated in terms of the long range carrying capacity of its resources and environment. Yet we continue to grow rapidly, by 25 to 30 million each decade.

We Need to Halt and Then Reverse Our Population Growth

We at NPG believe that our goal should be to stabilize our U.S. population at no more than 150 million, its size back in 1950. We consider that to be the optimum size for our country.

We Americans do not have to agree now on the exact size of a smaller population, however, since any substantial reduction in numbers would take many decades to achieve. It is only essential that we agree on the urgent need to halt and reverse our population growth.

Immigration Must Be Drastically Reduced

Because we have allowed our nation to become seriously overpopulated we are in deep trouble. A quick and easy solution simply does not exist. To start on the path toward a smaller, more sustainable population, we must halt illegal immigration and sharply reduce legal immigration.

Accordingly, NPG strongly recommends that legal immigration be cut back from its present 900,000 per year to no more than 100,000, including all relatives, refugees and asylees. We further call for an all-out effort to reduce illegal immigration, currently estimated at 300,000 a year, to as near zero as possible.

Best Case Scenario: Low Fertility, Low Immigration

What would happen to our population if our fertility rate were gradually reduced from the present 2.0 to 1.5 by 2050, if illegal immigration were virtually halted, and if legal immigration were reduced in 1996 from the present 900,000 a year to 100,000 a year, as we advocate?

The bad news is that our population would still continue growing for another 25 years, peaking at 300 million in 2020. **The good news** is that by the end of the next century it would have declined to around 180 million. In a few more years it would reach 150 million and could be stabilized at that level, even allowing a slight increase in fertility and/or immigration.

This is the path to a smaller population that NPG advocates.

Another Scenario: Low Fertility, High Immigration

If our fertility were reduced as in the "best case" scenario, but immigration remained at its present high level, the picture would be far worse.

1. Our population would continue growing for another 55 years, peaking in 2050 at 337 million, **75 million more than we are now.** Our impact on the environment would accordingly be that much greater.

2. Even by the end of the next century, our population would still be 298 million, 36 million greater than it is today, **and 121 million larger than it would be under the "best case" low immigration scenario.**

This is a path that our nation cannot afford to follow. **Clearly, the level of immigration will have a tremendous influence on the eventual size of our population.**

We Cannot Rely on Fertility Decline Alone to Reverse Our Population Growth

Fertility rates are difficult to change and when they do change, they almost always do so very slowly. Furthermore, future fertility rates are unpredictable: they might well increase rather than decrease. Over the last 18 years, for example, the trend has been upward, from a low of 1.7 in 1976 to 2.0 in the last few years.

That is all the more reason why we must reduce immigration to a level consistent with our long-term national interest. Reducing immigration is a much faster and more certain way to get results than relying on fertility decline.

If we can persuade our government to act decisively **NOW** to halt illegal immigration — and to cut legal immigration from 900,000 to 100,000 a year — **we will at last be doing something** to brake runaway population growth in our country.

If you believe with us that immigration must be drastically curbed — and without further delay — then we ask you to work for this goal as a member of Negative Population Growth. We need your help.

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preserving large blocks of older forest."

Supporting the botanists' demand for unmanaged diversity reserves are all the biggest names in conservation biology: E. O. Wilson, Michael Soulé, Peter Raven, Daniel Janzen. Faced with such brainpower, the Forest Service is not even bothering to dispute the basic science. Instead, it pleads for "Ecosystem Management" to be given a chance.

"When you tell the Forest Service it should be doing something," says Kuhlmann, "they always make the

same argument: 'We're already doing it.'" The danger is that if Ecosystem Management turns out not to be the answer, it's too damn late for the ecosystem.

THE FOREST SERVICE IS A DEEPLY troubled agency. For decades its main task was to get the cut out, and when environmentalists started raising objections, the task was to overcome the objections and still get the cut out. "I spent 34 years in the Forest Service,"

says former Chequamegon Supervisor Jack Wolter, "and for the first 20, the only people we ever talked to were the timber interests. No one else even wanted to talk to us."

Now a crowd of interests vies for attention: hunters, timber companies, inholders, environmentalists, scientists. All but the most obdurate accept that the frenzied cutting of the Reagan-Bush years cannot continue; opinions differ on how to proceed from here.

The approach proposed by Forest Service chief Jack Ward Thomas is, potentially, a wonderful tool. On the ground, Ecosystem Management often serves as a shield for conscientious Forest Service employees, who find in it official sanction for their better instincts. At worst, however, Ecosystem Management serves as a smarmy justification for the same old abusive logging, a theoretical beauty strip around the clearcut. It still tries to offer all things to all parties. "There is not enough agreement on the meaning of the concept," notes the Congressional Research Service, "to hinder its popularity."

The sad fact is that even the most intensive twiddling will not allow us to have it all. "[I]t is not always possible to maintain or restore healthy ecosystems and, at the same time, sustain historic types, levels, and mixes of human activities," says a 1994 report by the General Accounting Office. The problem, it correctly notes, is that no document or person "clearly identifies the priority to be given to the health of ecosystems relative to human activities when the two conflict."


What is Ecosystem Management? An inquiring public needs to know. If it means science first, the nation's heritage of rich and diverse living forests is on the path to salvation. If, on the other hand, it means science first except when the local congressman gets upset or the mill threatens to shut down, we're still just talking about a prettier name for a clearcut. ■

PAUL RAUBER is a senior editor at Sierra.

► For more information, see "Resources," p. 82.



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EARTH DAY

Continued from page 59

combined the hyperventilating rage of the socially turned-on with the "do your own thing" of the tuned-out. It was the political radicalism of Berkeley's People's Park grafted onto the earnest traditionalism of the middle-class conservation movement. The tone of Earth Day varied somewhat from place to place, of course, but everywhere Rachel Carson was beatified, and Barry Commoner became the John Lennon of academia. In retrospect the rhetoric was perhaps excessive, but that too was a symptom of the age. Above all, Earth Day was exciting and fun.

The spirit of hope that first Earth Day was rather odd considering the gloomy specifics of the message: we are running out of space and food; we have perhaps irreparably poisoned our air, land, and water; we are driving our fellow creatures to extinction at ever-increasing rates. Surely never before or since has the scientific evidence for impending apocalypse been presented with such good cheer and celebration. But opportunities for leaps of faith were limited in that year of the Kent State shootings, and what Earth Day asked us to believe was twofold: there is still time, and people will listen to us.

So where did it all lead? Earth Day did not invent environmental awareness, as any reader of Thoreau can attest. It did not invent environmental activism, as any student of John Muir knows. Nor did it solve all our problems: disputes over stewardship responsibilities will always be with us. It was not even the most important environmental event of its year—to my mind beating back federal subsidies for the Supersonic Transport (SST) was a more significant environmental turning point, a sign that Congress was at last considering the downside of technological progress.

But Earth Day is symbolic of an immense intellectual transformation that started in the late 1960s and early 1970s. Before then, environmental awareness was an uncommon attribute

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of a narrow intelligentsia—the readers of Carson, Aldo Leopold, Paul Ehrlich, David Brower, and the like. Today the notion of environmental limits is part of our shared global vocabulary. While it is true that we are still groping for agreement on consequential actions, that is an extraordinary revolution. The recollection of this symbolic, transformative Earth Day should also encourage contemporary idealists in a time of political adversity: important ideas can still catch hold and lead to great change.

Where in this extraordinary environmental revolution did Earth Day itself end up? Granted, I am getting old and grumpy, but to me modern Earth Days are represented by those little numbers enclosed in triangles on the bottoms of plastic containers. Each year I need slightly more powerful corrective lenses to read them and I have more disposal options imposed on me. What I want to know is why the hell the root beer didn't come in a reusable glass bottle in the first place.

Earth Day has lost its sense of social challenge, of charismatic revivalism. Over the years it has become progressively fuzzier and more unfocused. I hope I am wrong, but I suspect that millions of people will be taught on this coming Earth Day to read the little numbers on the bottoms of the bottles, but not to notice that in the real world political decisions are being made—locally, nationally, and globally—that will have profound effects on their futures. How pitifully unheroic will be this year's Earth Day if its only message is to hunker down and sort our plastic.

Okay, I'll lighten up. I'll sort my trash on Earth Day, and maybe even gag down some wheat germ and tofu to salute a greener planet. But on the day before April 22, on John Muir's birthday, I will uncork the champagne and celebrate life and the wonders of biodiversity—and rededicate myself to the good fight that remains. ■

JONATHAN ELA founded the Sierra Club's Midwest office in 1971 and served as staff director for 12 years. He's currently the Club's Mississippi specialist.

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SPRING CLEANING

Continued from page 69

Kroesa said. "We eat these animals, ingesting those same chemicals, and we make the bacteria in us more resistant. In the end, the antibiotics that doctors prescribe to treat human illness are less effective."

Down on the factory farm, high-calorie feed is also laced with drugs that speed up maturation. Cattle are pumped up on anabolic steroids; chickens and pigs on tetracycline, penicillin, and other antibiotics. But the resultant bulk is not all that substantive. The animals only seem bigger because the drugs draw water into their muscles or the high-energy feed has made them fat. Mm-mm, good.

And if that flesh were one pound of feedlot beef, a whopping seven pounds of grain went into producing it; pork, a nearly as unsettling four. These creatures' final months are spent gorging on feed, a process that makes them heavy in saturated fats, the very stuff that dietitians advise trimming off and throwing away. (See "Body Politics," page 24.) More selective meat-eating cuts back on this wasteful method of feeding, and frees up (potentially, at least) agricultural land for more efficient kinds of food production.

Kroesa's second piece of advice is to diversify your diet. Fish is the hands-down winner at converting feed to flesh with least fuss, and is generally less fatty than the other animal-protein options. You might also want to make "more legumes, please!" your enthusiastic cry at mealtimes.

"You can eat a chicken once a month," was Kroesa's last admonition on the subject. "But make sure it's a very good chicken."

We were finished at last, at least on this front. In an exhausting hour, my cheery kitchen had metamorphosed into a chamber of horrors. I examined Renate for signs of fatigue: not even a trace. In fact, she seemed energized and ready for the second leg of our survey, scouting out ecological bad actors at the local Safeway.

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As we collected our coats, I quickly warmed up to the idea of leaving my apartment. With the average supermarket stocking 10,000 to 20,000 items, there would be no lack of atrocities to criticize. Even better, none of them would belong to me.

So we strode out the door on a typical March day in San Francisco: gray, cool, with showers as likely as sun. Our walk would take us through the subculture enclave in San Francisco's lower Haight.

"Overconsumption," Kroesa said as we passed a weekend sidewalk sale, "is one of the driving forces behind environmental destruction. We are not talking just about producing hazardous waste, but also about using up energy, minerals, and oil to produce inessentials that we throw out in nonusable form."

Overconsumption didn't appear to be too great an issue with the crowd we passed through, however. Pockets of slouching youth posed disaffectedly in layers of secondhand clothes, their sagging vestments explaining why the *esthétique du jour* is tagged "grunge." The media complains that this generation isn't going anywhere, which may be true, but judging from the traffic on Haight Street, it appears to be a mobile bunch, getting around largely by skateboard, bike, and in-line skates. No mean savings in fossil fuel. It also celebrates the funky in all things, picking up used records and books, clothes and furniture that could have otherwise ended up as landfill. And it eats its vegetables—a local produce store offering a selection of organic stock doesn't ever seem to close. For all its purported discontent, maybe this generation has some good ideas about being satisfied with less. Indeed, here life's nonessentials seem largely confined to tongue piercings and body art.

San Francisco is, however, not just a haven for the alternative crowd. Plenty of folks give in to their intemperate urges the old-fashioned way: they go shopping. "But we're not really enjoying what we buy," Kroesa pointed out softly. "Not as much as we used to. And people are questioning more and more

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if what they have is making them happy. Maybe we'll see a shift in values," she mused. "No longer just a focus on 'stuff,' but more human emotion, more interaction . . ."

More of the one thing it's hard to say outright without sounding hokey; that is, *love*? Maybe. But there was no time for sentimentality. We had arrived at Stuff Central, and duty called.

The supermarket covered half a city block, and shelves groaned with packages whose wrappings demanded instant attention. Ninety-nine percent of what was offered would never find its way into Kroesa's cart, although she quickly conceded that her shopping ethic might be too severe for some people to follow. But that was no reason to give up. Bearing the big picture in mind is what's important, she reminded me. "Imagine net effects. Every product levies some toll on the planet. Weigh the environmental impact against its use."

The tropical fruit looked inviting. So did the wares at the flower stand. But if those items were imported from countries using pesticides banned in the United States, bringing home a bouquet or an out-of-season mango would be a strike against both the health of the people who worked the farms and the health of their environment.

Further along the produce aisle was a bright pyramid of oranges. Just beyond that, lustrous red apples. Did gasses or waxes create a part of their appeal? Sadly, yes. Being a Sierra Club member, I knew that one of the tougher parts of environmental advocacy is speaking against practices you don't support. But would it be appropriate to ask the manager to post signs letting consumers know where fruits and vegetables come from? Kroesa thought it was a fine idea, along with mentioning that not everyone wants dolled-up produce.

We stopped at an aisle devoting almost an entire side to paper products, and faced a dizzying assortment of Brawny towels, Huggies diapers, and Charmin tissues. Little wonder that North America leads the world

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in per-capita paper consumption. Household paper goods are manufactured to save the bedraggled homemaker labor. But the cost of such ease is enormous: Forests are cut down, landfills are filled up, and dioxins, the most potent of the organochlorines, are sloshed out to the four corners of the earth.

Debate has bounced back and forth on the issue of dioxin's toxicity. In the past few years some influential newspapers have taken the position that dioxin's lethal effect had been grossly overstated, and that cleanup of dioxins would be a complete waste of money and effort. Then, in one of the dandiest ironies ever to rattle big business, the paper industry pushed hard for an EPA review of dioxin science, banking on exculpatory findings. They banked wrong. The draft of the EPA's reassessment, released in the fall of 1994, reveals that dioxins and other dioxin-like chemicals are far more poisonous than previously believed and that they have carcinogenic effects that are observable at present human exposures. In fact, because the body's burden of dioxins for Americans is 300 to 600 times greater than that required to create a one-in-a-million cancer hazard, the EPA estimates that dioxins might be responsible for somewhere between 2.5 percent and 25 percent of all cancers in the United States annually.

Dioxins' nasty propensities do not stop there. A single inopportune exposure seriously jeopardizes the body's immune system. Major sources for these bad boys are municipal-waste incineration, chemical processing, and, you guessed it, paper manufacturing. Renate and I gave a big thumbs down to paper disposables.

We eyed the small packages. Good things don't necessarily come in them. We discovered that single-serving products that placed a premium on convenience were also drenched in fat, sugar, and sodium. Processed-meat lunch packs, artificially flavored puddings, frozen pot pies, potato chips, dehydrated noodles in polystyrene cups, are the very stuff of dietary as well as

ecological dereliction. Even single-serving snacks and juices in aluminum containers took a drubbing.

"Aluminum is marketed as an Earth-friendly container in North America because it's recyclable, but no one talks about the energy needed to produce the metal and the waste by-products of that process," Kroesa said.

These issues, though, are being discussed in other corners of the world. In Germany, for example, where strong legislation curtails wasteful packaging, some beer drinkers were ready to boycott the brew sold in aluminum cans.

If you break down the total energy needed to produce a container of non-fat yogurt, according to Kroesa, approximately 2 percent goes into making the plastic cup, about one percent into the yogurt itself, and a colossal 97 percent into producing the pull-off aluminum covering. In fact, departing from conventional wisdom, Kroesa said that if you must choose between aluminum cans and polyethylene (PET) bottles, opt for the plastic. All things considered, it's less energy-intensive.

Buying green, Kroesa agreed, has its maddening moments. "But knowing what you bring into your home and taking control over what you buy is taking control over your life. It's tremendously empowering. And instead of supporting enormous food conglomerates, or the petrochemical industry, you can support local suppliers and Earth-friendly businesses."

But would my new learning help me predict what an eco-cop would declare the worst environmental offender in the store? I asked her to name the most ridiculous product she had ever seen, and while she mulled it over, I finished my grocery shopping.

She had been none too pleased with the breakfast cereals, and who could blame her? A handful of sugarcoated puffed grain in a great big paper box? Overprocessed, overpriced, and as toothsome as a pound of cotton candy. Then again, few of the frozen foods met with her approval. Or, maybe the corn dogs? Too easy. Wait, I've got it! plastic lemons!

No. Kroesa asked if I knew about

electric-powered air fresheners.

"The ones that you plug into wall sockets?"

She nodded. "Absolutely ridiculous. Some of them work by emitting a chemical that dulls the nose's smell receptors. Why would anyone want to waste electric current to power them? Fragrant oils in hot water are much better. Or even an open window."

I was wrong again, but no matter. Outside the fog had thickened to a misty drizzle, and the walk back would

be chilly. Time, I thought, for a steamy libation.

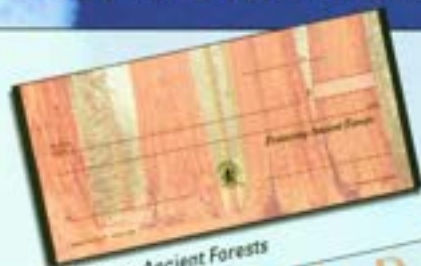
"Tea?" she asked.

It seemed that she had read my mind. Orange spice would do nicely. And then maybe some talk about the hokey things, like love, happiness, and a cleaner, healthier environment. ■

TRACY BAXTER is Sierra's editorial assistant and a freelance writer.

► For more information, see "Resources," p. 82.

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Rainforest Primeval

John Muir dipped his quill in the inkwell and described the vast Tongass forest in southeast Alaska as "endless rhythm and beauty." A modern brochure-writer for the U.S. Forest Service enthuses as compactly, if not as eloquently: "Fiords! Glaciers! Forests! Fish and Wildlife! Rugged Peaks!"

Whether the spectacular inspires you to reverence or exclamation points, the Tongass will surely impress. At 17 million acres, it's the largest national forest in the United States, sheltering almost one-third of the world's remaining unlogged temperate rainforest. It is home to bald eagles, brown and black bears, black-tailed deer, and wolves; its waters harbor whales, porpoises, puffins, and kittiwakes. And don't forget

the glaciers! fiords! and rugged peaks!

The best way to visit the Tongass is by boat. Alaska state ferries and cruise ships run the 500-mile length of the forest through the thousand or so islands of the Alexander Archipelago. Travelers willing to venture beyond the promenade-deck lounge can climb into canoes or kayaks. With their closed shells, kayakers are well suited to the Tongass' sometimes tempestuous coastal waters.

With few exceptions, camping is allowed anywhere in the Tongass. Given the habitually sodden conditions, though, it's no surprise that the Forest Service's system of more than 150 remote public cabins is extremely popular. The cabins cost \$25 a night and must be reserved in advance.

While the Tongass naturally lends itself to water-based pursuits, hikers will

Hypothermia is a serious concern when kayaking in southeast Alaska, and the best insurance is dry clothing, a waterproof tent, and a warm synthetic sleeping bag. A kayaker's most beloved gear will likely be knee-high rubber boots and "dry bags" or heavy-duty trash bags.



find plenty of walking trails. These tend to be relatively short dayhike paths centered around southeast Alaska's towns and its few roads. That doesn't mean they're undemanding. But the prize, as with any well-planned excursion into the Tongass, is passage into a wildness both formidable and fragile. ■

NUTS & BOLTS

HOW TO PREPARE

Rainfall in southeast Alaska ranges from 80 to 220 inches a year. The wettest months are October and November, the driest May and June. Dress for waterlogged conditions, with waterproof outerwear and changes of warm-when-wet inner layers. Plan carefully, file trip plans with the authorities, and be prepared to wait out a storm if necessary.

Tides in the Panhandle can rise 25 feet, and the resulting currents can be dangerous. Paddlers need to consult marine charts and tide tables and use the shifting currents to their advantage. In camp, boats must be moved above the high-tide line or secured to a rock or tree. And then there are the bears. Grizzlies rule the roost on Admiralty, Baranof, and Chichagof islands. In both black- and brown-

bear territory, camps must be kept scrupulously clean and all food hung from a tree at night away from tents.

FOR MORE INFORMATION

Cabin reservations and hiking and canoe/kayak route maps are available from USDA Forest Service Information Center, 101 Egan Dr., Juneau, AK 99801; (907) 586-8751; fax (907) 586-7928; for state ferry schedules and trip planning information: Alaska Division of Tourism, P.O. Box 110801, Juneau, AK 99811-0801; (907) 465-2101.

GUIDED TRIPS

Alaska Wilderness Recreation and Tourism Association, P.O. Box 1353, Valdez, AK 99686; (907) 835-4300; Alaska Discovery, 5449 Shaune Dr., Suite 4, Juneau, AK 99801; (907) 586-1911; Sierra Club Outings, 730 Polk St., San Francisco, CA 94109; (415) 923-5522.

FOR DEEPER READING

Adventuring in Alaska by Peggy Wayburn (Sierra Club Books, 1994); *Alaska's Southeast* by Sarah Eppembach (Globe Pequot Press, 1994); *The Alaska Wilderness Guide* (Vernon Publications, Bellevue, WA, 1993).

THE POLITICS OF PLACE

The Tongass has few equals when it comes to political controversy. During the 1950s,

the Forest Service handed out 50-year contracts guaranteeing billions of board-feet of heavily subsidized timber to two logging companies. Some relief arrived in 1980 when Congress established more than a dozen wilderness areas in the Tongass, but logging continued to drain the Forest Service budget and ravage Panhandle lands. A decade later, Congress carved out several more wilderness areas and mandated minimum stream protections for the forest. Then, just last year, the agency axed Japanese-owned Alaska Pulp's 50-year sweetheart deal for breach of contract.

With the changes wrought in the November 1994 elections, however, the Tongass' hard-won protections may be back on the block. Alaska Representative Don Young and senators Frank Murkowski and Ted Stevens all hold top positions on key natural-resources committees on Capitol Hill. Development boosters all, they could quickly move to weaken protections and increase logging levels in the Tongass. The Sierra Club and other members of the Alaska Rainforest Campaign are working to keep the Tongass' trees towering. To get involved, contact Pamela Brodie, Sierra Club Alaska Field Office, 241 E. Fifth Ave., #205, Anchorage, AK 99501; (907) 276-4048.



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Join activists working on issues that concern you. Contact the Campaign Desk, Sierra Club, 730 Polk St., San Francisco, CA 94109; phone (415) 776-2211.

A FIELD

"Hearth & Home," page 22

The Ur-text of biointensive gardening is John Jeavons' *How to Grow More Vegetables Than You Ever Thought Possible on Less Land Than You Can Imagine* (Ten Speed Press, 1990). For lab testing of your soil, contact Timberleaf Farms at 5569 State St., Albany, OH 45710. Your local office of the Cooperative Extension Service will also test it for you. Robert Kourik's *Designing and Maintaining Your Edible Landscape Naturally* (Metamorphic Press, 1986) has detailed charts on "reading" vegetative growth to determine soil types. For more information on biointensive agriculture, write to Ecology Action, 5798 Ridgewood Rd., Willits, CA 95490.

"Body Politics," page 26

For more on eating and the environment, read *Diet for a New America* by John Robbins (Stillpoint Press, 1987), or contact the Institute for Food and Development Policy, 145 Ninth St., San Francisco, CA 94103; (415) 864-8555.

DEPARTMENTS

PRIORITIES

Congress, page 30

To receive an activist information package on how to stop the new congressional leadership's War on the Environment, contact the Sierra Club Campaign Desk at the address above.

Anti-Environmentalists, page 34

For a thorough account of Wise Use, the New Right, and anti-environmental violence, read *The War Against the Greens* by David Helvarg (Sierra Club Books, 1994). To get involved in the Sierra Club's campaign to stop Wise Use, contact Alita Paine, Outreach Director, Sierra Club, 730 Polk St., San Francisco, CA 94109; (415) 776-2211.

FEATURES

National Forests, page 44

To find out more about the Ouachita, contact Beth Johnson at the Sierra Club's Southern Plains office, 7502 Greenville Ave., #670, Lock Box #47, Dallas, TX 75231; (214) 369-8181. Keep up to date by reading *The Hooter*, the excellent newsletter of the Ouachita Watch League. Subscriptions are available for \$15 from OWL, P.O. Box 52, Sims, AR 71969.

Information on Idaho forest issues may be had from the Club's Northwest office, 1516 Melrose Ave., Seattle, WA 98122; (206) 621-1696. The Idaho Conservation League is at P.O. Box 844, Boise, ID 83701; (208) 345-6933.

To get involved in the Upper Columbia River Basin Ecosystem Management process, contact Steve Mealey, 304 N. Eighth St., Room 246, Boise, ID 83702; (208) 334-1770.

For general information on western forestry issues, contact the Western Ancient Forests Campaign, a coalition that includes the Sierra Club, at 1400 16th St., N.W., Suite 294, Washington, DC 20036; (202) 939-3324.

Wisconsin forestry campaigns are conducted out of the Club's Midwest office, 214 N. Henry St., #203, Madison, WI 53703; (608) 257-3513. For a useful bi-monthly newsletter on forestry issues of the region, subscribe to *The Forest Networker*; send a check for \$10 to the above address payable to MRCC (Midwest Regional Conservation Committee).

For a comprehensive introduction to conservation biology and especially to the concept of diversity maintenance areas of the sort the Club is advocating in the Che-

quamegon, see *Wild Forests: Conservation Biology and Public Policy* by William S. Alverson, Walter Kuhlmann, and Donald Waller (Island Press, 1994).

A dramatic introduction to forestry issues may be found in *Cleanout: The Tragedy of Industrial Forestry*, edited by Bill Devall and published by Sierra Club Books and Earth Island Press. The book is available for \$50 plus \$7 postage and handling from the Sierra Club Store, 730 Polk St., San Francisco, CA 94109.

For the August 1994 General Accounting Office report on Ecosystem Management call the GAO at (202) 512-6000.

For an inside look at the Forest Service, see *Inner Voice*, the bimonthly newsletter of the Association of Forest Service Employees for Environmental Ethics. Subscriptions are \$25 from AFSEEE, P.O. Box 11615, Eugene, OR 97440; (503) 484-2692.

Earth Day, page 54

For the Sierra Club, this year's Earth Day, April 22, 1995, will be a time of both celebration and activism. In cities all around the country a petition drive will be initiated to oppose the new Congress' War on the Environment. To help, contact your Sierra Club field office (see page 6 for addresses) or the Campaign Desk at the address given above.

Ecology in the Home, page 66

Do you rate as EcoHero or EcoCriminal? *Earthscore* (Morning Sun Press, P.O. Box 413, Lafayette, CA 94549; 1993), a personal environmental audit and guide, allows you to chart your planetary impact and offers sensible tips on boosting your rating. Debra Lynn Dadd's *Nontoxic, Natural, and Earthwise* (St. Martin's Press, 1990) is a perfect companion piece, providing 400 homemade alternatives to common consumer products, as well as an easy-to-follow grading system for manufactured goods. ■

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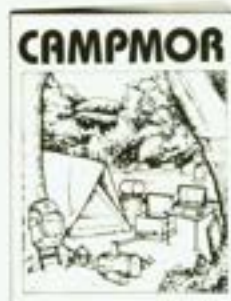


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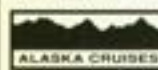
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HOW SHOULD ENVIRONMENTALISTS RESPOND TO THE NEW CONGRESS?

Many of my hiking friends probably voted Republican. But I'm sure that they were not voting to throw out the Endangered Species Act or the Clean Air Act, but to rein in government run amok in bureaucracy and failed social programs.

Let's emphasize that there is no reason for conflict between conservationists and conservatives, and enlist the help of Republican environmentalists to let the new majority know Americans will not sacrifice the environment to governmental reform.

*Joe Herod
New York, New York*

The new majority in Congress was elected because right-wing conservatives are so much more vocal and aggressive than liberals. Even the terms "liberal" and "environmentalist" are now seen as dirty words by many Americans. We have smugly assumed that the majority of Americans would see through right-wingers' idiotic rhetoric, and we have been mostly right, until this time. Now we need to be as vocal as they are, or risk losing much of what we have worked for. We need to make the word "liberal" respectable again and make people realize that environmentalism is not a passing fad, but that it is essential for the well-being of everyone and everything on the planet.

*Pete Aniello
St. Louis, Missouri*

The Sierra Club should do something no one would expect. Reach out to the new majority and ask how we can help them in furthering the cause of environmentalism. The environment is an issue that concerns all Americans, not just liberals.

*Quentin Sluimer
Rochester, Minnesota*

To deal most effectively with the new Republican majority, environmentalists should concentrate on those issues where bad environmental policies would contradict conservative philosophy. Below-cost timber sales, selling off public lands under antiquated mining laws, and government-subsidized grazing constitute just three of many "big government" welfare schemes for the rich. We should remind Republicans that they must regard these environmentally damaging programs as anti-conservative or else reveal themselves as the special-interest hypocrites they claim to detest.

*Sid Dutcher
Huntington Beach, California*

Investigate Canadian citizenship.

*Chris Kennedy
Rock Springs, Wyoming*

It could be a pleasant surprise to the Sierra Club to discover that citizens who support the new majority have environmental awareness. Witness the defeat of the "takings" proposition here in Arizona. Many concerned Republicans carried the day.

Change is opportunity. Most Republicans probably view themselves as "conservationists." Some look to the Sierra Club for the information they need to exercise an informed vote. Environmentalists, take up the challenge.

*Jim Bie
Phoenix, Arizona*

Respond with a good punch in their legislative noses! They deserve the best. Let's give it to them—a taste of their own stalling, filibustering, gridlocking tactics. Comment daily, à la Senator Dole, on their every move. Tack environmental riders and amendments on all their bills. Tip off the press to their foibles and scandals. Start now to negate their re-election plans.

Encourage every chapter to adopt noisy environmental goals for each season for the next two years. Let's just make a whole heluva lot of noise!

*Stephen E. McCallum
Lexington, Kentucky*

Stay out of politics, except environmental politics. The Sierra Club is not the environ-

mental wing of the Democratic Party. There has already been much too much moaning and groaning in environmental publications about "how sad it is that the Democrats lost."

The new congressional majorities are real, and if that is hard for some to take, remember that in 1996 there may be even greater Republican majorities in both houses and a Republican president as well. If the environmental cause is perceived to be too "Democratic," our troubles now will be nothing compared to the troubles then.

*Rick Jali
Mammoth Lakes, California*

The new Republican majority in Congress is composed of a large number of new right-wing Republicans. They are not liberal Republicans in the mold of Senators Chaffee and Jeffords, both of whom are friendly to environmental concerns. The new Republicans come in the shape of Congressman Don Young of Alaska who received a zero rating from the League of Conservation Voters. With new faces like these, there can be only one choice for the environmental community: continued vigilance. Many members may feel that lobbying has "dirty" connotations. But the fact is that Sierra Club members can't all be on the Hill all the time. So our Washington lobbyists will have an important role to play, as will our letters and phone calls.

*Michael McKewen
Gaithersburg, Maryland*

Attack! The GOP is solidly on the side of corporate polluters and despoilers. It's open season on environmentalists. Even with the Democrats the environment was savaged. It'll only get worse. The doleful Gingrichs will take no prisoners, will not compromise, will do nothing to salvage the planet.

*Gerald Cavanaugh
Ashland, Oregon*

Environmentalists should get realistic. We should agree with the new Congress to embrace change, where it eliminates stupidity, and strive to get the American people on board with us. It does no good to start off making enemies in the new Congress. Environmentalists should, in a friendly, logical, and persistent way, make our case. Minds can't be changed if we act vindictive toward members of Congress, and they end up hating our guts.

*Richard Phillips
Midland, Michigan*

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