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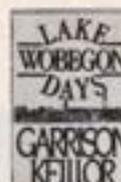
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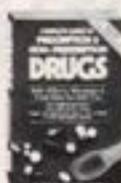
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COVER: Kelso Dunes and Granite Mountains, Mojave Desert, Calif.
Photo © Carr Clifton.

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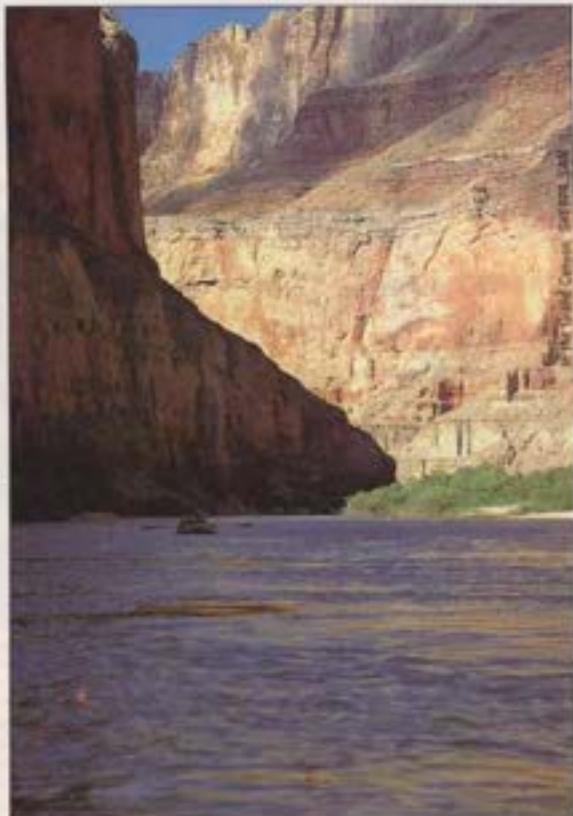
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LETTERS

TIMELY ON TOXICS

As a five-year member of the Sierra Club I was pleased to read your September/October article on toxic chemicals in the home ("Toxics on the Home Front"). While encouraging producers of industrial wastes to clean up, we forget that consumers of chemical products often have no choice but to flush these residues down the toilet, pour them in a hole in the ground, send them to a landfill site, or simply store them on a shelf until some spring cleaning ten years hence.

With today's superinsulated homes becoming more and more common, storage is a dangerous option. For these and other reasons we want to establish a toxic-chemical collection system here in Edmonton. While the Sierra Club is weak in Alberta, with your support we can tackle issues like this one.

*Brad Wylenko, Project Director
The Toxic Watch Project
Environmental Resource Centre
Edmonton, Alberta, Canada*

There is, unfortunately, no such thing as a safe substance or a safe chemical. There are well-documented cases of toxicity from excess ingestion of drinking water. The bends result from exposure to pure air at high pressure. Table salt can cause toxic reactions in many people.

Fortunately, there are safe ways to handle any chemical, and our welfare depends on learning how to do so. It is impossible for Congress to protect us completely from all hazardous materials by abolishing or even regulating them.

*Nelson R. Eldred
Pittsburgh, Penn.*

PESTICIDE GUIDES

Allow me to update the information you published ("Sierra Notes," September/October 1986) regarding certain of our publications. "Healthy Lawns Without Toxic Chemicals," which you listed as selling for \$1.25, now costs \$1.50. "Pesticides in Contract Lawn Maintenance" is \$2.50, not \$2. A third booklet, not mentioned, is a better

overall guide: "Pesticides and the Naturalist," which sells for \$1. For all three booklets, send \$4.50 to 8940 Jones Mill Rd., Chevy Chase, MD 20815.

*Shirley A. Briggs, Executive Director
Rachel Carson Council, Inc.
Chevy Chase, Md.*

CONTAINING CHERNOBYL

An article in your July/August "Afield" states that the Chernobyl nuclear reactor lacked a containment structure. This is not accurate. According to the July/August issue of *Deadline*, the newsletter of the Center for War, Peace and the Media, Chernobyl did indeed have a substantial containment facility. Citing information from the Nuclear Regulatory Commission, *The Guardian*, and the *New York Times*, the newsletter states that Chernobyl "had steel walls one to two feet thick, backed by concrete six to eight feet thick, and could withstand pressures of up to 57 pounds per square inch. By contrast, the Shoreham containment on Long Island can withstand pressures of no more than 30 psi. Chernobyl's containment was stronger than approximately one third of the reactors in the U.S."

In light of this information, the reactor at Hanford, Wash., which does lack a containment structure, appears all the more dangerous.

*Stephen Cianca
Cincinnati, Ohio*

FREE TO SET NUKE-FREE ZONES?

Thanks for including a map of the United States in your July/August 1986 "Afield" to show how campaigns to create nuclear-free zones are under way in all but nine states.

Sierra's readers might be surprised to learn, however, that it is currently against national Sierra Club policy (as set by the Board of Directors) to permit our groups or chapters to join nuclear-free-zone campaigns. As a consistent advocate of responsible grassroots activism, and as a dedicated member who considers nuclear war to be the ultimate environmental threat, I believe that groups and chapters should not be pre-



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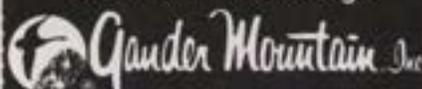
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vented from determining whether to initiate or work on nuclear-free-zone campaigns.

*J. Dennis Willigan
Sierra Club National Issue Committee
on the Environmental Effects of Warfare
Salt Lake City, Utah*

THE SOUND AND THE FURY

I read with interest Dennis Brown-ridge's article "Filling the Parks With Noise" (July/August 1986). While I have never experienced excessive noise from airplanes and helicopters, I have been affected by noise from other sources and can well understand the threats annotated in the article.

As one who seeks a natural experience in the wilderness, however, I must admit to a strong feeling of irony when viewing the photo depicting a helicopter hovering in front of Mt. Rushmore. Perhaps those who consider viewing a mountain sculpted by a man as a wilderness experience should be willing to tolerate noises made by other people striving to view the same scene. I would prefer to see the mountain with no images carved in it and hear no extraneous noises while doing so.

*Bob Langley
Davis, Calif.*

While everyone has been getting hysterical about aircraft sound at Grand Canyon National Park, the only real progress toward sound reduction has been made by Scenic and Grand Canyon Airlines. We have converted our fleets to deHavilland Twin Otters (DTOs), which carry twice the number of passengers as the former Cessnas and Pipers, thereby reducing flights by one half. Both companies recently sponsored the engineering required to retrofit four-blade, quiet turbopropellers, which reduce the already quiet DTO exterior sound levels by more than 65 percent. In fact, the DTO equipped with these props is the quietest of any 19-passenger twin.

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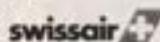
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*John R. Seibold, President
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Las Vegas, Nev.*

WE'RE SURE IT'S NOT MUIR

In your July/August article about John Muir ("Spiritual Sauntering") you published a photo of an elderly man standing on Glacier Point's Overhanging Rock and identified the man as Muir. A controversy over whether the figure is Muir or Yosemite Guardian Galen Clark now rages in your "Letters" column; perhaps I can contribute to the resolution of the dispute.

The photo was taken by George Fiske. Several copies in the Yosemite Museum collection are identified as "Galen Clark on Overhanging Rock, age 92." If this is so, the image dates from 1906, not 1908.

After comparing the original picture with photographs of the tall, thin Muir taken at the same time, it is my opinion the image is of Galen Clark. Fiske and Clark were very good friends; Clark was a subject in much of Fiske's work. Fiske's photographs (including the image in question) were used by Clark to illustrate his own book, *The Yosemite Valley*, published in 1910.

This is not the first time the Muir/Clark mix-up has occurred, nor will it be the last. I would like to quote my friend, historian Shirley Sargent, who has said on more than one occasion, "Just because a man has a beard doesn't mean he's John Muir."

*Mary Vöcelka, Librarian
Yosemite Research Library
Yosemite National Park, Calif.*

NO DANGER, PERIOD

After spending nine years with Glacier National Park practically outside my back door, I got a big laugh reading your "Afield" article (July/August 1986) about menstruating women and bear attacks.

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the chances of actually bumping into a grizzly are, sadly, very slight.

Bear attacks happen so infrequently that even to include human menstruation as a factor is absurd. Needless frightening 25 to 33 percent of the female hikers in Glacier is irresponsible and unnecessary. Let's hope that the folks we've entrusted with the task of saving our wildlands and wildlife spend more of their time and ours on more sensible questions.

Karlyn Williams
Whitefish, Mont.

IN OTTER MATTERS

The published version of my article "A Safe Harbor for the Sea Otter" (September/October 1986) refers to a Fish and Wildlife Service proposal to establish a colony of 70 otters on one of California's Channel Islands. In fact, the FWS proposes to translocate a maximum of 250 California sea otters to San Nicolas Island over a five-year period. However, no more than 70 otters will be transplanted in any single year.

Two other minor errors also found their way into the article. It is the sea otter species *Enhydra lutris* that once ranged in the hundreds of thousands from Baja California to Alaska to Russia and Japan, not the California sea otter (which belongs to the subspecies *E.l. nereis*, also known as the southern sea otter). Finally, only about 100 miles of the otters' 220-mile-long range are protected as the California Sea Otter Refuge.

Rachel Saunders, Staff Biologist
Friends of the Sea Otter
Carmel, Calif.

Correction: In the "Sierra Notes" department of our January/February 1986 issue, we stated that a referendum resolution had been adopted by the Sierra Club Board of Directors at its November 1985 meeting that would add "the prevention of nuclear war and/or ending the arms race" to the Club's existing biennial national conservation priorities, and that the issue "will now be a top funding priority for the Club." This was only partially correct: Fundraising in support of this priority was added to the goals, but the Board specified that "the budget as adopted September 1985 is not changed by this resolution until additive funds are obtained."

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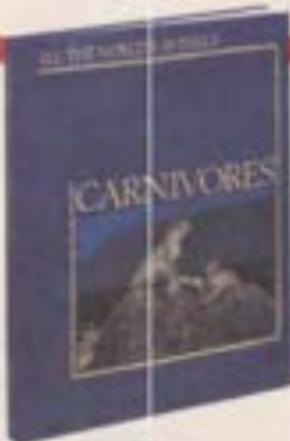
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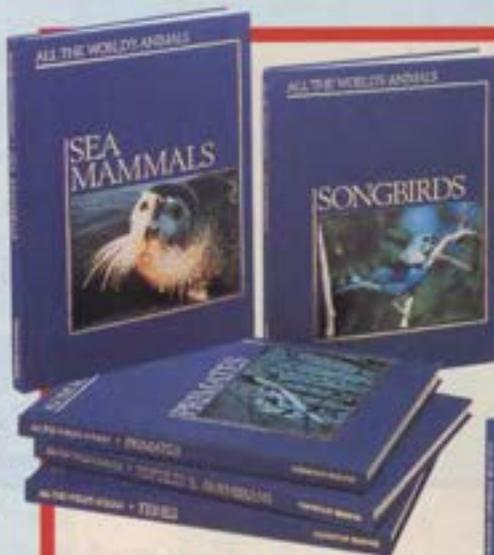
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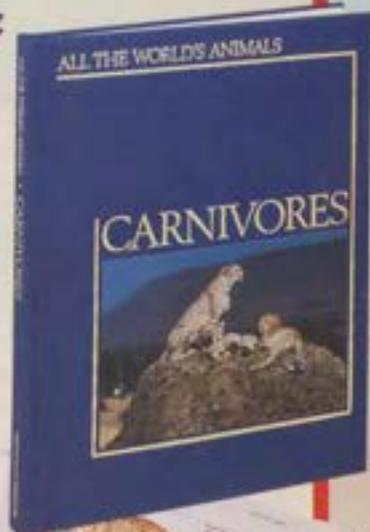
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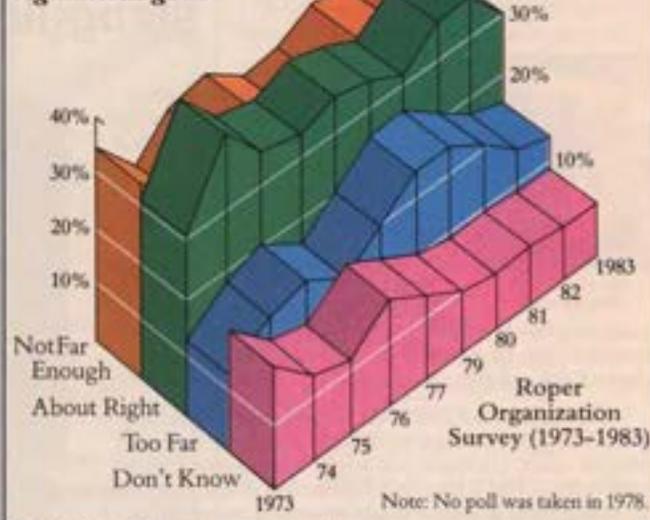
AN ENDURING COMMITMENT

Throughout the 1960s and '70s, environmental protection held a high position on the public's priority list, as evidenced by the results of numerous polls. But the latest nationwide studies reveal that public concern about the environment has climbed even higher since 1980. This upswing surprised Washington state sociologist Riley Dunlap, who has been analyzing public attitudes toward environmen-

tal issues since the first Earth Day in 1970.

"If the dramatic rise in public concern with environmental problems in the late 1960s was a 'miracle of public opinion,' as one analyst put it, then the endurance of public commitment to environmental protection since 1970 must be regarded as somewhat miraculous as well," Dunlap wrote in the *EPA Journal* last year. "That this commitment has survived after the expenditure of sizable amounts of money

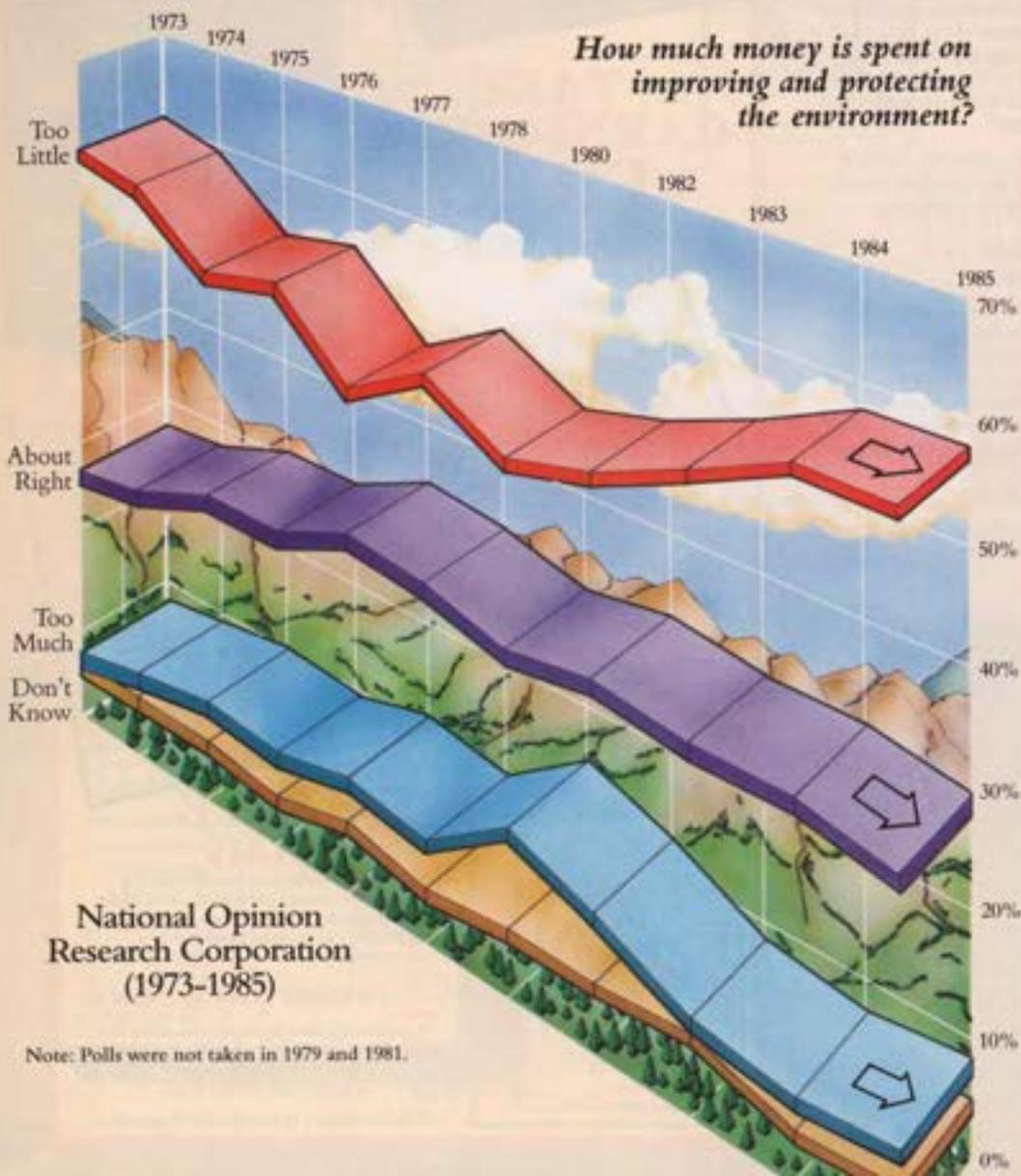
How far have environmental protection laws and regulations gone?



Charts by EarthSurface Graphics

Note: No poll was taken in 1978.

How much money is spent on improving and protecting the environment?



National Opinion Research Corporation (1973-1985)

Note: Polls were not taken in 1979 and 1981.

and effort and in the face of energy crises, economic hard times, and an anti-regulatory climate is a strong indication that the American people have come to place a high value on environmental quality."

The National Opinion Research Corporation and the Roper Organization have been asking people for their opinions on environmental protection since 1973. These polls show that the public has been highly committed to the environment for years, Dunlap says.

He cites a 1986 Louis Harris survey as evidence that the public is also extraordinarily concerned about environmental health hazards. This survey revealed that more than three quarters of those polled consider air pollution, water contamination, hazardous-waste disposal, and related problems to be serious.

"A major reason problems disappear from the public agenda is that, after the passage of legislation and the establishment of regulatory

agencies designed to 'solve' the problems, the public has a tendency to assume 'government is taking care of it, so we don't have to worry about it,' Dunlap says. "This attitude likely contrib-

uted to the diminished salience of environmental problems in the 1970s, but in the eyes of many people it became an inappropriate attitude once the current administration took office.

The anti-regulatory orientation of the Reagan administration and the appointment of controversial figures to key environmental positions created a situation in which many people

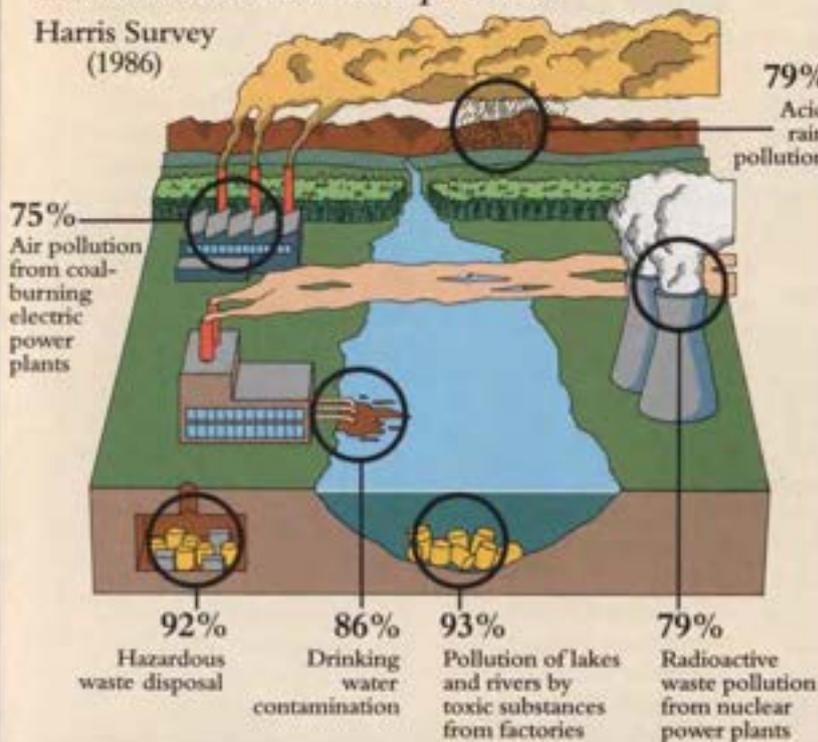
felt that the government could no longer be relied on to protect the nation's environment."

Whether that concern will continue to rise depends partly on how people perceive the Reagan administration's commitment to protecting the environment, Dunlap says. He predicts, however, that public opinion will now begin to level off, although how people will respond to the next administration's environmental policies is anyone's guess.

—Rebecca Poole

Percentage of Americans who consider issues cited here to be serious environmental problems:

Harris Survey (1986)



WINES FROM THE SOLAR CELLAR

Many of the grapevines that flourish in Richard Keehn's 400-acre McDowell Valley vineyard are between 35 and 70 years old. They produce cabernet sauvignons, chardonnays, and syrahs of notable complexity. Yet the wines from this venerable stock—certainly among the oldest producing vines in Northern California's Mendocino County—reach the consumer with a sizable assist from the most modern solar technology in the world.

Keehn, a former military test pilot and aeronautical engineer, made what he calls "a personal commitment" to conserving the environment and using solar energy when he started McDowell Valley Vineyards more than a decade ago, at a time when

THE GREEN SIDE OF THE BALLOT

By election day the Sierra Club will have endorsed more than 800 environmentally conscious candidates for political office. A handful of these are Sierra Club members

who have played active roles in the organization's leadership and development. Pictured throughout this section are seven Sierrans who are running for state and local office.

—Mary James and Rebecca Poole



An 11-year Sierra Club member, former chair of the John Muir Chapter, and former associate Midwest representative, **Spencer Black** hopes to win a second term in the Wisconsin state legislature. Black helped write Wisconsin's acid rain bill, the toughest in the nation, and is responsible for legislation that increased recycling efforts and banned the use of the DDT-laced pesticide dicofol.

Meredith Bollmeier's opposition to radioactive-waste disposal methods kicked off her political career more than four years ago. Now she's bidding for a seat in the Missouri state legislature. An active Sierra Club member since last year, Bollmeier has consistently lobbied for environmental protection.



other technologies were much cheaper to employ.

"We looked into a total system to take care of all our energy needs," he says, "but the technology available at that time would have re-

quired us to put up 200 acres of solar panels at a cost of \$15 million. So we tried to think about what we realistically could do to be as efficient as possible." The solution: double-walled glass vacuum tubes set in a parabolic cusp that heat thousands of gallons of



Book illustration by Rex Ober

water to near-boiling—an important function for an operation that depends so critically on sterility.

Keehn expects that eventually his winery will meet all its energy needs through

solar power. For the moment the system (which allocates energy on a demand basis via minicomputer) provides space heating

for a 6,000-square-foot area, and heats the large amount of water needed to sterilize the winery's bottles and stainless steel fermentation tanks. These energy savings are eventually passed on to the consumer; McDowell Valley wines are priced from 50 cents to a dollar a bottle below competing varieties.

Keehn is also dedicated to maintaining the purity of his natural product. He's tried to be "as organic as possible" in combating the various pests that prey on his vines by reducing the number of pesticides used in the valley and employing alternative pest-control techniques when possible.

McDowell Valley Vineyards is a winery unlike any other: not because its cutting-edge technology is difficult to emulate; it isn't. But the federal government's elimination of tax credits for solar energy development is a built-in disincentive to other far-sighted vintners who might choose to emulate McDowell Valley's success.

—Jonathan F. King

In 1977 **Helen Burke** was the first woman and conservationist to be elected to the board of directors of the East Bay Municipal Utility District, which serves communities east of San Francisco, including the cities of Berkeley and Oakland. The 22-year Sierra Club member, who has held numerous Club offices, is running unopposed for her fourth term.



NO NET GAIN FOR OCEAN LIFE

The worldwide campaign to save thousands of marine mammals, fish, and seabirds from drowning in

driftnets has met with more than a few snags. Greenpeace International is leading the battle to ban driftnet fishing on the high seas, but several nations that rely on

this method for food and income are kicking hard to stay afloat. Japan is currently the target of the Greenpeace campaign, because its permit to kill marine mammals incidentally while operating a driftnet fishery in U.S. waters is up for renewal.

High-seas driftnets are 7- to 30-mile-long gill nets made of strong plastic web-

bing. The nets are vertically suspended in the water for 10 to 14 hours at a time. The tons of trapped fish act as a lure for birds and marine animals searching for food.

Because the nets are barely visible under water, animals approaching the fish often get entangled in the net and drown. Those that manage to escape sometimes suffer severe

lacerations and die later.

Greenpeace claims that driftnets kill tens of thousands of dolphins, porpoises, birds, and other sea animals in the North Pacific alone, and that they contribute significantly to the decline of some fish populations, such as the North American salmon. Thousands of marine animals also die after becoming



© Richard Greenpeace

Former Sierra Club President **Brant Calkin** is running for Commissioner of Public Lands in New Mexico. If elected, the 17-year Sierra Club member would become the trustee of 9.2 million acres of state land. He says he would like to conduct the first survey of these New Mexico lands for potential tourist and recreational sites. Calkin is a recipient of the John Muir Award, the Sierra

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FIELD NOTES

“Each country faces the same problems of learning to develop industrially without destroying the natural environment. These problems respect no political ideologies. When the children of our children are confronted by lost species, ecological wastelands and dead waters, they will not ask whether an American or a Soviet political philosophy caused the devastation. They will ask only why their fathers did not act to prevent it.” —William Davies, *Zane Grey Chapter President, Trout Unlimited*

entangled in “ghost nets,” which are lost or abandoned driftnets.

Greenpeace says Japan's driftnets are responsible for the deaths of at least 5,000 Dall porpoises and 250,000 to 750,000 seabirds every year.

Japanese fishing officials say Greenpeace's statistics are exaggerated. “When I talk to environmentalists about figures, they are always misinformed,” says Ichiro Nomura, First Secretary of the



Japanese Embassy in Washington, D.C. “The annual incidental ceiling [allowed by the U.S. permit] is 5,500 Dall porpoises,” he says. “On the average, 2,000 to 2,500 are caught a year—that's well within the allowed amount.” Nomura says the number of birds that die in Japanese driftnets is closer to 132,000 to 170,000 annually, and notes that the impact of these deaths on bird populations is not known.

Despite the conflict over numbers, Greenpeace Driftnets Project Coordinator Alan Reichman says the only way to solve the problem is to stop using large-scale high-seas driftnets. He says if public opposition is strong enough to revoke Japan's permit, it would be “a very, very big blow to the large-scale driftnet fish industry.”

But the industry is holding fast to the driftnet practice it's come to rely on for several decades. “Fishermen come to the sea to fish, not to care about the other animals,” Nomura says. “And the marine mammal issue is out of our control. There's not much we can do. We have to operate in those grounds. If we're forced

out, there are no other viable grounds.”

Japan has been experimenting with sound generators in an effort to scare porpoises away from the fishing nets, but with little success. Nets that porpoises can detect with their natural sonar are now being used, but their effectiveness is debatable.

“We tried,” Nomura says. “Those Greenpeace people are clamoring about the sit-

uation but they don't offer any suggestions. We know it's a problem, but they don't help us. They just attack us.”

The National Marine Fisheries Service will decide whether to renew Japan's permit next May. Meanwhile, the first piece of legislation to address the issue has been introduced by Sen. Ted Stevens (R-Alaska). His bill (S. 2611) would create a 60-mile seabird protection zone around the Aleutian Islands, and require the federal government to study the impact of high-seas driftnet fisheries on marine life and submit potential solutions to Congress. —R.P.

“We need to elect more people who are concerned about conservation and the environment,” says **Dexter Perkins**—which is why he's challenging one of North Dakota's most powerful politicians for a position in the state House of Representatives. Perkins has been a Sierra Club member since 1968, and now chairs the Executive Committee of the

Club's
Dacotah
Chapter.



ENVIRONMENTALISTS TAKE THE INITIATIVE

People power rarely had it so good. According to David Schmidt, executive director of the newly formed Initiative Resource Center in Washington, D.C., 1986 is one of the biggest years in recent history for citizen initiatives and referenda. And environmentalists have collected enough signatures to put initiatives on November ballots in half a dozen states.

Among the states with environmentalist-sponsored initiatives, Oregon is the first ever to place an initiative on the

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Save the Children SCB11/6

ballot banning nuclear weapons production, and it's the first state since the Chernobyl accident to propose an immediate ban on nuclear power. Oregon voters will also consider a measure prohibiting the disposal of radioactive waste. Next door, voters in Washington will decide whether their sales tax should be raised by one eighth of a cent to pay for fish and wildlife conservation programs, while farther south, Californians will vote on a measure that would help stop drinking water contamination by prohibiting the dumping of carcinogenic chemicals into water supplies. In the Midwest, Michigan voters will consider an initiative to prevent utility rate hikes resulting from abandoned nuclear power plant construction projects. And on the East Coast, a toxic waste dump cleanup measure will be featured on Massachusetts' ballot. —R. P.

SEWAGE SOLUTION

The microwave oven has done great things for the baked potato, but it took a master plumber from Girard, Penn., to show that it could also work wonders on America's sewage.

"We've been treating sewage at the wrong end," says Burt Axelrod, inventor of a microwave filtration device he calls the Interseptic System.

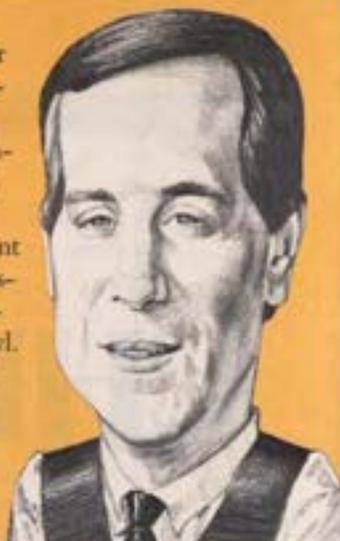
According to Axelrod, by separating solids and liquids at the point of disposal and incinerating the solids, a great deal of sludge—and the problems of treating it—can be avoided.

Axelrod's invention, a three-foot-long, 100-pound rectangular box known affectionately as "the zapper," is designed to connect to

existing home sewer lines. Liquids and solids are separated upon entering the device. Solid waste is directed to a chamber where it is dehydrated and burned by a microwave incineration



Steve Ruddick, a contender for the Colorado state legislature, says his race has been "a dogfight." In a district split evenly between the Democratic and Republican parties, Ruddick is campaigning for the development of a better hazardous waste transportation bill, reduced air pollution, and control of urban sprawl. He's a two-year member of the Rocky Mountain Chapter and has acted as a spokesperson on behalf of the Sierra Club in the state legislature.



process, then sucked into an ash canister that needs emptying just once a year. Liquid waste is clarified as it passes through several ceramic filters, but still requires further treatment by a sewage plant or septic system upon leaving the machine.

The zapper could greatly simplify sewage treatment outside the home, taking some of the responsibility off overburdened sewage-treatment plants and septic systems—good news for communities (such as Key West, Fla.) that some-

times resort to dumping excess sewage into the ocean. In fast-growing cities, new housing developments could be built without the time and expense involved in constructing traditional sewage-treatment plants. In areas where geography and water-table conditions make septic systems costly and difficult to build, the zapper could offer a cheaper, more feasible system.

The device will be marketed (at \$4,000 to \$5,000 per unit) early next year.

—David Arenson

SCORECARD

WINS

- A one-year moratorium on most underground nuclear tests was approved by the House in August.
- Legislation restricting flights over Grand Canyon, Yosemite, and Haleakala national parks passed the House Interior Committee in July.

LOSSES

- The Department of the Interior agreed in August to transfer 82,000 acres of Colorado's oil-rich shale lands to several major oil companies.

"Economic growth with environmental protection" is the campaign motto of **Gregory Silver**, who seeks to represent the northern suburbs of Indianapolis in the Indiana state senate. Silver was instrumental in developing an Indianapolis resource recovery plant equipped with state-of-the-art pollution control devices. The three-year Sierra Club member is a former chair of the Hoosier Chapter.





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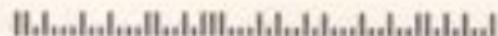
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Filling in a Missing Link

Wildlife experts and most park visitors want the wolf brought back to Yellowstone. But local opposition to the plan still runs high.



Will the wolf be restored to its rightful niche in Yellowstone National Park?

Geoff O'Gara

THE MOURNFUL CADENCE of the wolf, once frequently heard in Yellowstone National Park and its environs, has been absent for more than half a century—stilled by government-sponsored poisoning, trapping, and hunting. Wolf eradication efforts began in the 1890s, prompted by the notion that wolves (along with coyotes and cougars) were a threat to game in the park and livestock outside it.

Studies by independent researcher John Weaver between 1975 and '78 suggest that the Rocky Mountain gray wolf is extinct in Yellowstone. There have been no confirmed sightings in recent years and no pack activity since the 1930s. Yet the stories persist. A ranger with the Bridger-Teton National Forest claims he has spotted wolves in the Gros Ventre Range, south of Yellowstone. Alston Chase, author of *Playing God in Yellowstone*, even charges that the Park

Service surreptitiously reintroduced wolves to the park in the 1970s. If *Canis lupus irremotus* is indeed gone from Yellowstone, some hungry imaginations insist on placing it back there.

Now Weaver, working with ten other wolf experts from around the region, has developed a plan that could lend substance to those stories. The draft Revised Northern Rocky Mountain Wolf Recovery Plan would create three management zones: an area of essential habitat, where wolf survival would be a top priority; an intermediate "buffer" zone, where wolves would share public lands with other users; and a third zone, where wolves interfering with other land uses would be "controlled" (removed or killed). The particulars have not yet been determined, but in Yellowstone—one of three areas covered by the plan (Glacier National Park and central Idaho are the others)—the essential habitat zone would most likely include the park and some areas outside it, parti-

cularly to the north and east.

The idea of transplanting a population of wolves to Yellowstone thrills some and frightens others. Biologists see wolf reintroduction as consistent with the park's goal of maintaining and restoring native species. They single out wolves as the missing link in the park's food chain, where rapidly growing populations of large ungulates such as elk and bison could be thinned and kept healthy by their long-absent natural predator. A 1985 poll showed that more than 70 percent of the visitors to Yellowstone thought the presence of wolves would enhance the park experience.

But there are others in the neighborhood with a different perspective. Their feelings are summed up by Ken Hamilton, a field assistant with the Wyoming Stockgrowers Association: "Livestock people have a lot to lose and nothing to gain from wolves."

Ranchers' fears echo the rationale for exterminating wolves at the turn of the century: The belief that wolves would just as soon feast on cattle and sheep as on elk and bison. Ranchers are not reassured by biologist L. David Mech, whose studies in Minnesota—where livestock grazing and wolf habitat are relatively commingled—revealed that wolves prey on less than half of one percent of available livestock. Mech, author of the definitive text on wolf behavior, sees Yellowstone as a model home for the wolf.

Livestock operators who use public and private lands are the chief opponents of the wolf recovery schemes for Idaho and Montana as well as for Yellowstone. They are not alone: Hunters are wary of a predator they fear could take the game they are stalking, and

concerned that they will end up footing the cost of the recovery program through license fees to state game departments. And commodity producers, from oil and gas drillers to timber cutters, fear the wolf may be another grizzly bear, forcing them to curtail activities in key habitat areas.

Still, a kind of euphoria exists among wolf proponents. "The timing is right," Yellowstone Park Superintendent Robert Barbee told an enthusiastic crowd at the June meeting of the Greater Yellowstone Coalition, an umbrella group of 40 national and regional conservation organizations. Proponents cite newfound support among agency officials, including Park Service Director William S. Mott, as well as the compelling biological need to control the park's northern elk herd. They are especially pleased with statements by Sen. James McClure (R-Idaho), powerful chair of the Senate Energy and Natural Resources Committee, supporting the re-introduction of wolves to Yellowstone.

McClure would like to see a more detailed plan before he endorses the program, but he thinks Yellowstone is an ideal place to experiment with managing wolf populations. (With its excellent prey base and extensive protected wilderness, Yellowstone is considered by many to be an almost perfect setting.) McClure's support for a Yellowstone program may also be a way to dodge the issue of wolf recovery in central Idaho, where the chances of conflict with stockgrowers are greater. But the back-

ing of this conservative critic of the Endangered Species Act, however qualified, may do more to boost the wolf's chances in Yellowstone than a library of biological studies. As Montana Department of Fish, Game and Parks biologist Arnold Dood says, "The wolf is less difficult to deal with biologically than socially and politically."

Indeed, the Yellowstone proposal has upset the Wyoming and Montana fish and game agencies and angered Wyoming's congressional delegation. Behind closed doors, members of the recovery team have disagreed on the wisdom of pursuing the plan at this time. While Weaver and most team members feel the political timing is right, Bart O'Gara, a Fish and Wildlife Service (FWS) biologist who heads the recovery team, is more inclined to concentrate on the Glacier wolves, which show signs of reproducing rapidly. A good management job there could pave the way for Yellowstone later, he says.

Even if FWS Director Frank Dunkle approves the recovery plan, wolf re-introduction in Yellowstone is still some years away. Detailed plans will have to be drafted, followed by a period of public review. In the interim, those who want to see an important element of Yellowstone's ecosystem restored will have their hands full convincing the fearful that wolves and humans can coexist in the nation's oldest park.

GLOFF O'GARA, former editor of High Country News, freelances from his home in Lander, Wyo.

RIVERS

Old Boondoggle, New Problems

A new compromise on the controversial Garrison Diversion Project would turn a vital prairie river into a polluted ditch.

Peter Carrels

THE SHALLOW, slow-moving James River of the eastern Dakotas is a typical prairie river. For some, that makes it hard to appreciate. In the springtime it frequently floods. By autumn it's occasionally dry. Developers see it as an unpredictable, muddy nuisance—a barrier to economic prosperity in the region.

"Cussed and discussed" is the James, according to one South Dakota newspaper.

But as it winds through 710 miles of row-cropped flatlands, the James is an oasis for wildlife. More than 160 bird species—including bald eagles, ospreys, herons, and egrets—use the river and its valley. In places its banks are thick with deer. The river's woodlands and wet-

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lands provide irreplaceable, high-priority habitat, according to the U.S. Fish and Wildlife Service, which manages three national wildlife refuges along the river's banks. In a region with few forests, the river also provides a welcome change of scenery.

Blueprints threatening the natural integrity of the James have never been in short supply. Most recently the river has become a pawn in negotiations over the massive Garrison Diversion Project, which would one day deliver irrigation water from Lake Sakakawea in western North Dakota to lands a hundred miles to the east. The James would collect water laden with agricultural chemicals and other contaminants that would drain from those fields. As flows in the river increased, some stretches would need to be channelized. The pollution, fluctuating flows, and channelization would do irreversible harm to the James and its wildlife.

Although the Garrison project has been publicly ridiculed for more than two decades, construction has crept forward. "Some water projects are good, some are poor, but Garrison is the dog of all," former Interior Secretary Cecil Andrus once said. Environmentalists and economists have called it a wasteful, destructive boondoggle. Cost figures reveal a federal subsidy that would approach \$1.5 million for each farm receiving water. But some influential North Dakotans and the state's congressional delegation contend the billion-dollar project is necessary to help agriculture and promote growth.

By 1983, mounting opposition from the National Audubon Society and local conservation and wildlife groups had made the project's future uncertain. Then Audubon and the state of North Dakota convinced the Interior Department to appoint a broad-based commission to come up with a more politically acceptable plan. The participants included representatives of government agencies, local interests, and environmental groups.

In December 1984 the commission's plan was complete, but it did not succeed in eliminating controversy. A long congressional battle ensued, delaying passage of the Garrison Reformulation Act until last spring. The new law ac-

knowledges problems with the project's original concept, including irrigation of lands draining northward into Manitoba's pristine fishing lakes. It drops these lands from the project. To compensate, more development is planned for tracts along the James River that drain into South Dakota. Development plans include channelizing the James in North Dakota to convey water to irrigation canals reliably.

"It wasn't difficult to grasp the serious threat the new plan's polluted return flows would pose to the James River," says Dexter Perkins, chair of the Sierra Club's Dacotah Chapter. "The compromise placated Canadian concerns at the expense of the James."

Attempts by the United Family Farmers, the Sierra Club, and other South Dakota conservation groups to amend the plan have yielded a two-year moratorium while the Bureau of Reclamation studies the project's impacts on the river. The study must be submitted to Congress by September 30, 1988. Then legislators will have 60 days to change the plan or extend the moratorium. If Congress fails to act, the project can go ahead.

Seeing return flows from Garrison as an opportunity to stimulate economic development in his state, South Dakota Gov. William Janklow (R) has initiated a scheme to provide extra water for agriculture and industry. His proposed "Garrison Extension" would involve channelizing parts of the James River in South Dakota.

South Dakota officials, who are not subject to the moratorium, have already begun to deepen and straighten the river channel. Money problems, mismanagement, and angry conservationists have confined dredging damage to a one-mile segment—but Bob Spomer, chair of the East River Group of the Sierra Club's Dacotah Chapter, warns, "The state will be persistent with this. It intends to ready the James for its sacrifice to Garrison."

While the compromise was being debated in Washington, a South Dakota Sierra Club project did much to raise public awareness regarding the threat to the James. Funded by the Sierra Club Committee on Political Education (SCOPE), a photographer-activist



South Dakota has begun dredging the James River—even before flows from the Garrison Diversion Project are assured.

toured the state with a slide show on the river, visiting interested citizen groups along the way.

"It was primarily a public education campaign," explains Larry Mehlhaff, the Club's Northern Plains representative. "For a variety of reasons, many residents did not realize the river is a precious resource. Now we have conveyed our message to thousands of South Dakotans face to face."

A growing number of river advocates are scrambling to present their concerns to Congress before the moratorium expires. They are asking that a vital 150-mile stretch of the river in South Dakota be added to the National Wild and Scenic Rivers System. "We'll need high-level political support for that," says the Club's Spomer. "We have two years to present our case."

Although political help for the James has been difficult to find in the past, November elections hold some promise. A key contest has the state's only congressman, Tom Daschle (D), challenging incumbent Sen. Jim Abdnor (R). Environmentalists say Daschle, a four-term House member with an outstanding environmental voting record, has shown more interest in protecting the river than Abdnor has. Vying to replace Daschle in the House are Tim Johnson, a Democratic state senator, and Republican businessman Dale Bell. Johnson, who says he is also concerned

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about the James, has been endorsed by the Sierra Club.

"Local activists are helping to make it politically feasible for Daschle and others to adopt a better position," says Jim MacInnes, SCCOPE chair for South

Dakota. "I think we've made some progress. We've let people know that there is support for sensible water development in our state."

PETER CARRELS ran the Sierra Club's James River project.

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Glenn Oakley

ALLAN SAVORY cheerfully takes an axe to everything everyone believes about range management. He tells conservationists that more cattle are needed on the public range. He tells ranchers that the way they are grazing their animals is leading to the desertification of the West. He tells range managers that their methods are flawed. And he tells his detractors that they just don't understand what he's talking about.

Despite his propensity for tweaking noses and slaughtering sacred cows, Savory does win converts. More often than not, conservationists, ranchers, and wildlife and range managers alike come away from his training sessions

saying that Savory "just makes sense."

But skepticism remains, even among those who admire the ideas of the former game warden and member of the Rhodesian parliament. Could we really bring an end to overgrazing by doubling and tripling the number of livestock on the world's arid lands? And what about Savory's other claims: that applying his ideas could help minimize erosion, wildlife losses, siltation of reservoirs, lowering of water tables, and even world hunger?

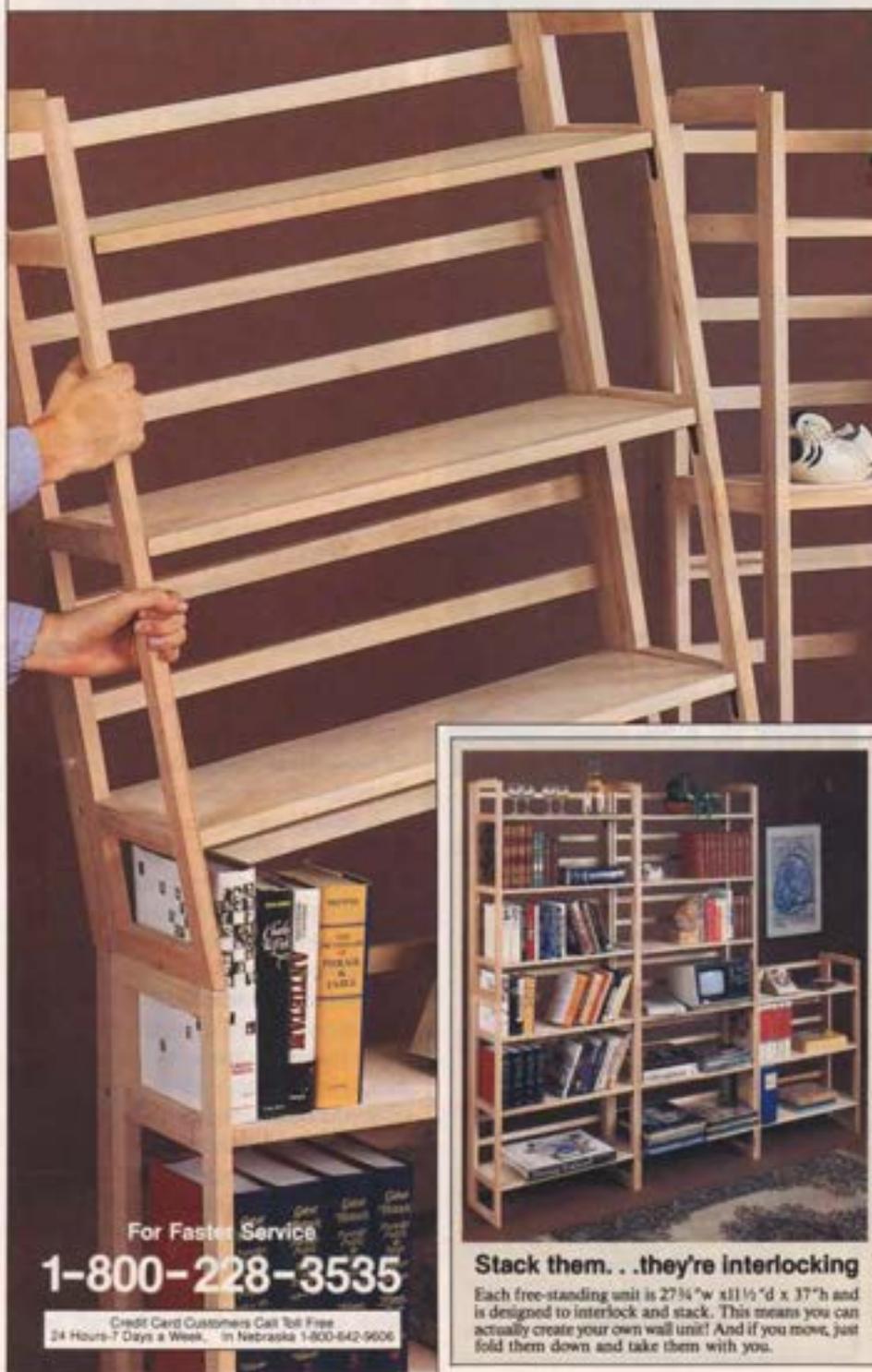
Central to Savory's teachings is the observation that the arid and semi-arid grasslands of the world evolved under infrequent but intense grazing pressure by wild herding animals. Only that kind of grazing can save these brittle environ-



Montana rancher Steve Charter says Allan Savory's ideas have improved both his range and his bottom line: "The key to success is understanding and using ecology."

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ments from desertification, he says.

Savory argues that present methods guarantee destruction of the range by spreading grazing over a large area for extended periods of time. Similarly, the complete removal of cattle from overgrazed lands, called for by some conservationists, would also guarantee the destruction of the range. Where wild herds of bison and other game have disappeared, he says, cattle or other grazing animals must be used to break up the soil with their hooves, clip plants to stimulate growth, and trample old plants to create mulch.

While working as a game manager and soldier-tracker in what is now Zimbabwe, Savory noticed that the lands used by nomadic cattle herders in Africa were in better condition than the cattle-free wildlife preserves. The difference, he deduced, was that the livestock moved around, while the wildlife stayed in one area. These and other observations led him to conclude that it is not the number of grazing animals that determines the health of the range—it is the length of time those animals stay in one place.

So Savory responded by developing a grazing method incorporating numerous "cells"—pastures divided by fences. Large herds of cattle are grazed in these cells, then moved whenever key plant species indicate that grazing has reached a critical point.

These ideas, which he now teaches at his Albuquerque-based Center for Holistic Resource Management, have evolved over the years. Savory now recoils at the notion that he is proposing any single method or system. "It isn't a system at all," he admonishes. "It's a thought process." He argues that livestock are just one management tool, and should not always be used.

The most controversial aspect of Holistic Resource Management does involve livestock, however. Savory sometimes claims that ranchers can double or triple the number of cattle or sheep they graze and simultaneously improve the range. It is this suggestion that immediately draws the rapt attention of financially pressed ranchers and skeptical conservationists alike.

On one point, at least, environmentalists agree wholeheartedly with Savo-



Savory points out problems of underuse on rangeland that's been ungrazed since 1948.

ry. "Conservationists have no confidence in current range-management practices," says Rose Strickland, chair of the Sierra Club's grazing subcommittee. But Strickland, who attended one of Savory's workshops, says she questions the biological soundness of his methods, particularly in the Great Basin, where she lives.

The deserts of the Great Basin and most of the American Southwest have historically lacked the large grazing herds of Savory's native Africa. "The last large grazing animal we had down here was the giant ground sloth," says Tucson-based Steve Johnson of the Defenders of Wildlife. "Under current conditions in the 11 western states, any additional grazing is going to hurt." Regardless of the grazing method used, Johnson argues, each additional cow is going to consume plants that could have been used by wildlife. The desert tortoise, for instance, needs only 23 pounds of plants a year—less than a cow consumes in one day. "And the tortoise is literally starving to death on much of its range," he says.

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cism, Savory says these observations confirm his theories: "Where there are brittle environments with no large grazing herds, the land always reflects this." In other words, because the Great Basin and the deserts of the Southwest have never had large grazing herds, they have never been productive. Grazing, he argues, will actually improve these lands for both livestock and wildlife.

Savory says his holistic approach requires a thorough understanding of an area's ecology, and allows for any type of management. It is this sort of flexibility that makes Holistic Resource Management almost impossible to pin down. Skeptics say they are frustrated by a lack of data. Dave Brown, chief of game management for the Arizona Game and Fish Department, says he has seen no ranch applying Savory's ideas in the American West that has shown the promised improvement. "There's always some reason why it isn't working: too little time under the method—or the method is not being used properly," he says. "The thing that's alarming is that it's being used all the time without knowing what the effects will be."

Wayne Elmore, a wildlife biologist with the BLM Prineville District in eastern Oregon, says use of a modified Savory method has proved successful for both wildlife and livestock. "As far as wildlife is concerned, we've seen some excellent results," he says. "We've got a lot more grass staying green into the winter and greening up earlier. We've also seen wet areas starting to show up that had not been there for 30 or 40 years. I was really surprised."

Some people point out that the ranchers most likely to try out Savory's ideas are those least in need of them. The most badly grazed range is used by those who just dump their cattle on the land and return a few months later, says Strickland. "The ranchers only hear the double- or triple-stocking portion of Savory's argument," and overlook the intense management and time commitment required, she says.

Savory acknowledges this problem, but says those ranchers will have to change. "Your nation is at stake," he tells them. He would ultimately like to see animals moved around on the open range, and says, "I think we're going to

have to go back to the days of cowboy herding." This would mean abolishing the BLM's grazing allotment system, which he says just encourages persistent light grazing—"the worst thing we can do to these brittle environments."

Sierra Club Washington, D.C., lobbyist Debbie Sease thinks extensive fencing—which would keep wildlife from normal migration patterns—would be the more likely result of using Holistic Resource Management. Sease also wonders whether ranchers who increase their livestock numbers on public lands under the Savory method would be able to sell or transfer their operation to less skilled or less interested ranchers. If the new ranchers were to receive the

original grazing permit—as is the norm—the result would be "utter destruction of the range."

Glen Secrist, a BLM range conservationist in Washington, says the agency is drafting a policy statement that will address the Savory method. "We consider it to be an alternative, but not necessarily the preferred alternative. The BLM is not about to make the mistake it made a few years ago" by promoting a single system—in that case rest-rotation—as a panacea for the West, he says. "I don't expect any grand rush to holistic management. If there is a change, it will come very slowly."

GLENN OAKLEY is a freelance writer and photographer based in Boise, Idaho.

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Upbeat in the Uplands

A spunky governor, dedicated legislators, and spirited environmentalists keep Vermont's water running clean.



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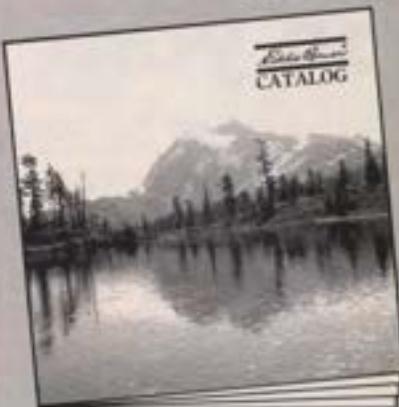
Tom Hill

IT DIDN'T HAPPEN without a loud hue and cry, but when Vermont's legislature adjourned last May, a state already renowned for its environmental consciousness had strengthened its legal hand even more. On the books is a new law to regulate the quality of the

8,000 miles of rivers in the state. "I have to admit, I'm very proud of what we've done," says Jonathan Lash, Vermont water resource commissioner.

"The bill would not have passed without a state administration that was willing to make a complete commitment," Lash says. At the center of that

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administration is a chief executive who has attracted nationwide attention in her first two-year term. Madeleine M. Kunin faces a tough race for re-election this November, but her achievements have won the admiration of Vermont's environmentalists.

Kunin hardly did it alone. Tom Cosgrove, the Sierra Club's Northeast Representative, says that much of what was accomplished can also be credited to a bipartisan effort in both houses of the state legislature. "Many legislators stuck their necks out on this," he says. "They worked within a short time frame and under a lot of pressure from the ski industry."

Vermont's water-quality lawmaking began with a regulatory bombshell. In October 1985 the state Water Resources Board ruled that the Sunrise Group required a discharge permit to proceed with its plans to build 550 condominium units near the Killington Ski Area. The project included a sewage facility at 2,600 to 3,000 feet that would discharge an estimated 100,000 gallons of treated effluent daily through a spray system.

The board ruled that effluent cannot be discharged into Class A (excellent) or Class B (fishable and swimmable) waters if it is "measurably different from the naturally occurring water." "Measurably different" effluent is considered a discharge and requires a permit.

But under existing state law, a permit could be obtained only for discharge into waters rated Class C, suitable for "recreation, wildlife habitat, and appropriate industrial use." Because approximately 90 percent of Vermont's water (and nearly 100 percent of it above 1,500 feet) is rated Class A or B, the board's decision was perceived by many as a moratorium on almost all new ski-related development.

The ski industry was outraged, and Kunin pledged that rewriting water-quality laws to allow orderly growth while protecting upland streams would be a top priority of her administration in 1986.

As the part-time legislature convened in January, the Vermont Group of the Sierra Club's New England Chapter brought the issue into sharper focus by commissioning a public opinion survey

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on land use and water quality. The Analysis Group, Inc., of New Haven, Conn., conducted a random telephone survey of 503 voters in the state and released its results in February.

The survey found that 63 percent of those polled believed disposal of sewage wastewater in pure mountain streams should be prohibited, no matter how the sewage was treated. The same percentage said ski-industry growth should be slowed, and 55 percent endorsed a moratorium on condominium expansion. The poll asked whether streams above 1,500 feet should be protected even if it meant a complete halt to high-elevation development. Seventy percent said that they should.

"The public was way ahead of the legislature, as we expected," says the Sierra Club's Cosgrove.

In March the Natural Resources and Energy Committee of Vermont's House of Representatives approved a bill that, among other provisions, banned all discharges above 1,500 feet and required that all streams remain unharmed by development. It further mandated that treated discharge of more than 5,000 gallons per day into any stream from a single source comprise no more than 10 percent of the water in the stream.

The ski industry denounced the bill, especially the so-called 10-to-1 ratio, which it labeled arbitrary and unnecessary. The management of the Stratton Ski Area warned that if the bill passed, all ski development would cease. Governor Kumin accused the industry of using scare tactics and deliberately distorting the facts.

The Sierra Club's Vermont Group supported the bill. It distributed 7,500 copies of a brochure calling for the preservation of Vermont's mountain streams and suggested that residents find out how their legislators stood on the issue. "I think it was the first time any action alert from a Vermont conservation group gave the name and home telephone number of every legislator in the state," says Jonathan Gibson of the group's executive council.

Governor Kumin lobbied hard for the House bill, but on March 27 the measure was defeated 76-70. One month later the Senate approved a bill that eliminated the 10-to-1 ratio and raised from



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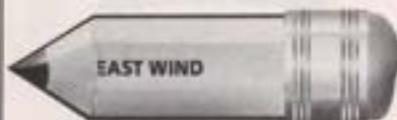
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1,500 to 2,500 the elevation above which no stream contamination would be allowed. A new House bill was drafted incorporating the changes approved by the Senate.

On May 2, with one day left in the legislative session, the House passed the measure 117-20. The new law, greatly simplified, requires that permits be obtained for discharges of more than 6,500 gallons of effluent per day in Class B waters, sets general standards for approving discharges, and defines certain waters as being so important that even a small risk is unacceptable (waters above 2,500 feet, those rated Class A, and any the Water Resources Board reclassifies as Class A).

The Water Resource Commissioner was pleased. "We got just about everything we could get," Lash says. However, Club activist Gibson delicately mentions that efforts by the environmental community were not all they might have been. For example, Gov. Kunin had originally proposed that all streams above 1,500 feet be designated Class A, but the final legislation designated only waters above 2,500 feet.

"We lost some opportunities to make good legislation even better," Gibson says, "but maybe that's to be expected." Looking on the positive side, he adds, "It was an opportunity to mobilize our membership around a particular issue, thereby serving some organizational purposes as well as the larger purpose of having an impact on public policy."

Lash notes that because the EPA has "ground to a halt" under the Reagan administration, protecting the environment is up to the states. Vermont has shown that it is willing to "get on with the business of doing things," he says, and can serve as a model elsewhere.

Implementation of the law is the next task, and Lash anticipates controversy and short-handedness. He notes, for example, that his agency doesn't have a single toxicologist; the entire state employs only one.

Even so, he adds, "In most other states you couldn't get the support we get. We're better off than anywhere else — just because of those who live here and how much they care."

TOM HILL is a freelance writer who lives in Hancock, Vt.

Foes of acid rain controls now constitute a distinct minority in Congress, as legislators from across the political spectrum are starting to fall in line behind a tough new bipartisan bill.

Acid Rain Wars: Civil at Last

Cass Peterson

THE STRUGGLE to enact national acid rain controls—the legislative equivalent of the War Between the States—may finally be moving down the road to Appomattox.

The turning point came last spring, when California Rep. Henry A. Waxman (D) outlined the latest House proposal at a news conference packed with incredulous reporters. It wasn't so much the legislation that dropped jaws and popped eyes as the cast of co-sponsors there to pledge their support.

There were Republican Reps. Newt Gingrich (Ga.), Fred J. Eckert (N.Y.), and Don Ritter (Pa.), long-time supporters of the Reagan administration's "more study" approach to dealing with the problem of acid deposition.

There was Rep. Morris K. Udall (D-Ariz.), an ardent foe of Waxman's past proposals. "I'm here to repent," he said.

And, perhaps most important, there was Rep. Thomas Tauke (R-Iowa), the vote Waxman needed in 1984 when the last serious House effort on acid rain went down to a 10-9 defeat in his Energy and Commerce subcommittee.

In all, more than two dozen legislators representing every geographical region and every hue of the political spectrum were in the room. By midsummer the list of co-sponsors had climbed to 167, just 51 short of a majority of the House and 50 more than any previous acid rain measure had garnered.

"This," Waxman said with a smile, "is a bill that can pass."

It may be premature to bet the rent on passage this year, but political analysts agree that the bill Waxman unveiled, H.R. 4567, represents the strongest

chance yet for a comprehensive solution to a problem that has tied Congress in knots for more than six years.

Amid mounting evidence that north-eastern lakes and streams are dying from acid rain, Congress has attempted to put an end to the problem since 1980. The solution seemed deceptively easy: Reduce sulfur-dioxide emissions from coal-fired boilers, which scientists blame for the acidity.

The reality is another story. Unlike previous air-quality laws, which require more or less equal sacrifices and distribute more or less equal benefits across the nation, acid rain controls have promised to create clear winners and losers. The Midwest, with its heavy concentration of coal-fired power plants and factories, would have to make the bulk of the cutbacks, while the East would get the bulk of the benefits.

Attempts to spread the burden around only made matters worse. The West glared at the East, the East snarled at the Midwest, the South scowled at everybody, while the Reagan administration declared that what was really needed was a decade or so of more research.

But it wasn't—as some may think—any startling scientific revelation about acid rain that prompted Waxman's bipartisan lovefest. In a city where political geography carries more weight than atmospheric science, H.R. 4567 is attracting unprecedented attention because it has something for everybody.

In brief, the bill would:

- Require a 10-million-ton reduction in sulfur emissions within ten years. That's less than the 12 million tons recommended by some scientists, but it would make a significant dent in the current 26 million tons of emissions a year. The reduction

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is also large enough to meet the demands of New England and northern-tier states, which have suffered the most damage from acid rain and balk at smaller cuts in sulfur-dioxide emissions.

■ *Allow each state to decide for itself how to achieve the required sulfur reductions.* Waxman's previous bill would have mandated scrubbers on 50 of the biggest sulfur polluters, most of them in the

Midwest. The new provision was crucial to drawing support from mid-western states, even though many of them will likely opt for scrubbers anyway to protect the jobs of high-sulfur coal miners.

■ *Limit residential electricity rate increases to 10 percent, regardless of the method chosen by a state to reduce pollution.* Increases beyond that figure would be financed by

a nationwide tax on consumption of electricity generated by fossil fuels.

This provision represents a delicate compromise between the Midwest, which fears the political fallout from soaring electricity rates, and the West, which bitterly opposes taxing westerners to pay for the environmental sins of the Midwest. The bill does call for a nationwide tax on electricity generated by fossil fuels, but it would be scaled to pollution levels. Hence, "clean" states, like those in the West whose utilities meet the EPA's most stringent existing sulfur standards, would pay little.

In short, H.R. 4567 is one of those miracles of compromise that can be wrought in Washington only when backs are against the wall and political credibility is at stake.

Notwithstanding Waxman's role as master of ceremonies at the unveiling, the chief miracle worker in this case was Rep. Sherwood Boehlert, a second-term Republican from New York who was not even a key player in the debate until late last year. Boehlert, one of a dozen or so moderate Republicans considered reliably pro-environment, is also something of a diehard optimist. Even as he watched Waxman's 1984 attempt go down in flames, Boehlert was convinced that an acid rain bill could pass the House.

In fact, he not only thought it conceivable, Boehlert and some of his GOP colleagues considered it politically imperative. Years of bitter wrangling over acid rain had taken its toll on more than lakes and forests: The issue was threatening to link the Republican Party permanently with the Reagan administration's foot-dragging image.

Working with a group of like-minded Republicans, known informally as "the '92 Group" for the year they hope to be the House majority, Boehlert set out to achieve the nigh-impossible. To bring the warring sides together, he needed a bill that would achieve sulfur-dioxide reductions reasonably close to the 12 million tons sought by New Englanders and environmentalists—without eliminating miners' jobs in high-sulfur coal



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states and without creating massive increases in electricity rates in the high-pollution states. The bill also had to stick as closely as possible to the concept of "polluter pays"—a critical factor in winning support from westerners.

"Futzing around with the edges of the Waxman bill wasn't where the action was," says Sierra Club Conservation Director Doug Scott. "Any successful new legislation had to solve all the regional differences the first Waxman bill brought into bold relief."

Boehlert's legislation was written privately, without fanfare and conspicuously absent the trial balloons that periodically float out of bill-drafting sessions. By early spring the draft had the support of the '92 Group and was ready for a tougher audience—Newt Gingrich's Conservative Opportunities Society, which represents the right-wing faction of the House.

Winning the conservatives' support was unexpectedly easy, in large part because the counterforce—industry opposition—was weakening. "Some of the most vociferous opponents were privately saying that the bill was acceptable," Boehlert says. "So we went to Gingrich's group and got them on board. Then we took the bill to Congressman Waxman."

By that time, Boehlert had enough Republican support lined up on Waxman's Energy and Commerce subcommittee to prevent the kind of embarrassing defeat that sank the Californian's own proposal in 1984. When the bill sailed out of subcommittee on a 16-9

vote less than a month later, all of the "yea" votes came from original co-sponsors.

The bill's most immediate obstacle remains the full Energy and Commerce Committee, chaired by the formidable Rep. John D. Dingell (D-Mich.). Even with 21 of the committee's 42 members signed on as co-sponsors, the legislation

goal. It was also enticing to some westerners as a kind of back-door way to improve local air quality.

But tougher NOx controls mean tighter limits on automobile emissions—an automatic red flag for Dingell, who has long championed his state's automobile manufacturing industry.

Boehlert, who is not a member of the



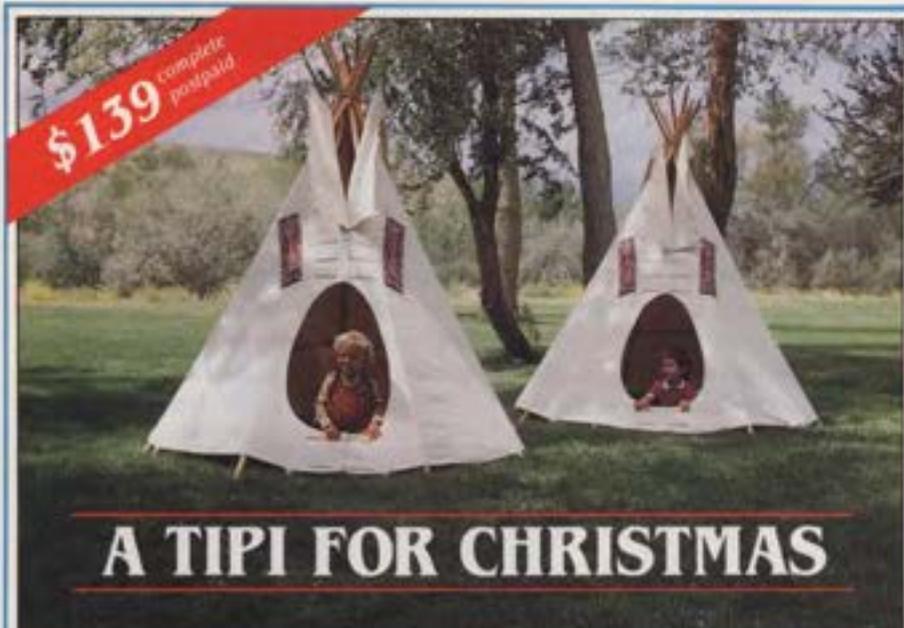
At long last—a break in the acid rain storm?

faces an uncertain future at Dingell's hands. The main reason: It calls for a 4-million-ton annual reduction in nitrogen-oxide (NOx) emissions by 1997.

Controlling NOx emissions, a secondary cause of acid rain, had been another compromise. Environmental groups viewed the provision as a way to help make up for sulfur controls that would fall short of their 12-million-ton

Energy Committee, is letting his co-sponsors—including Democrats Gerry Sikorski (Minn.) and Bill Richardson (N.M.)—carry the ball. "I'm not an inside player in Democratic politics," he says. "I could muddy the waters."

Boehlert claims that he is not bothered by the fact that his legislation has become known on Capitol Hill as the Sikorski bill. "I have plenty of press re-



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leases," he says. "I want progress."

There is strategy, of course, in this selflessness. On the divisive acid rain battlefield, the best chance clearly belongs to the bill that everyone can take credit for.

"The legislation creates the kind of apolitical climate in which we can really isolate the issue," says the Sierra Club's Scott. "The fact is that this bill has bipartisan support across an extraordinary spectrum. It isolates Dingell and the White House as opponents to a much greater extent than before."

The bill faces opposition from the Reagan administration, which still wants more research. Industry, meanwhile, is beginning its counterattack. A lobby calling itself Citizens for Sensible Control of Acid Rain (CSCAR) is spending millions of utility company dollars to combat H.R. 4567. The group claims, among other things, that passage of the legislation "would mean up to 30 percent higher electric bills," even though residential rate increases are specifically limited to 10 percent. Environmentalists familiar with the group call CSCAR "a nice-sounding front group for a bad bunch of polluters."

Despite this industry opposition (and delaying tactics devised by Dingell to prevent the bill from reaching the House floor this year), environmentalists remain optimistic. "If Dingell succeeds in blocking a House vote this time around," says Sierra Club Washington lobbyist David Gardiner, "we'll simply have to work harder next year. It's never easy to overcome the kind of organized opposition that industry can finance, but we've done it many times."

Says Vivien Li, chair of the Sierra Club's Air Quality Committee, "The members of Congress who have overcome their differences to support H.R. 4567 have done so largely because of constituent pressure. When victory finally comes, the grassroots will be able to take much of the credit." ■

CASS PETERSON is a reporter for the Washington Post. Her account of conflict between the EPA and the federal budget office appeared in the March/April 1986 issue.

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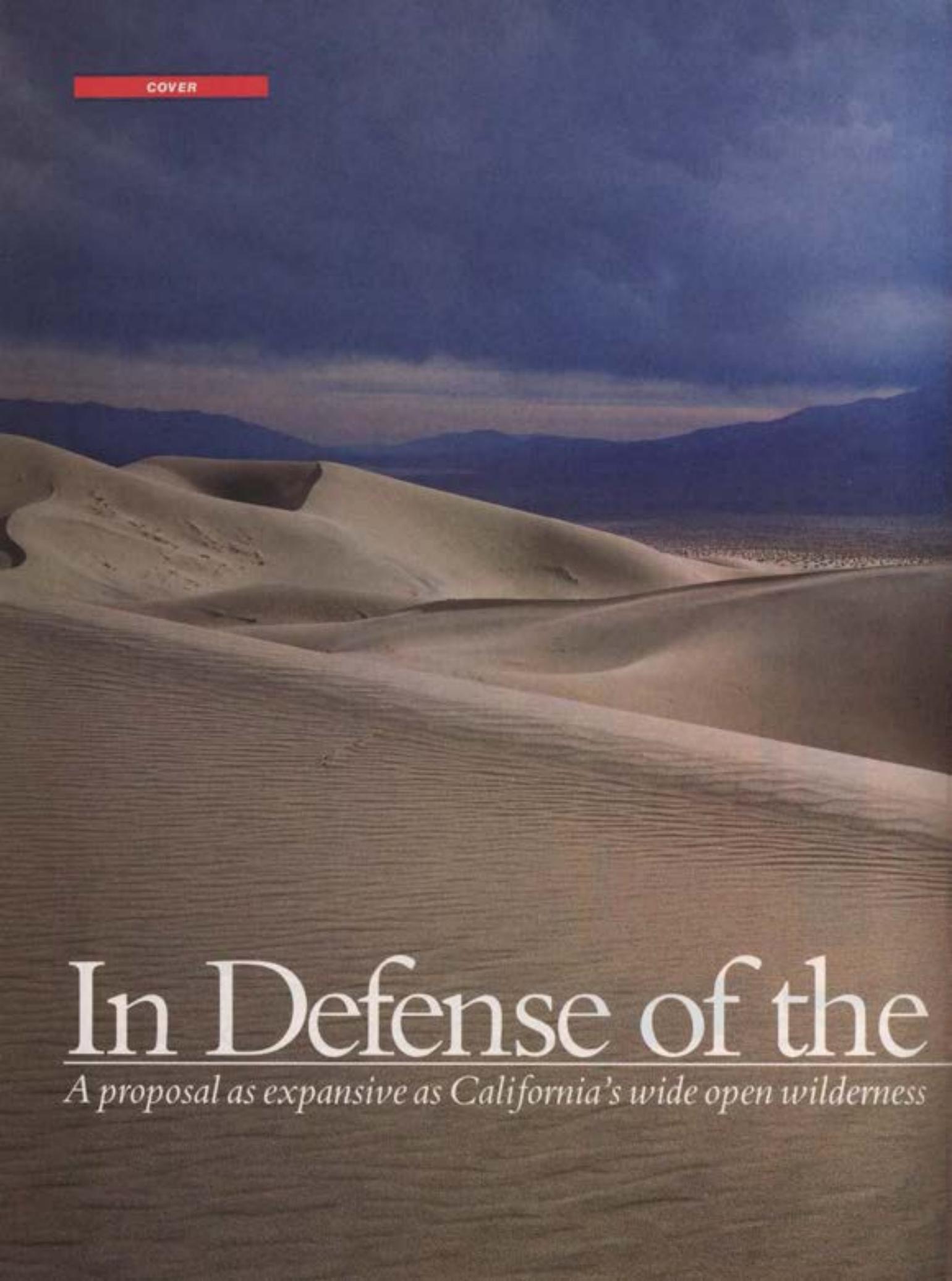
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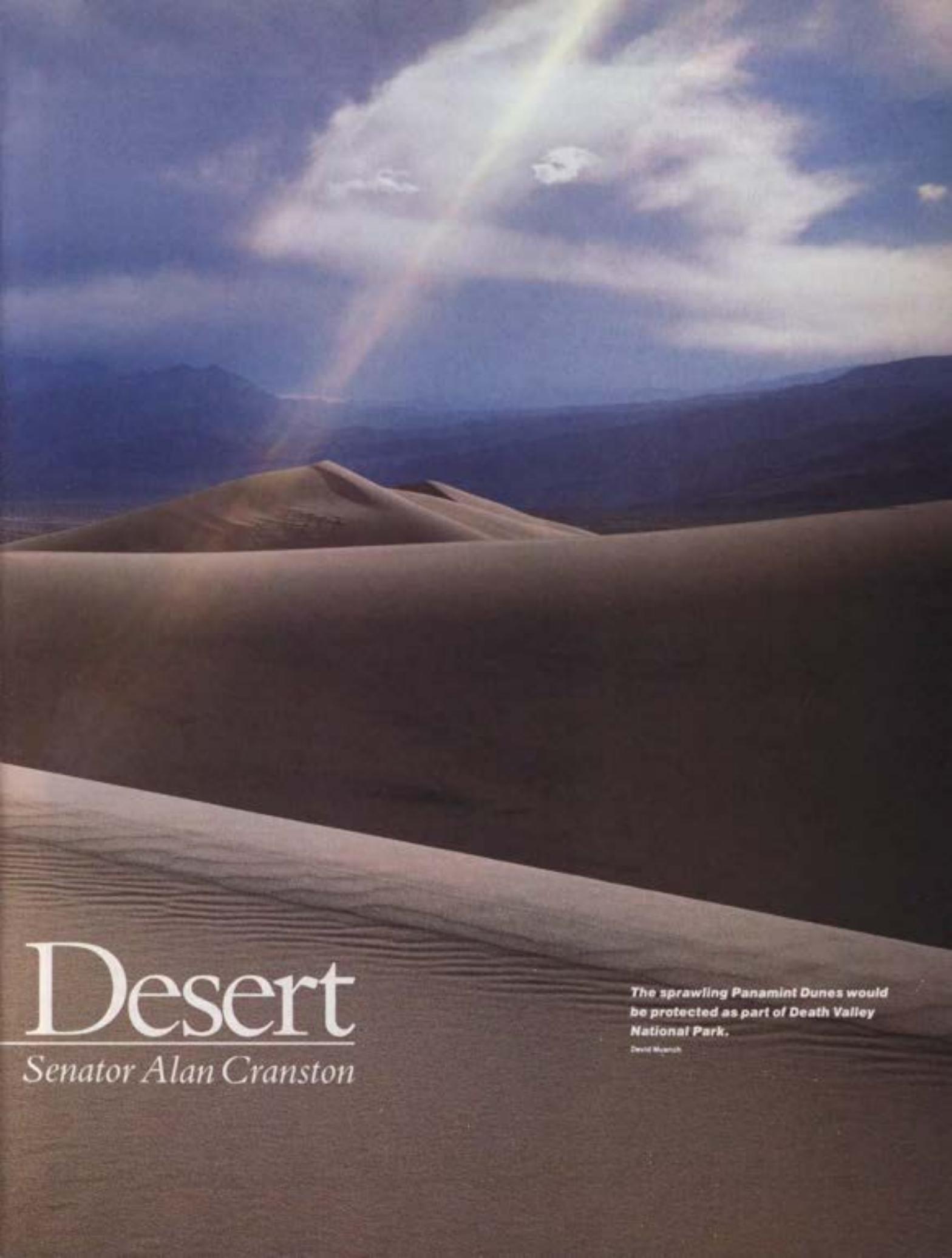
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Desert

Senator Alan Cranston

**The sprawling Panamint Dunes would
be protected as part of Death Valley
National Park.**

David Muench

IN THE EARLY YEARS of California history, those who traveled across the desert found it barren, lifeless, and downright hostile. Surviving the trip was considered enough of a reward; nobody expected to enjoy it.

But things are different today. We don't have to go straight through the desert. We can stop and observe the treasures it offers us. Wildflower-lovers, birdwatchers, rock climbers, hikers, campers, and hunters all can and do find things to intrigue, enchant, and challenge them.

For me, one of the most remarkable aspects of the desert is how little it has changed. If we could bring back Death Valley Scotty or any of the other hardy prospectors of the late 1800s and early 1900s, I think they'd feel right at home in many places. The highways would amaze them, no doubt, but they could still wander where the overall look and feel of the desert—the vastness, the majesty, the solitude—would remain unchanged.

Covering more than a fourth of the state's land surface, the California Desert spreads south from Death Valley National Monument to the Mexican border, and east from the San Jacinto and San Bernardino mountains to the Colorado River. At 25 million acres, the California Desert is larger than 13 of the nation's states.

While its immensity has helped shield it from change, the desert is hardly impervious to the impacts of civilization. Just the opposite is true: Because of its dryness and extremes of heat and cold, the desert heals slowly. What may take decades or even hundreds or thousands of years to grow can be wiped out literally overnight.

Consider Devil's Garden. Located north of Palm Springs, it once contained thousands of acres of yuccas and cacti—perhaps the most concentrated and varied collection in the entire California Desert. Then, in the 1920s, city people began to appreciate the beauty of desert plants. They came from Los Angeles in their Model Ts and uprooted what they thought would look best on their front porches and patios. Sixty years later, Devil's Garden has yet to recover. Today

the casual visitor would never know the area was once a wonderland of desert life.

The human population boom that now threatens the desert is a recent phenomenon: It began in earnest after World War II, with the arrival of air conditioning and the modern off-road vehicle. As California's population continues to grow and tourism increases, more and more demands will be made on this fragile environment. What we lose today because of carelessness or poor management could remain lost for untold generations.

THE MOST EFFECTIVE way to protect wildlands owned by the public is to designate them wilderness areas. To qualify under the Wilderness Act of 1964, lands must "generally appear to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable," and have "outstanding opportunities for solitude or a primitive and unconfined type of recreation." This definition describes much of the California Desert.

The bill I introduced in February,

The California Desert Protection Act (S.2061) would establish three new national parks and 81 separate wilderness areas—designations encompassing some 10 million acres.



The desert tortoise, a creature too slow to dodge dirtbikes and all-terrain vehicles.

the California Desert Protection Act (S.2061), would establish 81 new wilderness areas covering 4.5 million acres, all administered by the Bureau of Land Management (BLM). These areas range from the Bighorn Mountains with their yellow pine, pinyon pine, and Joshua tree forests to the Chemehuevi Mountains, with numerous Indian archaeological sites, to the Kingston Range, with one of the desert's highest concentrations of endangered species, to the

THE DESERT DEBATE IS HEATING UP. CHOOSE YOUR COALITION CAREFULLY.

Jim Dodson

OPPPOSITION to the California Desert Protection Act will be intense. Off-road vehicle (ORV) groups have already mobilized a huge letter-writing effort, spurred by monthly calls to action in such periodicals as *American Motorcyclist* and *ATV News*, "America's All Terrain Vehicle Newspaper."

These ORV groups have also led in the formation of the California Desert Coalition, which includes some mining and grazing interests. The sole purpose of this coalition, which has opened an office and hired staff, is to defeat Sen. Alan Cranston's California Desert Protection Act.

Under the headline "Cranston Opponents Blast S.2061," *Cycle News* reported in June: "According to the California Desert Coalition, the act would eliminate most recreational and business activities in the desert, including hunting, camping, rockhounding, sightseeing, photography, mining, grazing and back-country exploring."

Not a word of this is true. Most existing commercial and recreational activities—including use of ORVs in the principal areas legally open to them—would be untouched by the Cranston bill. But the statement shows what conservationists are up against.

The target of the group's letter-writing campaign is the rest of California's congressional delegation—especially Sen. Pete Wilson

(R) and the representatives whose districts include parts of the California Desert.

Allied informally with these opponents are top officials of the Bureau of Land Management (BLM) and the Interior Department. They claim that the Cranston bill undermines the BLM's California Desert Plan, adopted in 1980.

It does not. The bill simply extends to wilderness areas and the proposed national parks the statutory protection only Congress can provide. The BLM's desert plan was designed to provide the very protections that are now in the Cranston bill, but the agency has failed to live up to the plan's promises—to the delight of those who would exploit the desert. Why else would the same coalition of ORV, mining, and grazing interests that sued to block implementation of the BLM plan now rally so vigorously to its defense?

At lower levels in the BLM, there is support for the change. Almost all the lands proposed for addition to the National Park System

were recommended for park status by the agency's experts—the biologists, archaeologists, and planners who did the fieldwork that led to the California Desert Plan.

Conservationists have their own coalition: the California Desert Protection League (2410 Beverly Blvd., Suite 3, Los Angeles, CA 90057; 818-247-6037). Members include The Wilderness Society, the California Wilderness Coalition, the Desert Protective Council, the National Parks and Conservation Association, Citizens for a Mojave National Park, and the California Native Plant Society. The Sierra Club's Desert Committee, which has been working on this issue for more than a decade, provided the nucleus. For the Sierra Club in California, passage of the bill is a top priority.

After making adjustments where legitimate issues have been raised, Cranston plans to reintroduce his bill early next year. Conservationists will then face the long process of

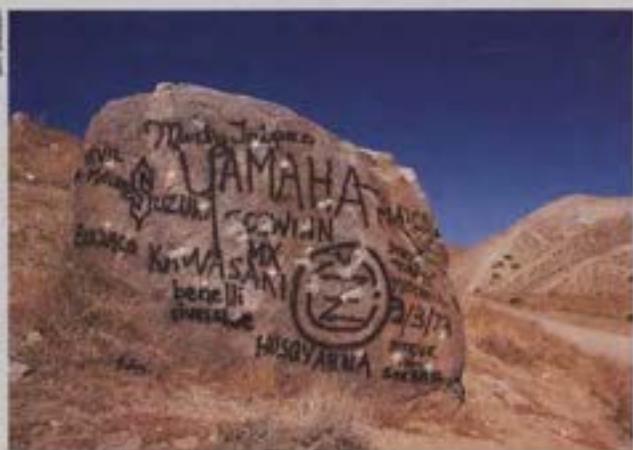


Off-road vehicle scars, deepened by wind and water, are lasting reminders of the desert's vulnerability.

building public and congressional support, testifying at hearings, and helping to move the bill through Congress.

"This campaign will be as difficult and may take as long as any the Sierra Club has ever waged in California," says Conservation Director Doug Scott. "This is our generation's equivalent of the fight for the redwoods."

JIM DODSON is the Sierra Club's Regional Vice-President for Southern California and Nevada. He lives in the California Desert town of Lancaster.



Graffiti in Jacobone Canyon, an area open to off-road vehicles.

South Algodones area, with one of the nation's largest dune systems.

Designating these lands wilderness will not—as some contend—close them to public use. On the contrary, wilderness designation means the land will be protected for the enjoyment of this and future generations. Rockhounds, hikers, nature photographers, hunters, archaeologists, rock climbers, and many other individuals will find room for their pursuits in this large, diverse system of wilderness areas.

In addition to creating wilderness areas, the California Desert Protection Act would elevate three important areas of the desert to national park status. First and foremost is the vast Mojave Desert. Currently afforded only impermanent administrative protection as the BLM's East Mojave National Scenic Area, the Mojave is the largest desert in California. It also contains the most interesting scenery, according to many observers, including 16 mountain ranges, four dry lakes, and a perennial stream.

The bill would provide the full statutory protection the area needs by establishing the 1.5-million-acre Mojave National Park. It would also transfer management responsibilities to the National Park Service, whose policies are best suited to protect the area.

Statutory protection is important here because it means that only Congress can alter the park's boundaries. Since the BLM established the scenic area, conservationists have fought yearly battles with the agency over proposed boundary adjustments that would shrink the East Mojave by as much as 140,000 acres. Without statutory protection, the BLM can change the area's management policy.

The agency's own planning specialists reported to the Park Service in 1979: "In all of the California Desert there is no finer grouping of different wildlife habitats." The planners' conclusion: "Cultural and natural resource values of the East Mojave Study Area are so diverse and outstanding that the area readily qualifies for national park or monument status."

The second of the three areas that should be given national park status is Death Valley National Monument. Located at the far northern end of the des-

ert, Death Valley is probably the hottest place on Earth, with a recorded high temperature of 134 degrees Fahrenheit in 1913. It also contains the lowest point in North America—282 feet below sea level at Badwater—and a view of Mt. Whitney, at 14,495 feet the highest point in the Lower 48.

Despite its name and searing heat, Death Valley is not lifeless. Creosote bushes, saltbush, and greasewood thrive in its basins. At the cooler, higher elevations, Joshua trees, pinyon pines, and junipers find conditions tolerable.

The California Desert Protection Act would not only make Death Valley a national park, it would expand the area to include the Panamint, Saline, and Eureka valleys. A 1977 Park Service report stated that Death Valley needed to be "rounded out with several additions to better represent and preserve a superb example of the California Desert." The BLM's 1979 report to the Park Service supported that idea. It found that the Eureka-Saline area provided "some of the finest and most diverse scenery" in the desert.

It's a landscape of incredible vastness and solitude, reminiscent of the vast sweep of Arctic tundra to distant peaks. Only a single rough road passes through—and that's the way it should remain, in contrast to the excellent road system in the existing Death Valley National Monument.

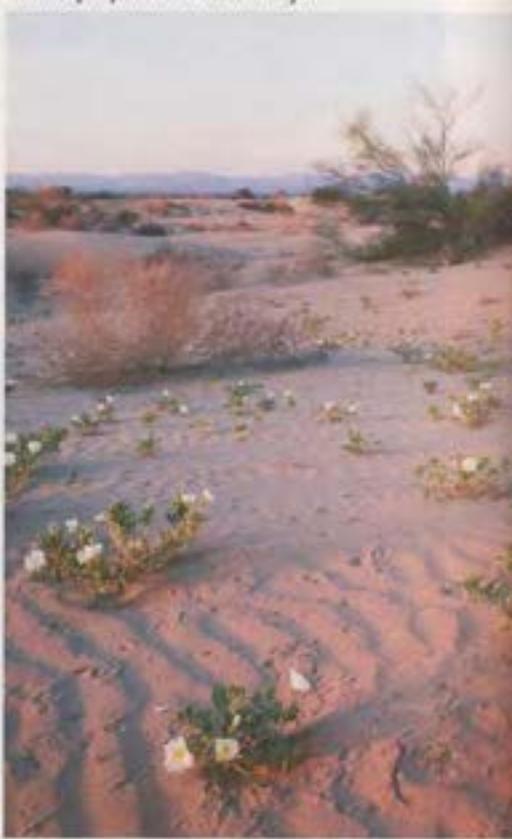
JOSHUA TREE, also a national monument, is the third area the bill would elevate to national park status. Located at the southern end of the desert, Joshua Tree takes its name from its most prominent plant. Legend has it that Mormon colonists traveling across the desert in 1851 saw in the tree's unusual shape the form of Joshua praying.

Located between the Mojave and Sonoran deserts, Joshua Tree is blessed with some of the best characteristics of each. Visitors can see the native palm trees, usually found only at lower elevations, side by side with high-country junipers. To the southeast, the rugged Eagle Mountains comprise one of the important areas outside Joshua Tree that the bill would add to the park.

The California Desert bill would also



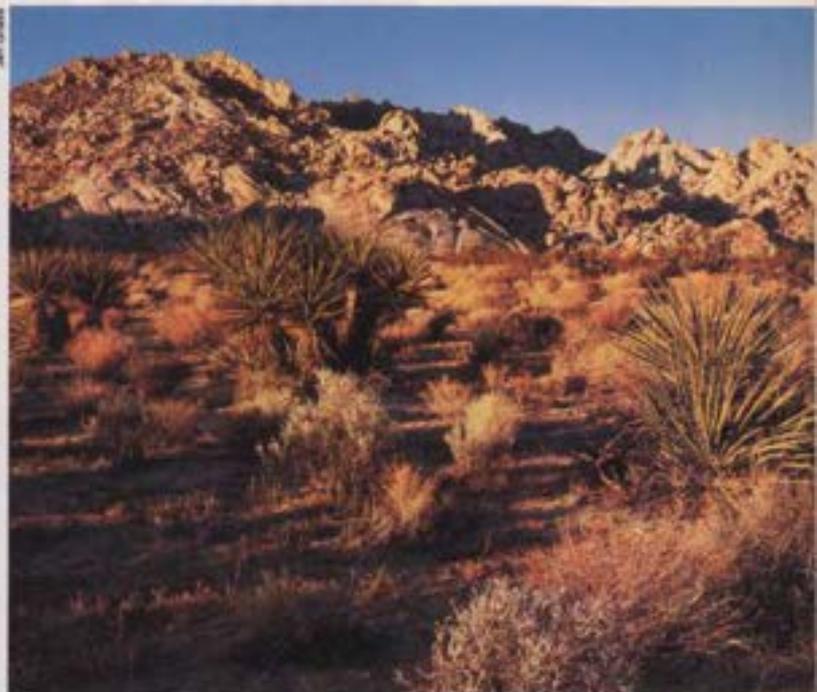
Evening primrose on the Algodones Dunes (below). Wilderness designation would protect the area from the intense off-road vehicle play that occurs nearby.





Stephen Casper

Jeff Grasse



Bill Perry-Mitchell



Arrowweed reflects in Upper Warm Springs, an oasis in the Saline-Eureka wilderness study area. Senator Cranston's bill would put this area, the largest expanse of potential wilderness left in the Lower 48, in Death Valley National Park.

New parklands: The Granite Mountains (above), home of the endangered Nelson bighorn sheep, would be a part of Mojave National Park. Eureka Dunes (below) would be included in Death Valley National Park. At left, a collared lizard strains to keep its distance from a hot granite boulder.



Dean Clifton

Daniel Marvick





benefit important areas outside the park and wilderness systems. It would provide legal protection for a special botanical area, the Desert Lily Sanctuary, and a historical site, Indian Canyons—both under BLM management. It would complete a long-pending expansion of Red Rock Canyon State Park, transferring 20,500 acres of BLM lands to the California Department of Parks and Recreation. Sharp-eyed movie lovers may have a strong sense of déjà vu on their first visit to Red Rock: The area has been the setting for dozens of westerns since the 1930s. It is also a favorite recreational spot for travelers and families who live in the area.

Seen as a whole, the California Desert Protection Act would institute various kinds of legal protection for key areas, to ensure that today's—and tomorrow's—visitors will be able to enjoy the desert. A score of environmental organizations

The sun rises on Lost Horse Valley in Joshua Tree National Monument. The Cranston bill would grant the area national park status, adding lands removed 30 years ago. The monument's granite monoliths have long been popular with climbers and hikers. Among the proposed additions: the rugged Eagle Mountains.

and thousands of individuals have voiced their support for the bill. But resistance to the bill is also well organized and well funded.

Some of the businesses that equip off-road vehicle (ORV) users and some sports clubs claim the legislation will ban off-road vehicles from the desert. That's not true. It is not the purpose of this legislation to deny any group its freedom to enjoy the desert. In drawing the boundaries of the lands to be protected, I have been careful to exclude the major areas enjoyed—legally—by ORV

users. However, some people are currently using areas they shouldn't be using. This is where the problem arises.

To a lesser degree, conflicts exist over areas of known commercial value—where mining claims have been staked, for example, or grazing permits issued, or energy facilities built. Valid existing rights are recognized in the bill and allowed to continue. Where other conflicts have arisen or may yet arise, I look forward to working with user groups to accommodate justified boundary changes.

Clearly, the California Desert Protection Act is a comprehensive and complex piece of legislation. It reflects the hopes of a broad range of people. I'm committed to doing everything I can to see they get their reward—permanent protection of their beloved desert. ■

ALAN CRANSTON (D) is California's senior senator.

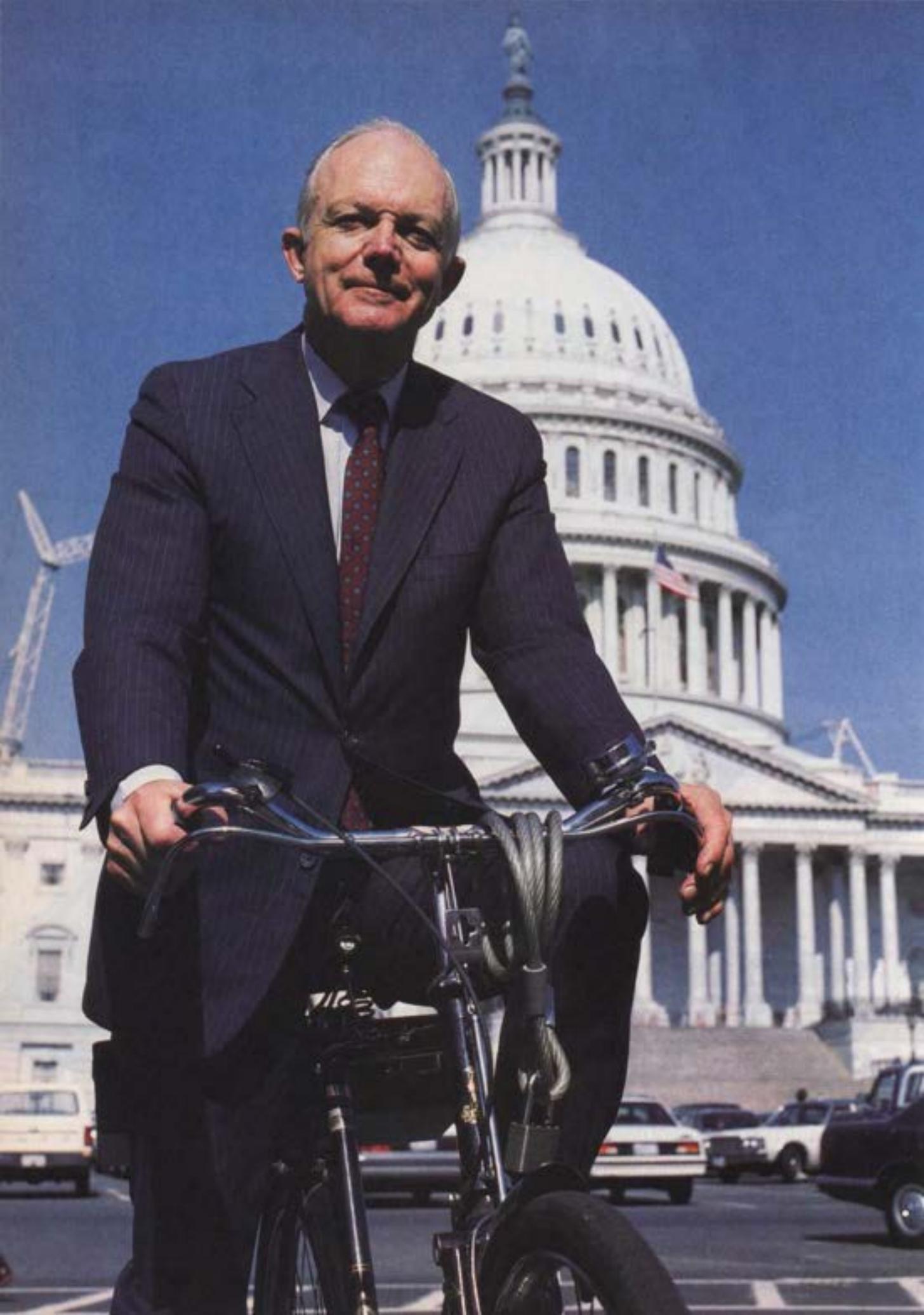
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Fare thee well, John Seiberling

Joan Hamilton

AFTER JOSTLING for a space in the bike rack, a slim, dark-suited congressman strides down a long hall to his office. "I've got to get the papers off my desk," he announces. As papers fly and his pen scratches, he recites from Lewis Carroll:

*"If seven maids with seven mops
Swept it for half a year,
Do you suppose," the Walrus said,
"That they could get it clear?"
"I doubt it," said the Carpenter,
And shed a bitter tear.*

Fifteen minutes later he abandons his piles of paper for a House subcommittee hearing on the expansion of the Big Cypress National Preserve in Florida. An assistant secretary of the Interior Department says the proposed expansion is too costly, which draws a stern rebuke from the congressman. "This administration knows the cost of everything and the value of nothing," he says.

After nearly eight terms in Congress, Democratic Rep. John F. Seiberling of Ohio is in his legislative prime. He's a respected authority on public lands as well as many other national concerns. He's articulate, hard-working, forthright, even "crusty," according to one Capitol Hill reporter. He is

also wholeheartedly devoted to protecting the nation's remaining wildlands.

But Seiberling, 68, has decided to retire at the end of this year. The news has cheered the oil and timber industries, which consider him a formidable opponent. "It is time to bring in new people with a modern perspective who understand that environmental protection is one thing and preservation is another," an industry official told *Inside Energy*. Yet his forthcoming retirement has left political friends mourning the loss of a man who undoubtedly will be one of the major conservation figures of the century.

John Seiberling comes from a prominent Akron, Ohio, family. His grandfather, F. A. Seiberling, was one of the founders of both the Goodyear and Seiberling Tire and Rubber companies. John was elected to Congress in 1970, after working for 17 years as an attorney for Goodyear. In Congress he has served on both the Judiciary and Interior committees, and has been chair of two key Interior subcommittees—Alaska Lands and Public Lands.

Although most of the land in his state is privately owned, Seiberling has made the byzantine world of public-land law his domain. Fact-

finding treks through almost every western state have made him more knowledgeable about the nation's wilderness areas, parks, and other public lands than any other representative. He helped write the Federal Land Policy and Management Act of 1976, the Bureau of Land Management's bible. He may even hold a record for attending hearings: His friend Rep. Morris Udall (D-Ariz.) calls him "Iron Pants" for his ability to sit and listen to the public.

If the hearings have been endless, the number of laws shaped by Seiberling's subcommittees has been prodigious. A list of new wilderness areas they have spawned fills a single-spaced sheet of computer paper almost nine feet long. Overall, Seiberling has helped set aside some 69 million acres of wilderness in 27 states—which adds up to 78 percent of the total acreage in the system.

More than 56 million acres of these additions are in Alaska. As chair of the Subcommittee on General Oversight and Alaska Lands set up by Rep. Udall in 1977, Seiberling helped assess the potential for establishing new federal preserves in Alaska. Three years later, despite a hostile Alaska delegation, Congress passed the Alaska National Interest Lands Conservation

Photographs by Art Stein

Act, which protects more than 100 million acres of the state as national parks, preserves, wildlife refuges, wilderness, conservation areas, and Wild and Scenic rivers.

Soon afterward, the wilderness debate in the Lower 48 was intensified by a 1982 court decision. In *California v. Block* a federal district court judge ruled that the Forest Service's environmental impact statement on the fate of its roadless areas was inadequate. This meant that RARE II, the agency's second Roadless Area Review and Evaluation, was to be followed by RARE III. Rather than wait for the Forest Service to complete that massive and controversial chore, most states asked Congress to determine the future of their roadless lands through wilderness bills that specifically released nondesignated lands for development. Seiberling's Public Lands Subcommittee was soon deluged with wilderness bills, including some drafted by delegations more interested in developing than preserving their national forest lands.

With skills practiced in Alaska, Seiberling again made end runs around hostile colleagues. In Wyoming, for instance, he had much to do with turning the state delegation's miserly 479,350-acre recommendation into a law that protects 884,000 acres. The result was not all the wilderness that environmentalists had asked for, but much more than they would have gotten under less dedicated or less capable leadership.

Seiberling gives part of the credit for such gains to environmental groups. But part of the credit also belongs to him, for his willingness to explore, photograph, and research remote reaches of the West. "He devoured the issues," Udall says. "He is one of the hardest-working and most thorough men I have ever known."

As a result of this dedication, Seiberling was often better equipped to debate an area's future than the local congressional representative was. "He beat up people with facts all the time," says Andy Wiessner, an eight-year veteran of Seiberling's Public Lands Subcommittee staff.

Political observers are fond of contrasting Seiberling's style with that of

another well-known wilderness champion, the late Rep. Phillip Burton (D-Calif.). "John adored and admired Phil, but their two styles couldn't have been more different," Wiessner says. "Phil, the politician, was always scheming. John, the Boy Scout, telegraphed everything he knew in advance."

"The Boy Scout" was an epithet bestowed on Seiberling by Burton himself, probably because he shared neither Seiberling's love of the outdoors nor his straightforward approach to the legislative process. But if Seiberling is open and direct, he is not naive, says Sierra Club Washington lobbyist Tim Mahoney. "He masters the facts, he understands the law, he understands the areas. While there were times when we wished he were not so good-natured and aboveboard, he always intimidated our opponents with his knowledge."

In the eyes of his staff and his friends in Congress and the environmental movement, Seiberling comes off sounding like something out of a civics textbook. "He's the archetype of the perfect public servant," Wiessner says. "While others spend most of their time trying to get re-elected, John spends most of his time dealing with the issues."

Even Seiberling's retirement seems to have been timed at least partly with the issues in mind. The question of Alaskan public lands is basically settled, and with a few exceptions so are the Forest Service wilderness bills in the lower 48 states. An era of unusual opportunity is coming to a close—a decade in which an unprecedented amount of roadless acreage came under congressional scrutiny.

When *Sierra* visited him in May, Seiberling played down the difference his absence may make in Congress and the environmental movement, saying, "I'm just one of many who worked in this field." But his political friends refuse to see him that way.

"He is a legislative Horatius, working with on-the-ground people of foresight to defend large chunks of the West," a *High Country News* editorial stated in 1984. "When the history of the late 20th century is written, Congressman John Seiberling will go down as one of its visionaries."

"We couldn't have accomplished anything without the environmental organizations. The Sierra Club and the other groups have been absolutely essential."



SIERRA: *How did you become involved in conservation work?*

SEIBERLING: I guess it just came naturally to me. My grandfather was born on a farm and grew up on a farm, and always appreciated the importance of agriculture and trees. He gave the first land to create the Akron metropolitan park system. When he was an old man in his 90s and couldn't do much walking, he had a nurse who would take him for rides in the countryside, and he always wanted to drive through these parks, these very beautiful parks. One day his nurse said to him, "This land must be very valuable, Mr. Seiberling. Don't you miss all the dividends you would have gotten if you had sold it and invested the money?" And he said, "See that family having a picnic there? See those children playing? Those are my dividends."

SIERRA: *Why did you decide to run for Congress?*

SEIBERLING: I guess the Vietnam War finally triggered it. Nixon made a speech in the fall of 1969 in which he called upon the silent majority to defend his Vietnam policies and denounce the students who were demonstrating. I said to my wife, "You know, Nixon lied to us in 1968. He said he had a plan to get us out of Vietnam, and he said he was going to bring us together again, and instead he's dividing the country. The young people are right about this, and we ought to do something." She said, "What can we do?" And I said, "I think maybe I should run for Congress." So I did. To everybody's surprise, I won. I've been here ever since.

SIERRA: *When did you become interested in the Cuyahoga Valley?*

SEIBERLING: Cuyahoga is a very beautiful river valley between Cleveland and Akron. I first got interested in trying to protect the valley [in the 1950s] as a member of a group called the Peninsula Valley Heritage Association—since renamed the Cuyahoga Valley Association. We began to realize that unless action were taken to protect the valley from urban development, it was going to be destroyed as a scenic and recreational asset.

In the early 1960s the Ohio Edison Company had plans to run a high-tension transmission line through the valley. That became a kind of rallying point. We fought it and got a lot of people to realize that this valley they took for granted was really a threatened asset. Some of us bought stock in Ohio Edison so we could raise Cain at stockholders' meetings. I later became president of the three-county regional planning commission, and through the commission we got the prosecutor to bring an injunction against the power line on the grounds that it would violate the regional land use plan. We took the case all the way to the Supreme Court of Ohio. They threw it out—not on the grounds that it didn't violate the plan, but because there wasn't a quorum present when the plan was adopted, and therefore it wasn't legally valid. Talk about ducking the issue!

Anyway, when I became a member of Congress, I told my staff the first thing I wanted us to do was to draft a bill to create a national historical park in the Cuyahoga Valley. I had hoped to get on the Interior Committee so I could help promote the bill, but I didn't succeed in my first term. The second time around I did, and we got the law passed that same Congress.

SIERRA: *How was it that a congressman from Ohio developed an interest in public lands, most of which are in the West?*

SEIBERLING: In 1975, in my third term, I read a *National Geographic* article about the Alaska land withdrawals that Rogers Morton made under the Alaska Native Claims Settlement Act [which called for a study of the conservation potential of 80 million acres of public lands]. I decided I wanted to go out and see for myself what those lands were like. So I got Goodloe Byron, who was then a congressman, and Alan Steelman, who was a Republican member of the committee from Texas, and we decided we would go to Alaska during the August recess and spend a couple weeks up there. We saw a lot of magnificent places.

In 1977, when time came for the committee to act on the Alaska lands issue, I was the only Democrat on the Interior Committee who had been to Alaska, except for Goodloe Byron. The com-

mittee members said, "We'll make you chairman of the special subcommittee to manage the Alaska lands issue."

SIERRA: *Then you went around the United States gathering testimony.*

SEIBERLING: I realized that, because of the cozy relationship that exists between Congress and the state delegations with respect to the lands in their states, if I had any hope of getting an Alaska lands bill we were going to have to do an end run on the Alaska delegation. Their position was very, very anti-environment. I thought, the only way we're going to succeed is if we dramatize this as a national issue; so I decided we would hold hearings in the Lower 48 before we went up to Alaska. By the time we got to Alaska, it had already become a national issue.

SIERRA: *What did people in the Lower 48 tell you?*

SEIBERLING: We had some marvelous hearings. We heard more than a thousand witnesses. People came from everywhere. And some of the testimony was very moving and very eloquent. They told us how much it meant to them to protect some part of our natural heritage—even though many of them had never been there and never expected to go. They still realized the importance of preserving it. It's like preserving endangered species, you know. It's just part of the glory of the world that God created, and we don't want to let the glory go out of the world.

SIERRA: *Did it become one of your toughest battles?*

SEIBERLING: Yes, it was very tough. It wouldn't have been won except for the steadfastness of Mo Udall and the tremendous grassroots support generated by the environmental organizations through the Alaska Coalition—and through the courage of President Carter and Secretary of Interior Cecil Andrus. When the deadline came for the Morton withdrawals to expire, Interior Secretary Andrus had already prepared the documents withdrawing the lands, and President Carter declared them national monuments.

Of course, with the defeat of President Carter in 1980, we didn't have

much choice but to pass the Senate [Alaska lands] bill. But because of tremendous nationwide support, the Senate bill was a much better bill than it would have been if we hadn't had that support.

Meanwhile, in 1979, Teno Roncalio, who had been chairman of the Public Lands Subcommittee, retired from Congress. At that point we were confronted with the RARE II (Roadless Area Review and Evaluation) process, and I agreed to chair that subcommittee. I've made RARE II one of my top priorities ever since. We've pretty well completed that process in all but about four states, and I'm hopeful that at least in Michigan and Nevada we will have completed the process in this Congress.

SIERRA: *Was the late Representative Phillip Burton an important figure in your political education?*

SEIBERLING: Oh yes. Phillip Burton was an amazing person. He helped me get on the Interior Committee. After I had gotten on, he and I were having a drink together after one of the House organizing sessions in late 1972, and Phil said, "You want to get your park bill passed?" I said, "I certainly do." It was my Cuyahoga Park bill. He said, "It's very simple. You get a majority of the members of the Interior Committee as co-sponsors of your bill, and then they'll support it. If you have any trouble, let me know." I followed his advice, and it was very successful.

As chairman of the Parks Subcommittee, Phil did phenomenal work in creating new parks, of which Redwood National Park [in Northern California] is probably his most notable achievement. Even though Phil wasn't an outdoorsman—someone said the only time he stepped outside was to smoke a cigarette—he loved people and wanted to see people enjoying life, and he knew the importance of parks. I think he also knew the Sierra Club was very big in California, and that was important to him. You never could determine where his philosophy ended and his politics began; the two were inextricably intertwined. When we got around to doing the California RARE II bill, I relied a great deal on him to negotiate with the other members in the California dele-

gation in working out all the specifics.

SIERRA: *How is your style different from Burton's?*

SEIBERLING: Well, I'm not the master mechanic that Phil Burton was in terms of knowing how to operate in Congress, though I've learned a good deal from him and just by being here for years. I guess my approach, first of all, is to have a very clear idea of what you want. And secondly, a sense of realism as to what is possible. You have to be a pretty good horse trader. I've learned how to use the chairmanship of the subcommittee to good effect, not only to move bills but to block them. My philosophy is that I don't give up anything unless I get something in return. People know that, particularly the opposition to environmental legislation, and they know that I've got strong support from colleagues in the committee and subcommittee—without which, obviously, I couldn't get to first base.

SIERRA: *Are there any other people in Congress who have had a strong influence on you?*

SEIBERLING: Mo Udall certainly has. I would say probably Mo and Phil more than anyone else.

SIERRA: *Any notable enemies?*

SEIBERLING: Oh, I don't think I have any enemies personally, and I try to forget the unpleasanties. I try to focus on the positive side. The only person I really relished as an enemy was James Watt, and I managed to fight Mr. Watt to a

standstill on several important issues, including deauthorizing Cuyahoga Valley and other national park units, and his effort to screw up the Wilderness Act and to drop a lot of BLM wilderness study areas. Mr. Watt is gone and I'm still here, and so are most of the lands he tried to open up to development.

SIERRA: *Have the post-Watt years been more productive than the years you had to spend wrangling over those issues?*

SEIBERLING: Oh yes, they have. In 1984 I didn't know whether President Reagan would sign all those wilderness bills we sent him, but he signed every one of them. Whether he would have signed them if Watt had been there, I doubt. But Watt became too much political baggage, and they had to drop him before the '84 election. I think that probably helped us get those bills signed, because the Reagan administration wanted to show they weren't anti-conservation.

SIERRA: *What do you consider your most important accomplishment? The Alaska lands preservation?*

SEIBERLING: I suppose, that plus the RARE II bills. Personally, the one that pleases me the most is the Cuyahoga Valley bill. That's the place where I grew up.

SIERRA: *Has the environmental movement helped you along the way?*

SEIBERLING: Oh, we couldn't have accomplished anything without the environmental organizations. The Sierra

"The oil industry is one of the most greedy and selfish industries in this country, and they've been very successful over the years. They're usually not satisfied with 95 percent; they want it all. They want 100 percent."



Club and the other groups have been absolutely essential. You know, it's a very simple situation when you think about it. The interests opposing wilderness designation are usually timber, mining, and the other exploitive industries, such as oil and gas and, to a lesser extent, grazing. They come in and lobby heavily, but the majority of members are hearing from people in their districts who are organized and tell the member, "I'm going to judge you by how you vote on Alaska lands" or whatever the issue is.

These opposing groups don't want to take on the environmental organizations—and for good reason. So when a member hears from a bunch of constituents, that pretty well offsets the nationwide lobbying by national organizations—even labor unions. For one thing, they know that the labor unions in their districts aren't affected by these issues. They're lobbying because their buddies in Alaska have been asked by the industry to lobby, and they've been threatened with losing their jobs if they don't. So that offsets the lobbying. And then I think that a great many members are philosophically sympathetic to conservation.

SIERRA: *How has the Gramm-Rudman deficit-reduction law affected the conservation issues that concern you?*

SEIBERLING: Of course it's affected the staffing of the Park Service, the Forest Service, and the BLM, particularly on

environmental and conservation issues. The bite hasn't really taken hold in any big way, but the budget squeeze generally and the philosophical bent of the Reagan administration has caused these agencies to skimp on environmental protection and focus on resource exploitation. For example, they come in every year with money for oil and gas development on public lands, leasing, and that sort of thing, but cut back on biological studies and land protection. This is of course foolish in the long run, but this is their attitude.

The great thing about wilderness is that it doesn't cost any cash to create a wilderness area, so we've been able to plow ahead with wilderness legislation despite the budget squeeze, at a time when there just weren't any new national parks being created. When you create a national park, you need more people to administer it; when you create a wilderness area, you probably need fewer people, because you're not in there trying to sell timber.

SIERRA: *I understand that certain western senators and members of Congress have asked you to stay on your own turf where wilderness issues are concerned. How do you respond to them and to other western residents who resent an easterner's efforts to preserve wildlands?*

SEIBERLING: First of all—as I point out when I get this usual line of attack—these are public lands that belong to all the people of the United States. And

they have an interest in it, just as the people who live in a particular state do. Secondly, I point out that we are very conscious of the interests of the inhabitants of the local area, and that we make a great effort in the Interior Committee to hear their points of view and their concerns.

The other thing is that a lot of western delegations are beginning to realize that the populations of their states are changing, becoming more urbanized. Many of the people who moved out west are from the east, the urban areas, and they moved out there because they like the outdoors. So the local politicians are beginning to be a little more cautious about taking a flat stand for the exploitive interests and against people enjoying the outdoors.

SIERRA: *The only complaint I've ever heard about you from conservationists is that you're sometimes too fair and straightforward with your opponents.*

SEIBERLING: I don't know; I guess my opponents don't think so.

I must say I try to hear all sides and try to make sure that legitimate concerns are recognized. I do lose patience, though, with false statements and rigidity in defending what are really selfish interests. The oil industry is one of the most greedy and selfish industries in this country, and they've been very successful over the years. They're usually not satisfied with 95 percent; they want it all. They want 100 percent. And in Alaska, you may recall, when we sent the [Alaska lands] bill to the Senate in 1979, we had eliminated from protection 95 percent of the areas of high or favorable oil potential. The one area we hadn't eliminated was the Arctic National Wildlife Refuge. Lo and behold, the oil industry wanted that, and they got it in the sense that we compromised and said there would have to be a five-year study to see whether there were significant oil reserves there. My feeling was that if the study showed there were, why, goodbye Arctic National Wildlife Refuge as far as the coastal plain was concerned.

Fortunately, I don't think that much has been found so far. And we did put in a provision that there had to be a study of the impact on the biology of the area,

"I think any civilized person ought to be a reader of poetry... it enhances your enjoyment of nature."

the ecology. With Watt in power then, those studies are probably not what they ought to be; nevertheless, they're there. Anyway, the oil industry doesn't have much use for me, and that's mutual.

SIERRA: *Why did you decide to retire?*

SEIBERLING: I see the challenges ahead of us as being very big and difficult ones that are going to require a lot of attention and work for a long time. That's a job for a person who's young enough to stick it out and who has the energy to carry on the fight. At 68, I realize that I don't have the energy I used to have. I went through a major operation last year, and that makes you think about the fact that you're mortal. I've got to retire from this place sometime. It seemed to me that the [election] year in between the presidential elections was a good time to try to get a good person elected in my place, and I think we're going to succeed in that.

SIERRA: *What are the issues you hope your successor on the Public Lands Subcommittee will take on?*

SEIBERLING: The main issue—aside from completing RARE II national forest wilderness designations in states such as Idaho, Montana, and Colorado—would be to start work on the BLM wilderness proposals. The BLM lands are some of the most wonderful areas in the country. Many of them are of national park quality. So I would hope that whoever succeeds me on the Public Lands Subcommittee and whoever's on the committee itself would make that a very high priority.

SIERRA: *At this juncture, what advice would you give people in the environmental movement?*

SEIBERLING: To realize the tremendous power of public opinion in a democratic society, particularly if you're on the right side; but at the same time to realize that you have to keep working at it.

When people come to me and tell me they're so sorry I'm leaving Congress, I thank them for their kindness, but tell them, "You know, this is a continuing process, and we have to get used to the idea that it's an ongoing thing and there's a constant turnover, just as there is in a business or in a family. Therefore we should always be preparing new people to assume these responsibilities, and be organized so that we can make sure we get the right people elected, and when they get elected, make sure they stay right—which is something we sometimes forget."

SIERRA: *What's next for you, personally?*

SEIBERLING: I'm going to sell my house in Washington and move back to Ohio and live in the Cuyahoga Valley. I had no other plans in particular, but the University of Akron, which is a state university, has asked me to take a chair next year at the law school. I said I didn't want to teach law. I practiced law too long ago to want to teach it, but they said, "Oh, you can teach anything you want." I said, "Okay, how about legislative process?" and they said that would be fine. So I'm going to draw on my experiences in Alaska lands and other things to give the students an idea of how Congress really works, not what you learn in civics class.

You know, considering the fact that lawyers, many of them, end up having to be lobbyists, you'd think that more law schools would teach legislative process. They teach legislative interpretation and legislative drafting, but they don't teach you how to get the bills passed—or stopped. I guess the reason is that very few law professors have had any experience in those fields. So I hope to bring that new dimension in teaching legislative process next year.

SIERRA: *I understand that you're an avid photographer and poetry lover. Will there be more time for those sorts of things?*

SEIBERLING: Yes, photography is a hobby. I always bring my camera along, not only because I enjoy taking photographs of some of the beautiful natural areas, but because it's been very helpful as a legislative tool. I have about 3,000 slides of Alaska I've taken over the years, and I had about 40 prints made of some of the key areas we were dealing with in the [Alaska lands] bill, and had them mounted and put in the Speaker's lobby. The Park Service offered to lend me some of their magnificent blowups of Alaska scenes, but I said, "No, your pictures are better than mine, but as the manager of this bill my pictures do something for me that yours don't. They have my name on them, so it shows I must know something about the subject because I was there."

Of course, I think any civilized person—particularly a person who's interested in the outdoors—ought to be a reader of poetry, because so much wonderful poetry has been written about nature, about the experience of being in nature, that it does enhance your enjoyment of it. There's no way a camera can record the marvelous sound of the waterfalls, although I guess a video camera could. But a video camera still can't give you the feel of the fresh air, the sunlight, and the spray. I often treasure having poetry in my mind as I look at such places. You get a wonderful sense of the importance of nature if you just have one of those poems in your mind, so I try to grab hold of those things when I get a chance. One of my favorite poems is A. E. Housman's "Loveliest of trees." You know that one?

*Loveliest of trees, the cherry now
Is hung with bloom along the bough,
And stands about the woodland ride
Wearing white for Eastertide.*

*Now, of my threescore years and ten,
Twenty will not come again,
And take from seventy springs a score,
It only leaves me fifty more.*

*And since to look at things in bloom
Fifty springs are little room,
About the woodlands I will go
To see the cherry hung with snow. ■*

JOAN HAMILTON, an associate editor of *Sierra*, interviewed John Seiberling in his Washington office on May 12, 1986.

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Many people consider skiing the ultimate mountain sport. With instruction and practice, almost anyone can do it; it's fun and largely dictated by personal whim. More and more, skiing's Nordic and alpine disciplines are merging, with modern experts mastering both. And for those with the years of mountain experience required to stay alive atop a sometimes stormy frozen sea, commercial resorts and groomed trails are but a threshold to far-flung back-country horizons.

Just as in backpacking, trekking, climbing, or kayaking, the total ski experience depends as much on the ambience of surrounding mountains, forests, and snowbowls as the dance of the sport itself. The following ten resorts are all scenic, comfortable, and varied enough for skiers to taste of the perfect holiday—weather and snow permitting. Whether you're looking for faster runs down packed powder and slalom gates, kicking and gliding along frosted cross-country trails, or vast, deserted wilderness, each of these spots offers a gateway to the dramatic ranges that surround them.

Skiing Guide: November/December 1986; published by Sierra, 730 Polk St., San Francisco, CA 94109 (415) 776-2211; written and photographed by Gordon Wiltsie for Sierra. Design and calligraphy by John Prestianni.

Because much of our information must be gathered in advance, we suggest that you consult your travel agent. Cover: Ultimate skiing awaits the adventurer searching for sport in the snowy terrain.



A sunrise in the Sierra Nevada is the first wonder of this skier's day.

WHITE MOUNTAINS

Mt. Washington Valley

New Hampshire's Presidential Range, New England's highest peaks, are neither as lofty nor as precipitous as their western brethren, but viewed from adjacent towns like North Conway and Jackson, they might as well be the Himalayas. Historically, Mt. Washington Valley is the East's mountaineering capital, with just a nip of danger from weather that can change overnight from sun to sub-zero temperatures.

On warmer days, serious downhillers usually flock to long intermediate and expert runs like Polecat and Lynx at Wildcat Mountain, with nearby views of Mt. Washington framed by rime-coated

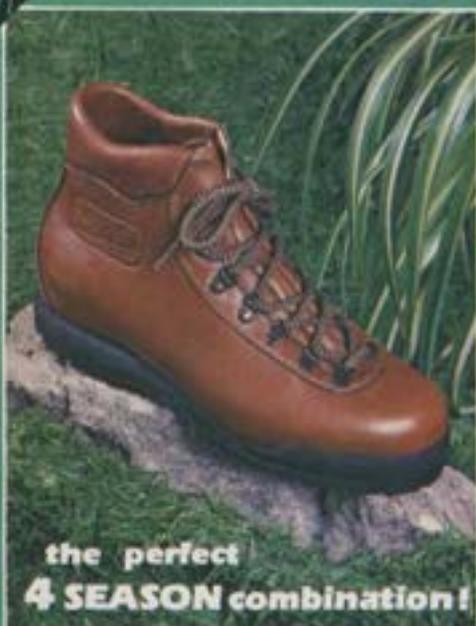
trees. Provoked by too many snow-fickle winters, Wildcat recently expanded its snow-making, capping its reputation as the valley's premier resort.

On colder, stormier days, Mt. Cranmore, Black Mountain, and Attitash are more pleasant. Though small, they all have a good mix of forested runs, areawide snow-making, day care, and a friendly family atmosphere.

For cross-country skiers, Jackson Ski Touring Federation maintains 125 miles of excellent tracks—the largest network in the East—including a ten-mile route down the back of Wildcat Mountain. Ski mountaineers who are adequately prepared for wind and cold can traverse the deserted nearby summits, including precipitous Tuckerman's Ravine on Mt. Washington, a festive springtime pilgrimage.

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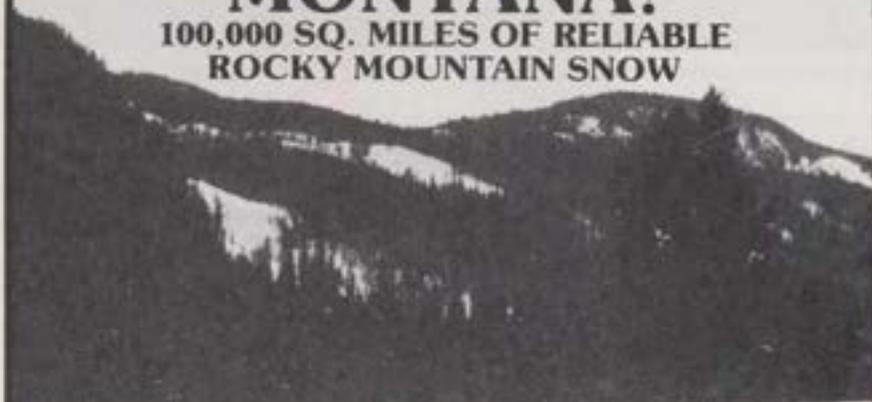
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guests come just to wriggle under down comforters at places like Christmas Farm, Thorn Hill, Buttonwood, and Wildcat Inns, or the Old World-style Eagle Mountain House. Trailways and Vermont Transit both provide transport from Boston, two and a half hours south (though you might want to rent a car in North Conway to get around the valley efficiently).

ROCKY MOUNTAINS

Ski the Summit

In the jet age, skiers from the Midwest can easily discover skiing in Colorado. Just an hour and a half from Denver airport by comfortable ski shuttles, Summit County straddles the Continental Divide amid some of Colorado's highest, shapeliest mountains. One ticket lets you ski four spectacular (and very different) downhill resorts: Copper Mountain, Keystone, Breckenridge, and Arapahoe Basin, all linked by free buses.

Expert skiers usually levitate to Arapahoe Basin, the nation's loftiest ski area, to enjoy broad powder bowls rising above both immaculately groomed and frighteningly mogulled runs to the bottom. Nearby Keystone is more family oriented, with broad intermediate runs winding through thick forests and enough supervision and fences to let kids ski where they choose, including scenic School Marm, the longest beginner run in the country. Fifteen minutes away, Breckenridge spreads over two mountains in the Ten Mile Range, and has broad intermediate ridges and valleys that often catch late-season powder. Just below is a fun but schizophrenic town—half genuine Gold Rush/Victorian, half modern condo village. Copper Mountain is yet another change, a scrupulously planned pedestrian resort with extensive lifts, long runs, and treeline glades, including the recently opened Spaulding Bowl.

Though high in elevation, the Rockies are gentle here, with undulating cross-country terrain in every direction. Both Copper Mountain and Breckenridge have excellent groomed tracks. Numerous roadside canyons offer quiet day tours through timberline forests, past remnants of deserted gold and silver mines. Tele-markers often hike above Loveland

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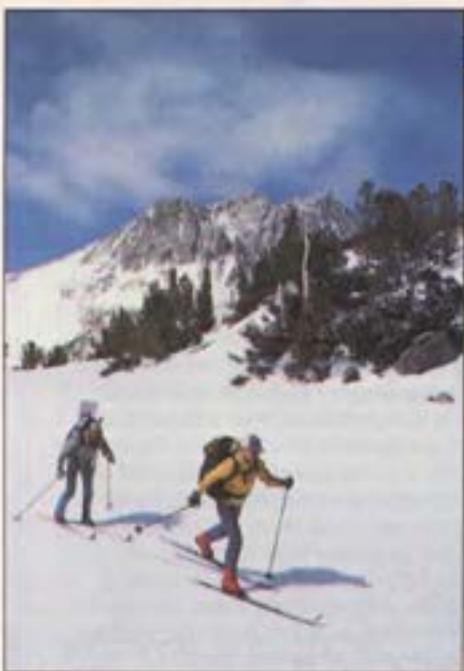
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Dramatic ranges provide the backdrop for skiing at Long Lake.

snowy terrain surrounding Mammoth—anything from deep ponderosa forests and recent cinder cones to open high country punctuated with steep granite summits. Tamarack Lodge beside Twin Lakes at the foot of the mountain maintains an extensive trail network. And just 20 miles south, at the edge of the John Muir Wilderness, lies Rock Creek Winter Lodge, now a nationally famous cross-country hideaway.

Though spread out, Mammoth Lakes village has all the amenities of a destination resort, including health clubs and numerous shops and restaurants. Accommodations range from budget dormitories like Ullr Lodge to hotels like Mammoth Inn (just across from the main lodge) and a wide range of condominiums. Somewhere in town is a cafe or dining room to suit nearly any taste or style. For those in a hurry, Alpha Aviation flies to Mammoth from both Los Angeles and Oakland.

CANADIAN ROCKIES

Banff National Park

Banff National Park atop Alberta's Rockies has long been revered for its awesome scenery—hulking, striated massifs draped with glaciers and forests and reflected in turquoise lakes.

Although the Canadian Rockies are well publicized for helicopter skiing, there are also enough lifts to keep any ski buff satisfied. Right outside Banff village is Mt. Norquay, a precipitous ridge with a few easy runs among mostly steep, mogulled pistes that delight locals and scare off most outsiders.

More relaxing is Sunshine Village, 11 miles west, where a 15-minute gondola ride takes you to the main lodge on the edge of a broad, rolling plateau. Intermediate skiers love the freedom of being able to go nearly anywhere, followed by the benevolent blue gaze of Mt. Assiniboine, Canada's Matterhorn. Even more expansive is Lake Louise Ski Area, 35 miles west of Banff, a sprawling complex of remarkably varied runs overlooking its frozen namesake and alpine giants like Mts. Victoria and Temple. Many first-timers ski with a volunteer "Friends of Louise" guide to avoid getting lost.

As an early mountaineering haven, it's not surprising that Banff should

or Vail passes for virgin powder or extended ski-mountaineering trips into adjacent wilderness areas.

Most Summit County skiers stay in the new condominium complexes (with nice restaurants and health clubs) at Copper, Keystone, and Breckenridge, motels in centrally located Dillon, or vintage hotels and bed-and-breakfast inns in old Breckenridge.

SIERRA NEVADA

Mammoth

If nature set out to build a ski mountain, chances are she'd copy Mammoth Mountain atop the Sierra Nevada's dramatic eastern crest, just south of Yosemite and six hours from Los Angeles. This old volcano sits at a unique weather funnel and attracts California's deepest, most consistent snow—enough to ski from early November through July 4 of an average year.

Hallmarks of Mammoth are its expansive upper slopes, far above treeline, with next-door views of the fanglike Minarets, Ansel Adams Wilderness, and Mono Lake. While experts never tire of the steep upper cornice, others are equally enraptured by scores of nicely groomed, tree-lined lower slopes.

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Clair Tappaan Lodge is located high atop Donner Summit, and is approximately four hours from San Francisco, and the Napa Valley Wine Country. Clair Tappaan is not a hotel, but rather a rustic mountain lodge for members and their guests. A small staff is employed to coordinate and manage the operations, but the cornerstone of the lodge is the willing cooperation of all. Bring your own bedding.

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also offer spectacular backcountry and Nordic skiing. Hundreds of trails lead across frozen lakes and up remote valleys in the park, including one to Skoki Hut, seven miles from Lake Louise.

Like the Ahwahnee or Timberline lodges, Banff Springs Hotel is a special place that every aficionado of decadent mountain luxury should visit at least once. Banff is just an hour and a half west of Calgary International Airport, which has daytime shuttle service. It might be worth renting a car, however, to visit adjacent Jasper National Park, another jewel of the Continental Divide.

GREEN MOUNTAINS

Stowe

Stowe, Vt., has been a lodestone for expert skiers since the early 1930s. Equally attractive is this quintessential New England village nestled in the gently rolling Green Mountains. Stowe is proud of its well-kept clapboard and red brick houses clustered around a classic, white-steeped church, and has managed to disguise the modern developments skiing has lured to town.

Mt. Mansfield, the highest summit

in Vermont, is revered for its famous Front Four runs—Lifeline, National, Goat, and Starr—which remain meccas for racers in training. A new quad high-speed chair has shortened lift lines, while extensive snow-making softens the sometimes icy-blue sheen of many runs.

Even before ski lifts came to Stowe, the Civilian Conservation Corps was cutting runs down Mt. Mansfield for cross-country pioneers who hiked up the mountain. Two of these runs, Teardrop and Bruce, on the edges of the modern resort boundary, still offer telemarkers a nice backcountry experience. Even more famous are the Nordic lodges here. Trapp Family Lodge, run by the famous *Sound of Music* singing family from Austria, is the oldest in North America, with 60 kilometers of groomed tracks.

Stowe can be reached via shuttle bus from Burlington airport, served by many carriers. Amtrak stops at Waterbury, a 15-minute taxi ride away. Shuttles also connect Stowe with Mt. Mansfield, but a car is useful to enjoy the many good restaurants and exuberant nightlife here.

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FRENCH ALPS

Chamonix

No serious skier has really seen the world without a visit to Chamonix, nestled below Mont Blanc and Europe's most spiry peaks.

One unusual feature at Chamonix are the great *telepheriques* (gondolas) that shoot to the top of rocky needles on either side of a deep, glaciated valley. From Brevant, Aiguille de Midi, and the Col du Montets, skiers can choose between long, easy runs winding by crystalline mountain vistas and world-class one-day mountaineering descents, like the Vallée Blanche down the spectacular Mer de Glace (a glacier) or the Pas de Chevre ("goat track"), a steep, narrow couloir at the very foot of a towering granite minaret.

Beautiful cross-country ski trails wind through the lower conifer forests between Chamonix and Argentière. As in the rest of the Alps, numerous alpine huts—some clinging to high ridges—welcome individuals and guided parties for multiday backcountry trips, including the world-famous, week-long Haute Route, from Cham-

onix to Zermatt, beneath Switzerland's Matterhorn.

Chamonix village itself is one of Europe's prettiest mountain towns, with accommodations to match the budgetary extremes of both impoverished mountaineers and fur-wrapped high-society. In between are numerous family-run establishments, including Hôtels Gourmet and Vallée Blanche, with nice rooms and affordable prices. A little more posh is Hôtel Mont Blanc. Most skiers reach Chamonix on their own, taking a bus from Geneva, but if you feel intimidated speaking French, consider a package ski vacation.

WASATCH MOUNTAINS Snowbird and Alta

Ask any devoted downhiller where to find the best powder and you'll likely hear about Little Cottonwood Canyon in Utah's Wasatch Mountains. Just half an hour from Salt Lake City, the area is home to two spectacular resorts: Snowbird and Alta. The Wasatch rise like sentinels for the Rockies, and the canyon, a magnet for snowflakes desiccated from their journey across the Great Basin, is piled deep with drifts of the world's most gossamer skiing snow.

Snowbird alone rates as a premier ski destination, famous for awesome, steep open bowls and secret chutes serviced by an impressive aerial tram. Half the fun here is exploring new and ever more challenging terrain, either down the sharp ridge dividing Peruvian Gulch and Gad Valley bowls or on the steep headwalls encircling them. Some runs are safe to ski only when the powder comes far enough up your thighs to slow you down! Those less addicted to adrenaline usually stay in the canyon bottoms, on runs like Election or Bassackwards.

Cross-country skiers can also enjoy Wasatch powder on trail networks below each downhill area, and some of the higher bowls—reached either by hiking or helicopter from the summits of higher lifts—are a smoky backcountry paradise.

Lodging in Little Cottonwood Canyon is limited to concrete condominium towers at Snowbird, or small lodges perched between avalanche chutes at Alta (sometimes you can't even leave your room!). Food is mostly steakhouse and Mexican fare,

and nightlife is quiet, controlled by Utah's drinking laws, which require buying "membership" to any bar or club. Regular buses and shuttles connect Cottonwood resorts with Salt Lake City airport.

CASCADES Mt. Bachelor

The Pacific Northwest often suffers from bad weather and dense snow, but one shining exception is Mt. Bachelor, near the Three Sisters, above Bend, Ore. Coastal cloudbanks sometimes slide right up to Bachelor's western flanks and stop, leaving both the summit and eastern slopes sunny and warm. When heavy snowfalls do occur, they are usually lighter and drier here than any place else nearby.

Crown of the area is Mt. Bachelor Ski Area, wrapped around a solitary volcano overlooking half of central Oregon. Wide, intermediate bowls off the summit chair are a cruiser's heaven, and lower pistes through the trees are beautifully groomed, every turn yielding hemlock-framed vistas of nearby Sisters Wilderness. A hard-charging expert might long for more terrifying runs, but Bachelor prides itself on being a friendly family resort, with day care and "tiny tracks" instruction beginning at age four.

Just across the parking lot is Mt. Bachelor Nordic Center, one of the West's top cross-country destinations. Skiers can choose from 50 km of groomed tracks or other Forest Service marked trails leading to lonely slopes below the Three Sisters and Broken Top Crater. Nearby Tumalo Mountain, a half-day tour, is considered by many to have the most dramatic accessible backcountry run in America. Skiing lasts well into summer here, making Bachelor the late-season training choice of the U.S. Nordic Ski Team.

All lodging for Mt. Bachelor is 20 to 30 minutes east, in picturesque Bend, a year-round recreation town with numerous motels and restaurants. Closest and nicest is The Inn of the Seventh Mountain, a sprawling condominium village with year-round heated pool, skating rink, and outdoor recreation program. To reach Bend, take a bus or drive four hours from Portland, or fly Horizon Air from Seattle, Portland, or San Francisco. A shuttle bus connects Bend with Mt. Bachelor.

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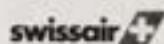
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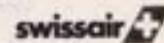
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T

CARL POPE

he candidates have come a-courtin'. The question for environmentalists is how to make it an affair to remember.

In his 18 years as senator from California, Alan Cranston has compiled an impressive record on foreign policy, taxation, social services, civil rights, education, and veterans affairs, among other issues. But when his re-election campaign launched its first wave of television spots in April, it was Cranston's environmental credentials that got first billing.

A month later, in the closing days of a hotly contested Republican Senate primary for the right to challenge Cranston in November, Rep. Ed Zschau flooded the state with direct-mail letters boasting that he alone among the GOP contenders had opposed offshore oil drilling plans advocated by the Reagan administration. His literature suggested to voters one of the major reasons he should be elected: "Ed Zschau believes in protecting the environment."

Less than 24 hours after Zschau's

victory, the Cranston campaign was back on the air challenging the truth of Zschau's claims. Cranston's new spot pointed out that Zschau has been one of a handful of representatives to vote against renewing the Clean Water Act, and that he has consistently voted against amendments to strengthen toxic-waste control laws.

California is not the only state in which the environment has become a prominent issue for politicians to showcase. Perhaps the most bizarre instance this year came from North Carolina, where the Republican Senate primary pitted Rep. James Broyhill, a linchpin in the anti-environmental faction of the House Energy Committee, against David Funderburk of Sen. Jesse Helms' (R-N.C.) right-wing political operation. Using funds raised by Helms, Funderburk took to the airwaves as

After The Polls Close

Candidates now believe
that it is important and
politically profitable for them
to devote a major portion of
their campaign resources to
emphasizing their records
on environmental issues.

an environmentalist, attacking Broyhill for supporting a federal law that could result in a nuclear-waste storage site in North Carolina.

Funderburk's charges were not enough to derail Broyhill's primary campaign, but they provided another example of a significant new development in the electoral arena: Candidates now believe it is important and politically profitable for them to devote a major portion of their campaign resources to emphasizing their records on environmental issues.

COMING OF AGE WITH REAGAN

SINCE THE FIRST Earth Day in 1970, environmentalists have worked to move their issues into the political arena and publicly discuss politicians' environmental voting records. They have tried, in essence, to get political attention for these issues. Their efforts have been motivated by a few simple observations: Politicians know that voting for weaker pollution standards, timber subsidies, oil and gas leasing, or major water projects will pay off in the form of campaign contributions from corporate political-action committees (PACs). And if candidates' votes on critical environmental issues are not part of the campaign debate, most voters will not know about them, because the average voter, unlike the special-interest lobbyist, pays attention to the general drift

of the political process rather than the details. The result is bad environmental policy.

Since 1980, when it began to make a major investment in political campaigns, the Sierra Club has tried to increase voter attention and stimulate debate on environmental voting records. By endorsing political candidates and backing those endorsements with volunteer support and contributions, the Sierra Club has worked to make the environment a political issue.

The Club's remarkable success in directing attention to environmental issues is due partially to hard work, but also to two other important factors.

The anti-environmental extremism of the Reagan administration turned the environment—which had a relatively nonpartisan profile—into a very attractive issue for the Democratic Party. Reagan and his appointees created enormous public distrust of Republicans on such fundamental issues as air pollution and management of public lands. At the same time, Republican legislators were under intense pressure to "be loyal to the President," pressure that was reinforced with corporate PAC dollars, which began for the first time to flow disproportionately to Republicans. The combination was irresistible, initially. Republicans abandoned environmental issues, and Democratic candidates fashioned the environment into an often effective partisan tool.

Then a series of events sharply intensified public concern. Times Beach, Three Mile Island, Bhopal, Institute, and Chernobyl were environmental disasters that became household words. The anxiety they generated crystallized around hundreds of local events—lakes dying of acid rain, wells closed because of pesticide pollution, subdivisions vacated because of their proximity to waste dumps, repeated shutdowns and cost-overruns of nuclear power plants.

Although environmental concerns have never been confined to middle-class suburbanites, in the 1980s evidence

of dramatic concern for the environment across educational and demographic lines became too obvious to be ignored. In the aftermath of Reagan's reelection, pollsters began reporting for the first time since Earth Day that environmental issues were volunteered as being among the top two or three problems troubling the American people. More important for politicians, these surveys also suggested that voters were listing environmental concerns—particularly regarding toxic wastes—as issues that in and of themselves could cause them to vote against a candidate they otherwise agreed with.

By 1985 environmental issues had assumed a striking electoral prominence, and Republican hostility to environmental issues was beginning to break down. As Reagan's presidency draws to a close, Republican candidates are being freed (or forced) to start responding to their constituencies again, and they are finding that those constituencies are demanding action on acid rain, toxic wastes, and protection of public lands.

THE QUESTION OF CO-OPTATION

DOES THIS MEAN that environmentalists have accomplished their goal—a political system that will translate the environmental values and sentiments of the American people into public policy? Obviously not.

To achieve this goal, environmental groups must meet two major challenges of the new climate. The first is to avoid co-optation of their issues by the politicians. As 30-second TV spots become a major source of public information about environmental politics, those who make and pay for such spots may begin to control the issues. To avoid this, environmentalists will need to mobilize their human resources in the political process.

Historically, environmental groups have controlled the policy agenda by being the only ones to provide voters with information both on environmental issues and how politicians were voting on them. The message was not very intense because not much money was spent disseminating it. But the informa-

tion was credible, and it was the only message voters were receiving. In order to benefit from public concern about environmental issues, politicians had to work with and listen to environmental groups.

Now it has become important to politicians to broadcast their environmental message much more intensely than environmental organizations can do for them. Yet these candidates are still heavily dependent on corporate campaign contributions. A Sierra Club endorsement may be the most credible way to show that a candidate has a good environmental record, but if the Club cannot circulate that information very widely, it is not enough. The candidate's alternative is to vote with the timber companies and oil industry, take their campaign contributions, and use the money to produce commercials that can mislead the public.

An example: "John Jones knows you want an end to toxic dumps. That's why he voted for the Superfund in 1986." It may also be true that John Jones voted for every weakening amendment offered to the Superfund, and against every effort to strengthen it. He may even have voted against letting the bill come to a vote. But taking the risk that very few voters will know these details and giving the symbolic message "I voted for Superfund" may be more beneficial to his campaign than a Sierra Club endorsement.

If the Sierra Club is not to lose control of its issues to a blitz of television spots, it will need to strengthen its volunteer activism, the key to both credibility and

intensity. The Sierra Club's electoral program brings volunteers into the human side of American politics, and politicians are oriented more to individuals than to issues. A member of Congress is far less likely to vote to clearcut a watershed if a Sierra Club campaign worker who has explained to the legislator the importance of that watershed is sitting in the audience as the committee debates the amendment. It's not the watershed the legislator cares about—it's the volunteer. Environmentalists have barely begun to tap this potential human strength.

IN WORKING IS BELIEVING

THE OTHER major challenge that the environmental movement faces is maintaining and enhancing the quality of the solutions it offers to environmental problems. It is vital that the public continue to believe that programs advocated by environmental groups work, and that these programs benefit the environment if they are adopted.

In many political arenas, the public does not expect genuine results from whatever actions the government takes. While there may be a great deal of concern about a problem, there is also a great deal of cynicism about the proposed solutions.

Crime is one example. Voters want to reduce crime, so, depending on their mood, they may vote for more prison construction, better school funding, or the death penalty. They may have relatively low expectations of government and may be moderately cynical that these measures will produce the desired results. But because they believe in democracy, they want elected officials to represent their mood and support the measures they favor—even if this results in no perceptible decrease in crime. In this case a candidate's stand on crime is largely symbolic: It shows

that he or she shares the voters' mood and values.

Environmental policy, by contrast, has largely avoided this symbolic quality. Voters see the environment in physical terms: If a park bond is passed, they expect to see a park. If air-pollution laws are strengthened, they expect lowered levels of air pollution. In short, they still hold the political system accountable for producing results, and are much less cynical about government's ability to make a difference.

But as environmentalists move into new and in some cases more complex policy problems, public perceptions may change. Urban planning has generally not delivered its promised improvements in urban life; nor have most toxics laws and regulations. Some conservationists hailed the National Forest Management Act as a great victory, a point of view difficult to sell to the hundreds of activists currently fighting the inadequate forest plans emerging from that legislation.

One could argue, quite truthfully, that in many of these cases the fault lies with the failure of government to implement programs rather than in the design of the programs themselves. But to avoid increasing public cynicism, activists need to set higher standards for their policy initiatives. They need to ask of each bill, "If this passes, can we ensure that it will be implemented?"

Some of the tools necessary to increase the effectiveness of the solutions offered by environmental groups are already in place. Environmentalists are far more sophisticated about both the scientific and public policy dimensions of environmental problems than they were a decade ago, and they have far more experience with what works and what doesn't. But there are still several key rules that are occasionally forgotten or ignored.

First, the basis for much public policymaking is imperfect. Scientists have an imperfect understanding of environmental processes, bureaucracies an imperfect dedication to their missions, and the public an imperfectly short attention span for environmental problems.

As a consequence, environmentalists need to beware of the desire to have perfect policies when it is clear that they

To avoid increasing public cynicism, activists need to set higher standards for their policy initiatives. They need to ask, "If this passes, can we ensure that it is implemented?"

will be imperfectly executed. Park or wilderness boundaries are likely to be less than ideal, but they tend to be supported as long as they represent significant gains in protecting otherwise endangered areas. This same crude "effectiveness" test should be applied to policymaking in areas such as pollution, energy, and toxics. If the proposed policy achieves a substantially greater degree of protection for public interests that are otherwise genuinely at risk, it is probably worth supporting in place of an elaborate intellectual structure that

promises theoretical elegance but won't work in the real world.

The second rule is that transaction costs—the costs of writing regulations, bringing lawsuits, keeping records, and developing plans and documents—should be minimized. While these middlemen of public policy are unavoidable, they neither generate profit nor protect the environment. Often a somewhat less precise but simpler approach may offer the benefit of greatly reduced

transaction costs while generating greater environmental protection. In some cases lawyers' fees and reporting requirements may be more objectionable to a corporation than the cost of implementing an improved pollution-control process. To the extent that corporate resistance contributes to the nonimplementation of environmental laws, reducing transaction costs will make these laws more likely to be effective.

(The other side to the transaction-cost story is the dozens of environmental programs that have been burdened with excessive review, planning, and permitting by industry lobbies in the hope that this will delay the need for concrete, costly investment in environmental protection. But just because industry often suggests adding transaction costs to these programs does not mean environmentalists should do the same.)

The third rule is simple: Don't trust bureaucracies. They thrive on transaction costs and on the pursuit of exces-

sively complex perfection. The environment will benefit from programs to the extent that they can be designed to hold those who are regulated *directly accountable* for the consequences of their actions.

In recent years environmentalists have worked hard at the federal level to introduce "triggers" into toxics statutes. These devices say, in effect, "If the government does not have a rule that sets a standard for a given activity, that activity is forbidden." Triggers are a step toward direct accountability: They recruit the regulated industry in the struggle to get the government to act, although they also leave open industry's incentive to find loopholes in the law.

The next rule is a corollary: Incentives and disincentives work better than rules. Environmentalists have been far too cautious about adopting strategies that use taxes, fees, and similar methods, and far too enamored of complicated regulations. A good example of the use of a fee instead of a regulation is the new registration fee proposed in this year's revision of the federal pesticide law, which will pay the costs of necessary testing of pesticide ingredients.

The last rule brings us back to the beginning: We have to get our hands dirty. If we want to use public policy to protect the environment, we have to be willing to become involved in all aspects of the political process, including elections. We have to be willing to understand the personal side of politics and work at being good at it. And we have to recognize that communicating with voters requires resources, and be willing to commit those resources.

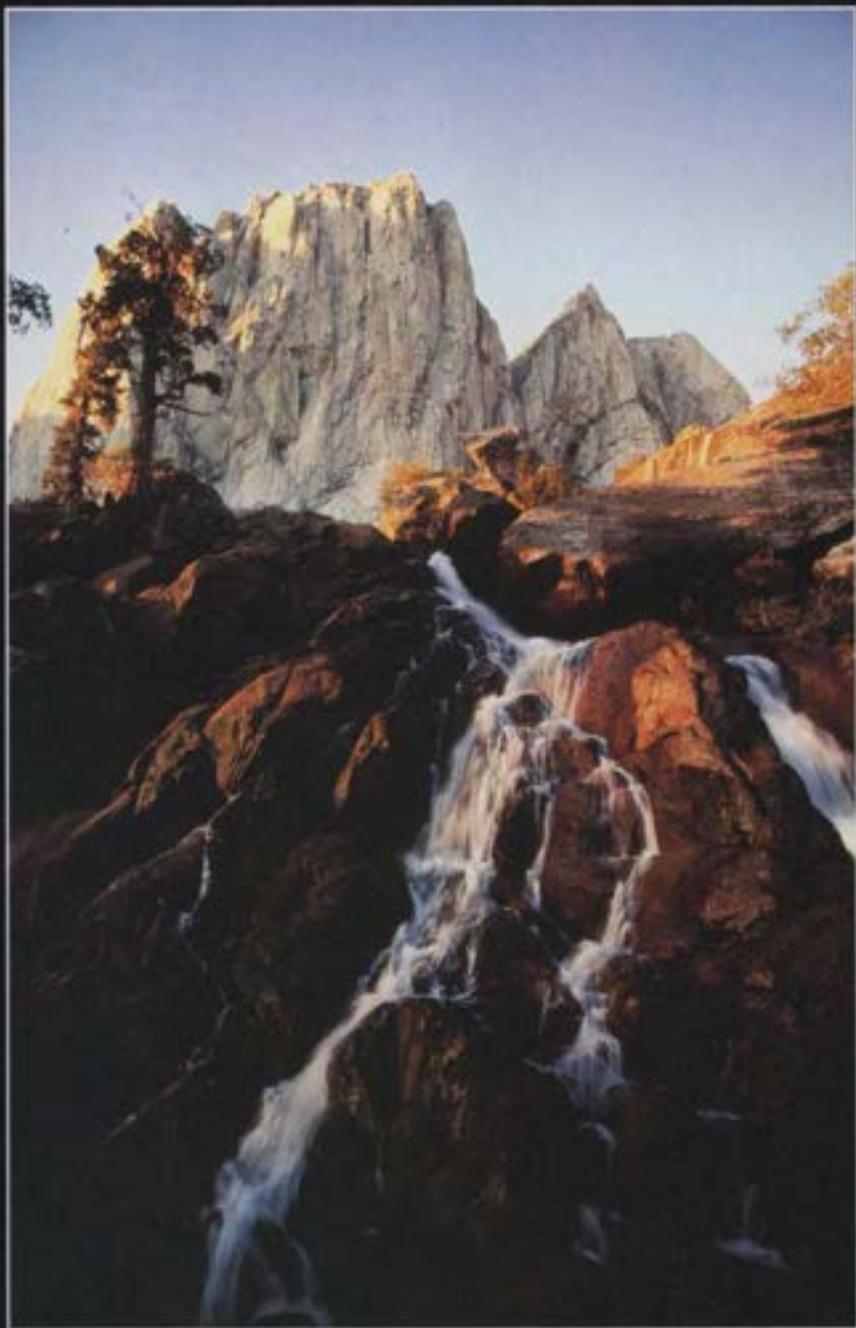
The price we pay for not holding ourselves accountable for environmental programs will be growing, widespread cynicism. Once that happens—as has already begun with toxics issues—environmentalists' ability to control their own issues will erode. As with crime, voters will begin to view a politician's words on the environment as being the most they can hope for. And when deeds become irrelevant, politicians will have less and less incentive to work with environmentalists on the arduous and controversial task of preserving our planet for future generations. ■

CARL POPE is Political Director of the Sierra Club.

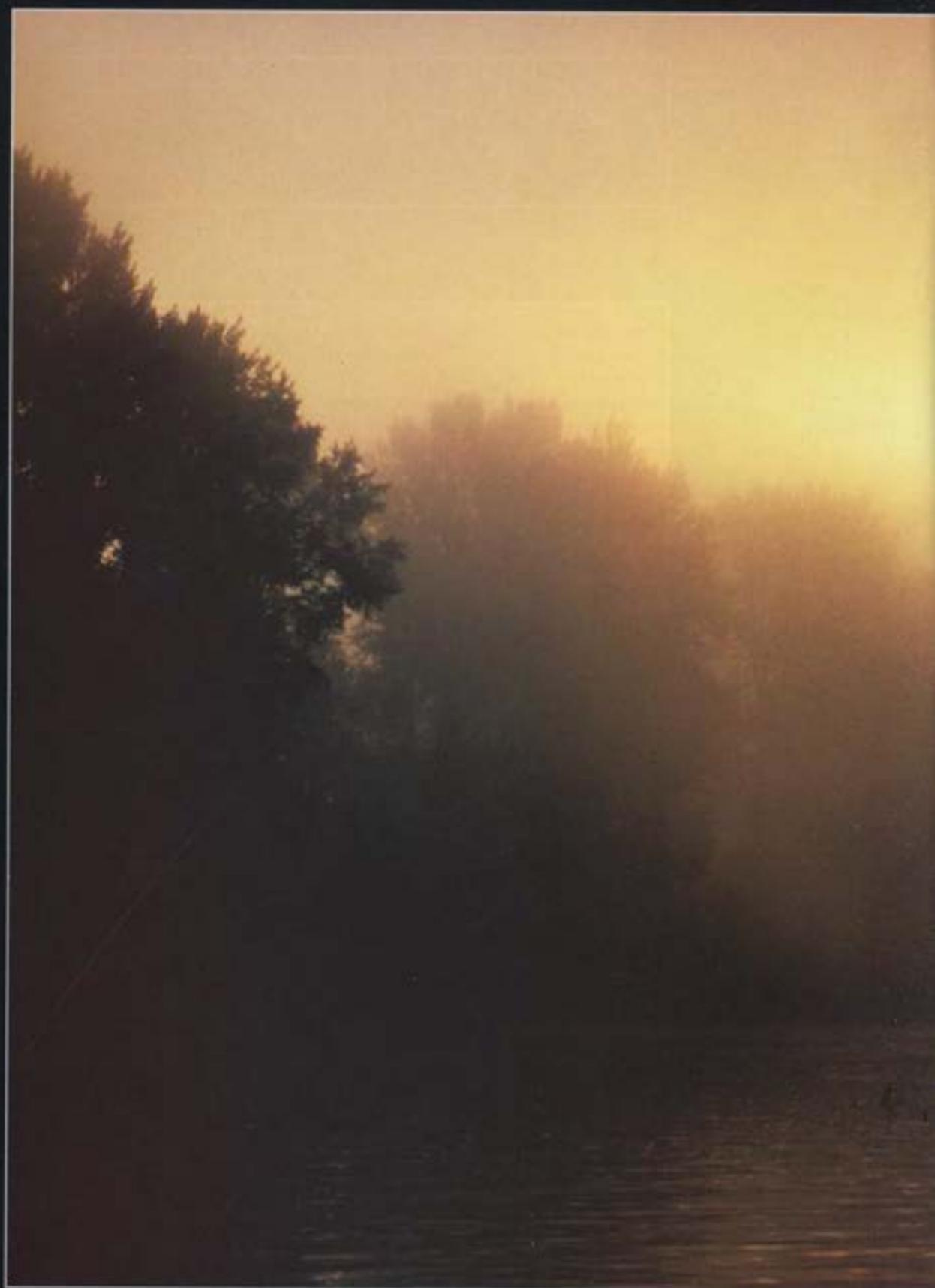
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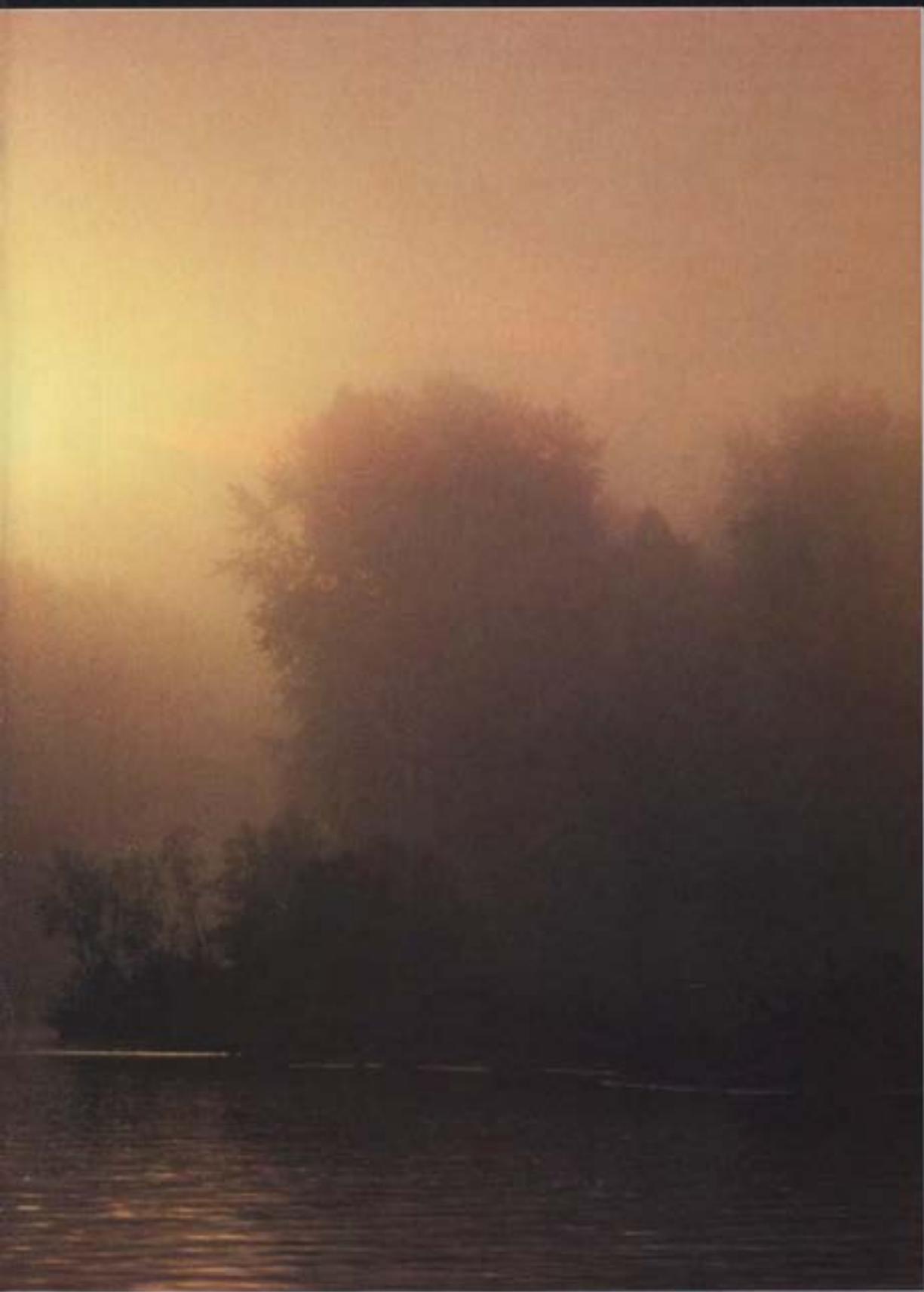
MAGIC
HOUR

Photography by
Galen Rowell

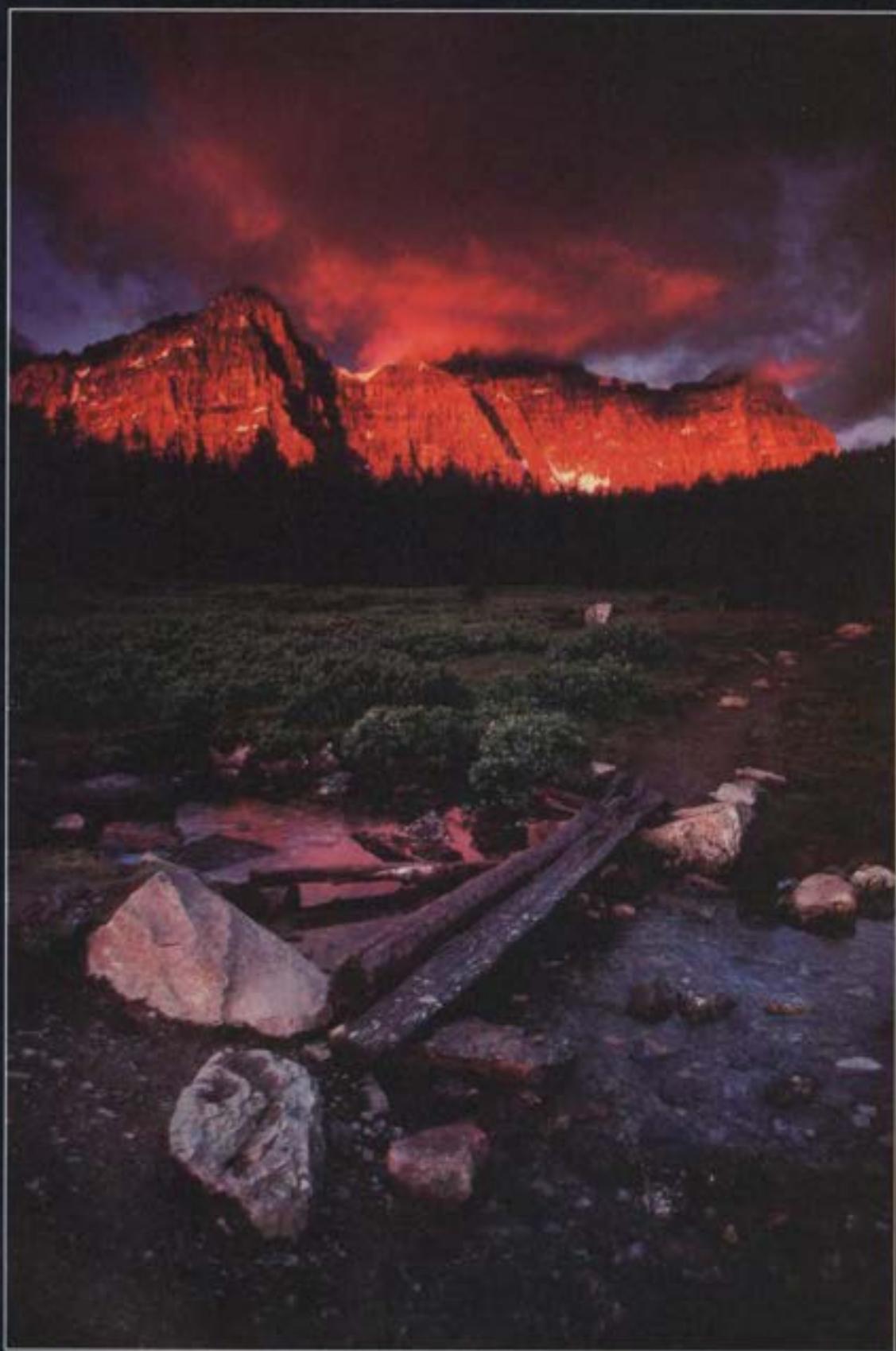


Hamilton Creek and Angel Wings





Sunrise Over Skeena River



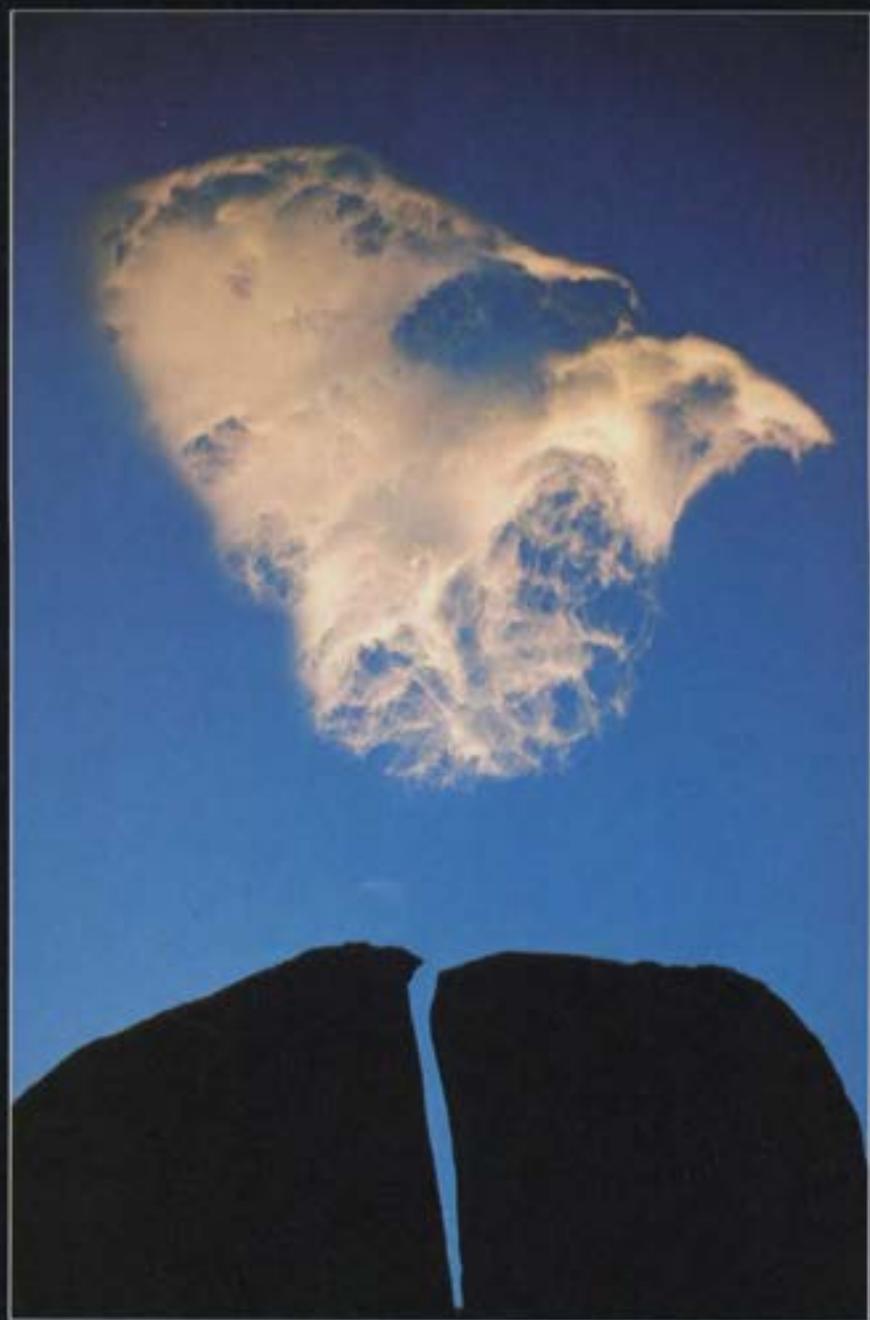
Dawn on Sentinel Pass Trail

Galen Rowell is perhaps the pre-eminent mountain photographer of this generation. Though still in mid-career, he has already produced countless memorable images. The best of these—along with his detailed account of how each came to be—are collected in Rowell's new Sierra Club book, *Mountain Light: In Search of the Dynamic Landscape*.

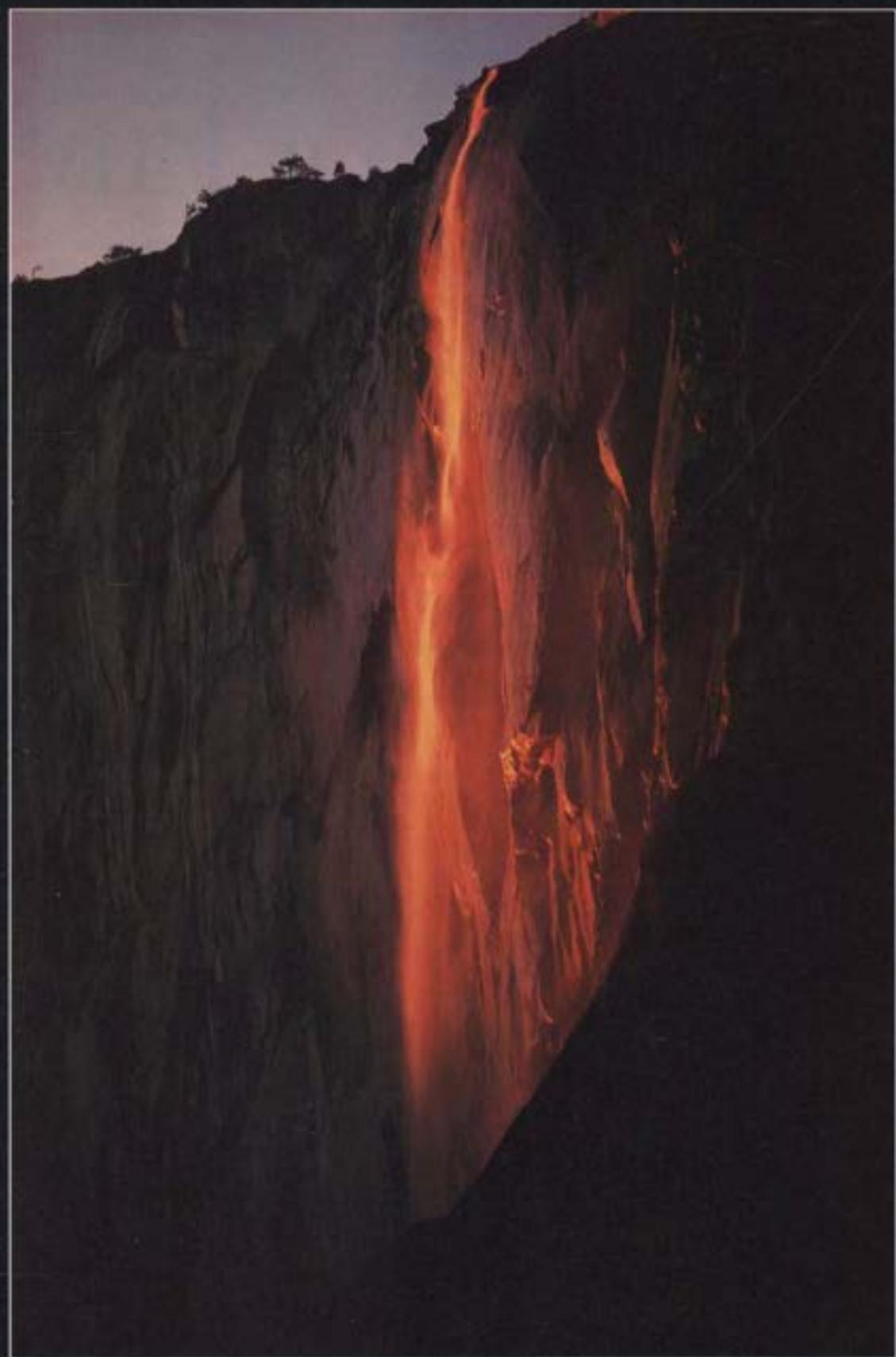
In the following excerpt, the photographer talks about the magical qualities of light as day and night intersect. The five photos published here (among the 80 that appear in *Mountain Light*) illuminate this theme.

Twice each day the cool, blue light of night interacts with the warm tones of daylight. Luckily for color photographers, these events, though predictable, are not consistent. For a full hour at either end of the day colors of light mix together in endless combinations, as if someone in the sky were shaking a kaleidoscope. This effect takes place, not directly where the sun rises or sets, but where the sun's rays beam warm, direct light onto parts of the land and sky that are also lit by the cool, reflected light

of evening. § The most interesting parts of the natural world are the edges, places where ocean meets land, meadow meets forest, timberline touches the heights. These geographical edges excite scientists in much the same way that edges of light fascinate me. Near the end of the day, transmitted light becomes ever warmer, reflected light ever colder. I look for this visual edge, especially where it is emphasized against clouds and other light backgrounds. In fact, my favorite way to photograph a geographical edge is to make it converge with a visual edge of light that will underscore the difference between the two zones. § Most amateur photographers think of landscapes simply as objects to be photographed. They tend to forget that they are never photographing an object, but rather light itself. Where there is no light, they will have no picture; where there is remarkable light, they may have a remarkable picture. When the magic hour arrives, my thoughts center on light rather than on the landscape. I search for perfect light, then hunt for something earthbound to match it with. The best images that result from this process look like visual riddles with unexpected answers; and like verbal riddles, visual riddles have been created by starting with the answers then working backward. § When the light is right and everything is working for me, I feel as tense as when making a difficult maneuver high on a mountain. A minute—and sometimes mere seconds—can make the difference between a superb image and a mundane one.



Split Rock and Cloud



Horsetail Fall, Yosemite

Mountains of Fire

Naomi Short

AT 7:52 ON A May morning in 1902, the townsfolk of St. Pierre, Martinique, heard the side of their mountain crack with an explosive roar. The volcanic peak that overlooked the island town had been spouting gas and ash for several weeks. Seconds after the crack, a huge black cloud came shooting out of the peak. Part of the cloud hung in the air; the rest came sweeping down the mountain like a glowing avalanche. Within two minutes it burned through the town to the sea, leaving all but two people dead.

Although many volcanoes erupt without causing so much harm, an explosive volcano—like the one in St. Pierre—can be one of the most destructive forces on Earth. At the same time, volcanoes are one of nature's great forces of creation. They help create land, sea, and the life-giving atmosphere of our planet. Volcanic ash contains important minerals, and turns into some of the best growing soil. The very floor of the sea and most of the world's tropical islands were formed by volcanoes.

A volcano is one or more holes, or vents, that reach deep into the Earth. Many miles underground is the Earth's mantle, the extremely hot layer of the planet where volcanic activity begins. The mantle contains magma—liquid (or molten) rock, steam, and other gases—which sometimes travels up cracks in the Earth's crust. When magma climbs up a vent and spills onto the Earth's surface, a volcanic eruption occurs.

Magma rises out of the mantle because it is lighter than the solid rock around it. Gases in the magma can make it expand even more. To see how this works, think of a can of soda pop. Carbon dioxide gas is trapped in the liquid and cannot expand. When the can is opened, the gas expands quickly, and you can feel the steady spray of soda bubbles rising out of the liquid.

Now suppose you shake the can before opening it. The soda heats up, creating more and bigger bubbles. This time when you open the can, the gases expand explosively and soda comes shooting out.

Whether a volcano will spill magma quietly and smoothly or shoot it out explosively depends on the kind of magma, the shape of the volcanic vents, and whether or not these vents are plugged by rock.

Magma is like the soda pop in our experiment. The thicker the magma is, the more slowly it releases gas.

Thick, sticky magma causes more explosive eruptions than runny lava, which lets gas escape easily, like a "normal" can of soda. The drawings below show how different kinds of magma can cause different kinds of eruptions.

The shape of the vents also makes a difference in how a volcano erupts. If the vents are very narrow, crooked, or plugged, pressure will sometimes build up until it blows out a side of the mountain. An explosion of this kind can shoot a giant cloud of ash and rock high into the sky, blocking out sunlight for miles around. Sometimes this cloud will dump thousands of pounds of ash on the ground, or mix with rain and turn into a mud shower. A very fierce explosion can cause tidal waves and flooding of nearby coasts.

Runny eruptions, on the other hand, don't really explode. Instead, magma comes flowing down the volcanic cone in rivers of lava, as magma is called when it reaches the surface of the Earth. Lava hardens as it cools, creating strange and interesting shapes.

In some places, magma will spill out of the Earth without becoming a volcano. *Flood basalts* erupt seas of lava that harden into large plateaus. *Geyzers* and *hot springs* are also related to volcanoes. In places like Yellowstone National Park, there is magma underground that hasn't hardened. When water seeps into cracks in the ground, the magma heats it up until it boils, sending hot water and steam bubbling or shooting out of the ground.

Volcanoes can change the surface of the Earth—sometimes in just one day. A volcanic eruption can blow out the side of a mountain, completely flatten it, or build an even bigger mountain. Volcanoes under the sea can create new islands overnight. This constant rearranging helps keep the surface of the Earth from becoming flat. If it weren't for the movement of solid and molten rock, all the mountains and hills would be worn down over millions of years by rain, wind, rivers, and streams.

But besides playing an important role in the Earth's history, volcanoes have been a part of human history. Like floods, tornadoes, earthquakes, and other great natural events, volcanic eruptions have been a source of many legends and tales. From Mt. Vesuvius to Mt. Fuji, from Mt. Kilimanjaro to Mount St. Helens, volcanoes have set fire to the human imagination.

NAOMI SHORT, a freelance writer living in San Francisco, wrote "Shapes in Nature" for the January/February 1986 *Sierra*.



Magma is thick and sticky when it contains a lot of silica, and explosive when it contains a lot of water (or steam). The volcano at left has little water (white circles) and little silica (blue circles), so it causes a quiet, runny eruption. Magma with more water than silica (far right) lets steam bubbles escape easily, shooting fire fountains into the air. When magma has more silica than water (middle right), it is thick and pasty, and builds up the volcanic cone. But if magma has a lot of silica and water both (right), steam bubbles are trapped in the thick liquid, and the volcano simply explodes.



Granddad of the Eastern Wilderness

Carolyn Mann

HE'S NO LONGER a professional lobbyist for The Wilderness Society, but you wouldn't know it by looking at his walls. A map of Virginia and an activist list—part of "Ernie's network"—are thumbtacked above the kitchen table. They flank a commemoration of service to the Sierra Club and the Feinstone Environmental Award presented to him in August. There's little doubt that 75-year-old Ernest M. Dickerman is still "a ball of fire" (as a friend calls him) whose retirement hasn't robbed him of his steam.

"I think it's one of the foolish things in this world not to retire while you're still alive and active," he says. "These people who keep working until finally they feel worn out are fools! Dammit, here's your great opportunity to start doing things

the way that you've always wanted to."

Since his retirement ten years ago, Dickerman has settled down on his nephew's 98-acre farm in the Virginia hamlet of Buffalo Gap. A natural teacher, he points out on a relief map that the tiny town got its name because it lies in a gap that breaks Little North Mountain into two peaks. The scenic farm butts up against the George Washington National Forest, and a few steers graze on the lower pastures around the pre-Civil War farmhouse.

But it is defending the forest, not tending cattle, to which Dickerman has devoted his retirement. The Forest Ser-

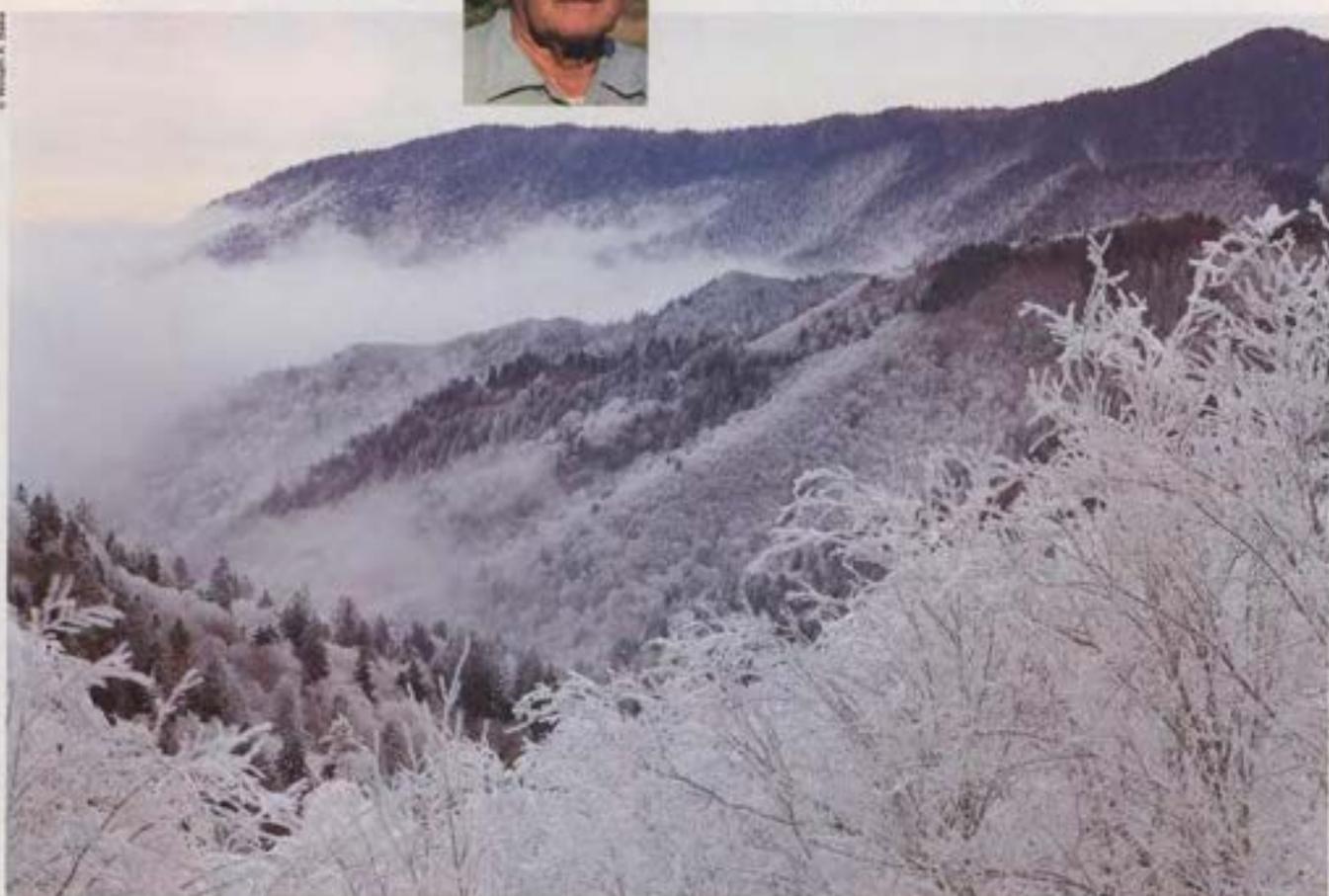
vice has proposed clearcutting 80 percent of the Washington forest, and there are plans to log in Virginia's Jefferson National Forest. "National foresters think that's what national forests are for," says Dickerman. "Why else would you have them, if not to chop the trees down?"

Since retiring, Dickerman has spent his time "wrestling with the Forest Service, trying to get them to realize what these eastern forests are most valuable for—and that isn't just for pulp wood to send down to a mill. Watch those trucks carrying logs out of the forest and see how many of the logs are hollow. Recre-



Carolyn Mann

"National foresters think that's what the national forests are for. Why else would you have them, if not to chop the trees down?"



© William A. Baker

ation is really the major use that is made of the forest, plus wildlife habitat and water conservation. But the Forest Service doesn't see that."

Dickerman has been tussling with the Forest Service for more than 50 years, in what may prove to be one of the longest wrestling matches in history. His rounds have led him throughout the Southeast—Tennessee, North Carolina, Arkansas, Missouri, Louisiana, Virginia, and Alabama—organizing and lobbying on behalf of forest preservation. Dickerman is credited with passage of the Virginia Wilderness Act in 1984, which added 56,000 acres to the wilderness system. His efforts have even earned him the nickname "granddad of the eastern wilderness."

Dickerman's distinguished career as an activist encompasses more than one piece of legislation, however. He first began doing conservation work in 1934, shortly after moving to Knoxville, Tenn., to take a job with the Tennessee Valley Authority. Fresh out of Oberlin College, he discovered in the Great Smoky Mountains "what I was looking for on this planet." An outdoorsman who liked to hike, backpack, swim, and canoe, Dickerman soon joined the Smoky Mountains Hiking Club. Old photographs show the youth, thin then as he is today, turning handstands on the crest of a mountain ridge and going swimming on Christmas Day.

"Some of us were at a friend's cabin over Christmas," he recalls with a laugh. "So we thought, 'Boy, this is the time for us to get in our December swim.' Two of us actually went in. There's a picture of us taken in color, and we look as red as pickled beets."

Dickerman spent most of his weekends, holidays, and vacations roaming about the Smokies with his pals. They never tired of testing their mettle, and developed a marathon hike/swim they called a swike. The object was to swim to one of the many islands that dot the area's reservoirs, then hike across it and swim to the next island.

The Hiking Club was more than a

Newfound Gap in the Great Smokies is already the site of one transmountain highway. A proposal to build another made Ernie Dickerman a full-time activist.

group of people who liked the mountains. Formed in 1924 to promote the proposed Great Smoky Mountains National Park, the fledgling group headed a citizens' movement that led to the establishment of three national parks: the Great Smokies, Shenandoah, and Mammoth Cave. Dickerman recalls that one of his pals in the Hiking Club, attorney Harvey Broome, was "the man who in that part of the country developed conservation as an active program." The two met on Dickerman's first trip with the club, and soon became friends.

In 1935, Broome, Benton McKaye and Bernard Frank (both foresters for the TVA), and Bob Marshall (who was then director of forestry for the Interior Department's Office of Indian Affairs) founded The Wilderness Society. Broome brought Dickerman into the organization as a charter member.

"Originally, they had no dues," Dickerman says. "You just said, 'Dear Wilderness Society, I wish to be a member.' And they'd write back, 'You're enrolled. We're delighted to have you.'"

It was during the years leading up to

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World War II and directly afterward that Dickerman became increasingly involved in advocacy for the national parks and forests. With Broome he served on the Hiking Club's conservation committee. They were determined to keep an eye on development of the new Smoky Mountains National Park, and to make sure that construction of roads, accommodations, and "concessionaire's crap" was kept to a minimum within park boundaries.

In retrospect, Dickerman calls this early bout with a government agency a

draw. "Fortunately, in the Smokies the Park Service decided that there would be no commercial development within the park," he explains. "But it was unfortunate that the Civilian Conservation Corps was allowed to put a dozen camps in there. The CCC was one of the best things that any government anywhere ever did, but they overdid it in the Smokies. They built endless numbers of fire roads up every big hollow, and too damn many automobile campgrounds, and 650 miles of artificial Park Service dump trails. Guys like me

considered it a devastation of the park."

But it wasn't until after the war that Dickerman and his colleagues saw a change of attitude in those entrusted with managing the nation's wildlands. By that time, Bob Marshall had died. Those who succeeded him seemed less committed to conservation and forest preservation. Where the Forest Service had been adding wildlands to its system, lands were now being removed. World War II technology had made rough-terrain vehicles a reality, and wilderness areas previously thought inaccessible could now be logged at a profit.

Dickerman and other conservationists were galvanized by the Bureau of Reclamation's attempt to build a dam at Echo Park in Dinosaur National Monument on the Utah-Colorado border during the early 1950s. "Everyone who was interested in national parks said, 'We're not going to let those monkeys build a dam in a national park, no matter if it is called a monument,'" Dickerman says. "So a number of organizations, led by the Sierra Club and The Wilderness Society, began to build this coalition nationwide—not only among other national groups but among regional and local ones too. We all pitched in."

The dam was blocked five years later, a victory for what Dickerman calls the American citizen conservation effort. Not only had different organizations learned that there was strength in numbers, conservationists began to think in terms of new legislation that would afford wilderness areas permanent protection. In 1956, immediately after the fight for Dinosaur, Howard Zahniser (then the executive secretary of The Wilderness Society), Broome, and George Marshall (Bob's brother) drafted legislation to do just that.

"It took us all those years, from 1956 to 1964, to get the bill passed," Dickerman says. "And I was as much in the middle as someone who wasn't in Washington could be, thanks to Harvey Broome. We knew what was going on."

It was after the passage of the Wilderness Act in 1964 that Dickerman's professional status began to evolve. The Smoky Mountains Hiking Club's conservation committee, which Dickerman then chaired, decided they'd try to get as much of the Smoky Mountains as possi-

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ble included in the national wilderness system. In the summer of 1965, less than a year after passage of the Wilderness Act, they had a map and a proposal, most of which Dickerman had written. But Park Service Director George Hartzog threw them a curve by announcing a plan to build a new transmountain highway through the middle of the Great Smokies from Bryson City, N.C., to Townsend, Tenn.

"We picked up the papers, and here this thing was," Dickerman says. "Well, of course, the way we had developed our wilderness proposal, there weren't any more roads being built, least of all any transmountain roads. So the stage was set right then and there."

At the same time, the Park Service decided that the first public hearing on the national wilderness system would concern the addition of the Great Smoky Mountains. "Zahnie, Harvey, and the rest of them [in The Wilderness Society] knew they had to have somebody running around full-time down there in this southeastern country, particularly North Carolina and Tennessee, if we were going to defeat the George



A youthful Dickerman found the Great Smoky Mountains to be "what I was looking for on this planet." He shows his enthusiasm by turning handstands at 6,600 feet atop Mt. Le Conte.

Hartzog road, and if we were going to get a big part of the Great Smokies put into the wilderness system," Dickerman recalls.

In June 1966 he quit his job as production manager for a plastics molding firm and joined the staff of The Wilderness

Society as a grassroots organizer. His immediate task was to travel around North Carolina and Tennessee rallying support for the wilderness proposal and against the transmountain road. "I was doing the most basic form of grassroots work you can do," he says, "informing the average citizen, 'Here's a problem, and we hope you will be interested. Here are the things that need to be done now to solve the problem. Would you like to help?'"

Leroy Fox, a former president of the Hiking Club, remembers the days when Dickerman led the fight against the transmountain highway: "Ernie was more, well, . . . fanatical may not be the right word, but he was very outspoken and a vociferous leader. Harvey Broome led us in the direction of Congress and PR work. Broome was the force guiding Dickerman," Fox notes, "but Ernie was the sergeant. He came up with the ideas and carried them out."

To help publicize the detrimental effect the road would have on the park, Dickerman led a one-day, 18-mile hike along part of the 35-mile route of the proposed road. "It was really a boot-

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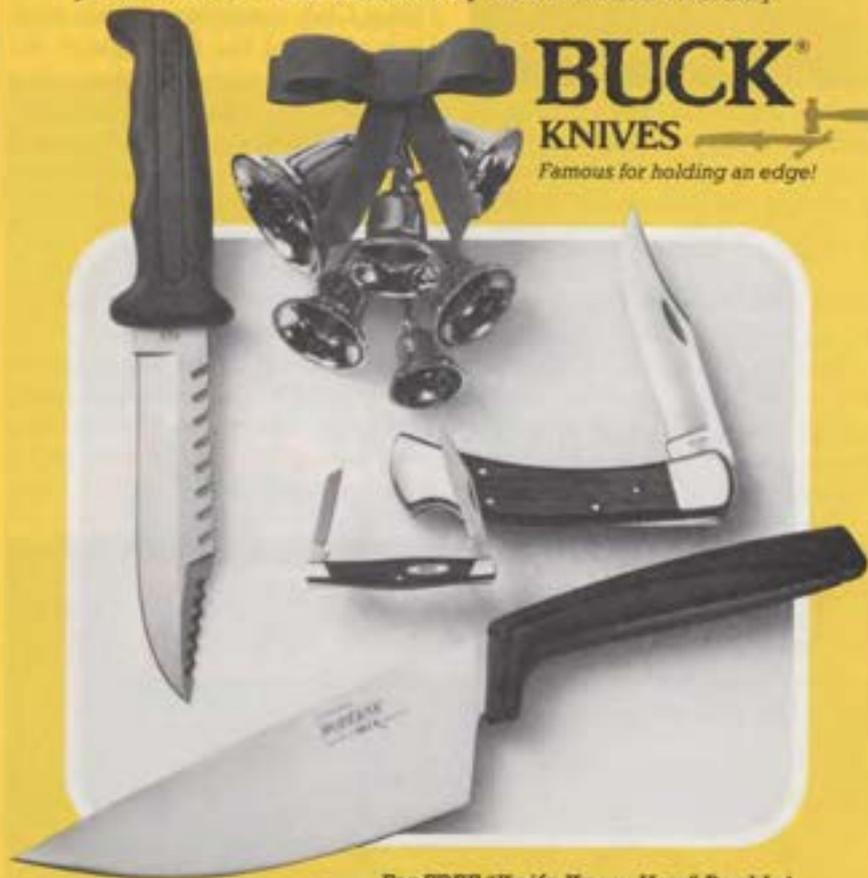
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straps operation," Fox says. "Ernie put out brochures—fliers, aerial photos of the road route, et cetera. He did it all," including delivering a rousing speech the morning of the hike.

More than 600 people showed up that October morning and trudged along the paths Dickerman had fallen in love with 30 years before. And more than 300 people finished the hike with him, an event that received national media coverage.

At the public hearings that followed, public testimony against the road was overwhelming. George Hartzog didn't throw in the towel until 1971, however—two years after Dickerman had gone to work as a lobbyist for The Wilderness Society in Washington.

Dickerman took with him a valuable lesson from his experiences in Tennessee: Land management agencies are best handled by getting Congress to pass a law, or by getting a committee to tell them what they should or shouldn't do. Fox says Dickerman had become a well-matured conservationist by that time. He no longer carried picket signs; he had learned to woo congressional staffers. He was always "punctiliously courteous" and unflappable. If he encountered defeat, says Fox, "he went on to the next issue. He usually had several irons in the fire."

But Dickerman had not abandoned the grassroots. "I divided my time between doing grassroots work, wrestling with the land management agencies, and lobbying Congress," he says.

Mary Burks, the Alabama Conservancy's vice-president for conservation, met Dickerman in 1969, when her organization was trying to get 12,000 acres of forest placed in the wilderness system. Burks feels he gave more of himself than his job required.

"Ernie was a bottomless well of information on the wilderness movement, resource documents, helpful people and organizations," she says. "He recommended places to stay, met us for consultations day and night, kept us posted on hearings, accompanied us on visits to our congressional delegations, lobbied for us when we could not, helped us write bills, then testified with us before congressional committees."

Dickerman stayed in Washington un-

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til 1976, when he and most other top staff of The Wilderness Society resigned to protest the firing of Stuart Brandborg as executive director. (Dickerman admits, though, that he was going to retire anyway.) After retiring, he served as president of the Virginia Wilderness Committee for seven years before turning the job over to someone else.

He continues to be active in the conservation movement, helping to organize the Coalition for Virginia Wilderness, an organization that promotes the cooperation and coordination of such diverse groups as Trout Unlimited and the Virginia Chapter of the Sierra Club. Dickerman also continues to lobby on behalf of Great Smoky Mountains National Park, which 20 years after the first public hearings has yet to be afforded wilderness protection. From 1977 to 1980, he worked with the Sierra Club's Conservation Director Doug Scott and the Alaska Coalition to gain passage of the Alaska National Interest Lands Conservation Act.

Priately, Dickerman is somewhat skeptical about the evolution of the conservation movement. "It began to be apparent in the 1970s that we were going to need more technical expertise than we had before," he says. "It wasn't that we didn't know what we were talking about—we did—but the problems were getting more technical, like the question of managing the national forests.

"So it was right and proper that these organizations begin to have technical staffs—people who have the expertise, but maybe not the knowledge and understanding of working with the grassroots," Dickerman adds. "Perfectly fine people, perfectly competent for the purpose they were hired for—but they had no idea how to reach the people. And the grassroots is still the reason we win. If it weren't for the grassroots, the technical guys couldn't even get a hearing."

So Dickerman is back on the telephone again, sometimes nightly, spurring leaders all over the South to action. And for the neophyte activist looking for advice, Ernie is always ready to swing his green hightops on the front porch rail and explain how to get a hearing on The Hill. ■

CAROLYN MANN is Sierra's editorial assistant.

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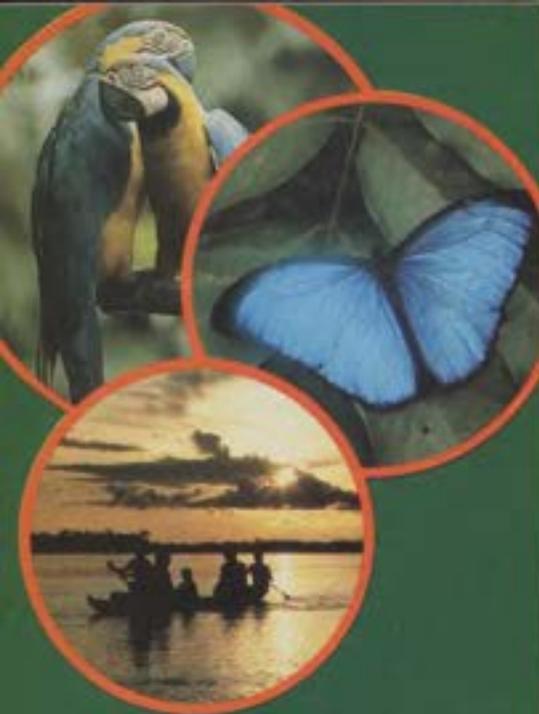
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ELDORADO MOUNTAIN, COLORADO

Visitors to Eldorado Canyon State Park, one of the best-known and most scenic rock-climbing areas in the country, may soon be looking into a gigantic gravel quarry.

The proposed quarry would cut into the northeast flank of Eldorado Mountain, just outside the park and only 20 miles northwest of Denver. If fully developed, the quarry would become the largest scar on the Colorado Front Range. Its two pits would be big enough to swallow 14 Great Pyramids, and hauling out the gravel would take 70 years for one 20-ton truck pounding down the park access road every five minutes.

Despite heavy use—more than 141,000 visitors to the state park in 1985

—the area provides a home for golden eagles, prairie falcons, black bears, and mountain lions. More than 11,500 acres surrounding Eldorado Mountain are protected from development by state or Boulder County laws.

But the mountain itself remains vulnerable. A seven-acre quarry already exists on state land, and its operator, the Wesley D. Conda Company, has asked the state to approve a permit for a 203-acre quarry. The new operation could mine 1.9 million tons of gravel a year. If the project is approved, by the year 2056 the scar could extend 2,000 feet from

the base of Eldorado Mountain to the summit.

Shortly after the proposal was made in October 1985, opponents formed an organization called People for Eldorado Mountain. The group held a rally,

gathered 8,000 signatures on anti-quarry petitions, and recruited experts to attack Conda's mining and reclamation plan.

People for Eldorado Mountain won the first round. In January, Colorado's Mined Land Reclamation Board denied Conda's application because it lacked county approval.

Conda promptly filed suit in state court, asserting that the county had no jurisdiction over state land. And yet the company has since applied for county approval of a smaller, 67-acre quarry near the Eldorado Mountain site. The lawsuit is on hold until a decision is made on the smaller quarry late this year.

Even if Conda's ar-



Eldorado Mountain's existing quarry (center left) would be expanded, and another would be built higher and farther west.

guments are rejected in the county proceedings and courtroom, People for Eldorado Mountain will still not have won the final victory. To preserve the mountain permanently, the legislature must make it part of the state park system, which would involve transferring the land from the State Board of Land Commissioners to the Division of Parks. Such a move could take years.

But the group's leaders, each of whom has worked hundreds of hours on the issue, remain undaunted.

"The Eldorado Mountain area is one of the most beautiful in the world," says JoAnn Dufty, president of People for Eldorado Mountain. "A huge quarry scar would be a terrible legacy to leave for those who come after us."

—Glenn Randall

A Few Neighbors Tackle a Giant



Despite a small membership, Citizens for Control of Toxic Waste (above) is determined to shut down a toxic waste dump that has recently moved into its quiet agricultural community.

GRAND VIEW, IDAHO

Citizens for Control of Toxic Waste does not boast a large membership. The group's first meeting in 1983 drew only a dozen people. Since then membership has grown to about 15.

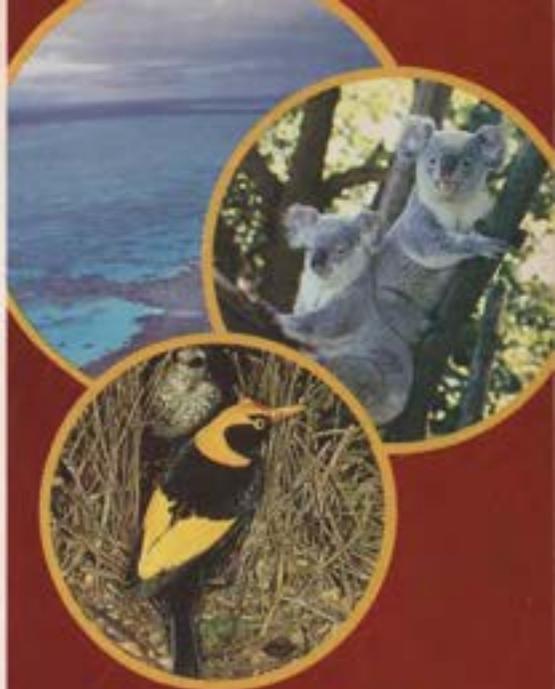
Although members haven't come easy, the group has had no trouble defining its goal: to shut down the hazardous waste dump near the sparsely populated agricultural community of Grand View, Idaho. More than 78,000 tons of toxic chemicals—including acid, heavy metals, PCBs, and DDT—have been buried at the site.

The EPA reported last year that chem-

icals leaking from a dump at Envirosafe Services, Inc., had contaminated a shallow groundwater aquifer. Although a previous owner was responsible for the leaks, the EPA ordered Envirosafe to develop a plan to stop the pollution. State tests have not turned up any chemicals in drinking wells, but residents are concerned.

"We may not have to worry about our water now, but I'm worried about what we're going to leave for our children," says Connie Collett, a Grand View resident who helped organize the citizens' group.

For the past three years, Citizens for Control of Toxic Waste has been holding public meetings and writing and tele-



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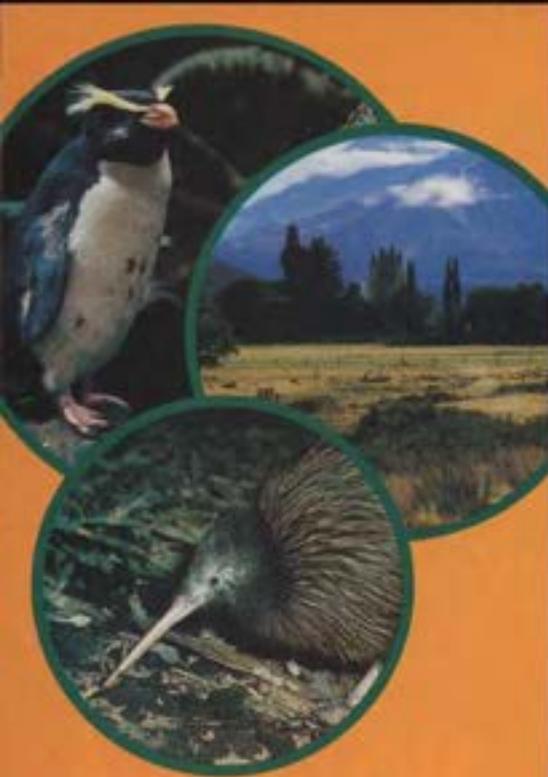
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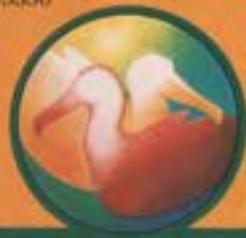
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phoning legislators and other public officials about the dump. One of its biggest successes was a meeting held in 1983 at the county seat, Murphy. The meeting drew more than 300 people; Grand View has a population of just 354.

"Because of that meeting, our county commissioners started to get really involved," says Collett. "It brought home to them the fact that people are concerned about the dump."

The meeting also brought the point home to the state and the EPA. "They started having a lot of public meetings after that," Collett says. State and EPA officials admit that the group led them

to scrutinize EnviroSAFE's operation more carefully. The result: \$337,350 in fines against the company since 1983 for seven violations of federal regulations.

For the time being, the dump has a temporary operating permit from the EPA. Public hearings on a ten-year permit are expected to begin in November, and Collett says her group will step up its activities in the hopes that the EPA will deny the permit. "We're doing everything we can to make the EPA see the effect EnviroSAFE is having," she says. "We haven't given up hope yet. We have to keep trying to close the dump down."

—Andrew W. Garber

Who Wants a Nuke After Chernobyl?

NEW HILL, NORTH CAROLINA

Last April, while most of the nuclear industry shuddered over news of the accident at Chernobyl, executives at Carolina Power & Light were rejoicing. They had just received a preliminary go-ahead from the federal government for their Shearon Harris nuclear power plant.

But the future of what may become the world's first post-Chernobyl nuclear plant is not quite assured. While it has a start-up permit from the Nuclear Regulatory Commission

(NRC), the facility still needs an operating permit. And a growing number of local citizens are trying to block that permit through demonstrations, agency appeals, and the courts. The Durham (N.C.) *Independent* called it "one of the largest citizen movements this area has seen in years."

Soon after the Chernobyl accident, local officials began to speak out. The Durham City Council, the Orange County Commissioners, and the town councils of Chapel Hill, Carrboro, and Hillsborough all



At a post-Chernobyl press conference, Wells Eddleman of the Coalition for Alternatives to Shearon Harris explains why a nearly built nuclear plant should never be completed.

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voted to oppose the opening of the nuclear plant.

The Chatham County Commissioners' decision in May to withdraw their support for approval of the utility's emergency evacuation plan was a controversial one. Because the county lies within a ten-mile radius of the plant, the commissioners had to approve the plan before the NRC could issue an operating license. Chatham County's decision meant Carolina Power & Light would have to draw up a new plan, possibly delaying start-up by six months. So the utility wooed commissioners with offers of new fire trucks and specialized medical equipment to handle radiation emergencies. In July the commissioners rescinded their vote against the evacuation plan.

The nuclear plant's history has been controversial also. Estimated construction costs for the 900-megawatt Shearon Harris plant have risen from \$259 million in 1971 to more than \$3.6 billion, and construction is ten years behind schedule. The utility says consumers will face a 25-percent rate increase when the new plant comes on-line. Moreover, there have been reports from workers of construction flaws, falsified radiation-exposure records, and employee drug problems—claims dismissed by the NRC when it issued the plant's start-up permit last April.

This summer, Carolina Power & Light has been busy polishing the tarnished image of its nuclear plant. One month it spent more than \$200,000 on a media campaign designed to convince the community of the plant's safety and the high cost of alternatives.

One Chapel Hill-based citizens' group is still determined to block the plant, even though the facility is nearly complete. The Coalition for Alternatives to Shearon Harris (CASH) has proposed converting the plant's boilers to use coal rather than radioactive fuel.

In free television ads obtained under the federal Fairness Doctrine, CASH admitted that conversion to coal boilers could cost as much as \$1.5 billion, but noted that the cost of dismantling the plant at the end of its 30-year lifespan could be even greater—approximately \$1.8 billion. In addition, disposing of nuclear wastes generated by the plant

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would cost at least \$4.5 million a year, according to CASH.

With four local offices and more than 25 full-time volunteers, CASH recently completed a three-week campaign aimed at convincing the public, the governor, the state utilities commission, and the NRC that Shearon Harris should not be granted its operating license. The

NRC is expected to make a decision on the plant soon.

Meanwhile, in its struggle to prevent what has nearly become a *fait accompli*, CASH takes heart in one historical fact: The Zimmer nuclear plant in Cincinnati, Ohio, was 97-percent complete when it was converted to a coal-fired facility.—*Mary James*

environment (ACCCE), which requested a public hearing on the company's permit application.

WR Metals produces inorganic arsenic acid, which is used as a wood preservative. A potent carcinogen and potential mutagen, arsenic acid is on the EPA's list of hazardous pollutants. But because there are no federal emission standards for arsenic plants, regulation is left to individual states.

According to the DEQ, WR Metals had been emitting up to .17 pounds of arsenic per hour during 1984 and '85. At the DEQ's request, the company applied for a permit to emit a maximum of .2 pounds of arsenic per hour, or 384 pounds a year.

At a November 7 public hearing, ACCCE members cited the health effects of arsenic, including lung cancer, and noted that in 1983 the Koppers Company in Conley, Ga., one of the largest producers of arsenic acid in the country, emitted only .059 pounds of arsenic a year. They pointed out that WR Metals had none of the air-pollution control devices in use at other arsenic plants around the country.

Citizen Protests Help Clear the Air

LARAMIE, WYOMING

Assistant County Planner Richard Headlee was driving past the WR Metals plant south of Laramie in February 1985 when he suddenly saw a "thick greenish-orange cloud rolling across the highway." He immediately closed the car windows, held his breath, and hit the gas. Despite these precautions, he had to pull off the highway to recuperate from nausea.

Headlee filed a complaint with Wyoming's Department of Environmental Quality (DEQ). A month later the agency cited WR Metals Industries, Inc., for

violating Wyoming air-quality standards. Months earlier, without notifying the DEQ, the firm had dramatically altered its production process. While the company and the agency worked out new permit requirements, the plant continued to emit large amounts of both arsenic and nitrogen oxides.

A few months later, Mary Ann Anderson, a Laramie resident who lives directly downwind of WR Metals, suffered an acute allergic reaction when fumes from the plant wafted into her bedroom window. This incident led Anderson and her husband to form the Albany County Citizens for a Clean En-

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Mary Ann and Donald Anderson: When arsenic hit home, they fought back.

In February the DEQ had good news for the ACCCE. The terms of the WR Metals permit were quite different from those of the original application. The new permit requires the company to raise the height of its dirtiest stack and limit emissions to 9.6 pounds of arsenic per year. The DEQ will allow emissions of only .57 pounds of arsenic per year from the plant's other stack.

Despite this victory, the Andersons' skies are still cloudy. With the DEQ's permission, WR Metals has been testing a new process that would nearly eliminate its arsenic emissions—but could greatly increase its nitrogen-oxide emissions. Whereas arsenic emissions are colorless and odorless, nitrogen oxides form a dirty-looking cloud that can play a role in the formation of both smog and acid rain. According to the DEQ, it was most likely nitrogen oxides that Richard Headlee drove through on the highway.

"During this time of testing, excessive nitrogen-oxide emissions have caused difficulties for people with asthma, chronic bronchitis, and other respiratory problems," the Andersons wrote in a letter to Sierra.

After a relatively quiet spring, the ACCCE is on the alert again—this time to ensure that WR Metals' nitrogen-oxide emissions are reduced to meet state standards when the testing ceases.

—Mark Jenkins

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Sierra Club Books launched its fall publishing season with two selections by renowned mountaineer and photo-journalist Galen Rowell. *In the Throne Room of the Mountain Gods* (\$17.95, paper) is Rowell's chronicle of the unsuccessful 1975 American attempt to scale K2, the world's second-highest peak. *Mountain Light: In Search of the Dynamic Landscape* (\$35, cloth) traces Rowell's development as a photographer, his philosophy of picture-taking, and his techniques and methods.

Two other photographers are also featured in Sierra Club Books' fall lineup. *Among Predators and Prey: A Photographer's Reflections on African Wildlife* by Hugo van Lawick (\$35, cloth) explores character traits, habits, and relationships among animals in their natural habitats. *In a Grain of Sand: Exploring Design by Nature* by Andreas Feininger (\$35, cloth) demonstrates the interplay of form, function, and purpose in natural objects.

On a more lyrical note, *The Winged Life: The Poetic Voice of Henry David Thoreau*, edited by Robert Bly (\$18.95, cloth) rediscovers Thoreau's most powerful and revealing verse. *Muir Among the Animals: The Wildlife Writings of John Muir*, edited by Lisa Mighetto (\$17.95, cloth), gathers Muir's observations on the lives and habits of animals, from birds to bears.

Peace: A Dream Unfolding, edited by Patrick Crean and Penney Kome (\$35, cloth), celebrates the growing global peace movement, with an introduction by Nobel Peace Prize laureates Bernard Lown and Evgueni I. Chazov.

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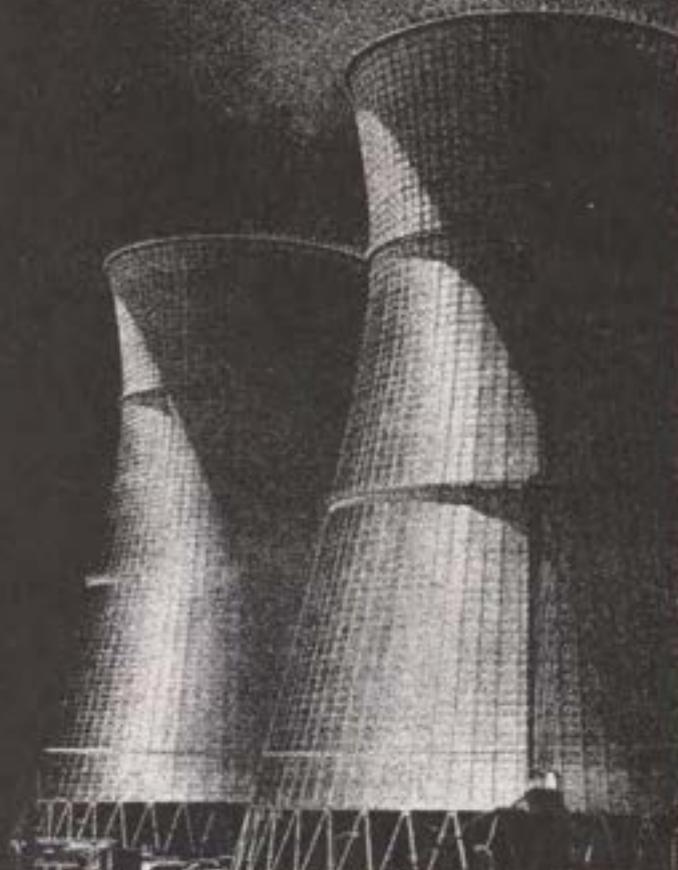
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The Honolulu Group of the Hawaii Chapter has produced an environmental video that will air eight times each month on Oceanic Cablevision. Cre-



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Copies are available for \$3 (U.S., Canada, and Mexico) and \$5 (overseas airmail) from Sierra Club Public Affairs, 730 Polk St., San Francisco, CA 94109.

The Avalanche Review is gearing up for another season of publication. The newsletter appears monthly between November and April, covering topics related to seasonal snow problems that might interest backcountry skiers, forest and recreation managers, and others concerned with safety in avalanche country. Recent feature articles have ranged from avalanche forecasting, snow compaction, and hazard definition to distribution of avalanche fatalities by activity and season.

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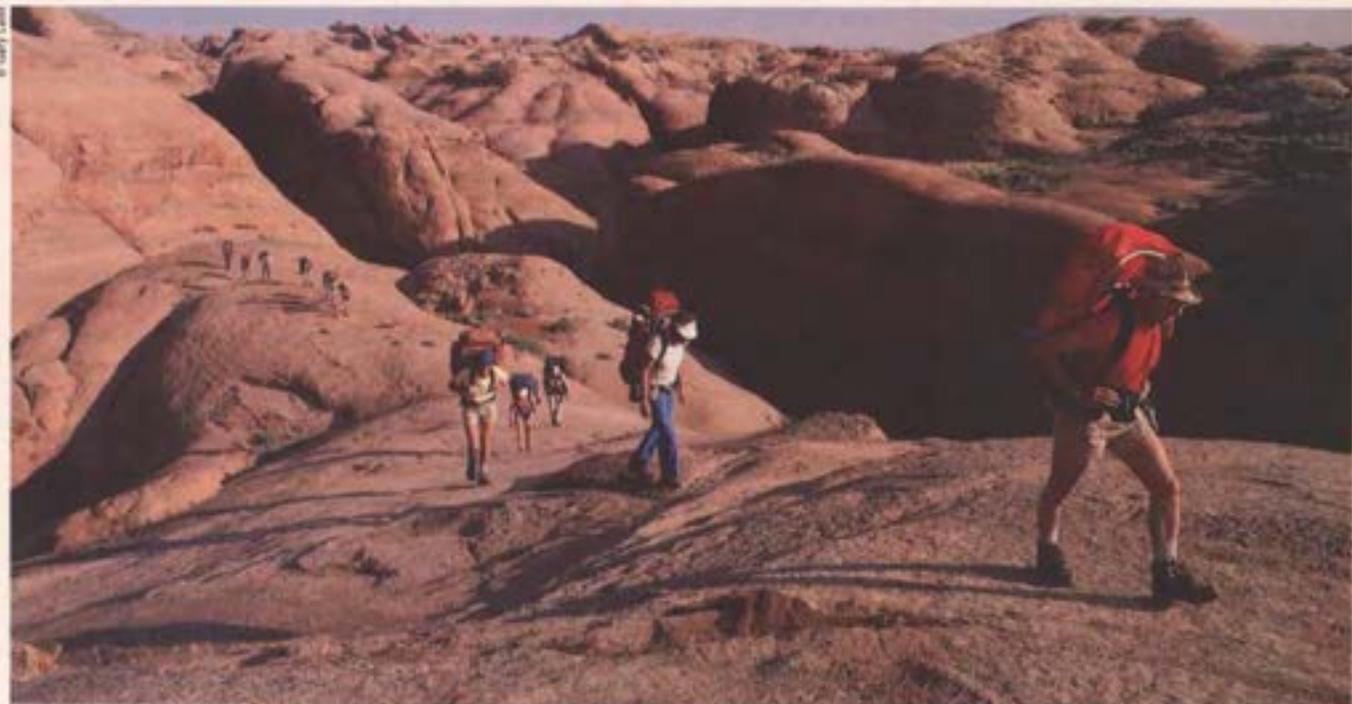
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1987 SPRING TRIPS



Imagine spending your spring vacation canoeing in the Dismal Swamp, backpacking in the Grand Canyon, or repairing trail in Hawaii's Haleakala National Park. Wherever you may want to go this spring, there's probably a Sierra Club outing just right for you. The following pages give a brief description of the unique spring and winter vacations Sierra Club leaders have planned.

Sierra Club trips average 12 to 25 members and are generally cooperative ventures. Trip members help with camp chores, including food preparation and cleanup—something trip members usually find an enjoyable aspect of their trip.

To order supplemental information on individual outings, please send in the coupon on page 90. Reservations are being accepted now for all spring trips as well as for 1987 foreign trips listed in the July/August issue of *Sierra*. Before sending in a completed reservation application, please read carefully the reservation/cancellation policy on pages 89-90. Watch for a complete listing of 1987 trips in the January/February *Sierra*.

[87315] Geology of Death Valley, California—December 20-27, 1986. Leader, Jim McCracken, 935 Page St., Berkeley, CA 94710. Cost: \$325. The bare bones of our planet are nakedly in view in Death Valley, with

hardly any screen of vegetation. It is a prime place to get a sound knowledge of some of the basics of geology in a short time, especially in the company of a professional. Campfire talks will expand upon the knowledge learned

in the field each day. Regular vigorous hikes are also planned, and side trips to points of interest will be easy to arrange.

[87025] Anza-Borrego Natural History, Anza-Borrego Park, California—March 21-28. Leader, Carol Baker, 2328 33rd St., San Diego, CA 92104. Cost: \$205. The Anza-Borrego Desert comprises more than a million acres in Southern California east of the coastal range. Uniquely juxtaposed terrain and landforms vary from 6,000-foot piney crags to fossilized badlands to a low inland sea, all supporting a rich variety of desert plants and animals for

us to study with a consulting naturalist. Participants will carpool to provide daily vehicle support to campsites and trailheads. Hikes are easy to moderate; energetic walkers may climb a peak. Weather will be mild, but with possible rain and wind.

[87026] Panamint Mountains Burro Trek, Death Valley, California—April 4–11. *Leader, Steve Akeson, 129 Lake Ave., Piedmont, CA 94611. Cost: \$420.* The Panamint Mountains form the western boundary of Death Valley. Rising abruptly from the desert,

moderate dayhikes to 600-foot sand dunes, caverns, canyons, cinder cones, volcanic spires, mesas, and petroglyphs. More strenuous peak climbs are also a possibility. A naturalist will be with the group to help us learn more about this beautiful area.

[87028] Dismal Swamp Canoe Base Camp, Virginia/North Carolina—April 12–18. *Leader, Robert Holcomb, 819 Fairway Dr., Waynesboro, VA 22980. Cost: \$240.* Southward from Norfolk, Va., into North Carolina, the Great Dismal Swamp com-

to be there on Easter morning will be doubly so. Some will walk down the mountain, some will ride, and we will all meet in Hana. Daily excursions from our base camps will allow participants to satisfy their own whims based on their desires and abilities. Whether it be dayhiking or swimming, exploring, sunning, overnight camping, shopping, or leisurely drives in our rental cars to experience the upcountry, Easter on Maui will be a memorable and pleasurable outing.

[87030] Mesa Verde Geology/ Archaeology Highlight, Utah—May 3–8. *Leader, Serge Puchert, 11025 Bondshire Dr., Reno, NV 89511. Instructor, Gene Foushee. Cost: \$475.* Starting from Bluff, Utah, this trip accompanied by a geologist and supported by jeeps will be in a high (6,500'), remote tableland south of Canyonlands, in the famous Four Corner country. Making short cross-country moves, we will explore and investigate Anasazi ruins, deep canyons, geological formations, and long ridges offering spectacular views. The trip will end with a visit to Maley Point, overlooking the vast panorama of San Juan canyon country, where we will hear stories and lectures about the area by our instructor. All participants must be sure-footed, good hikers.

[87031] Canyonlands, Bridges, and Arches of Southern Utah—May 22–31. *Leader, Carolyn Downey, 1931 E. Duke Dr., Tempe, AZ 85283. Cost: \$465.* On this unique van-camp/hiking trek we will experience what some have called the world's most colorful trip. Originating in Phoenix, we will drive north to Navajo National Monument and Monument Valley, where we can hear the echoes of the ages in the prehistoric ruins. We then plunge into the wilderness of southern Utah and experience the weird and fantastic rock sculptures in Bridges and Arches national parks. Most of the time will be spent in Canyonlands National Park, where we will hike extensively in the Needles District as well as Island in the Sky. This is a big, unique, and mostly empty land where rainbows have turned to stone.

with peaks in the 7,000- to 10,000-foot range, the mountains provide panoramic views of Death Valley to the east and Panamint Valley to the west. Long ago, Indians spent their summers in this desert of sage and pinyon pine. With our string of burros we will follow miners' trails up to the crest. Spring is an ideal time to visit the area; the snow will have cleared and the wildflowers should be starting to bloom.

[87027] East Mojave Scenic Area, California—April 11–18. *Leader, Joanne Barnes, 960 Ilina Way, Palo Alto, CA 94306. Naturalist, John Hohstadt. Cost: \$255.* Spring vacation gives us a perfect opportunity to visit the desert region proposed as Mojave National Park in Sen. Alan Cranston's California Desert Protection Act. From our camp at 5,600 feet, we will take leisurely-to-

prises an area of lowlands, lakes, and rivers fed by tributaries of swamp origin. The swamp isn't really "dismal," and we should see or hear spring warblers and other birds, frogs, snakes, and budding flora while beating the mosquito season. Our base camp will be near the Northwest River, where exploratory day trips to tributaries and backwaters are planned, along with trips to Lake Drummond, Merchants Mill Pond (with moss-draped cypress and tupelo), and the Outer Banks. This is a flatwater trip, but the possibility of high winds on open stretches requires some previous canoe experience.

[87029] Easter on Maui—April 18–26. *Leaders, Carolyn and Joe Braun, 1323 Brandy Lane, Carmichael, CA 95608. Cost: \$540.* Sunrise at the edge of Haleakala is always awe-inspiring;



BACKPACK

Backpack trips offer the greatest freedom for exploring the wilderness, because everything you need is on your back. Today young and old are showing an eagerness for the adventure, solitude, and personal challenge of backpacking. Sierra Club trips offer these rewards as well as providing an example of how to backpack knowledgeably and comfortably.

Backpacking is a strenuous activity. For a week's trip, the starting load may weigh from 35 to 40 pounds, but the exhilaration and extra physical effort make you feel more a part of the wilderness. With today's new designs in backpacking equipment, almost anyone in good physical condition can enjoy backpacking.

Trips are rated by the individual leader as leisurely (L), moderate (M), strenuous (S), or levels in-between. The ratings are as accurate as possible based on the total trip miles, cross-country miles, aggregate climb, difficulty of the terrain, and elevation. Strenuousness is also measured in less obvious ways. On desert trips members are often required to carry liquids that significantly increase their pack loads. Canyon trips entail steep descents and climbs, and temperatures may vary considerably from top to bottom. The demands of backpacking require that the leader approve each trip member based on responses to questions about equipment and previous backpacking experience. If you lack experience or have never backpacked at high elevations for any length of time, you may qualify for one of the less strenuous trips by going on weekend backpack outings prior to the trip. Unless otherwise stated, minimum age on backpack trips is 16, although qualified 15-year-olds are welcome if accompanied by a parent.

[87032] Superstition Mountains—East End, Tonto Forest, Arizona—February 15–21. *Leader, Michelle Bussiere, 5313 S. Palm Dr., Tempe, AZ 85283. Cost: \$225.* The east end of the Superstition Mountains is the least used and one of the wilder sections of this popular wilderness area. Our hike will start in the high desert at about 2,500 feet and climb to beautiful juniper forests at about 5,000 feet. We will visit ancient Indian ruins, an old homestead ranch, and the Reeves Mountain desert survival school, where we will spend a day learning about local plants and have a meal prepared for us with home-grown food. (Rated M)

[87033] Superstition Wilderness Sampler, Tonto Forest, Arizona—

March 21–28. *Leader, Dan Leeth, P.O. Box 440289, Aurora, CO 80044. Cost: \$295.* Best known for the legendary Lost Dutchman Mine, the spectacular Superstition Mountains stretch from cactus-covered desert to ponderosa pine forest. Our loop trip samples the best of this colorful land—lush desert springs, bizarre rock formations, ancient Salado Indian ruins, an abandoned ranch and orchard in the pines, and numerous old mines. We will even attempt to rediscover the Dutchman's gold. While there are no layover days, early morning departures will allow time for individual exploration. (Rated M–S)

[87034] Salt Trail—South Rim, Grand Canyon Park, Arizona—April 11–18. *Leader, Bert Fingerhut, 177 E. 79th St., New York, NY 10021. Cost: \$225.* This trip, designed for dedicated and experienced Grand Canyon backpackers, will descend the old and very steep Salt Trail, fight the willows and tamarisk along the Little Colorado River, hike the "exposed" Beamer Trail

overlooking the Colorado River, and ascend the Tanner Trail out to Lipan Point. (Rated S)

[87035] Galiuro Wilderness, Galiuro Mountains, Arizona—April 5–11. *Leader, Sid Hirsh, 4322 E. 7th St., Tucson, AZ 85711. Cost: \$220.* This southeastern Arizona mountain range is wilderness at its best—primeval, very rugged, and seldom visited. Our route is over dry, brushy ridges with brightly colored soils, past great rock formations on the way up, and into thickly forested canyons with running streams and irresistible pools on the way down. Signs of humans, mostly in Rattlesnake Canyon, are limited to some turn-of-the-century gold mines and a couple of old cowboy line camps. Travel is off trail, over difficult overgrown trail, and on some good trail. Although there are no layover days, there will be plenty of time to explore and enjoy. (Rated M–S)

[87036] Kanab Canyon/Thunder River, Grand Canyon, Arizona—April 25–May 2. *Leader, Peter Curia, 1334 W Willetta, Phoenix, AZ 85007. Cost: \$235.* The scenery in this area is perhaps the best the Grand Canyon has to offer to the off-trail adventurer. There's the expanse of the Esplanade, the redwall narrows of Jumpup, the usually muddy but always sinuous Kanab Creek, the sculptured floor in Scotty's Hollow, the murmur of Whispering Falls, and finally, the explosive headwaters of Thunder River. The terrain is difficult and there are no layover days, but the memories that go with you are forever. (Rated S)

[87037] Painted Rocks Leisure Loop, San Rafael Wilderness, California—May 8–15. *Leader, Len Lewis, 2106-A Clinton Ave., Alameda, CA 94501. Cost: \$180.* Our trip takes place in condor country, and although the condor is almost gone, a portion of its beautiful home still remains. (We did see a condor on a 1984 trip.) From the desert across the high potrero, our trip leads us to the Sisquoc River. Along the way we'll see exotic, wind-formed rock formations and wonder at cave paintings left years ago by Native Americans. This trip beckons both the



Bar J. Enry

experienced and novice backpacker. (Rated L-M)

[87038] Navajo Mountain/Rainbow Bridge, Arizona—May 9-16. *Leader, Bob Marley, 2601 E. Glenrosa, Phoenix, AZ 85016. Cost: \$280.* On the Navajo Indian Reservation in southern Utah, Navajo Mountain rises to a height of 10,388 feet, dominating the local landscape. Rainbow Bridge, magnificent sandstone canyons, slickrock vistas, spring wildflowers, and sparkling creeks await, making this trip a delight for hikers and photographers. Time is allotted for dayhiking many of the side canyons we will pass on our circumnavigation of Navajo Mountain. (Rated M-S)

[87039] Paria Canyon—Vermilion Cliffs Wilderness Area, Arizona/Utah—May 17-23. *Leader, Susan Groth, 6630 S. 43rd St., Phoenix, AZ 85040. Cost: \$315.* Paria Canyon and its tributary, Buckskin Gulch, are two of the most spectacular canyons in the desert canyon country of the Colorado Plateau. The canyon walls often rise 1,000 feet or more above the canyon floor, and are sometimes as close together as a few feet. During our 40-mile trip we will hike down through six geologic formations with colors ranging from red and brown to purple and gray. We will see Indian petroglyphs and numerous natural arches, amphitheaters, and pinnacles. Time is allotted for a number of short dayhikes to points of interest. (Rated M-S)

[87040] Sierra San Pedro Martir, Baja California, Mexico—May 20-29. *Leader, Wes Reynolds, 4317 Santa Monica Ave., San Diego, CA 92107. Cost: \$450.* Sierra San Pedro Martir is the highest mountain range in Baja California. We begin hiking at Vallecitos, a large grassy meadow with pines and aspens. We will continue through boulder-strewn rolling hills and arroyos, visit the alpine meadows of La Encantada and La Grulla, enjoy flowing streams, and at lower elevations see oak woodlands mixed with western slope chaparral. There will be opportunities to observe some of the human history of this area and, if conditions permit, to

view both the Pacific Ocean and the Sea of Cortez from a nearby peak. The first and last nights will be spent relaxing at the Meling Guest Ranch in the chaparral-covered foothills of the Sierra San Pedro Martir. (Rated L-M)

[87041] James River Crossing, Jefferson and George Washington Forests, Virginia—May 23-30. *Leader, Chuck Cotter, 1803 Townsend Forest Lane, Brown Summit, NC 27214. Cost: \$205.* This Appalachian Trail odyssey takes us through the lovely Blue Ridge Mountains in Virginia. The trail snakes its way through these exquisite wooded mountains, where wildflowers abound; the trip dates coincide with the peak of wildflower display. Highlights include visits to Apple Orchard Falls, Apple Orchard Mountain (4,125'), and James River Gorge (660'). A layover day will be spent exploring the James River Face Wilderness, established in 1975 by the Eastern Wilderness Act. Numerous rock ledges exist along the trail, providing wonderful views of the surrounding countryside. This section of the Appalachian Trail is considered extremely beautiful. (Rated L-M)

[87042] Dark Canyon, Utah—May 24-31. *Leader, Barry Morenz, 1209 N. Stewart, Tucson, AZ 85716. Cost: \$340.* Remote and infrequently traveled, this splendid canyon begins in cool pine and fir forests at 8,000 feet and descends into the warmer desert as it empties into Lake Powell at 3,700 feet. The canyon is narrow and deep in places, with towering sandstone walls and plenty of plunge pools and waterfalls. We will explore side canyons on a layover day and as time permits. A boat will ferry us from Lake Powell to Hite Marina, where a bus will transport us back to our starting point at Bluff. (Rated L-M)

[87043] Arch Canyon, Southeast Utah—May 31-June 6. *Leader, Belva Christensen, 715 W Apache, Farmington, NM 87401. Cost: \$245.* Arch Canyon is an important archaeological area, with cliff dwellings located next to or in high alcoves on canyon walls. The upper portion of the canyon contains side canyons made for exploring. Three mag-

nificent arches formed by years of wind and rain can be viewed among the pine and fir trees. (Rated L-M)

SERVICE

[87312B] Cumberland Island Seashore, Georgia—February 1-7. *Leader, Sarah Stout Gooding, 8915 Montgomery Ave., N. Chevy Chase, MD 20815. Cost: \$100.* Cumberland Island, the largest of Georgia's barrier islands, lies just north of the Florida border. Marine-oriented Indians lived on the island 4,000 years ago; now the seashore is permanently protected as a primitive area. We will clear and maintain existing trails using hand tools. On alternate days we will explore the undeveloped white-sand beaches and live oak forest. The sound contains croaker, drum, trout, and red bass; surf fishing yields red bass, spotted trout, and bluefish. Dunes, salt marshes, birds, and other wildlife provide opportunities for photography and observation.

[87044] Haleakala Crater, Hawaii, I—February 1-8. *Leader, C. E. Vollum, Route 5, Box 66, Albert Lea, MN 56007. Cost: \$325.*

[87045] Haleakala Crater, Hawaii, II—February 15-22. *Leader, C. E. Vollum, Route 5, Box 66, Albert Lea, MN 56007. Cost: \$325.* Enjoy trail maintenance in Haleakala National Park in Maui. Although the park is



only 22 square miles, conditions within its boundaries range from tropical to near desert. The work and hike in will be physically demanding, and we will be at an altitude of 6,000 to 7,000 feet. Our lodging will be in Park Service cabins for the duration of both trips.

[87046] Alder Creek Trail Maintenance, Four Peaks Wilderness Area, Arizona—March 8–15. *Leader, Vance Green, 437 E. Pierce, Tempe, AZ 85281. Cost: \$85.* Alder Creek lies in the central and southern parts of the Four Peaks Wilderness, approximately 50 miles northeast of Phoenix. Participants will be working the central portion of the trail, the opposite ends having been cleaned up by crews from previous years. We will alternate work and play days to allow plenty of time to explore the narrow canyons cut through the Painted Cliffs or climb nearby Browns Peak (7,657').

[87047] Muleshoe Ranch Preserve, Galiuro Mountains, Arizona—March 22–28. *Leader, Ginger Harmon, RR #1, Box 1542, Willcox, AZ 85643. Cost: \$110.* Springtime at The Nature Conservancy's 55,000-acre Muleshoe Ranch Preserve, tucked away in the rugged reaches of the Galiuro Mountains, is a bird and wildflower paradise. From our headquarters at Hooker's Hot Springs we will undertake trail building, fence removal, and backcountry cleanup. On hikes up lush rimrock canyons we may see coatimundi, javelina, or even bighorn sheep.

[87048] Superstition Wilderness Trail Maintenance, Arizona—April 4–11. *Leader, John Ricker, 2610 N. 3rd St., Phoenix, AZ 85004. Cost: \$95.* The Superstition Wilderness is a 450-square-mile area situated 40 miles east of Phoenix. It is made up of rugged mountains, running streams, and desert vegetation on the west turning to pinyon, juniper, and some ponderosa pine on the east. Our trip will be in the southeast corner, along the west fork of Pinto Creek. There will be a short backpack to base camp. The elevation will be at 4,000 to 4,500 feet. Time will be available to explore the streams and climb a peak or two nearby.

[87049] Red Rock Trail Maintenance, Coconino Forest, Arizona—April 26–May 2. *Leader, Jim Ricker, c/o John Ricker, 2610 N. 3rd St., Phoenix, AZ 85004. Cost: \$115.* Red Rock Country is a beautiful land of deep canyons, forested plateaus, and colorful rock formations. Located on the southern, eroding edge of the Colorado Plateau, it is home to several new wilderness areas. This year we will be in the Munds Mountain Wilderness constructing a trail along the rim of Woods Canyon. Work consists of brush clearing, rock removal, and tread building. We will work alternate days so there will be ample time to explore or take photographs. Expect warm days and cool nights; elevations will range from 5,000 to 6,400 feet.

SKI

[87316] Adirondack Ski Tour, New York—February 1–6. *Leader, Walter Blank, RD 1, Box 85, Ghent, NY 12075. Cost: \$430.* This trip takes us through the heart of the Adirondack forest preserve with a different destination each night. We traverse hidden valleys, ski through high mountain passes, and cross frozen wilderness lakes. Some of the scenery is the most spectacular in the eastern United States. Your baggage will be transported for you from inn to inn. The trip leader is a certified Nordic instructor.

[87050] Wildriver-Jackson Area Ski Tour, White Mountains, New Hampshire—March 22–27. *Leader, John Rogers, 310 Monroe St., Ithaca, NY 14850. Cost: \$330.* North of Franconia and Crawford notches, old roads and trails provide outstanding cross-country touring. We may visit iced-over Thoreau Falls and ski to Hall's Ledge lookout for the long winter views. We'll ski over frozen ponds and through white birch groves, making our plans each day when we leave our comfortable farmhouse lodging. Some days will be long and some trails quite steep;

the trip is moderate with strenuous options. Skiers should be of intermediate level with experience off groomed tracks.

FOREIGN

[87870] Bicycling in New Zealand—December 21, 1986–January 5, 1987. *Leaders, Betty and Paul Tamm, 6828 Saroni Dr., Oakland, CA 94611. Cost: \$1,060.*

[87875] Bicycling in New Zealand—January 5–17. *Leaders, Betty and Paul Tamm, 6828 Saroni Dr., Oakland, CA 94611. Cost: \$970.* Spend a unique Christmas holiday bicycling Down Under. New Zealand's varied scenery, uncrowded roads, and challenging terrain make it a delight for the experienced cyclist. Our route will sample shining beaches, lush rainforests, glaciated mountains, rolling farmland, hot springs, spectacular fjords, and much more. Most of the time we'll stay in campgrounds, but an occasional cabin, hotel, and even farm stay is included. Trains, buses, and ferries will be used to supplement our own pedal power. Come for the full month-long, vehicle-supported tour of both islands, or if your time is limited, choose either the northern or southern two-week tour.

[87880] Cross-Country Skiing in the Austrian Alps—January 24–February 8. *Leader, Carol Dienger, 3145 Bandera Dr., Palo Alto, CA 94304. Cost: \$1,450.* Experience this world-famous winter wonderland, the Austrian Alps, on a 15-day cross-country ski adventure. This trip is planned for both novice and experienced skiers; cross-country ski instruction and practice tours will be provided for all skill levels. Time will be set aside to allow opportunities for shopping as well as for enjoying some of Austria's scenic, historic, and musical attractions. Altmarmarkt in Pongau (Salzburg province) and Oberau in the high valley of Wildschnau (Tirol province) will be our skiing centers. Two days in Salzburg

during Mozart Week are included. Accommodations will be in comfortable hotels. The trip price includes equipment rental and ski instruction.

[87890] Kenya Wildlife Walking Safari, Africa—February 1–20.

Leader, Emily Benner, 155 Tamalpais Rd., Berkeley, CA 94708. Cost: \$2,565. Come explore Kenya by foot, camel, and Land Rover. With Kilimanjaro as a backdrop, we will game-drive through Amboseli National Park, then walk for five days down the Tsavo River viewing hippo, crocodile, elephant, and the many birds of the African bush. Camels will join us for our trek into the

esque port city of Bergen. Leader approval required.

[87905] Costa Rica Natural History—March 12–27. *Leader, Rick Taylor, Box 122, Portal, AZ 85632. Cost: To Be Announced.* Explore Costa Rica's scenic network of national parks and wildlife preserves, from sea-level tropical rainforest to dwarf cloudforest at nearly 11,000 feet on the shoulder of a volcano. The resplendent quetzal, keel-billed toucan, and flights of scarlet macaws are just a few examples of the richness of bird life in this Central American democracy. Mammals we will look for include coatis, agoutis, peccaries, sloths, four kinds of monkeys, and possibly tapirs. Lodging will vary from dormitory-style screened porches at remote research stations to modern hotels with full amenities. *The ending date of this trip has been changed from what was previously published.*

[87910] Annapurna Sanctuary and Jungle Safari, Nepal—March 23–April 11. *Leader, John Garcia, 124 Romero Circle, Alamo, CA 94507. Cost: \$1,435.* The trip will begin in Kathmandu. A short distance away we will begin our trek to the Annapurna Sanctuary, where we will be surrounded by towering peaks ranging in elevation from 20,000 to 26,545 feet. The trail takes us through the interesting Gurung villages of Dhampus, Ghandrung, and Chomrong. We will climb to two base camps, Mt. Annapurna and Mt. Machhapuchhare (Fish Tail), at about 14,000 feet. After the trek we will spend three days and two nights at Chitwan National Park, where we hope to see tigers in their natural habitat. *The starting date of this trip has been changed from what was previously published.*

[87915] A Hiker's View of China—April 16–May 5. *Leader, Bud Bollock, 1906 Edgewood Dr., Palo Alto, CA 94303. Cost: \$2,715.* This exciting, never-before-offered hiking trip takes us through rural eastern China, highlighted by exploration of Beijing, Shanghai, and other cultural and historic centers. Experience a commune, exotic temples, a Grand Canal trip, and overnight ascents of Tai Shan (5,000')

and Lotus Flower Peak (6,000') in the Huang Shan (Yellow Mountains). Transportation will be by plane, train, and bus as well as on foot. We will stay in the best available hotels or guesthouses. Leader approval required.

[87920] Kangchenjunga, Nepal—"The Five Treasuries of the Great Snow"—April 20–May 24. *Leader, Peter Owens, 117 E. Santa Inez, San Mateo, CA 94401. Cost: \$1,355.* Kangchenjunga resembles a frozen jewel gleaming in cold, bright light. At 28,200 feet, the third-highest peak in the world saddles the Nepal/Sikkim border. Inaccessible to foreigners for many years, today the remote, little-traveled Kangchenjunga Massif offers some of the finest trekking in Nepal. To attain our objective—the western flank—we negotiate a route through rugged canyons knifed by turbulent rivers, steep ridges, and high, lonely yak pastures. This will be an easy-paced, moderate trek, with porters carrying dunnage. There will be ample time to photograph the mountains, the rhododendron forests, and the people who live there. We mingle with the local inhabitants in little tea houses, and on layover days enjoy optional non-technical climbs, side hikes, or snoozing. Leader approval required.

[87930] North of England Walking Tour—June 4–20. *Leader, Robin Brooks, 920 Kennedy Dr., Capitola, CA 95010. Cost: To Be Announced.* June is the best month to visit the three major national parks that lie a few hours apart across the north of England. Starting from historic York, we will walk the moors, valleys, and rugged North Sea coast of the North York Moors National Park. Then we explore Herriot's Yorkshire Dales National Park, including the scenic Pennine Way. Our trip climaxes in the Lake District, England's largest park, made famous by poets, painters, and hikers. While we emphasize hiking, we will also find time to visit cathedrals, castles and great houses, museums, gardens, and nature sanctuaries. A historic inn will serve as our center in each park. *The dates of this trip have been changed from what was previously published.*



rugged semi-desert landscape of Tsavo East. Our last week will be spent relaxing and exploring the sand dunes, coral reefs, and Arab-African cultures along the coast of the Indian Ocean.

[87895] Ski Touring in Norway—February 24–March 13. *Leader, Bob Paul, 13017 Caminito Mar Villa, Del Mar, CA 92014. Cost: \$2,055.* This trip offers ski touring for novice and/or expert skiers in the land where Nordic skiing began. We will stay overnight in rustic lodges and subsist on hearty Norske food while day touring in Norway's majestic mountains. Starting in Oslo, we will ski in Nordmarka, Rondane National Park, the Jutunheimen Mountains, and on the Hardanger Plateau, ending our trip in the pictur-

RESERVATION & CANCELLATION POLICY

Eligibility: Our trips are open to Sierra Club members, applicants for membership, and members of organizations granting reciprocal privileges. You may include your membership application and fee with your reservation request.

Children must have their own memberships unless they are under 12 years of age.

Unless otherwise specified, a person under 18 years of age may join an outing only if accompanied by a parent or responsible adult or with the consent of the leader.

Applications: One reservation form should be filled out for each trip by each person; spouses and families (parents and children under 21) may use a single form. Mail your reservation together with the required deposit to the address below. No reservations will be accepted by telephone.

Reservations are confirmed on a first-come, first-served basis. However, when acceptance by the leader is required (based on applicant's experience, physical condition, etc.), the reservation is confirmed subject to the leader's approval, for which the member must apply promptly. When a trip is full, later applicants are put on a waitlist.

Give some thought to your real preferences. Some trips are moderate, some strenuous; a few are only for highly qualified participants. Be realistic about your physical condition and the degree of challenge you enjoy.

The Sierra Club reserves the right to conduct a lottery to determine priority for acceptance in the event that a trip is substantially oversubscribed shortly after publication.

Reservations are accepted subject to these general rules and to any specific conditions announced in the individual trip supplements.

Deposit: A deposit is required with every trip application. The amount of the deposit varies with the trip price, as follows:

Trip Price per person	Deposit per person
Up to \$499	\$35 per individual (with a maximum of \$100 per family on family trips)
\$500 and above (except Foreign Outings)	\$70 per individual
All Foreign Trips	\$100 per individual

The amount of a deposit is applied to the trip price when the reservation is confirmed. All deposits and payments should be in U.S. dollars.

Payments: Generally, adults and children pay the same price; some exceptions for family outings are noted. You will be billed upon receipt of your application. Full payment of trip fee is due 90 days prior to trip departure. Trips listed in the "Foreign" section require additional payment of \$200 per person six months before departure. Payments for trips requiring the leader's acceptance are also due at the above times, regardless of your status. If payment is not received on time, the reservation may be cancelled and the deposit forfeited.

No payment (other than the required deposit) is necessary for those waitlisted. The applicant will be billed when placed on the trip.

The trip price does not include travel to and from the roadhead or specialized transportation on some trips (check trip supplement). Hawaii, Alaska, foreign, and sailing trip prices are all exclusive of airfare.

Transportation: Travel to and from the roadhead is your responsibility. To conserve resources, trip members are urged to form carpools on a shared-expense basis or to use public transportation. On North American trips the leader will try to match riders and drivers. On some overseas trips you may be asked to make your travel arrangements through a particular agency.

Confirmation: A reservation is held for a trip applicant, if there is space available, when the appropriate deposit has been received by the Outing Department. A written confirmation is sent to the applicant. Where leader approval is not required, there is an unconditional confirmation. Where leader approval is required, the reservation is confirmed, subject to the leader's approval. Where there is no space available when the application is received, the applicant is placed on the waitlist and the deposit is held pending an opening. When a leader-approval trip applicant is placed on the waitlist, the applicant should seek immediate leader approval, so that in the event of a vacancy we can confirm reservations of applicants who have leader approval.

When a person with a confirmed reservation cancels, the person at the head of the waitlist will automatically be confirmed on the trip, subject to leader approval on leader-approval trips. The applicant will not be contacted prior to this automatic reservation confirmation, except in the three days before trip departure.

Refunds: You must notify the Outing Department directly during working hours (weekdays, 9-5) of cancellation from either the trip or the waitlist. The amount of the refund is determined by the date that the notice of cancellation by a trip applicant is received at the Outing Department. The refund amount may be applied to an already confirmed reservation on another trip.

A cancellation from a leader-approval trip, when the Outing Department has confirmed the reservation subject to leader approval, is treated exactly as a can-

River-Raft, Sailing & Whalewatching Cancellation Policy

In order to prevent loss to the Club of concessionaire cancellation fees, refunds on these trips might not be made until after the departure. On these trips, refunds will be made as follows:

No. of days prior to trip	Amount of trip cost refunded
45 or more	90% refunded
30-44	75% refunded*
14-29	50% refunded*
0-13	No refund*

*If the trip place can be filled by a full-paying member, then the cancellation fee shall amount to the nonrefundable deposit or 10% of the total trip cost, whichever is greater.

cancellation from any other type of trip, whether the leader has notified the applicant of approval or not.

Note: For foreign trips, the days before departure are counted in the time zone of the trip departure point.

The Cancellation Policy for River-Raft and Sailing Trips is separately stated.

The Outing Committee regrets that it cannot make exceptions to the Cancellation Policy for any reason, including personal emergencies.

Cancellations for medical reasons are often covered by traveler's insurance, and trip applicants will receive a brochure describing this type of coverage. You can also obtain information from your local travel or insurance agent.

Trip leaders have no authority to grant or promise refunds.

Transfers: For transfers from a confirmed reservation made 14 or more days prior to the trip departure date, a transfer fee of \$35 is charged per application.

Transfers made 1-13 days prior to the trip departure date will be treated as a cancellation, and the Cancellation Policy will apply. No transfer fee is charged if you transfer from a waitlist.

A complete transfer of funds from one confirmed reservation to another already-held confirmed reservation will be treated as a cancellation, and will be subject to cancellation fees.

Medical Precautions: On a few trips, a physician's statement of your physical fitness may be needed, and special inoculations may be required for foreign travel. Check with a physician regarding immunization against tetanus.

Emergency Care: In case of accident, illness, or a missing trip member, the Sierra Club, through its leaders, will attempt to provide aid and arrange search and evacuation assistance when the leader determines it is necessary or desirable. Except for foreign outings, cost of specialized

Time or Event of Cancellation

Amount forfeited per person

Amount refunded per person

1) Disapproval by leader (once leader-approval information has been received) on leader-approval trips

None

All amounts paid toward trip price

2) Cancellation from waitlist, or the person has not been confirmed three days prior to trip departure

None

All amounts paid toward trip price

3) Trip cancelled by Sierra Club

None

All amounts paid toward trip price

4) Cancellation from confirmed position or confirmed position subject to leader approval

a) 60 days or more prior to trip departure date

\$35

All amounts paid toward trip price exceeding forfeited amount

b) 14-59 days prior to trip departure date

10% of trip fee, but not less than \$35

As above

c) 4-13 days prior to trip departure date if replacement can be obtained from waitlist

10% of trip fee, plus \$35 processing fee, but in no event more than 50% of total trip fee

As above

d) 4-13 days prior to trip departure date if replacement cannot be obtained from waitlist (or if there is no waitlist at the time of cancellation processing)

40% of trip fee, plus \$35 processing fee, but in no event more than 50% of total trip fee

As above

e) 0-3 days prior to trip departure date

Trip fee

No refund

f) "No-show" at the roadhead, or if participant leaves during trip

Trip fee

No refund

means of evacuation or search (helicopter, etc.) and of medical care beyond first aid are the financial responsibility of the ill or injured person. Medical and evacuation insurance is advised, as the Club does not provide this coverage for domestic trips. Professional medical assistance is not ordinarily available on trips.

The Leader is in Charge: At the leader's discretion, a member may be asked to leave the trip if the leader feels the person's further participation may be detrimental

to the trip or to the individual.

Please Don't Bring These: Radios, sound equipment, firearms, and pets are not allowed on trips.

Mail checks and applications to: Sierra Club Outing Department
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(415) 776-2211

For More Details on Outings

Outings are described more fully in trip supplements, which are available from the Outing Department. Trips vary in size, cost, and the physical stamina and experience required. New members may have difficulty judging which trip is best suited to their own abilities and interests. Don't sign up for the wrong one! Ask for the trip

supplement before you make your reservations, saving yourself the cost and inconvenience of changing or cancelling a reservation. The first three supplements are free. Please enclose 50 cents apiece for extras. Write or phone the trip leader if any further questions remain.

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STREET ADDRESS				YOUR HOME PHONE ()			
				YOUR WORK PHONE ()			
CITY		STATE		ZIP		IS IT ALL RIGHT TO GIVE OUT YOUR ADDRESS/PHONE TO OTHER TRIP MEMBERS? <input type="checkbox"/> YES <input type="checkbox"/> NO	
PLEASE PRINT YOUR NAME AND THE NAMES OF OTHER PEOPLE IN YOUR PARTY			MEMBERSHIP NO.	AGE	RELATIONSHIP	NO. OF OUTINGS YOU'VE BEEN ON	YEAR OF LAST NATIONAL OUTING
1.					SELF	CHAPTER	NATIONAL
2.							
3.							
4.							
PER PERSON COST OF OUTING		TOTAL COST THIS APPLICATION		DEPOSIT ENCLOSED		FOR OFFICE USE ONLY	

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CITY		STATE		ZIP		IS IT ALL RIGHT TO GIVE OUT YOUR ADDRESS/PHONE TO OTHER TRIP MEMBERS? <input type="checkbox"/> YES <input type="checkbox"/> NO	
PLEASE PRINT YOUR NAME AND THE NAMES OF OTHER PEOPLE IN YOUR PARTY			MEMBERSHIP NO.	AGE	RELATIONSHIP	NO. OF OUTINGS YOU'VE BEEN ON	YEAR OF LAST NATIONAL OUTING
1.					SELF	CHAPTER	NATIONAL
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3.							
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PER PERSON COST OF OUTING		TOTAL COST THIS APPLICATION		DEPOSIT ENCLOSED		FOR OFFICE USE ONLY	

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The Wreck in Reclamation

Cadillac Desert: The American West and Its Disappearing Water

by Marc Reisner

Viking, 1986. \$19.95, cloth.

Brad Warren

FOR A SUBJECT SO rich in corruption, excess, and colorful, scheming characters, surprisingly few lively books have been written about water in the West. Marc Reisner's *Cadillac Desert* is a welcome exception. A former staff writer for the Natural Resources Defense Council, Reisner won a fellowship in 1979 to investigate the West's water resources. His book is more than a journalistic exposé, however. A bold and colorful storyteller, Reisner weaves the history of the West's outrageous water machinations in wild yarns and peoples it with vividly drawn characters.

For all that, Reisner's view of the West's history is a somber one, closely akin to classical tragedy: a drama whose heroes, bent on covering deserts with farms and cities, succumbed to the delusion that they could overcome fundamental laws of nature. (The Greeks would have called it hubris.) As Reisner aptly puts it, the civilization of the West is one "whose success was achieved on the pretension that natural obstacles do not exist."

The cost of this pretension may exceed any economic or environmental reckoning, Reisner suggests. We have spent uncounted billions on dams and canals, and have drowned out, dried up, or poisoned (with the mineral leachate from excessive irrigation) vast tracts of swamp, river, and cropland. Yet within 50 years, Reisner says, "as much irrigated land is likely to go out of production—land that grows nearly 40 percent of our agricultural exports—as the Bureau of Reclamation managed to put into production during its entire career." Water development fever has also infected our politics, levying a profound

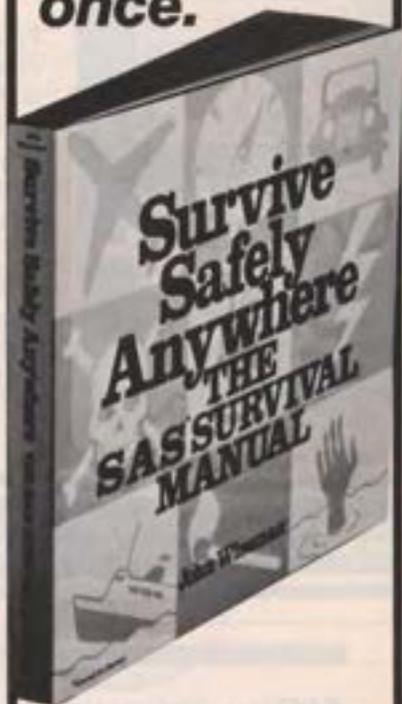
ethical toll. We've paid a high price for such a brief victory.

This shouldn't surprise us. As early as 1876 the prominent explorer and geologist John Wesley Powell warned Congress that all the water in the West would "redeem" only one to three percent of its land area. If the job of irrigation weren't done carefully and sensibly, and confined to good land near available water, Manifest Destiny would be a disaster of drought and bad engineering.

Powell wanted to form a government agency to give the West a sound irrigation system. Congress, however, didn't want to listen, perhaps because a steady increase in rainfall that coincided with frontier expansion for several years led it to consider the notion unnecessary. (Caught up in the romantic vision of the West as portrayed by the railroads and land hucksters, most Americans—including some who should have known better—subscribed to the meteorological myth that "rain follows the plow.") But Powell's predictions were ultimately borne out. A three-year drought in the late 1880s drove from their homes one quarter to one half the people living in Kansas and Nebraska. A few years later an enormous private dam collapsed in Tennessee, killing 2,200 people. By 1902, Congress was prepared to support irrigation.

The U.S. Reclamation Service was created to build big irrigation projects for small farmers. At its peak in the 1930s, the Bureau of Reclamation (as the agency came to be known) captured the nation's imagination with stunning feats of engineering: Hoover and Grand Coulee dams. Dam-building was a centerpiece of the New Deal, employing thousands and harnessing rivers to irrigate soil and generate electricity. But even then the descent into fatal arrogance had begun. When Congress agreed to fund only a low dam at Grand Coulee instead of the 550-foot structure BuRec wanted, the agency ignored the lawmakers' intent and used the appropriation to build

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a foundation for the high dam. Armed with a virtual *fait accompli*, the bureau then demanded—and got—money to finish the bigger dam.

By the 1960s the bureau and its dam-building rival, the Army Corps of Engineers, had exhausted nearly every site where big dams of economic merit could be built. Not content to sit idle, the two agencies promoted dams that made less and less sense, sometimes cooking their cost-benefit ratios to get funds from Congress.

Disillusioned by such chicanery, a few BuRec officials actually helped Reisner expose worthless water projects. Some dams drown more land than they irrigate, while others water lands that will never grow enough crops to pay for them. Some illegally irrigate land belonging to huge agricultural companies that are too big, by law, to receive the bureau's subsidized water—an advantage that helps them undersell the agency's ostensible clients, small farmers.

Through all of this, Reisner does more than simply complain that reclamation has degenerated into cynical, pork-barrel water politics, harmful to taxpayers and nature. In a tour de force of legislative reporting, he reveals how water development has become, like grease, essential to the machinery of congressional power.

Today's climate of budgetary restraint has slowed the advance of ridiculous and costly water projects. But the most far-fetched hydraulic fantasy of all still stirs in the backwaters of Congress. Reisner reports that a small but significant lobby of engineers, western water brokers, and even some powerful Canadians is pushing for a \$300-billion plan to dam or divert every major river from the Columbia to the Yukon and pump the combined runoff over mountains, dales, and valleys to every thirsty corner of the continent, from New York to Los Angeles—even to Mexico. Will we never learn?

Reisner's research is formidable. His bibliography alone makes good reading, describing a rich multitude of texts, documents, articles, and (with due thanks) some of the scarce sources of well-told water stories published before his own. Yet, no one should buy this book expecting a dry, scholarly treatise.

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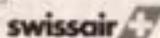
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Reisner is a passionate writer, and he eschews the posture of objectivity. He advances what amounts to a powerful and credible view of events, and avoids grinding through every shade and variant of his stories. In an age gorged with information but arguably deficient in knowledge, we could use more writers with Reisner's vision.

BRAD WARREN writes on fisheries, technology, and energy and water issues from his base in Seattle, Wash.

From Mold and Stumps, Delight

Celebrating the Wild Mushroom:

A Passionate Quest

by Sara Ann Friedman

Dodd, Mead, 1986.

\$18.95, cloth; \$12.95, paper.

Carolyn Mann

AFTER FINISHING this book, don't expect that you'll be able to identify that little brown fungus you recently observed forcing its way through your patio. *Celebrating the Wild Mushroom* is not a field guide, nor does it purport to be. It is, instead, an amateur mycologist's kiss-and-tell, an account of the author's increasing obsession with hunting, identifying, and eating the wild fruit that many of us actually fear.

Friedman's "passionate quest" begins in 1973, when a friend presents her with a small mushroom book from Czechoslovakia. Where Friedman had ignored or absentmindedly kicked over wild mushrooms before, she suddenly sees them everywhere: "On my lawn and on my neighbors' lawns, in front of the public library and the town post office, in the dozens of local nurseries and in the sandy pine woods." But her first attempts at matching her finds with the pictures in the book end in frustration. "They all looked alike and none matched," she laments.

Countless summer mornings find Friedman sitting in New England meadows blooming with mushrooms, her blanket spread with half a dozen field guides. Her quest eventually leads

her from New England's tranquil meadows and the "wilds" of Central Park to the Pacific Coast, and from her first hesitant taste of the innocuous meadow mushroom to experimenting with the hallucinogenic *Gymnopilus spectabilis*.

In recounting her journey, Friedman introduces the reader to mysterious characters seen prodding the forest duff, looking for basal sacs and trying to decide if the stem of their latest find has a ring or a skirt. Sprinkling her story with the history and lore of mushrooming, the author hints at the disagreements—

sometimes heated—that occasionally factionalize the mycological world.

One of these is between "the splitters" and "the lumpers"—those who would break various genera down into separate species versus those who would not. We soon learn that it is this disagreement that accounts for species names changing from year to year.

Another mycological debate concerns which species of mushroom are poisonous. Field guides often disagree. In fact, one of the most colorful characters in Friedman's book, Greg Wright,

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can be found at mushroom forays surrounded by his "undertasters" and curious onlookers, collectively testing the theory that all *Amanita* are deadly. Like Charles McAlvain, the iron stomach of mycology, Wright has tasted dozens of reportedly poisonous mushrooms without fatal results.

The most divisive mycological issue, however, centers on the eating of hallucinogenic mushrooms. There are those, such as physician Andrew Weil, who consider altered consciousness a natural state, whereas others think no serious mycologist should personally experiment with psychoactive mushrooms. Initially, Friedman gathers and identifies scores of less controversial mushrooms without ever eating any of them. She has little patience with people she encounters in the woods who ask if she is hunting "magic mushrooms." (All mushrooms are magic to Friedman.) But eventually she tries a psychoactive mushroom she finds growing in Central Park. The experience—which she finds hilarious—is the climax of her adventurous account.

Over the years Friedman takes greater

and greater risks, progressing from actually tasting her finds to getting arrested for gathering mushrooms on private property. She discovers that the intellectual pursuit of mushrooming—making spore prints and identifying species—is as satisfying as the culinary quest. She also claims to have discovered some important lessons: "Despite my background in classics and poetry, in history and art, and my own private *Sturm und Drang*, it took the primitive fungus to finally teach me that life and death are partners, inseparable parts of the same whole."

Friedman maintains that mushroom hunting satisfies childhood urges; we are encouraged to bury. "It allows us to get dirty," she says. "It gratifies our urge to steal. Crawling furtively through the woods, guarding our secret places, we fulfill our primal, competitive, and territorial drives. The search for mushrooms expands our world and leads us down new paths of knowledge, connections, and pleasures."

Although she is no scientist, Friedman's story of her increasing obsession with foraging is warm and humorous—

a delightful introduction to the science and sport of mycology.

CAROLYN MANN explores the career of longtime activist Ernie Dickerman in "Granddad of the Eastern Wilderness," page 68.

Political Ornithology

Bird of Life, Bird of Death

by Jonathan Evan Maslow

Simon & Schuster, 1986. \$17.95, cloth.

Jack Curtis

WHO BUT A "fanatical birder," as Jonathan Evan Maslow calls himself, would venture into Guatemala—a country beset by frequent earthquakes, torrential rains, and bloody tyrants—in search of the rare and endangered resplendent quetzal? Yet Maslow is much more than a birdwatcher; he's also a captivating storyteller, an adroit traveler, a sensitive reader of myths, and an accomplished historian.



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GAME MANAGEMENT. Aldo Leopold. 512 pp. Paperback \$14.00.

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Maslow and his companion, an American photographer, witness destruction, violence, and horror as they head into the Guatemalan highlands (called *la tierra de guerra*—land of war—during the turbulent era of the Spanish conquest). The practice of torture and genocide, a legacy of the conquistador Pedro de Alvarado, persists to this day in what is often cited as the most repressive

nation on Earth. The two Americans cannot help but become aware of this legacy; nor can they ignore the fundamental hostility between the Spanish immigrant and tropical nature, an antagonism that has contributed so effectively to the destruction of Guatemala's natural environment.

Found in the shrinking fog-bound cloud forests of tropical America, the

quetzal, considered by some to be the most beautiful bird in the Western Hemisphere, is arrayed in colors that "ignite in the sun": a brilliant crimson belly, snow-white patches under the tail coverts, and fancy tail plumes of "emerald green changing into golden green, then to iridescent green that defies any name but quetzal green."

Maslow calls the "Q-bird," observed

AT A GLANCE



Tiger: Portrait of a Predator by Valmik Thapar; photography by Gunter Ziesler and Fateh Singh
Facts on File, 1986. \$24.95, cloth.

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only in Guatemala's national reserves, "the most deliciously feathered creature I've ever seen." Adorning Guatemala's national medalion and coins, the handsome, high-flying resplendent quetzal is the symbol of freedom; not, as Maslow is quick to point out, the defiant liberty of the American eagle, but the serene and innocent freedom of a child at play. Mythic and inspiring, its natural spiritual power seems to rise above the nation's grief.

But the quetzal now faces impending extinction. The bird originally ranged over 25,000 to 30,000 of Guatemala's 108,099 square kilometers. By 1974 that range had been reduced—by "squatters, poachers, timber cutters, scavengers, cattle barons, and Mayan temple robbers"—to 3,500 square kilometers. By 1981 it had shrunk still further, to 2,500 square kilometers. As a young boy says after rebels have invaded his remote highland village, "I don't think we'll be seeing any more quetzals around here. The quetzal is the bird of freedom. But here there is no freedom."

As Maslow searches for the quetzal, he can't help but encounter the "bird of death," the black vulture (*zopilote*). The vulture has no need for biological reserves: It is omnipresent, circling above the highways, slaughterhouses, and city dumps. Maslow describes only its scavenging. Covered with blood, the bird tugs and tears, gulps and devours. A boy he meets at the Guatemala city dump says, "The *zopilote* has a great future in our country. It eats dead things. And in Guatemala there are more and more dead things."

The author's primary challenge as a watcher of both birds and humans is to reconcile the dichotomy between the two birds, to make sense of "the enervating clash between a tropical landscape full of interest and bounty and a human condition full of tensions, fears, privations, degradation, and death." His impressions and findings yield an essay in what he calls the nascent field of "political ornithology." Things and events are best grasped in a context; because Maslow's experience of the quetzal has come not in an aviary but in its natural habitat, he is able to sketch in the bird's historic, political, economic, and literary surroundings. At the same time he

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imparts a message, best conveyed by the words and works of the two heroes of his narrative.

The first is Mario Dary Rivera, a scholar and educator who persuaded the Guatemalan government to support three "biotopos," each a biological reserve devoted to preserving the habitat of a different endangered species. Without the use of rational planning informed by ecological science, Dary warned, Guatemala would experience an ecological crisis that would eliminate any chance for social peace and balanced economic development. As the quetzal goes, so goes the nation.

Maslow's second hero is Alfredo Schleuf, a coffee grower of German descent who, to ensure adequate habitat for the quetzal, tried for ten years to turn his unblemished mountaintop into a national forest. Faced with government disinterest, he is forced to deed the land to some nearby Indians, allowing them to farm already-tilled land while leaving the rest alone. He broods that the agreement is the mountain's—and the quetzal's—last chance.

Maslow claims to have borrowed from several genres—bird guides, travelogues, and political histories—to write *Bird of Life, Bird of Death*. In fact, he's contributed to all three approaches while creating a much-needed amalgam that lets us understand and appreciate the quetzal's unusual beauty and not-so-unusual plight.

JACK CURTIS is the Los Angeles editor of *Dial*, the national program guide of the Public Broadcasting Service.

BRIEFLY NOTED

Books are a wonderful way to introduce your children to the natural world. Following are some of the most noteworthy new titles of the season.

Prehistoric Mammals: A New World by Melvin Berger, design by Keith Moseley, illustrated by Robert Cremens (Putnam's, \$12.95; all ages) is packed with solid information, but it's the pop-ups and other realistic illustrations that will keep them turning the pages. For children interested in large, monstrous creatures, this is a great combination of fun and facts. . . . *The Dangerous Life of the Sea Horse* by Miriam Schlein, illustrated by Gwen Cole (Atheneum,

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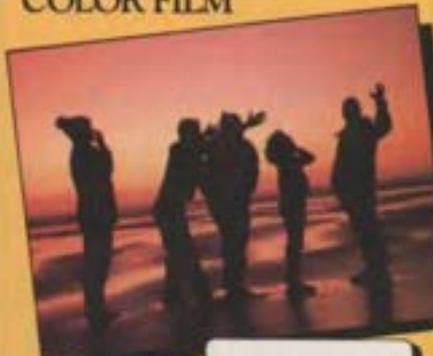
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\$12.95; ages 8 to 11), promises adventure in its title, but the book is essentially an interesting array of facts about the life of the sea horse. Children will be delighted to know that it is the male that gives birth, that sea horses rarely sleep, and that they are able to swim without fins. The illustrations, though good, would be enhanced by color, particularly in the camouflage section. Much attention is given to the sea horse's predators and neighbors, providing a fairly complete picture of ocean life. . . . In *One Day on Pika's Peak*, by Ron Hirschi, photographs by Galen Burrell (Dodd, Mead, \$11.95; ages 8 to 12), close-up color photographs depict maternal nurturing and the attack of a predator as equally significant aspects of species survival and maintaining the balance of the Rocky Mountain ecosystem. This is an enlightening view of life in the wild. . . .

The Lady and the Spider, by Faith McNulty, illustrated by Bob Marstall (Harper & Row, \$12.95; ages 4 to 8), looks at the adventures of a spider living in a garden in a head of lettuce. The spider's life is in danger when the gardener picks the lettuce for lunch. Luckily, the woman appreciates that "a creature so small can live and love life, find food, and make a home just like me!" This delightful story entertains while making an important point about the significance of each creature's life, no matter how small. . . . *Predator Prey Puppets & Toys* by Ronald Mah (Symbiosis Books, 8 Midhill Drive, Mill Valley, CA 94941; \$3.95; ages 4 to 10) is a collection of movable toys to color and assemble illustrating traits that protect an animal from predators or help it catch its prey. Pull on the tab of the turtle and it retreats into its protective shell. Open and close your hand to form the biting jaws of the alligator, or pull the frog's tab and watch its long tongue reach for flies. . . . Action-packed illustrations bring the activities of animals in their natural habitats to life in *Snow Babies* by Eric Rosser, illustrated by Olena Kassian, and *Night and Day* by Catherine Ripley, illustrated by Debi Perna and Brenda Clark (OWL Magazine/Golden Press Books from Western Publishing Co.; \$2 each; ages 3 to 6). *Snow Babies* looks at the life of young Arctic animals, while *Night and Day* focuses on animals

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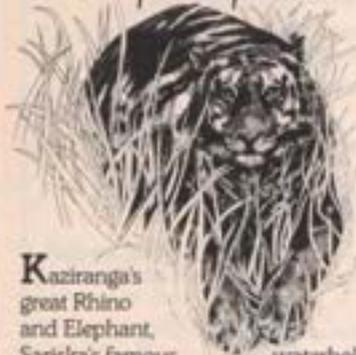
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QUESTIONS & ANSWERS

Are there still unknown and unmapped areas of the world, or has every last detail been revealed? (John Rothenberg, Sarasota, Fla.)
As recently as the early decades of the 20th century, world maps still had large areas marked "Unexplored Regions," particularly in the icy wastelands of the North and South poles. But today only the most inaccessible spots—including parts of Amazonia, the Himalaya, and the Sahara—have not been completely explored on foot. What hasn't been seen on the ground has been mapped or accounted for from the sky.

"There's nothing left in the world that hasn't been seen in a satellite image," says Guy Guthridge, manager of polar information for the National Science Foundation's Antarctica Research Program. "In 1955 more than half of Antarctica had not been seen. Now, 30 years later, all of it has been seen through aerial photography, from planes or satellites. We've even mapped the Arctic Ocean floor."

America's Landsat satellites have done much of the tracking and mapping of previously unknown regions. From a height of 570 miles, Landsat surveys 13,225 square miles every 25 seconds, providing images virtually free of distortion.

Are any organizations working to protect the territorial rights of the world's tribal peoples? (Jane Mallory, Richmond, Va.)
Sometimes business interests use paramilitary campaigns to wrest resource-

rich lands from their indigenous inhabitants. Sometimes these interests work hand in hand with often ruthless governments. The governments of Indonesia and Guatemala, for example, have sought to relocate tribal peoples and open up their ancestral lands to colonization and development.

Several international nonprofit organizations have been formed to protect indigenous peoples. These include Survival International (2121 Decatur Place, N.W., Washington, DC 20008) and Cultural Survival, Inc. (11 Divinity Ave., Cambridge, MA 02138). In the course of its species and habitat preservation efforts, the World Wildlife Fund has also become involved in protection of tribal lands.

How many seats does the Green Party currently hold in the Bundestag, West Germany's parliament? What

are the party's prospects for the future? (Ruth Borack, Milwaukee, Wis.)

The Green Party, which grew out of citizen environmental initiatives in the 1970s, captured 2.2 million votes and 27 of the 496 seats in the Bundestag in the 1983 federal elections. Their national debut was auspicious but not overwhelming, as they barely exceeded the 5-percent minimum required for representation in the Bundestag.

Since then the Greens have achieved mixed results at the ballot box. In 1984 they won 2 million votes (8.2 percent) and seven seats in an election for delegates to the European Parliament. In a 1985 election in North Rhine-Westphalia, West Germany's most populous state, the Green Party won only 4.6 percent of the vote. Many observers feel the Greens must improve on these numbers—perhaps by

forming a coalition with the Social Democratic Party—if their influence is to increase.

A majority of Germans (52 percent in a 1984 survey) consider Green representation in the Bundestag to be a positive development in national politics. The same survey also revealed a national vote potential for the party of almost 9 percent—good news for the Greens as they look toward the 1987 federal elections.

A recent issue of Sierra featured an item on Coca-Cola test-marketing a plastic can. Any new developments? (Stan Lyle, La Jolla, Calif.)

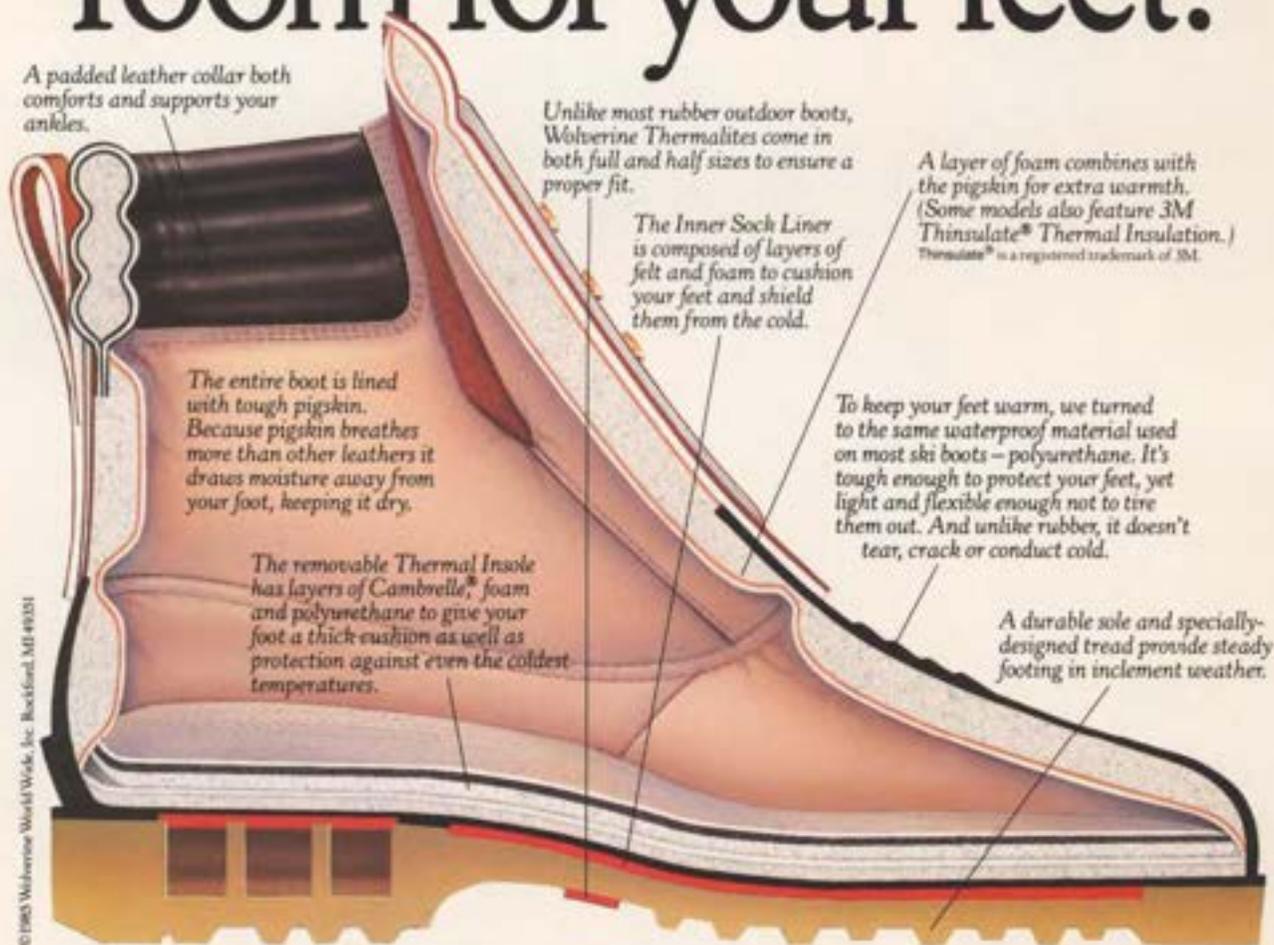
If the soft-drink industry, following Coke's lead, were to forsake aluminum containers for nonbiodegradable, difficult-to-recycle plastic cans, landfill and litter problems would increase enormously. (The industry uses a staggering 3.5 billion cans each year.)

But in a surprise move, Coke announced in March that it would shelve its plastic can until key recycling issues can be resolved. "We will now concentrate on plastics collection and recycling systems," said Brian G. Dyson, president of Coca-Cola's U.S. division.

Groups that mobilized against the move to plastic still fear the corporation has made too much of a commitment to the new can to abandon the idea. Ruth Lampi of the Environmental Task Force in Washington, D.C., says the decision to delay manufacture and distribution of Coke in plastic cans merely marks "the first battle in a very long war."



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