THE SIERRA CLUB AND ELECTION '82 / ALASKA UPDATE

SIERRA

SEPTEMBER / OCTOBER 1982 $1.50

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—John Roskelley

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SIERRA

THE SIERRA CLUB BULLETIN SEPTEMBER/OCTOBER 1982 VOLUME 67/NUMBER 5

FEATURES

DEPARTMENTS

COVER Representative Phillip Burton (D-CA) works with SCCOPE volunteers outlining strategy for his November reelection campaign. See pages 30 through 36 for features on the Sierra Club's involvement in the upcoming elections. Cover photo by Mush Emmons.

The Sierra Club and Elections, page 30.

Killer Whales, page 32.

Building Coalitions, page 64.

Alaska Today, page 69.

Founded in 1892, the Sierra Club works to restore the quality of the natural environment and to maintain the integrity of ecosystems. Educating the public to understand and support these objectives is basic to the Club's program. All are invited to participate in its activities, to ". . . study, explore, and enjoy wildlands."

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CHANGE OF ADDRESS should be sent to Sierra Club Member Services, 530 Bush St., San Francisco, CA 94108. Along with your old and new addresses, please include a *Sierra* address label. The phone number is (415) 981-8634.

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Cyclone™ vs. The Rest

	Cyclone	Polarnyl	Taffeta	Antron	65/35 Poplin
Denier					
Warp	70 denier bright nylon	70 denier bright nylon	70 denier mid-dull nylon	70 denier mid-dull nylon	40's 2 ply spun yarn
Fill	500 denier Cordura®	70 denier 3 ply textured nylon	70 denier mid-dull nylon	70 denier antron nylon	18 singles spun yarn
Weight (oz/sq.yd.)	4.93	4.2	2.5	2.4	5.39
Downproofness	yes	yes	yes	yes	yes
Tensile Strength					
Warp	279	238	180	177	149
Fill	274	140	115	112	64
Tear Strength					
Warp	14	7.3	6.5	6.4	6.1
Fill	14	8.3	5.0	4.9	2.2

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BRAVO, MO

Bravo, Mo Udall! (July/August '82.) So many representatives now are so afraid to antagonize their constituency that pussyfooting around environmental issues has become a national pastime. Even those representatives who are themselves conservationists rarely commit themselves one way or the other until voting time. With this in mind, I found Mo Udall's unambiguous stance on our environment highly refreshing. It is a comfort to know that Mo is chair of the Interior Committee, even though the Secretary of the Interior bypasses the committee on many decisions. At least Mo is there to blow the whistle, instead of another Reaganite yes-man. I only wish we had some similar watchdog for the EPA.

I may not always agree with him, as in the rights of his copper-mining constituency, but I would infinitely prefer a representative with a pro-environment stand who occasionally goes the "wrong" way on an issue to one who never takes a pro-environment stand.

I'm not an Arizonan, but if I were, he'd have another vote.

Geni Hawkins
Lynnwood, Washington

CHEMICALS AND COMPONENTS

I'd like to respond to Fred Stearns' letter (May/June '82).

The task of determining what something is really made of—whether it be Nylon 6, Nylon 66, polyvinylidene chloride, or whatever—can be quite difficult. But it is virtually impossible to track down where or who it came from. This is because of the inherent complexities of the manufacturing process. Let me give as an example the production of polyvinyl chloride (PVC), used in making products as varied as records and tennis courts. Chlorine gas, manufactured in large quantities by Hooker Chemical and Plastics, among others, is sold to another chemical producer, say Shell Chemical. Shell combines the chlorine with ethylene (from natural gas) to make vinyl chloride monomer. The monomer is polymerized by perhaps a third company, resulting in PVC pellets. These pellets are the feedstock used by yet another firm to injection mold or extrude the final product.

I suggest that the only effective means of lessening a company's impact on the environment is through environmental legislation. To attempt to follow a synthetic compound backward through various processes is like trying to locate a tree from its remains in a campfire. In either case, you need patience and a lot of luck.

Don Hughes
Hoboken, New Jersey

ON *SIERRA*

How I enjoyed this newest issue (July/August '82): the backpacked "cover girl" and other prizewinning pictures of the Third Photo Contest; the good article on Mo Udall; Shakespeare and birds of prey; the grim stories of Alaska and its national forest, of minerals and mining—we must read the articles and *do* something; and then the 1983 Foreign Trips, something for all to dream about, though some of us are now a bit too old. Thanks to all the editors and writers for such a good magazine.

Eleanor Breed Gordon
Green Valley, Arizona

THE NUCLEAR FREEZE

We at the Freeze Campaign were overwhelmed to see the Sierra Club establish a new standing committee on "The Environmental Impacts of Warfare." The arms race and potential for nuclear war are easily *the* ultimate environmental issue, and having your organization's massive influence upon it will certainly help curtail this country's—and the Soviet Union's—mad dash toward oblivion.

Robert Alexander, Co-Chair
Nuclear Weapons Freeze Campaign
4144 Lindell Blvd., Suite 404
St. Louis, MO 63108

ERRATUM

In July/August's "Bringing Back the Bighorns," three changes were made in editing that inadvertently introduced errors. First, the Continental Divide is not in the Sierra Nevada, it is in the Rockies; the Great Western Divide is in the Sierra. Second, author Hoffman's original manuscript gave more praise to Dick Weaver and his crack veterinarians, who translocated 31 sheep without losing an animal, no mean feat. Finally, in the conclusion, Hoffman indicated that the management of the program had been particularly responsible; that a recent survey shows the translocated herds have increased their numbers and one herd is viable; and that the program managers will take some time to assess the parent herd's viability to replace translocated members.

ADMINISTRATION'S PLAN TO GIVE AWAY PUBLIC LANDS STRIKES OUT

SEEKING COMPENSATION for some 25,600 acres of its lands that were incorporated in the expanded Redwood National Park in northern California, Louisiana-Pacific Corporation proposed to the Interior Department that it be given the right to buy 107,000 acres of federally owned old-growth timber in the Shasta-Trinity, Klamath and Six Rivers national forests. The Reagan administration had been reluctant to request appropriations to pay for the park's expansion approved by Congress in 1978. The Interior Department was, at first, quite responsive: Undersecretary Donald Hodel said that he thought the land exchange had "considerable merit and increase."

Environmentalists and key congressional leaders thought otherwise. Representative Phillip Burton (D-CA) of the Interior Subcommittee on Public Lands and National Parks characterized the plan as "a complete betrayal of the public trust" and vowed to stop the proposal "dead in its tracks." And he did so. First, the proposed exchange was shifted from lands administered by the Interior Department to 70,000 acres of land administered by the BLM. Finally, the political opposition to the proposed giveaway proved too strong: In a letter to Louisiana-Pacific chairman Harry A. Merlo, Undersecretary Hodel wrote: "It appears to us that the issue is far too easily misunderstood. We believe that it is therefore appropriate to lay aside further consideration of your proposal, and that we have done."

VICTORY IN THE DESERT

The Sierra Club and other environmental organizations have won a significant legal victory in their efforts to protect fragile desert lands from the ravages of poorly regulated off-road-vehicle (ORV) use. In a July decision, U.S. District Court Judge A. Wallace Tashima issued an injunction prohibiting the Bureau of Land Management (BLM) from applying the weak criteria of the California Desert Conservation Area Plan that deal with vehicular access to sensitive areas. He said the BLM is instead required to adhere to the more stringent requirements that have been adopted under the Federal Land Management and Planning Act.

Larry Silver, an attorney with the Sierra Club Legal Defense Fund who worked on the case, said, "Since the BLM is currently engaged in the process of designating areas for ORV use, but has not made final designations, the judge's determination is expected to have substantial impact on that process."

LOSS AT SEA

President Reagan has announced that the U.S. will not sign the Law of the Sea Treaty concluded in New York in April. At that time, the U.S. voted against it, along with Turkey, Israel and Venezuela. In announcing his decision, Reagan said the treaty's deep-sea mining provisions are incompatible with U.S. interests.

According to Sierra Club International Vice-President Nicholas Robinson, however, the work is not finished. He points out that the treaty simply commits signers to carry on the process and that final ratification will take some time—time in which the U.S. may change its mind.

Robinson added that the Sierra Club has long been involved in designing the environmental safeguards in the treaty. "The bulk of the nations are going ahead to implement the treaty," Robinson said, "and the Sierra Club is working to ensure that strong environmental protections are in it whether or not the U.S. is a signatory."

CLUB SUES OVER MASSIVE OCS LEASING PLAN

Interior Secretary James Watt's plan to open almost the entire Outer Continental Shelf to oil and gas development in the next five years was made final on July 21. The Sierra Club, together with the Natural Resources Defense Council and six other environmental groups, quickly filed suit opposing the plan. The states of California and Alaska are also challenging the plan in court.

"Secretary Watt's plan to lease one billion acres offshore is ill-considered in the extreme," said Denny Shaffer, Sierra Club president. "This incredible increase in the rate of leasing will clearly make it impossible to conduct the necessary environmental studies or to undertake careful planning. Even industry has doubts about the feasi-

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Can Environmental Sanity Reverse the Arms Race?

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New York City October 19–21

WHAT CAN CONSERVATION contribute to peace, security, and a sustainable society? This is the big question to be asked in October at the Cathedral of St. John the Divine, largest of Gothic cathedrals, in New York City.

Is there life after disarmament? If enough people think there can be, then disarmament will come easier and last longer.

The conference will question whether cancerous growth is progress, security is a weapons race, and nuclear war is winnable. It will ask what is going wrong, where we want to be, and how we get there.

It will search for real security, an enduring society and practical steps toward a livable world, and investigate how conservation and equity can mitigate the causes of war.

"We do not increase our security," Richard Barnet says, "by decreasing the security of our opponent." So how do we increase the security of both, making a friend of an enemy? It must be possible. We've done it often.

Jonathan Schell tells how: "Because everything we do and everything we are is in jeopardy, and because the peril is immediate and unremitting, every person is the right person to act and every moment is the right moment to begin, starting with the present moment."

Among the speakers: Ruth Adams, Richard Baker-roshi, Richard Barnet, David Brower, Lester Brown, Ray Dasmann, Ron Dellums, Hugh Downs, Jimmy Durham, Anne and Paul Ehrlich, Erik and Joan Erikson, André Gregory, Jerome Grossman, Richard Grossman, Alan and Joan Gussow, Garrett Hardin, Cheryl and John Holdren, Louisa and Moorhead Kennedy, Florentin Krause, Betty Lall, Winona LaDuke, Admiral Gene LaRocque, Amory and Hunter Lovins, Arjun Makhijani, Alice Tepper Marlin, Avis and Stewart Ogilvy, Linus Pauling, Russell Peterson, Pete Seeger, Tom Stoel, George Wald, Arthur Westing.

Advisors include: Ansel Adams, Leonard Bernstein, Phillip Berry, Julian Bond, Helen Caldicott, Hodding Carter, Norman Cousins, Father Robert F. Drinan, Bernard Feld, John Kenneth Galbraith, Marshall Goldman, Mark Hatfield, Henry Kendall, Patsy Mink, Paul Newman, John B. Oakes, Richard Ottinger, Michelle Perrault, Leslie and Sally Reid, William Matson Roth, Gus Speth, Frederic P. Sutherland, Sandy Tepfer, Lewis Thomas, Stewart Udall, George Wald, Charles Warren, Denny Wilcher, Harold Willens, Paul Winter, Adam Yarmolinsky.

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Another way must be found to control nuclear war, not necessarily ruling out disarmament, but laying a new foundation for nonbelligerent coexistence.
–BARBARA TUCHMAN

bility of this accelerated program. This is yet one more example of Watt's complete failure to bring any kind of balance to his office."

SIERRA CLUB STUDYING 1983-84 CONSERVATION PRIORITIES

As it does every two years, the Sierra Club is now determining priorities for the national conservation work it will undertake in 1983-84. In late November, 1982, the board of directors will decide on a list of the Club's most important goals.

The process of reaching that decision involves Club leaders at all levels. During September and October, regional conservation committees, chapters and groups will be considering national priorities and forwarding their ideas to the board. This helps the board focus the Club's *national resources* (volunteer effort, money, publicity and lobbying) on about ten priority issues, both legislative (such as work on the Clean Air Act and new wilderness proposals) and non-legislative (like the Community Energy Campaign).

Any member who wishes to be involved in this priority-setting process should be in touch with his or her chapter or local group and attend the meeting where this will be discussed; check your chapter or group newsletter for time and place.

WILDERNESS LEGISLATION STALLED IN SENATE

Legislation by Representatives Lujan and Seiberling to protect designated wilderness areas from oil, gas and geothermal leasing and to provide interim protection for other national forest roadless lands under consideration for wilderness designation passed the House in August. Senator Henry Jackson (D-WA) has introduced similar legislation (S. 2801). The danger exists that an attempt will be made to weaken the bill by attaching "release" language to it that would make further additions to the wilderness system extremely unlikely.

After many months of delay during which Senator James McClure, chair of the Energy Committee, refused to deal with any state wilderness bills, McClure has agreed to hold hearings on wilderness packages for Indiana, West Virginia and Wyoming. He has not, however, made any commitment to help move bills passed by the House for California.

Sierra Club members throughout the country should be contacting their senators with clear messages of support for legislation designating national forest roadless lands as wilderness—without the encumbrance of "release" language. □

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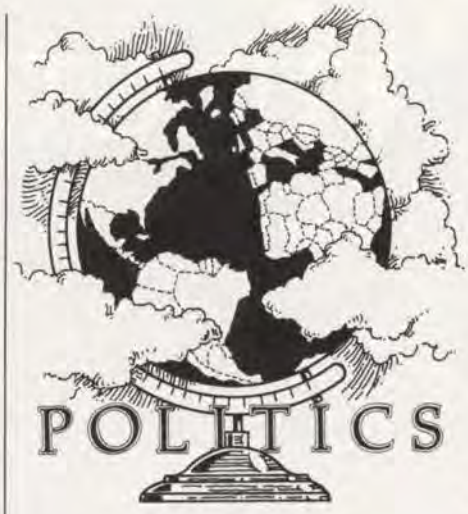

THE GLOBAL POLITIC

FRANCES GENDLIN

Above is a new logo we've devised for our Politics Department. It was only last winter that we redesigned *Sierra*, moving our important conservation news to the front and creating this new section to present vital, current political stories in a regular format. The logo was the American eagle on its striped shield, flying through the clouds under the word "Politics." We thought it was great.

After several issues, however, two Canadian members pointed out how parochial our eagle actually was. The symbol did not represent Canada, where the Club has two active chapters with members who also read and use *Sierra* for their political needs. Right they were.

In fact, the Club has a decidedly international flavor and direction, with programs around the world that prove again and again John Muir's thesis that everything in the universe is hitched to everything else. In this issue of *Sierra*, for example, we present an article on the decade that has passed since the United Nations' first environmental conference in Stockholm in 1972. Also, George Wood discusses the plight of the killer whales at Robson Bight, Canada. In most issues, along with the political stories that concern the United States, we also print news, needs and stories of the international environment.

Consequently, *Sierra* changes its logo in this department to one that represents the global body politic. We think it an appropriate symbol for all the Sierra Club's concerns.

WATER POLICY: Voters Take the Initiative

PAGE STEGNER

CALIFORNIANS RECENTLY VOTED to repeal the 1980 law authorizing the construction of a massive water-diversion project called the Peripheral Canal. It was, to be sure, a great victory for the environment. But it was won both by conservationists who found the legislation ecologically unsound and by a number of growers in Kern County and developers in southern California who found its environmental restrictions too rigorous. How long it will be before the water-wasters attempt another raid on northern California's rivers remains to be seen; for the moment it appears that voters in northern *and* southern California have finally made a major water policy decision.

Unfortunately, they have only temporarily resolved one issue. The real problem the state faces if it is going to have sufficient supplies for all current and future demands—how to accomplish water conservation—went largely ignored in the Peripheral Canal debate. People have tried to discuss the subject for a number of years. In the wake of the 1976–1977 drought, the Governor's Commission to Review Water Rights Law looked into every aspect of water use and recommended a number of changes in pricing, groundwater management and instream protection, but none of the ensuing bills survived the furious opposition of special-interest lobbies dedicated to keeping cheap, unrestricted water flowing to absentee corporate growers.

Fortunately the proponents of reform did not give up. In the summer of 1981 they formed a group called the Water Protection Council. The council drafted a bill called the Water Resources Conservation and Efficiency Act, which is now endorsed by sponsors as diverse as the Federation of Fly Fishermen, a former chief justice of the California Supreme Court, the League of Women Voters and the Sierra Club. This bill will be put before the voters as an initiative on the November 1982 ballot.

If it passes, it could well be the most important piece of water legislation since the State Water Project was ratified 22 years ago.

Whether California will need additional supplies in the near future is debatable. Most people agree that more will be needed after the year 2000. But the real question is

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whether these supplies will be developed in the traditional manner—stream diversion, dams, reservoirs, canals—or whether the citizens will demand an approach that is economically and environmentally more enlightened. The entire thrust of the Water Conservation and Efficiency Act is to require conservation and sound management of existing resources before any development of "new" water is undertaken.

For most Californians, awareness of water supply stops at the tap. As long as the showers work and the toilets flush, they aren't much interested in interbasin plumbing systems, consumption statistics and rate schedules outside their district. But it would behoove them to look at a few facts, because they pay for more than they know. Agriculture uses 85% of the state's annual developed water, of which more than half is used to irrigate low-value crops such as alfalfa and sorghum, crops that contribute about 4% of California's gross revenues. This approaches a cost-effective use of land only because huge subsidies enable farmers in the Central Valley to receive water for virtually nothing. Kern County landowners, for example, pay $3.50 an acre-foot (325,000 gallons, or enough for a family of five for a year). This astonishing windfall results from arcane laws allowing the Kern County Water Agency to purchase "surplus" water from the Metropolitan Water District in southern California.

Surplus water? But we have been given to understand that southern California will soon face a shortage. The truth is that the MWD has a contract for 48% of the State Water Project output but is seldom able to use more than 24%. Its customers pay about $112 dollars an acre-foot for the *full* 48%, regardless of the fact that they don't use all of it, and Kern County buys the unused portion for the cost of transportation.

Municipal users from Ventura to San Diego might be somewhat irritated to learn that they are paying for water they don't get, and at a rate 32 times higher than the agricultural price. They might also find in this curious situation a reason for the popular assumption that if more water is not imported from northern California, southern California will dry up. The subsidy system clearly creates a situation in which San Joaquin Valley farmers pay so little for water that they have no incentive to use it wisely. Most of the farmers' crops are flood-irrigated, either in open furrows or by directing water across fields between parallel dikes. Flood irrigation uses six to ten times as much as sprinkler or drip irrigation. Since the initial investment in a sprinkler or drip system is high, and the taxpayer is picking up the tab for most of the water anyway, there is small reason for farmers to raise their level of

environmental consciousness.

It should be pointed out, parenthetically, that by "farmer" we generally are not talking about some Jeffersonian yeoman tilling his fields behind an ox; we are talking about corporate agricultural entities and land developers, who may not be the most needy recipients of taxpayer subsidies. Or, for that matter, of federal subsidies, which they receive but may not be legally entitled to. These are folks like Southern Pacific, Standard Oil, Getty, J. G. Boswell, Sunkist, Tenneco, Inc. and Tejon Ranch (owned in large part by the Chandler family of the *Los Angeles Times*). Nobody really knows the extent of corporate ownership in California because, as the *Atlas of California* bluntly puts it, "for whatever reason (unwillingness to admit to the power that possession of land confers, moral or legal problems with taxing bodies, or simple distaste for public disclosure of private ownership), the major landowners of California have always been opposed to any effort to publicize the size and location of their holdings."

Agriculture is also responsible for an annual 2.2 million acre-feet overdrafting of California's groundwater basins, eleven of which the Department of Water Resources already regards as critically depleted. The State Water Project, approved by the voters in 1960, was intended in large part to provide an alternative supply that would relieve landholders of the need to overdraft. In fact, much of that water went to speculators who brought marginal land into cultivation in areas without natural groundwater; the overdrafting problem has only intensified. Eventually the cost of deeper and deeper pumping operations, or the actual collapse of underground aquifers, will eliminate groundwater as a reliable resource. If that happens, either a significant portion of California's agribusiness will go belly up, or the state will have to spend billions to replace the lost amount with surface supplies carried through massive new delivery systems.

The Water Conservation and Efficiency Act proposes to change all this by enacting legislation that promotes conservation and sound management of existing supplies, groundwater pumping controls, and some parity between instream and out-of-basin use. To begin with, it requires every user of more than 20,000 acre-feet per year to prepare a conservation program by January 1, 1985, and prohibits any new or increased interbasin transfer of water until that program is adequately implemented. "Conservation" in this context simply means that applicants for new appropriations must consider all reasonable alternatives—for instance, wastewater reclamation, pricing and rate changes that discourage careless irrigation practices, water "banking" for use in

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dry years, and so on. It requires, moreover, that groundwater basins listed by the Department of Water Resources as critically overdrafted must implement locally administered groundwater-management programs. It encourages compliance by prohibiting importation of additional surface supplies until those programs are in effect. In short, it tells those districts that are depleting their aquifers, "If that's what you want to do, go ahead. But don't expect the rest of us to bail you out."

Finally, the act stipulates that the instream use of water for the protection of wildlife, fishing, boating, scientific study and aesthetic enjoyment will be able to receive consideration in the state's permitting and licensing of water rights as well as diversions for municipal and agricultural use. In effect, under the act's provisions water could be appropriated to be left in a stream just as reasonably as it could be appropriated for any other use. It also presents a compromise over the filling of the New Melones Reservoir on the Stanislaus River, in which it is required that the federal government prove a need for the stored water through long-term water-service contracts before the reservoir can be filled to a point above the 808-foot level.

In November Californians will have the chance to decide these broad issues. It is unfortunate that the Peripheral Canal Referendum and the Water Conservation Act were not on the same ballot, because it would have offered a clearer choice between "new directions" and "business as usual." At this point what is needed is not another temporary stop-gap. What is needed is more public interest in defining the public interest, and a willingness to consider not simply how to make more out of less, but how to *do* more with less. There are limits, and we are fast approaching them if we intend to provide for all the demands we make on our limited resources.

Page Stegner, a freelance writer living in Santa Cruz, California, often writes on environmental topics. His most recent book is American Places, *written with Wallace Stegner and Eliot Porter.*

BOTTLE BILLS on November Ballots

ARTHUR COMINGS

POLITICAL STORM WARNINGS are up in five states this fall. Voters shold be prepared for areas of extreme high pressure in and around their supermarkets.

Arizona, California, Colorado and Washington will consider initiatives in November that will make deposits mandatory on all beer and soft-drink containers. In Massachusetts, where the state legislature recently passed such a law, voters are already faced with a referendum that could strike down the measure before it goes into effect.

Polls invariably indicate at least a 60% voter approval of container-deposit legislation, which dramatically reduces litter while guaranteeing recycling or reuse of most containers. The highly automated, increasingly centralized beverage industry, however, considers reusable containers an unprofitable anachronism. From Maine to California, wherever deposit legislation has been proposed, it has been attacked by the industry with slick, well-financed media and legislative campaigns.

Despite this determined opposition, nine

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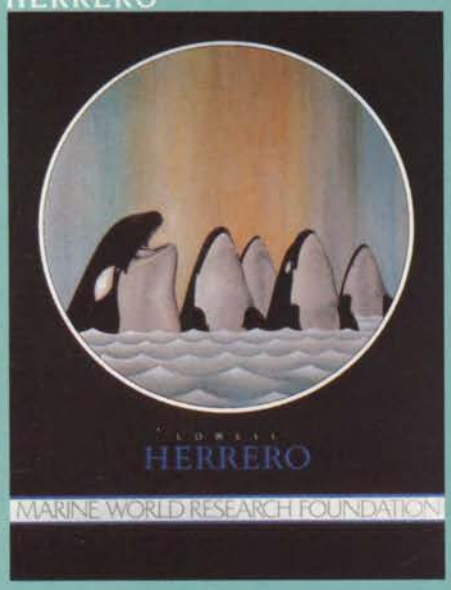

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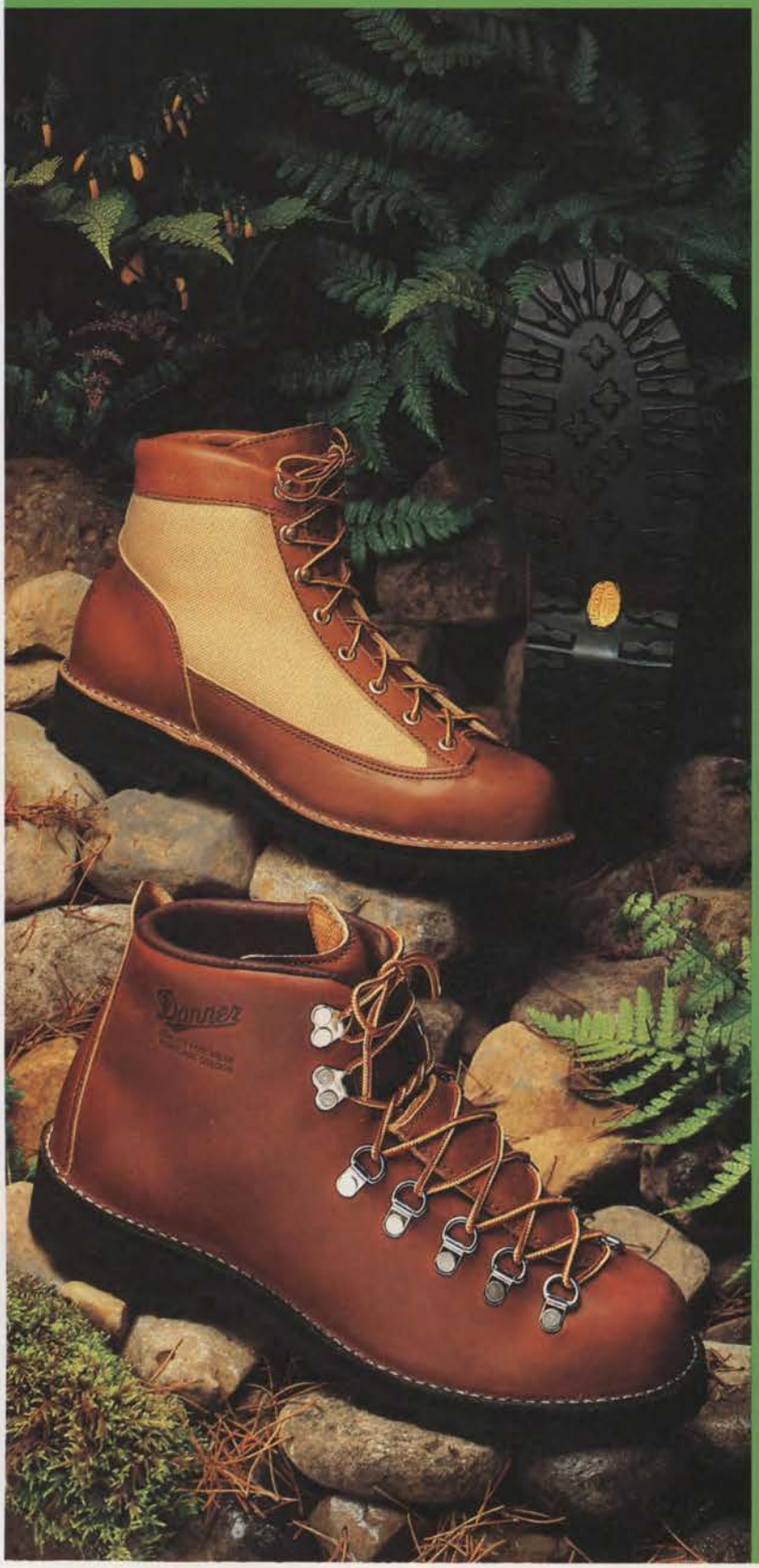

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states—Oregon, Vermont, Maine, Delaware, Michigan, Iowa, Connecticut, New York and Massachusetts—have passed "bottle bills." The results are encouraging: litter from beverage containers is reduced by an average of 80%. Total litter volume also drops, by about 40% in the states for which statistics have been compiled. Energy savings are also substantial: Maine conserves 600 billion BTUs yearly, Oregon 1.4 trillion BTUs. Farmers, some of the earliest opponents of throwaways, have reported fewer instances of injured livestock and contaminated crops due to litter, and at one state park in Michigan, reports of accidents are down 75% since the state mandated returnables.

The major opponents of container deposit legislation—brewers, bottlers and container manufacturers—are defending their well-established and quite profitable role in our throwaway economy. Back in the '30s, the American Can Company convinced the large national brewers that one-way cans offered them significant savings in transportation and handling costs. "Shipping brewers" could thus cut their prices to near those of local firms, which had no reason to abandon the traditional refillable bottles. Consumers were lavishly propagandized regarding the "convenience" of throwaways; by 1980 only 12% of beer containers sold were refillable bottles. Soft-drink bottlers, though less centralized than brewers, ultimately followed suit.

The inflated cost of throwaways, which is easy to spot when comparable deposit bottles are still on the shelf, is only one indication of their effect on our economy. The endless production of containers that people use only once creates a drain on the country's energy and resources that we can no longer ignore, no matter how profitable it has been for some manufacturers. State and local municipalities have also grown tired of financing their part in the equation: collection and disposal of throwaways. Local brewers, deprived of a significant local advantage, have become rare. As each regional beer is replaced by a national brand, the small brewery's jobs are sacrificed to the majors' economies of scale.

According to a recent CalPIRG study, *Can and Bottle Bills*, the "labor-output ratio" involved in a bottle of beer (the number of employees needed to create the product and get it to the consumer) declined 71% between 1950 and 1976. The study pinpoints the transition from labor-intensive returnables to energy-intensive throwaways as the major contributing factor. Analyzing industry's predictions of massive job losses in bottle-bill states, the study notes that, "In every state with a deposit law, there has been a net increase in employment." Oregon, which has had a deposit law for ten years,

experienced a net increase of 200 jobs; Vermont, 350; Michigan, 4,648. CalPIRG predicts that national deposit legislation would result in a gain of 56,779 jobs nationwide.

Criticisms of deposit legislation *appear* to have a catchy, common-sense ring, coming as they do from folks with extensive media experience. Opponents call deposits a "piecemeal" approach, urging everyone to wait for a more comprehensive solution—one that, to date, has not been quite worked out. Ostensibly concerned about natural resources, they cite the increased amount of water needed to wash returnable bottles, ignoring their own studies indicating sharply reduced water use for returnables compared to manufacturing operations. Ads predict the demise of small recycling centers if stores are forced to redeem containers. The facts: recycling in bottle-bill states is the highest in the nation. All recyclers seem to benefit from large, predictable flows of material.

Unlike a lot of other progressive legislation, deposit laws foster no new bureaucracy. The process revolves around the moment at the market checkstand when a customer surrenders a nickel—or gets one back for a container kept out of the waste stream. The retailer gives the nickel to the beverage distributor, who keeps it until the can or bottle comes back. When the store turns in its empties, it is reimbursed for the deposits it has returned to customers, and (in most states) is paid a small handling fee. But 5% of deposits are unclaimed; distributors use that money to finance the additional labor involved in processing the empties. In some states, container-redemption centers do quite well financially by collecting the handling fees and selling soda on the side. While legislation generally exempts markets from having to redeem broken or unsanitary containers, many owners resent projected higher labor costs, congestion and problems with storage.

Industry alternatives to deposit legislation, which typically appear shortly before a showdown and tend to vanish afterward, generally are financed by a "litter tax." Such taxes are assessed against a broad range of corporations that may or may not generate products found in litter. The money collected pays for efforts to urge consumers to use trash cans or to encourage volunteers to pick up litter, and—when all else fails—buys legal help to apprehend malefactors.

Charles Oriez of the Sierra Club's Atlantic Chapter calls these measures "inappropriate." "Litter taxes hit the wrong people," he says. "Those who create litter should bear the full cost of cleaning it up."

In June, New York's Governor Hugh Carey signed a bottle bill passed by the New York legislature. It was the culmination of a ten-year campaign coordinated by the

state's Environmental Planning Lobby. "We pushed buttons he didn't know he had," says Oriez, who credits the Club's "willingness to get directly involved in electoral politics" with the victory.

Fred Martin, former chair of the Sierra Club's Loma Prieta Chapter, helped found Californians Against Waste, which coordinates his state's fight. Martin points out that a victory in California could turn regional opponents into supporters of a national bill out of pure self-interest. "It would make their lives simpler," he points out. "They don't want to deal with several different systems."

Martin predicts that the industry will lie low until the last few weeks of the campaign and will then work up to a final media blizzard. Other techniques have included messages printed on six-packs and grocery bags, banners inside stores, and interruptions of in-store Muzak to alert customers to the evils of "forced deposits." Such techniques can erode up to 40% of voter support.

But a few more victories in industrial states such as California could tip the balance in favor of a national bill, which Oriez feels would be in everyone's best interest. "Oil used to manufacture a throwaway can in Utah can't be used here in New York to keep my heating oil bill down," he says. "No matter where you're squandering resources, you're making them more costly for all of us."

Arthur Comings, a freelance writer based in Richmond, California, often writes on environmental topics.

ENERGY CONSERVATION: Reagan Wastes a Program

ERIC HIRST

In fiscal 1980, the Department of Energy (DOE) had a budget of $880 million for energy-conservation programs. For fiscal 1983, which begins in September, the Reagan budget for the same program is $22 million. This massive cut can have been made for only one of four reasons: 1) the nation's energy situation has changed so much that a 97% reduction in DOE's conservation programs is justified; 2) the programs have performed so poorly that eliminating them will reduce bureaucratic

waste; 3) the prospects for future benefits from such government programs are so poor that they should be cut; or 4) the Reagan administration is cutting budgets based on its ideology, not on need, performance or future prospects. The question is, which reason is most likely the real one?

Several recent studies by the Oak Ridge National Laboratory (ORNL) shed light on the question. One shows that energy use in the United States in 1981 was at the same level as in 1973, 74 Quads (quadrillion BTUs). During that period the gross national product increased by 20%, so the energy required per unit of GNP decreased by 17%. This result shows two things: first, use of energy is *not* directly linked to economic growth; second, improvements in energy efficiency—energy conservation—"produced" about 15 Quads in 1981 when compared to 1973. Conservation has worked.

The Reagan administration says that almost all the recent declines in energy use are the result of normal free-market responses to rising energy prices. A recent DOE report estimates its own conservation programs, combined with tax credits, probably account for "less than 5% of the observed reduction in energy use per unit of GNP." Although there is no information I have been able to unearth to explain the 5% figure, for purposes of this discussion, I will assume that it is accurate.

The value of the 5% in 1981 alone was $4 billion in reduced fuel bills. Calculating this value is a complicated problem, because it involves amortizing costs and factoring in both public and private costs and savings; this is my best guess after considerable calculation.

This figure indicates that past programs have been cost-effective from a national perspective. They have also been of considerable benefit to their clients personally. For example, evaluations of the federal Energy Extension Service, the Low-Cost/No-Cost Program and several utility home energy-audit programs, all of which were either funded or managed by DOE, show that those programs reduce their clients' energy use, and the costs involved are more than paid for by reduced fuel bills. At a personal and social level, these benefits are substantial.

The programs can also be looked at another way, using national data to analyze what caused the overall changes in energy consumption. ORNL's studies show that improvements in efficiency soon after 1973 were a result of people changing their behavior—setting thermostats lower in winter, for example. But in the last few years, efficiency has improved because of such technical changes as added insulation in buildings,

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These studies also showed the changes were caused by these factors: economic activity; energy prices; and governmental and utility conservation programs, including grants, information, financial incentives and research and development work. Government and utility programs plus other factors not related to energy prices alone resulted in 7 Quads of energy saved in 1981, compared to what the national use would have been if pre-oil-embargo trends in 1973 had continued.

Whichever way one looks at these programs, they have worked. They have saved money overall, they have benefited their clients personally, and they have been programmatically effective.

What would be their prospects for the future, if they were to be continued? An ORNL analysis completed in 1981, which looked exclusively at DOE programs, showed that they would be likely to reduce national energy use by almost 3 Quads by 1985 and by 13 Quads as of the year 2000. In terms of savings in petroleum alone, and if private benefits are ignored, to consider only benefits to the society as a whole, the savings amount to $50 billion in the 1980s and 1990s.

If research and development programs are considered separately, the technical improvements that would result in structures, appliances, equipment, transportation systems and industrial processes would save enough money after 1990 to justify total funding of $13 billion annually in the 1980s. If federal research and development programs provided only 10% of the national benefits estimated to occur, the DOE budget for research and development on conservation could be more than $1 billion annually.

Therefore, it looks as though this discussion must conclude that: energy use in 1981 was about 25% lower than it would have been if pre-oil-embargo trends had continued; at least half this improvement was a result of increased energy efficiency; past governmental programs have been cost-effective and beneficial, contributing to increased energy efficiency; and the prospects for future conservation programs, if they are continued, is bright.

So why did President Reagan propose to cut DOE's energy conservation budget by 97%? The answer must be that the administration is ignoring both evidence and analysis and is acting only ideologically.

Eric Hirst is a research engineer in Oak Ridge, Tennessee. This article is based on his testimony before the House Subcommittee on Energy Development and Technology.

Nairobi Remembers the STOCKHOLM CONFERENCE

PATRICIA SCHARLIN

In May and June, people all over the world celebrated the tenth anniversary of the United Nations Conference on the Human Environment and rededicated themselves to its goals. They gave out awards and talked about progress and goals. The original conference, held in Stockholm in June 1972, was commemorated in particular by a ten-day Session of Special Character held in May at the United Nations Environmental Programme (UNEP)in Nairobi. The meeting attracted environmental ministers and heads of state from 105 governments.

In a Washington, D.C. ceremony on June 2, the Sierra Club International Earthcare Center received an award from UNEP for the leadership it has shown in environmental issues. Some other groups and individuals honored were Daniel T. arap Moi of Kenya, King Carl XVI Gustaf of Sweden, Maurice Strong (former director of UNEP), the late Barbara Ward, and Rene Dubos of France.

One especially significant note in the worldwide celebrations was that many Third World countries sent environmental ministers to the Nairobi conference. At the time of the Stockholm conference, many developing nations considered environmental protection measures tantamount to obstruction of their progress and economic development.

The Nairobi session culminated more than a year of study among government officials, environmental leaders and scientists who assessed the condition of the world-

wide environment and the systems for managing it that have been developed during a decade of international efforts.

The picture, everyone agreed, is still bleak. Executive Director Mustafa Tolba said, "Our room for maneuver has narrowed considerably since 1972. . . . On virtually every front there has been marked deterioration in the quality of everything . . . the planet's capacity to meet [its] needs is being undermined." He concluded, "In 1982, nations have two choices: to carry on as they are and face by the turn of the century an environmental catastrophe which will witness devastation as complete, as irreversible as any nuclear holocaust, or to begin now in earnest a cooperative effort to use the world's resources rationally and fairly."

The member governments basically endorsed UNEP's role as a catalyst and coordinator and asked for more concentration on efforts in the developing regions of Africa, Asia, Latin America and the Middle East.

One of the central themes was the pollution born of poverty. Poverty in Third World countries aggravates the degradation of forests, grasslands, soil and water.

The assembly called for UNEP to increase its activities in environmental law; to develop legislation within nations as well as to organize international conventions and agreements on pollution of the ozone layer and the atmosphere, on species conservation and on protection of the marine environment. The governments decided on programs to combat deforestation and desertification, to promote soil conservation and to protect inland waters. They endorsed expansion of the Global Environment Monitoring System (GEMS), its International Registry of Potentially Toxic Chemicals and its information system (INFOTERRA).

Representatives from developing countries and from nongovernmental organizations (NGOs) who work in Third World countries also expressed concern over the misuse of pesticides and other toxic chemicals.

Both governments and NGOs were apprehensive about nuclear war. The official "Nairobi Declaration" said, "The human environment would greatly benefit from an international atmosphere of peace and security, free from the threats of any war, especially nuclear war, and the waste of intellectual and natural resources on armaments. . . ."

The NGOs put it more forcefully in their statement: "Of all the threats to the environment and humanity, war is the most serious. The direct impacts of the use of nuclear, chemical, biological and conventional weapons are well known, as are those of deliberate climatic or terrain modification. It is both immoral and unwise to divert the investments needed for sustainable development into arms acquisition and production. Just as war leads to environmental degradation, environmental degradation and the demand for resources lead to war."

The NGO statement also pointed out how important citizens' groups have been during the last decade in alerting the world to environmental problems; in monitoring the performance of governments and corporations; in educating the public, the media and decisionmakers; in building constituencies for issues; and in offering constructive alternative policies.

"We are committed," the statement said, "to continuing the fight for the future of our

STEVE GREENBERG, DAILY NEWS, LOS ANGELES

environment, to forge new models for development and to prevent war. . . . Our responsibility is to alert the public to the global predicament; to educate its members on the significance of environmental problems for their lives, and those of their children; to mobilize opinion in support of environmentally sound policies; to develop new policy ideas and to act directly in the political arena and in the environment to secure a sustainable future. To these tasks we pledge our efforts and our resources."

In contrast to the NGOs' rededication, however, the United States delegation was hard put to convince the conference that the country still supports international measures to protect the environment. Funding was a big issue; while Denmark, Saudi Arabia, Japan, Sweden, Britain, the Netherlands, Malaysia, Thailand, Uganda and even Libya increased their contributions, the United States—which has previously provided about a third of UNEP's budget—cut its annual contribution from $10 million to $7.8 million, and may decrease it further to $3 million.

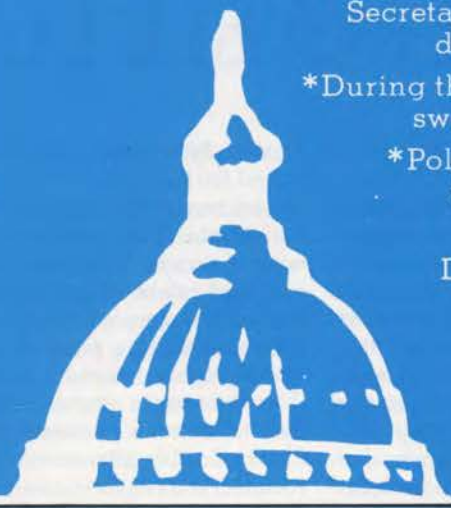
Policy questions were also sticky. Delegation leader Anne Gorsuch, the administrator of the Environmental Protection Agency, listed eight policy principles the Reagan administration will follow. Among them are: "Nations should pursue economic development . . . in a manner which is sensitive to environmental concerns"; "individual ownership of property, free and well-developed markets in products and capital are powerful incentives for resource conservation"; and "increased scientific understanding of environmental problems, and improved methods of forecasting environmental conditions, are needed."

This cautious approach was quite different from testimony previously delivered to the House Subcommittee on Human Rights and International Organizations, chaired by Representative Don Bonker (D-WA). There, people said that in the past decade the world's store of environmental knowledge has increased tremendously and that the technical ability to deal with many environmental problems exists. Bonker said, "The most disturbing conclusion one can reach . . . is that in terms of rhetoric . . . the commitment is as strong as we have ever seen it, but in terms of actual support by way of financial commitment, by way of policy, it just isn't there."

Maurice Strong, former director of UNEP, concurred. He said, "It is quite clear that the United States' role at this [Nairobi] meeting is in stark contrast to its leadership role in Stockholm." □

Patricia Scharlin is the director of the Sierra Club International Earthcare Center in New York City.

THE GREENING OF CONGRESS



*Over one year ago the Sierra Club's petition drive against Interior Secretary Watt was launched, and 1.1 million signatures were delivered to Congress.

*During the past year the Sierra Club's membership has doubled, swelling our size to over 315,000 members.

*Polls have shown time and time again that public opinion is opposed to the environmental policies of the Reagan Administration.

Despite all the evidence of public support for strong environmental standards, the Administration shows no signs of changing its views. The Sierra Club is prepared to make the "green vote" a pivotal factor in the 1982 elections, but we need your help. We must send a clear message to politicians that voters will judge them by their environmental positions.

You can help send this message by asking your friends to join the Sierra Club.

Start asking today. . . and help make Congress a little "greener" on November 2nd.

ELECTION DAY IS NOV. 2ND... BUT THE RESULTS WILL BE COMING IN FOR YEARS!

The candidates we elect on November 2nd will be making decisions about our environment that we will have to live with for years.

WHAT'S AT STAKE?

**A Strong Clean Air Act

**An Effective Environmental Protection Agency

**Reauthorization of the Clean Water Act

**Wilderness Protection

AWARDS AND PRIZES

Individual Awards. . . recruit a new member during the contest period, and we will send you the special membership patch shown at the left.

Chapter/Group Awards, too. . . special recognition will be given to the top three Chapters or Groups who have recruited the highest percentage of new members as a result of the contest.

Be sure to use the official contest membership forms, available in the Sept./Oct. Sierra magazine, local newsletters, or from your Chapter/Group Membership Chairperson.

THE SIERRA CLUB MEMBERSHIP CONTEST

OCTOBER 1ST—NOVEMBER 2ND

The Club in Electoral Politics

DENNY SHAFFER

THESE FIRST FEW MONTHS I have served as president of the Sierra Club have deepened my appreciation of the special people who are our active members, the people who make things happen. Visiting different Sierra Club chapters and other meetings, I have watched your enthusiasm and dedication, and I have seen the results that can come from the committed volunteer work of even a single person.

In July, 40 Sierra Club leaders from more than 30 states converged on Washington, D.C., to lobby their states' congressional delegations on clean air, wilderness and other priority issues. Wherever we went on Capitol Hill, we could see and almost feel the serious respect the Sierra Club has earned—for its views on issues and for its grassroots political effectiveness as well.

Again and again, we heard elected officials and political activists of both major parties welcoming the new, much greater involvement of the Sierra Club in the electoral process. The fact that America's most respected grassroots environmental lobbying group is now turning the power of effective volunteerism toward involvement in election campaigns has not gone unnoticed. Morris Udall, for example, told the Sierra Club that he welcomed the Club's increased electoral involvement, that it was long overdue. He went on to point out that the corporate PACs were making enormous donations to candidates and that we'd better "fight fire with fire." Politicians who have already experienced the impact of the kinds of citizen action that have won the Sierra Club and the environmental movement considerable legislative achievements pay attention when they hear that those same skills are going to be turned toward electoral campaigning by many thousands of Sierra Clubbers nationwide.

Does it work? The Club's experience so far tells us that it really does—and on many different levels. The Sierra Club has become involved not only in the impressive races for House and Senate seats, but also in vitally important local elections for offices that often play key roles in deciding such important issues as land use, land exchanges with local and federal government, zoning, water policy and so on. Take, for example, Jim Baca, the Democratic candidate for commissioner of public lands in New Mexico, a statewide elective office. For years, the job has been dominated by extractive industries and big landowners. They sought controlling influence over this office because it is, in fact, of great importance.

This year, Jim Baca ran for land commissioner in an uphill challenge to break out of the long-time machine control. He challenged the machine candidate—who had all the money and all the connections—in New Mexico's June 8 primary election.

And Jim Baca won.

And here's the clincher: Baca himself attributes his victory in large measure to the work of a cadre of Sierra Clubbers, who mobilized phone-banks, helped organize and staff his campaign operations, and went door-to-door in key precincts, handing out his campaign literature.

As Baca wrote afterward to one of the Club volunteers: "Statewide, the Sierra Club made a big difference in the vote . . . a volunteer and a financial commitment to my campaign for commissioner of public lands which increased the vote and made a fiscally responsible campaign a reality for me."

He concluded: "The environmentalists, and the Sierra Club members in particular, have supported me with an enthusiasm that surpasses that of any group I have previously encountered. I feel honored to have been backed in this manner."

If I could reach out to each one of you now, in a personal conversation, I'd want first and foremost to enlist you in our electoral action for November.

I'd urge you to contact your local Sierra Club group or your chapter, to find out which campaigns Club leaders in your area have targeted for involvement. I'd urge you to add your own personal enthusiasm to that work, for even one evening or weekend if that's all you can spare, more if you can.

I'd ask you to make a commitment of your time to work through the Sierra Club, helping the environmental movement achieve an historic new level of political impact.

In fact, I'd go further. I'd urge you to take a day off from work if possible on election day, November 2nd, to spend time helping to "get out the vote" to support worthy candidates. The elections, local and national, may last only one day—but the results will be with us for years. □

SCCOPE

Getting Ready for the Elections

ROBERT KUTLER

THE SIERRA CLUB has sprung into action for the 1982 elections to help assure that environmentally responsible public officials will be elected.

Through its political action committee, SCCOPE (Sierra Club Committee on Political Education), an unprecedented amount of campaign work is currently being conducted in almost every state by Club volunteers.

SCCOPE serves as the political arm of the Sierra Club; raises and contributes money for candidates and coordinates volunteer efforts. Established in 1976, SCCOPE has steadily increased its activities over the last six years. In 1980, on an experimental basis, Sierra Club chapters in California endorsed 16 candidates for the state legislature; 14 of them were victorious. But in the 1980 election, many friends of the environment in Congress were defeated, and an anti-environmental administration came to power. It became clear that to preserve a decade of progress in environmental protection, even greater involvement in electoral campaigns would be necessary.

To counteract the millions of dollars anti-environmental corporate PACs will spend in 1982, Club volunteers are organizing as never before—endorsing candidates, contributing money and making sure that environmental issues are widely recognized as important campaign issues.

In the past, environmental issues have been publicly debated in the lobbying, administrative and legal arenas, but rarely in elections themselves. This omission probably reflects in part the large gap between the current administration's policies and the findings of poll after poll that reveal the strong support of the American people for environmental protection. With extensive volunteer work and financial support in 1982, the Sierra Club now intends to narrow that gap.

Stop and think for a moment about the impact the Sierra Club could have in the 1982 elections if only a third of our more than 300,000 members volunteered one day or evening between now and November 2 to help candidates with good environmental records. And think what could happen even if members simply told their families, friends, neighbors and co-workers who these environmental candidates are.

The point is to take our efforts beyond writing letters and signing petitions, to directly influence who will receive those letters and petitions and who will cast votes on environmental legislation. With the "Remove Watt" petitions in 1981 we sent Congress a message; in 1982 we want to send a Congress that has already received the message.

There are a variety of ways Sierra Club members can support environmental campaign efforts—the "Green Vote." Some of the most common ways volunteers can make a difference are :

- Register and vote
- Talk to voters door-to-door
- Display yard or window signs
- Assist at campaign headquarters
- Make phone calls
- Attend fundraisers and rallies
- Distribute literature
- Contribute to SCCOPE
- Address and stamp mailings
- Take election day off to help "get out the vote."

What is expected of volunteers who help with campaign work? Most frequently it means working at campaign headquarters for two or three hours. If you have volunteered to make phone calls, for example, you might do it in the evenings or weekend mornings. As you enter the candidate's campaign headquarters there should be a sign-in sheet, where you can note your affiliation with the Sierra Club so the candidate knows why you're there. If you have never done campaign phone calling, you'll be warmly greeted and briefed about the procedures and methods for being most effective. The "script" for the phone calls will be already written and easy to follow, and the campaign staff will help with the first few calls in case you have questions or suggestions. Even if you have never made calls before, you'll find it to be much easier than you imagined—and lots of fun. At the end of the evening you may have talked to as many as 40 people, and will have the good feeling that perhaps you have influenced the votes of many of them.

Another crucial way to help is with the get-out-the-vote ("GOTV") effort. The results of many races are determined by the ability of campaigns to get people to vote on election day, and GOTV activities usually swing into action by the weekend prior to the election. So if you can't help out at any other time, these four days deserve your special attention. Before election day voters are telephoned to remind them to vote and to inform them of their polling place; the last pieces of campaign material are distributed, and the final preparations for the election are made. On election day people without transportation may be taken to the polls; many voters call the campaign headquarters to find out where to vote; people who have voted are recorded by poll watchers; and follow-up calls are made to other registered voters to remind them to get to the polls before closing time. All of this is essential to a winning campaign, and your involvement will be greatly appreciated by the candidate.

Now is the critical time for election campaigns and for the preparatory efforts of SCCOPE. The key ingredient to our preparations, though, is your help. Can we count on you? □

Robert Kutler is the national political director for SCCOPE. He was previously staff counsel for the Senate Energy and Natural Resources Committee and for the President's Council on Environmental Quality.

ELECTION '82

The Key Candidates

HOLLY SCHADLER

THIS YEAR, for the first time, the Sierra Club Committee on Political Education (SCCOPE) has made official nationwide endorsements of political candidates. By press time, the Sierra Club, through SCCOPE, had endorsed close to 100 candidates for congressional races in addition to the hundreds endorsed by chapters and groups for local and state offices. The following fifteen candidates are (or seem likely to become) environmental leaders in Congress; they also exemplify the types of candidates and concerns that environmentalists actively support.

SEN. ROBERT STAFFORD

Vermont, Republican

The Republican takeover of the Senate in the 1980 elections thrust a little-known Vermonter suddenly into a position of national leadership on environmental issues. As the new chair of the Senate Environment and Public Works Committee, Senator Robert Stafford has overseen disputes over major pieces of environmental legislation—the Clean Air Act, nuclear waste and the Endangered Species Act. During these controversial environmental battles, Senator Stafford has resisted the efforts of the Reagan administration and industrial interests to overhaul our basic system of environmental protection. Regarding the Clean Air Act in particular, he has argued firmly that Congress should strengthen, not weaken, the legislation, which he and Senator Ed Muskie first crafted in the early 1970s.

Senator Stafford's efforts to buck the tide of Reagan anti-environmentalism have earned him the strong support of conservationists throughout Vermont and the nation. Senator Stafford is caught in a bruising September primary campaign. Two tough challengers have entered the race, each with strong financial backing from polluters who are upset with Stafford's pro-environment stands.

Senator Stafford is counting on environmentalists to help him raise much of his $60,000 media budget. In addition, he will rely on environmentalists for his phone banks. With the combination of paid media and personal contacts, Senator Stafford hopes to convey the message to Vermonters that his leadership role has been crucial in protecting the state's environment.

Environmentalists have already contributed more than $20,000 to the Stafford campaign. The Vermont Group of the Club has started a drive to recruit campaign workers for the Stafford campaign phone banks and to publicize Stafford's environmental leadership. Group Chair Diane Geerken says that "public response to the Sierra Club's efforts on behalf of Senator Stafford has been very positive. We are looking forward to a strong election effort in the September primary."

REP. TOBY MOFFETT

Connecticut, 6th District, Democrat

Ever since Representative Toby Moffett was first elected to Congress in 1974, his name has been almost synonymous with environmental protection in Connecticut. During the public announcement of Sierra Club's endorsement, Connecticut's SCCOPE chairman said, "Toby has an outstanding record in Congress and a deep concern for his constituents." Consequently, environmentalists throughout the state are eager to work for his reelection.

As chair of the House Subcommittee on Environment, Energy and Natural Resources, Moffett has investigated and conducted oversight hearings into lax enforcement of environmental laws. He has repeatedly challenged policies of EPA Administrator Anne Gorsuch. Throughout the Clean Air Act debate, he has been a leading defender of maintaining stringent protection and was the author of the "acid rain bill" in the House.

When Moffett ran in 1974 in the 6th district he organized a strong, citizen-based campaign. Once again, Representative Moffett has put together a unique style of grassroots campaign that relies heavily on environmentalists' support. Running against two wealthy, well-financed Republicans, Moffett is depending on smaller contributions and a lot of broad-based volunteer effort. Sierra Club members have already helped in selling tickets to fundraisers and will be holding their own fundraiser in the fall. Club workers will be particularly helpful in contacting and recruiting environmentalists in areas where Moffett has not run before—most notably in Fairfield County.

Citizen involvement and strong constituent services have been Moffett's trademark. The groundswell of volunteers for his campaign proves the value of this approach.

REP. MORRIS UDALL

Arizona, 2nd District, Democrat

If asked to name the leading conservationist in Congress, many Sierra Club members would probably name Morris K. Udall. He is particularly well-known for his role in putting together and passing the 1980 law that created 102 million acres of new national parks, wildlife refuges and wilderness areas in Alaska. Overall, he has been a consistent friend in vitally important public-land legislation. As chair of the House Committee on Interior and Insular Affairs, he is in a key position to influence all such legislation, as well as bills affecting nuclear power and other energy matters.

Although the Sierra Club tends to appreciate his support for many of our issues, he is best known among his colleagues in the House of Representatives as one of the most effective legislators. His ability to move important bills through the legislative maze is a rare and invaluable talent.

As a well-known liberal, he represents an increasingly conservative constituency in southern Arizona. This factor, plus an unfortunate tendency for many friends to take "Mo" for granted, led to decreasing margins in all elections until 1980. In that year his friends in Arizona (including hundreds of conservationists) worked hard to insure his reelection. The result was a dramatic victory (he received 58% of the vote) in a year that saw defeat for many Democrats.

This year he has a new district that presents its own unique problems. He now represents portions of Tucson, Phoenix and other parts of Arizona extending to the Colorado River, and thus is forced to campaign over a huge area. Most of his constituents are new to him, and he cannot count on past campaigns for a ready-made base of support. He needs all the help he can get from us and others to insure reelection.

REP. JOHN SEIBERLING

Ohio, 14th District, Democrat

Only a handful of members of Congress in this nation's history have accomplished as much environmentally in their careers as John Seiberling has during his twelve years of service in the House. To honor his outstanding record the Ohio Chapter endorsed Representative Seiberling at a press conference in Washington, D.C. The Club has contributed to his campaign and assisted in fundraising efforts from environmentalists throughout the district.

John Seiberling is most famous for his role in developing and passing a strong Alaska Lands bill. He was responsible for converting ideals about Alaska lands into legislative form and then successfully defending the legislation from attack in the House.

He is currently chair of the House Subcommittee on Public Lands and National Parks and has been a great defender against the ravages of James Watt and others who would weaken or exploit the nation's park, wilderness and other public lands systems.

In every area of environmental protection —clean air and water, a sensible energy policy, water resource projects, endangered species—Representative Seiberling has assembled a nearly perfect voting record and has never hesitated to be a strong advocate during floor debate. He is currently a cosponsor of the wilderness protection resolution, the clean air resolution, and the EPA funding resolution.

In terms of protecting Ohio's natural resources, Seiberling was instrumental in the creation of the Cuyahoga Valley Natural Recreation Area in northeast Ohio.

REP. PHILLIP BURTON

California, 6th District, Democrat

"It is as simple as this. A vote against Phil Burton is a vote for James Watt," stated one Sierra Club member. Club volunteers in and around California's 6th district will be joining the fight for Representative Phillip Burton this fall. A controversial redistricting project left Burton with a difficult race and a tough opponent.

Representative Burton has been best known recently for his willingness to take on James Watt. But this current battle merely reflects Burton's long-standing hard work to protect and expand national parks and wilderness areas. He has spearheaded legislation that has led to extensive additions to such areas, including urban parks in several major cities. As a senior member of the House Interior Committee he championed such major achievements as the establishment of Redwood National Park.

The Sierra Club endorsed Phillip Burton early in the spring, preparing for a hard campaign. By July, the Bay Chapter had assisted in sponsoring a $500-a-ticket fundraiser and was planning other events for environmentalists around the district. Already the Sierra Club has contributed more than $5000 directly to the campaign. For autumn volunteers have organized phone banks for the campaign, a voter identification strategy and a get-out-the-vote effort.

Targeted by the Republican National

Committee, this race will be a critical fight for the Sierra Club.

REP. DAVID BONIOR

Michigan, 12th District, Democrat

During his first term as a member of both the House's Public Works Committee and its Merchant Marine Committee, David Bonior was a champion of a broad range of environmental bills. Few could have been surprised by his outstanding record, knowing that Bonior distributed thousands of seedling pine trees to kick off a door-to-door canvassing effort for his campaign.

Representative Bonior has been a strong critic of major water projects that the Sierra Club has also opposed. To this end, he has attempted several times to eliminate funding for damaging or expensive projects. He has also been a champion of sound coastal area management and has worked hard for barrier island protection. Concerning the special resources of his own state, Representative Bonior has worked with his constituents for more protective management of the Great Lakes.

In his second term, he successfully combined his concern for environmental issues with a much sought-after assignment on the House Rules Committee. As a sympathetic legislator on the committee, Representative Bonior has been invaluable to environmentalists. Before reaching the House floor, every bill must pass through this committee. Representative Bonior has been a fine watchdog over key environmental bills and has worked to ensure that they come up for debate under favorable procedural terms.

Sierra Club volunteers are working directly with the Bonior campaign. Because a large percentage of the district is new to Representative Bonior, the door-to-door canvass effort is again an important component of the campaign. Club volunteers have worked at phonebanks, voter contact and canvassing. In addition, the chapter sponsored a fundraiser for the campaign.

REP. DALE KILDEE

Michigan, 7th district, Democrat

Representative Kildee hails from Flint, Michigan, one of the nation's industrial centers. Kildee has, for six years, resisted the impulse to cave in to anti-environmental pressures; he has consistently represented labor and conservationists as well as industry, demonstrating a firm belief that environmental protection is not contradictory but essential to economic prosperity.

He first won the Sierra Club's recognition as a supporter of the Alaska lands bill. His fine record did not end there. Even without years of seniority, Representative Kildee has been a champion on wilderness issues as a member of the House Interior Committee. He has studied public lands issues in depth, so he is able to ask thorough, probing questions during oversight hearings. In addition, he has demonstrated a deep concern for proper management of Michigan's forest lands and the Great Lakes.

A special dinner will be held by the Mackinac Chapter in recognition of his willingness to work closely with constituents and of his personal commitment to environmental protection. Representative Kildee received an early endorsement from the Sierra Club —recognition he clearly deserves.

REP. JIM WEAVER

Oregon, 4th District, Democrat

Sierra Club members can cite few more dedicated proponents of environmental protection than Jim Weaver. After becoming chair of the House Agriculture Subcommittee on Forests, Representative Weaver has not strayed from his objective of strictly controlling big lumber companies. This position must be viewed as truly outstanding—especially considering that his district is dominated by the timber industry. Representative Weaver has spearheaded legislation to restrict the export of timber (a practice that hurts U.S. workers) and to prohibit destructive cutting methods sometimes used by the timber industry.

His concern for the environment does not end with forestry issues. Weaver has been a major thorn in the side of James Watt. As a member of the House Interior Committee, he has been an ardent critic of the Secretary's anti-environmental proposals. In addition, Representative Weaver has fought consistently for safe energy policies and against legislation to promote development of nuclear power.

Redistricting has helped him this year, giving him a slightly more Democratic district. However, early in 1982 the National Republican Congressional Committee stated that "NRCC vulnerability studies show Weaver to be one of the most vulnerable incumbents in the country."

Throughout Weaver's last three campaigns, environmentalists have been hard at work early in the race. Certainly, 1982 has been little different. However, the Sierra Club is proud to have been able to officially and publicly endorse Representative Weaver for reelection for the first time. Sierra Club volunteers have already been recruited by the Oregon Chapter to walk precincts in the district as well as to join in and sponsor fundraising efforts.

REP. BRUCE VENTO

Minnesota, 4th District, Democrat-Farmer-Labor

Bruce Vento's name became a Sierra Club household word in 1981 when the Minnesota representative introduced the Vento-Lewis Clean Air Resolution—a major clean-air initiative. Early in the debate, in a floor speech, Vento spoke out on the dangers of acid rain, a problem of particular concern in Min-

nesota. He said, "Acid rain is not a matter to be taken lightly. It is an ominous silent killer quietly eating away our natural resources and killing our wildlife right before our eyes."

On the House Interior Committee, Representative Vento has demonstrated equal concern for public lands issues. He fought hard for wilderness protection of Minnesota's million-acre Boundary Waters Canoe Area. The legislation effectively prohibited mining and timber operations in the area. He has played a leading role in halting Secretary Watt's attempts to encourage destructive energy exploration in wilderness areas, and through Congressional hearings has given Minnesotans a chance to be heard on the subject.

It is not surprising that Sierra Club members were anxious to become active in his campaign. After endorsing Representative Vento in the late spring, the North Star Chapter held a reception for him to publicly announce its support and to kick off SCCOPE efforts in his district.

Sierra Club volunteers have joined in his campaign, helping out on phone banks and publicizing his outstanding environmental record. The chapter has rallied environmentalists around the campaign for fundraising events and volunteer nights. Sierra Club members are enthusiastic about assisting this environmental leader.

REP. BOB EDGAR

Pennsylvania, 7th District, Democrat

Representative Bob Edgar has often praised environmentalists' efforts in his campaigns, pointing to their support as a key factor in his reelection. In fact, every two years since 1974 the effectiveness of a grassroots campaign has been regularly proven in Pennsylvania's 7th district. Running in a largely Republican district, Edgar's 1980 race, when he won by 6% of the vote, was considered a landslide victory. In June, the Sierra Club publicly endorsed Representative Edgar; now, for the first time, Club members will be volunteering formally for the campaign.

Representative Edgar earned his high repute among environmentalists through his persistent opposition to pork-barrel water projects. He has gone to great lengths to thwart these projects on the House floor, most notably leading the battle against the Tennessee-Tombigbee Waterway. He has also been noted as an opponent of over-appropriation of funds for road building and a supporter for development of adequate mass transportation.

As a result of his clear leadership on these issues, environmentalists have flocked to work on his campaign. Sierra Club members are working with both the campaign and the League of Conservation Voters' door-to-door canvass. Group volunteers and campaign staff have put together an environmental fundraising letter to Sierra Club members inviting them to support Edgar. Once again, Representative Edgar faces a tough race. On election eve in 1980, Edgar supporters donned buttons saying "Edgar's fourth miracle." Environmentalists are actively working toward the fifth.

REP. TOM EVANS

Delaware, At-large, Republican

Tom Evans has given his support to a broad range of environmental programs. He has been a leader in the campaign for sound coastal management legislation. He coauthored a provision in the Budget Reconciliation Act of 1981 to prohibit the sale of federal flood insurance on undeveloped barrier islands. As a member of the House Merchant Marine and Fisheries Committee he was a key sponsor of the Coastal Barriers Resources Act.

During a session when many representatives were voting to cut budgets for environmental programs and to relax enforcement, Evans took a number of positions against the tide. He voted against an amendment to block EPA enforcement of state auto inspection and maintenance programs. He personally contacted administration officials in an effort to retain the Council on Environmental Quality as an executive office of the President. Evans has also opposed pork-barrel projects, including the Tennessee-Tombigbee Waterway and the Clinch River breeder reactor.

Sierra Club members inside and outside the district remember his leadership role in the passage of the Alaska lands bill. The Potomac Chapter made an early endorsement of Representative Evan's campaign.

REP. HOWARD WOLPE

Michigan, 3rd District, Democrat

In 1980, Representative Edward Wolpe ran one of the strongest grassroots campaigns in the country; 5000 volunteers did everything from fundraising to get-out-the-vote efforts. This year Sierra Club volunteers will join the ranks in support of Wolpe.

At a midsummer press conference announcing the Sierra Club's endorsement, a chapter leader praised Representative Wolpe for his key role in attempting to redirect the nation's energy policy. He has fought tirelessly against the Clinch River breeder reactor and other similar energy projects, while leading the battle to maintain federal support for solar energy and conservation programs. As a member of the House Science and Technology Committee, Wolpe made a plea for reconsideration of President Reagan's budget that practically eliminated funding for energy conservation.

Sierra Club volunteers have been quite valuable to Wolpe's campaign. Having picked up a large section of Lansing in his new district, Wolpe has had to contact thousands of new voters. The Mackinac Chapter mailed information to all Sierra Club members in the district, spreading the word about Representative Wolpe's outstanding record and recruiting workers for the campaign. In addition, volunteers have been active in the

campaign's extensive voter-identification effort.

Redistricting has helped Representative Wolpe; however, he remains in a Republican district, and the fight to protect one of the Sierra Club's good friends will be tough.

RUTH McFARLAND

Oregon, 5th District, Democrat

State Senator Ruth McFarland has already won the first battle in her pursuit of Oregon's fifth Congressional seat. In a crowded field of primary contenders, she received 38% of the vote. Now she faces a difficult race against incumbent Representative Denny Smith. While the 5th district has a Democratic registration edge—and the fourth-highest unemployment rate in the country—it will be a tough campaign for her. She enters the race with a couple of points in her favor; as the only woman in the Oregon state Senate, she has gained considerable name recognition. In addition, incumbent Denny Smith currently represents only half of the new district.

The Oregon Chapter did not hesitate to give its endorsement to state Senator McFarland. Having worked closely with environmentalists in the state legislature, she rallied their support quickly around her campaign. She received a 100% rating on the eighteen environmental votes she cast in the state Senate. She also proved to be a leader as interim chair of Oregon's Agriculture and Natural Resources Committee, supporting legislation to mandate sustained-yield forestry. With the help of Sierra Club volunteers she has made wilderness and clean air issues part of her campaign platform.

An added factor in the Sierra Club's enthusiasm for state Senator McFarland's candidacy is the poor environmental record of her opponent. As a member of the House Interior Committee, Representative Smith has been an ardent supporter of James Watt and has opposed the Sierra Club on virtually every issue that has come before the committee. On issues directly affecting his own constituents, Repesentative Smith has opposed the Oregon Wilderness bill and has voiced support for oil and gas exploration along the Oregon coast.

Sierra Club workers have planned several fundraising coffee hours and have been out door-to-door for McFarland's campaign. There is no question that the chapter is enthusiastic about putting another environmental legislator in Congress from Oregon.

REP. BARNEY FRANK

Massachusetts, 4th District, Democrat

Redistricting has thrown freshman Representative Barney Frank into a tough race. He is not only in a largely new district that he has not represented previously, but he is running against an incumbent who has represented more than half the 4th-district voters for almost sixteen years.

In just two years, Representative Frank has developed avid supporters in the Sierra Club; they were quick to endorse him at a press conference in Boston and to organize a volunteer force to work in his campaign.

Representative Frank rapidly emerged as a leader on environmental issues and an ardent critic of big spending. He worked tirelessly to cut federal expenditures for pork-barrel water projects. Most notably, he introduced an amendment to prohibit additional federal money for the Stonewall Jackson Dam in West Virginia. At the same time, as a member of the Government Operations Subcommittee, he has been a key spokesman against the anti-environment programs of Anne Gorsuch and James Watt.

With a lot of work ahead of them, Boston Group volunteers organized a strategy for Sierra Club involvement in the campaign. It includes every activity from addressing envelopes to planning press events for their candidate. New England Chapter SCCOPE funds have been put to work both for organization of and attendance at fundraisers for Representative Frank and to raise more money for the campaign. A mailing has gone out to every member in the district to recruit additional volunteers.

There is no question that the enthusiasm for his campaign is as high as for any other in the country. And, Representative Frank has earned the support he is getting.

BOB WISE

West Virginia, 3rd District, Democrat

Sierra Club volunteers can point to victory already in West Virginia's 3rd district. Bob Wise faced a tough three-way primary in June; he won handily with 44% of the vote. In addition to contributing to the campaign, West Virginia Group volunteers spent hours phoning, canvassing door-to-door and distributing yard signs for their candidate. Wise, during a recent visit to Washington, D.C., commended Sierra Club members for their active involvement.

Wise has continued his grassroots campaign in a tough race against freshman Representative David Michael Staton. Sierra Club volunteers are hard at work again. The group's early support and hard work in the 3rd district have gone to a potential leader on environmental issues in Congress. These values have been important in his campaign.

As a state Senator, Wise had an almost perfect environmental voting record; he has spoken out for strict stripmining legislation and proper management of hazardous and solid waste. He has been a champion for citizens opposing utility-rate hikes. In addition, for several years Wise has actively opposed construction of the environmentally damaging Stonewall Jackson Dam.

The Sierra Club endorsed state Senator Wise in May and enthusiastic volunteers went right out on the campaign trail to help.

Holly Schadler is political coordinator for SCCOPE in the Sierra Club's Washington, D.C. office. Before that she was the director of the Club's Connecticut Chapter office.

ROBSON BIGHT: WHERE KILLERS DWELL

A baby orca breaching at Robson Bight, British Columbia.

PHOTO © PETER THOMAS

GEORGE WOOD

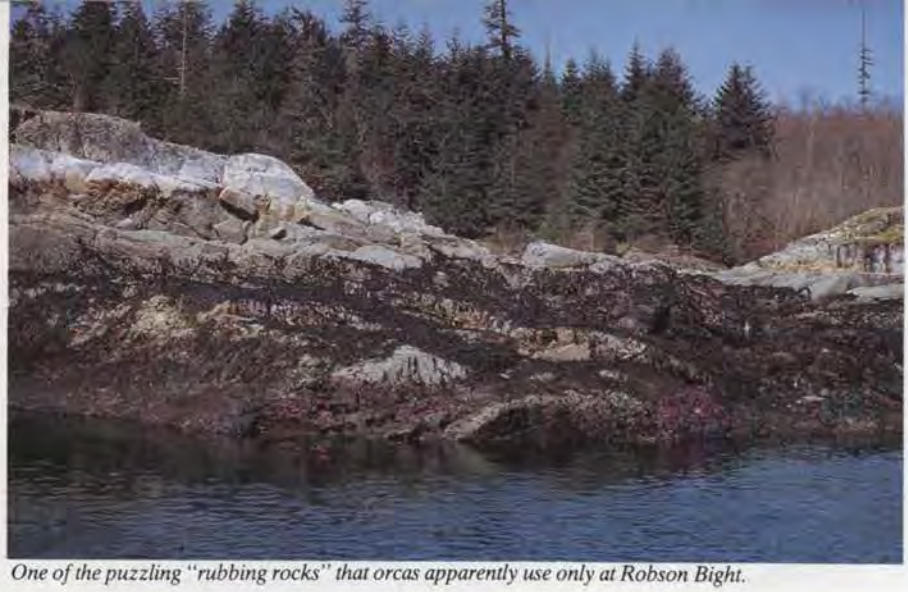
Breaks in the clouds over the Vancouver Island Mountains revealed a dense virgin forest on slopes that rise steeply to snowy peaks 5000 feet above the valley. It was a chilly, somber day in mid-July. Our boat, with nearly limp sails, drifted slowly across Robson Bight, an open bay on the west side of Johnstone Strait about 200 miles northwest of Victoria, British Columbia. Above the estuary of the Tsitika River, a bald eagle wheeled and cackled while its mate watched vigilantly from the branch of a bleached cedar snag.

Suddenly there was an exuberant shout of "whales!" from a crew member. The fins and backs of about ten killer whales, *Orcinus orca,* broke the surface along the kelp beds. A large bull with a great waving dorsal fin was the most conspicuous as the pod, or group, dove and resurfaced continually. For

reasons that are not fully understood, seven or eight pods totaling from about 68 to 85 whales use Robson Bight as their "core" area. They return often and behave differently there than anywhere else.

This is one of two known core areas in the world; others may exist but they have not yet been documented. The provincial government of British Columbia recently protected the bight as an ecological reserve, but the habitat may nevertheless be threatened by siltation from logging upstream, and environmentalists, including the Sierra Club, are still working to have a large area around the bight designated as a park.

What brings the whales to Robson Bight is unknown, but it may be the salmon; five species spawn in the Tsitika River. Another possibility is that because the bight is relatively undisturbed, it is a favorite place for sexual activity.



One of the puzzling "rubbing rocks" that orcas apparently use only at Robson Bight.

A pair of orcas serenely cruise the placid waters at dusk.

When the whales are in the bight, they stop their otherwise constant traveling to rest and socialize. Occasionally they "spyhop," or thrust themselves vertically out of the water with their eyes showing (possibly to get their bearings), and they "breach" by leaping out of the water and landing again in a great splash. But the thing they do at Robson Bight more than anywhere else is to come into shore and rub themselves on the pebbly beaches and rocks.

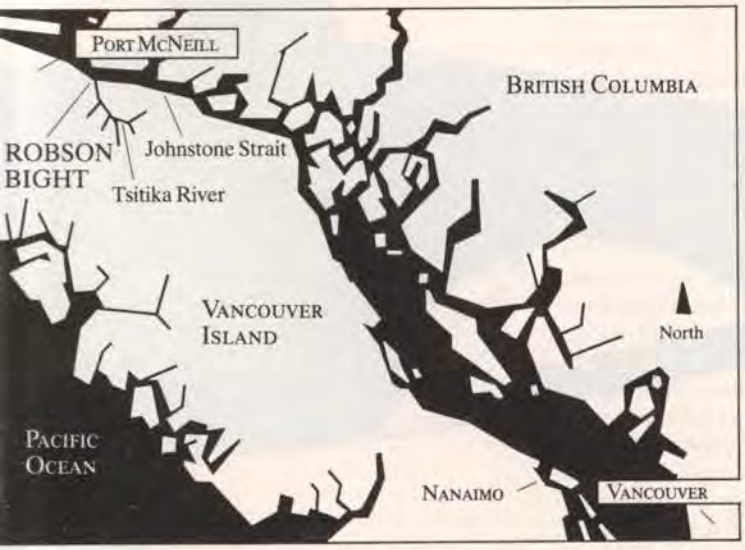
The only other known core area is in Southern Haro Strait, off southwest San Juan Island; but the whales do not rub themselves there, and the conditions are less developed. The Robson Bight core area is unique in the world for its concentration of killer whales, the reliability of their presence, the pristine environment and in particular the rubbing beaches. These characteristics have made the bight a prime area for research and filming. Film crews have come from Japan, from the National Geographic and Audubon societies, ABC Television and from B.C.-based Aqua Cine Productions. Scientists regularly come from the University of British Columbia and from the Pacific Biological Station (Nanaimo).

The bight is lushly forested; here, a veteran Sitka spruce is surrounded by clumps of sword ferns.

Efforts to protect the whales are recent, although in the early 1970s a determined attempt by private organizations and individuals was made to protect the entire Tsitika watershed of more than 97,500 acres. It was the last unlogged watershed on Vancouver Island, and environmentalists, including the Sierra Club, argued that it would be a useful benchmark to compare with the effects of logging in other areas. The preservation would also have protected wildlife, fisheries and recreational areas. But industry said preservation would result in a significant loss of jobs and severe local economic damage. In response to public pressure, the government formulated an integrated resource plan that permitted logging, but stipulated strict controls that would retain as much of the other valuable features as was possible.

PHOTOS: TOP, RONN STORRO-PATTERSON; CENTER, © PETER THOMAS; BOTTOM, BO MARTIN

In the meantime, divers Jim Borrowman and Bill Mackay, along with the rest of the Robson Bight Preservation Committee, worked to prevent industrial development on the bight. A logging company, MacMillan Bloedel, holds a license to farm trees on most of the watershed and also owns a small piece of land at the estuary of the Tsitika River, where it wanted to build a log port. It now takes timber from the upper watershed down to tidewater by way of a road in the adjacent Eve River Valley, but the company said backhauling timber from the Tsitika River Valley through the other valley would be too expensive, and the operation might not be possible in the snow. Consequently, it would have to stop work and lay off employees during the winter if it could not use its land in the Tsitika estuary.



The Robson Bight Preservation Committee succeeded in stopping the log port temporarily. In January 1981, the Minister of Lands, Parks and Housing established a three-year reserve around the bight in a hundred-meter-wide strip. At the same time, it set up a study committee to resolve the conflict between the interests of the whales and the industry.

By this time the Sierra Club had joined forces with the preservation committee. In early 1981, the Club submitted to the provincial government a 28-page brief on the situation. Among other things the Club mentioned was that the integrated resource plan failed to take into account the presence of killer whales in the bight. The brief contended that the strip reserve would not prevent the whales' habitat from being disturbed and added that the lower watershed contained characteristics valuable in a park. It suggested that the government consider establishing a park there.

The argument was strong. The area is magnificent scenically, with a river full of steelhead, cutthroat trout and Dolly Varden char. Its wildlife includes elk, deer, bears, wolves, cougars and many species of birds. The new North Island Highway is drawing increasing numbers of tourists to the ocean-side communities of Port MacNeil and Port Hardy. The highway passes through the upper reaches of the Tsitika, and as logging roads are extended down the valley, people will certainly penetrate the lower watershed down to the bight. The provincial parks organization, with its staff of interpreters and its expertise, is the most appropriate agency to administer public use.

Creating a park in this area would help protect the fisheries, too. In recent years many of the salmon streams of southern British Columbia have been seriously degraded, largely because of logging and the consequent siltation. As the logs are taken from the slopes, the soil that would have been held down by root systems simply washes into rivers. Leaving the forest as it is in the Tsitika watershed would protect this one undamaged spawning and rearing territory.

The Club's proposal, therefore, was to create a land and water reserve on Robson Bight and back that up with an 11,000-acre park, including two small buffer areas on either side of the watershed. The proposal would protect a 14,000-acre block of wilderness.

In response to the proposal, the parks branch of the provincial government began a comprehensive survey of the area.

At the same time, the Club mounted a public campaign. It distributed copies of the brief to organizations and individuals; it made contact with radio and television stations as well as newspapers, which covered the story; Club members made presentations to governmental bodies, environmental organizations and groups of the general public; they lobbied politicans at the provincial and federal levels; they talked about the situation to the Ministry of Fisheries and to Parks Canada in Ottawa.

Response was encouraging. Individuals wrote letters to the government, and organizations such as the Canadian Nature Federation and the National and Provincial Parks Association passed resolutions and wrote letters.

In June 1981, the Ministry of the Environment's Robson Bight Study Team recommended that the government: "Immediately disallow any industrial activity in Robson Bight. Continue the present interim reserve over the Robson Bight area until a suitable and permanent reserve or reserve/park combination can be established." Then the government also announced that the bight would be preserved for killer whales. It advised the MacMillan Bloedel Company to make no industrial use of the bight, and it promised that a permanent reserve or combined park and reserve would be established, but it set no deadlines or boundaries.

The Club continued its own inquiry into the effects of logging on the watershed and estuary. It sent study teams into the upper watershed, and they found that the boundaries of the cutting areas were correct according to the integrated resource plan. Although the plan accepts clearcutting as a logging method, this is producing siltation in the headwater streams of the Tsitika River. Steep slopes and a lack of lakes to store water would make the river vulnerable to flash flooding during periods of heavy runoff, and low flows would occur in drought periods. These major impacts would have unfortunate effects on the estuary, the fisheries and the whales' core area.

D. M. Trew, a professional forester on one of the Sierra Club study teams, suggested that because of the necessity of protecting the whales' habitat, the Tsitika would be a good test area in British Columbia for selective cutting. This method of cutting takes mature trees only; immature timber remains standing, stabilizing the soil and preventing extreme flows in the river. Since overhead cables would be used for removal, road construction—a major cause of soil degradation—can be greatly reduced. British Columbia has needed different forestry methods; Trew thought this would be a good time and place to try this one.

But establishing a park and restricting cutting are sensitive issues. Over the years, increasing amounts of land in British Columbia have been withdrawn from forestry for expanding urban areas, agricultural lands, and rights-of-way for highways and power lines. The government is reluctant to withdraw more land or restrict cutting on it.

Adding to these pressures is the "fall-down effect," which refers to the graph of timber production falling down because old-growth forests have been cut and the new growth has not yet matured. The overall timber supply in British Columbia is shrinking, partly because large areas of forest land have not been satisfactorily restocked or tended to ensure sustained yields in the future. In the Tsitika watershed, however, MacMillan Bloedel says it has a 50- to 60-year supply of timber. The company does

not welcome plans that would restrict its cutting or take land out of production.

Nevertheless the Sierra Club maintains that the public should not have to forego a higher use for the land to protect the company's profits. Instead, the Club says, the quality of life in the province would rise enough because of the park to overshadow the temporary economic advantage that would come from cutting the timber.

In fact, the park could become so popular it would have to be managed very carefully to prevent overuse and, above all, to protect the whales and their habitat.

The provincial government clearly cares about protecting the whales. In June 1982, it established a permanent 3000-acre ecological marine reserve in Robson Bight. Use of the reserve will be limited to research and educational purposes. The province will discourage recreational visits to try to prevent the incidents of whale-harassment that have been increasing lately. (Once a floatplane landed on top of a surfacing pod; fortunately, it did not hit a whale. Speedboats frequently harass the whales.) It is expected that when arrangements with the logging companies are complete other land reserves accessible to the boating public will be located along the Johnstone Strait shoreline. No unauthorized boats will be allowed in the bight. The federal fisheries department has already issued guidelines for whale-watchers.

Profile of a Killer Whale

PATRICIA GUTHRIE

OLD TALES DESCRIBE the killer whale, *Orcinus orca,* as a "ruthless and ferocious beast" with a "vicious and cunning temperament" and the "rapacious appetite of a cold-blooded killer." Today words such as "intelligent," "fascinating" and "intriguing" are more commonly used, because people who have studied this whale closely have found it is a mammal more to admire than to fear. Although not much is yet known about the killer whales, studies both in captivity and in the wild show that they have stable family groups, high intelligence and complicated but as-yet-undeciphered vocalizations.

It appears the reputation for ferocity the killer whale once endured has waned, but stories that spurred this image can be found in old journals. One dates back to Robert Falcon Scott's expedition to Antarctica in 1911. Scott wrote in his journal that he saw six or seven killer whales circling nearby ice floes. They submerged and then suddenly thrashed under the ice in an attempt to crack it and get at two Eskimo dogs tethered to the ship's stern-anchor rope. "As they reared them [their heads] to a height of six or seven feet, it was possible to see their terrible array of teeth—by far the largest and most terrifying in the world."

The dogs survived the attack, as did a photographer standing on the ice floe attempting to take photos of the whales, because the ice miraculously cracked around them and not under them.

The whales were originally dubbed "killers" because of their appetite for warm-blooded prey; they are the only cetaceans that regularly eat porpoises, seals, penguins and even larger whales. Michael Bigg, a marine biologist at Pacific Biological Station in Nanaimo, British Columbia, said, "They eat mainly fish but will kill seals and larger whales. When attacking whales, they do it in a very organized way, and it appears they kill for the tongue and lips." The orcas off northern British Columbia and in the San Juan Island waters rely on a main diet of fish, particularly salmon in season.

Today, killer whales are often compared to humans because of their intelligence, individual identities, family units and apparent ability to communicate with one another. In captivity, they have become known for their playfulness.

In their natural environment, killer whales travel in groups called pods, of 5 to 50 closely related adults and their young. It is believed they remain in these pods for life, because they have been sighted in the same groups year after year. Rarely do whales join or leave the pod, except through birth or death. Ronn Storro-Patterson, research director for the Whale Center in Oakland, California, has observed, however, that young males are conspicuously absent from the San Juan pods. He estimates adult males make up 20% of each pod, while adult females

As yet the Ministry of Lands, Parks and Housing has not released its Tsitika Park study to the Sierra Club. Confidential information suggests the study recommends creating a park with boundaries similar to the ones the Club wants, although the study may also recommend massive public use that the Club cannot support. Meanwhile, the Club has asked for a five-year moratorium on logging to provide time to study the effects on whale habitat of logging in the upper watershed.

Without the protection of park designation or a logging moratorium, the ecological reserve is still vulnerable not only to the direct impacts of logging—sight and sounds—but also to the indirect effects of exaggerated flows in the river and increased siltation. The Club and the Robson Bight Preservation Committee will therefore continue to work for complete protection of the whales.

For their part, the whales we watched that July from our research boat swam majestically in and out of Robson Bight as they have probably done for thousands of years, unaware of the political turmoil on their account. Although more killer whales concentrate there than anywhere else in the world, as yet we have no definite information about their life histories, their feeding habits, their social behavior, their birth seasons or deaths or how they grow, think, communicate. We do not even know if the bight is vital to them in its pristine condition. We especially do not know how long we have to find out. □

George A. Wood is a retired park planner for the province of British Columbia, where he specialized in wilderness parks.

Orcinus orca.

ILLUSTRATION: PIETER FOLKENS

make up 30% and calves and juveniles the rest of the group.

Orcas are easy to identify. They have rounded heads and large conical teeth; they look like black and white oversized dolphins, and in fact they are the largest member of the family *Delphinidae*. Depending on how one looks at an orca, it is either a pint-sized whale or a whale of a dolphin. At birth, the mammal is eight feet long and weighs 400 pounds. Males grow as long as 30 feet and as heavy as five to seven tons; females are smaller and may measure up to 20 or 25 feet, weighing two to four tons.

While swimming, these whales can be distinguished from other mammals in the sea by their striking coloration. They have glossy black bodies; a white patch behind the eye; white underparts; and a grey patch behind the dorsal fin called a "saddle patch," which varies in size and shape and which scientists use as an identifying mark. The dorsal fin, which reaches heights of six feet in males and about two feet in females, usually has an identifying mark—a notch, scratch or variation in pigment.

On the average, females in any particular pod reproduce every ten years, although the time varies greatly. One or two females in the pod may calve every three years, while others in the same pod appear barren. Calves generally nurse for about a year and stay close to their mothers for about three years, Storro-Patterson said. Sexual maturity occurs at age eight in females and sixteen in males.

In the past, the life span of orcas was thought comparable to humans'. Recent studies, however, indicate that while males live about 50 years, females may live up to twice that long.

One of the species' most intriguing characteristics is its vocalizations, consisting of three distinct sounds. Echo-location sounds, which are high-frequency clicks, are used to interpret the environment. Social and communication sounds—whistles and low-frequency rapid clicks called burst pulses—are used by the whales to identify and communicate with each other.

According to research done by John Ford, a Ph.D. student in zoology at the University of British Columbia, each pod appears to have a dialect of its own, though no one knows yet what the sounds mean. Ford's studies indicate orcas vocalize about 70% of the time.

Orcas may be capable of preying upon anything alive but are not themselves preyed on by any creatures except humans. Commercial whalers usually kill a few hundred orcas yearly, mostly for oil and byproducts. Storro-Patterson said, however, Soviet whalers told the International Whaling Commission they had killed 960 orcas in one season three years ago. Orcas often follow whaling ships around to get the tongues of whales already killed.

What effect these killings have on population is unknown. The total population is difficult to estimate because orcas are found in polar and tropical oceans throughout the world, making them one of the most widely distributed cetaceans. Today fewer of them are removed from their natural habitat for display to humans because most countries have passed regulations forbidding the removal of orcas from their waters. In 1976 the Canadian government declared that no more orcas could be removed from Canadian waters except as replacements for those whales that died in Canadian aquariums, and in 1971 the state of Washington began regulating the removal of orcas from San Juan waters. In 1972 killer whales were granted federal protection in the United States under the Marine Mammal Protection Act.

Now Iceland and Japan are the only countries that allow orcas to be captured for commercial display; the animals are sold to marine shows and aquariums for an estimated $200,000 or more. In the past, killer whales in captivity provided much of the knowledge we now have about the mammals, but today scientists do their research on orcas in the wild, observing them from boats and land, as in the Robson Bight, where the whales swim within 15 to 30 meters of shore.

In *Mind in the Waters*, cetologist Paul Spong says, "In a very real sense, *Orcinus orca* occupies a place in the oceans equivalent to the one we occupy on land." But there may be one element missing: He says, "One speculation I am particularly fond of is the thought that *Orcinus orca* is probably a creature which has little or no experiential reason to know fear; it may literally be fearless. I sometimes wonder what our human lives would be like if we were not, as we are, creatures of fear." □

Patricia Guthrie, an editorial intern for Sierra, *is completing her senior year in journalism at Northern Arizona University.*

THE ALASKA LANDS ACT
The Beginning of What?

EDGAR WAYBURN

ALASKA HAS BEEN a place of profound and exciting changes since my first visit in 1967. In a decade and a half, not only was oil discovered on Alaska's arctic slope and the world's costliest pipeline built, but the state went from economic rags to undreamed-of riches. Alaska's Native peoples—after 100 years of trying—saw their land claims settled, and they are becoming corporate owners of some 44 million acres of Alaska land. And in 1980 Congress recognized the national significance of Alaska's fabulous terrain and the life it supports by passing the landmark Alaska National Interest Lands Conservation Act (ANILCA). Thus, in just fifteen years, Alaska and its Native people achieved economic autonomy; the state's lands have been all but subdivided (with the state still getting its 104 million acres out of the total 375 million), and a pattern of prudent land use has supposedly been established for Alaska's federal lands, with more than 100 million acres of previously unreserved public domain now dedicated for protection and/or preservation.

I travelled around Alaska once again this summer, and it was obvious that the state and many Native people were making great strides because of these changes. But, during my visit, I had increasingly uneasy feelings about what was happening under ANILCA. True, the map now shows many new boundaries, but on the ground it's hard to distinguish the new conservation units. Even inside new areas supposedly set aside for protection, there were signs of a big new push for development and, along with it, old-time and destructive land-use practices were booming in too many places in and adjacent to new conservation units:

- Streams and rivers were filled with mud as their banks were being dredged-out in a revivified search for gold.
- Open pits were being gouged in a stepped-up search for valuable minerals.
- There was pressure on bear, moose and caribou populations, and wolves once again were being hunted from the air.
- The air itself was filled with more and more aircraft, including helicopters.

In addition, the state of Alaska is pushing for state ownership of the pipeline corridor, including those portions adjacent to new federal conservation units, which are vulnerable to damage from development outside their boundaries—to be opened up for "multiple use."

All of this signals new policy emanating from Washington, D.C., and the fact that ANILCA is being implemented contrary to the intent of the law. Secretary of the Interior James Watt has stated that he would use the budget as "an excuse to make policy decisions." A look at some of the specifics is illuminating. Budget priorities of federal agencies are being skewed radically toward development:

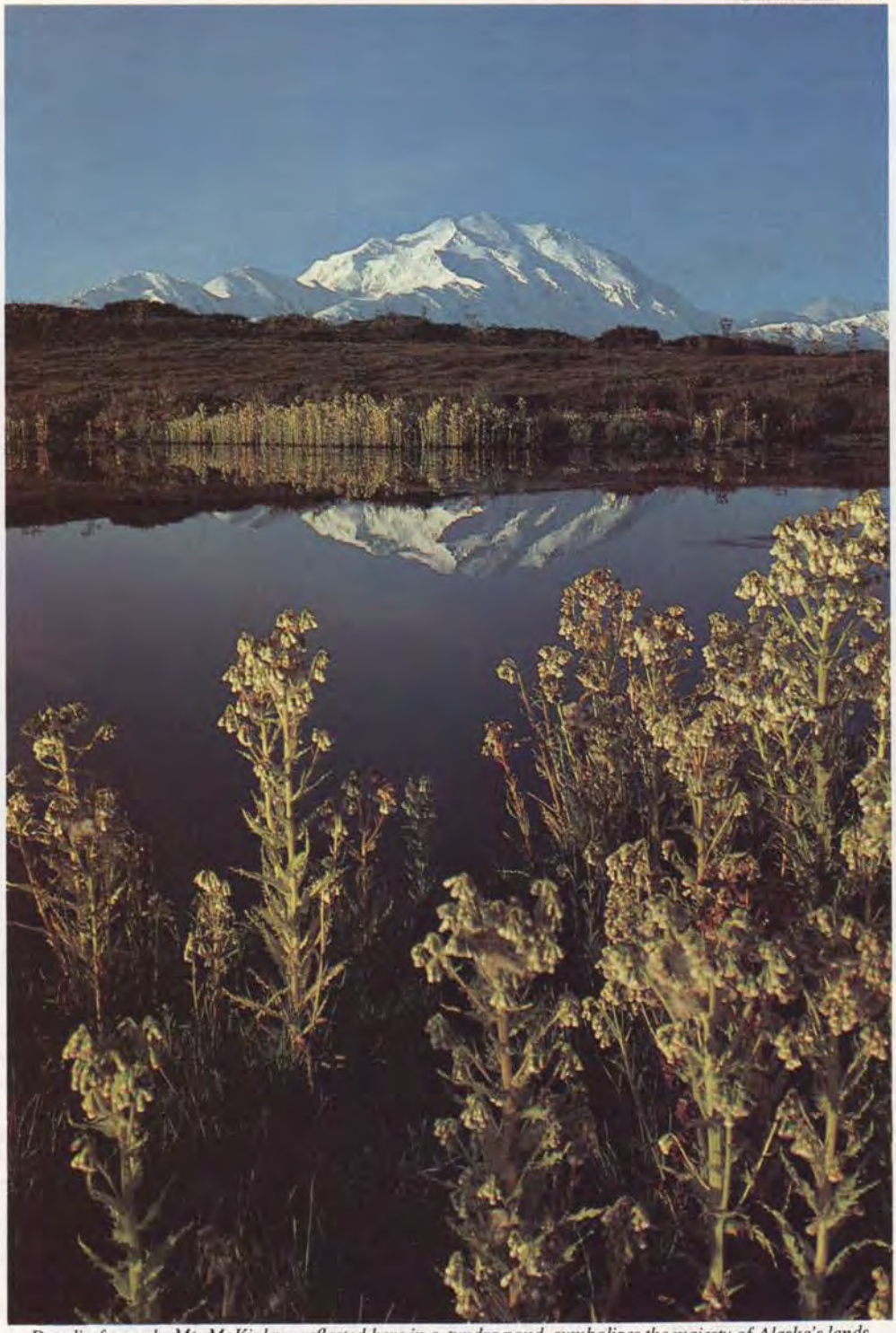
- The Department of the Interior's single largest 1983 budget request for Alaska is $9.4 million for the Alaska Mineral Resource Assessment under the United States Geological Survey; this is $1 million more than the combined planning budgets for all other Interior agencies in Alaska.
- The National Park Service, whose Alaska lands were increased by 700% by ANILCA, has received a paltry 50% increase in funds to administer its additional acreage. Hit disastrously in the field (each ranger administers an average of about 2 million acres of parkland), the service is also crippled seriously in planning and maintenance capabilities.
- Of recent BLM requests for developmental activities 60% were granted; 2% of estimated conservation requirements under ANILCA were allowed.
- The U.S. Forest Service, Region 10, in its 1982 budget allocated 75% of its funds for logging—and versus 11% for conservation and wilderness.

As part of the Secretary's "good neighbor policy," he is abandoning the caribou habitat and migration treaty with Canada and is proposing the expediting of oil and gas leasing both on and offshore. He has halted the survey of BLM lands for possible wilderness classification while directing aerial wolf hunting on BLM lands. He has gone even further, superseding his own authority by designating the USGS to draft guidelines for oil and gas exploration in the Arctic National Wildlife Range (it was Congress's intent that U.S. Fish and Wildlife Service be the lead agency). While the U.S. District Court has ruled that Watt had no authority for this action, the study proceeds and will soon be complete.

Understandably, the federal agency people in Alaska are acting on new ANILCA requirements and regulations in accord with what they perceive to be the desires of the Reagan administration. When they don't, they

Many long-range decisions are being made that may ultimately harm rather than benefit Alaska's wild lands and the life they support.

W. E. RUTH/ALASKA PHOTO



Denali—formerly Mt. McKinley—reflected here in a tundra pond, symbolizes the majesty of Alaska's lands.

find themselves overruled. In such a climate, many long-range decisions are being made that may ultimately harm rather than benefit Alaska's wild lands and the life they support. In too many cases, as well, new laws are simply not being enforced.

It was known when ANILCA was enacted that it was not an ideal piece of legislation. In some sections it is seriously flawed, and it embodies a number of compromises. Some shortcomings were obvious: provisions, for example, that allowed land selection within a wilderness monument, called for the logging of 4.5 billion board feet every decade in the Tongass forest, and mandated the construction of a transportation corridor through an incredibly beautiful and fragile portion of the Gates of the Arctic National Park. But the scale and scope of what is now happening in Alaska and the woeful implementation of ANILCA are something different. All of us who worked so hard for the passage of ANILCA must make ourselves heard again—loudly. We must give Congress strong support in its efforts to review and enforce the intent of ANILCA's laws. We must give strong support to federal conservation agencies in Alaska in their efforts to obtain adequate funds. This means more letters to your Washington representatives, perhaps more congressional hearings and certainly more renewed and widespread involvement. For, significant as ANILCA is—and it remains the greatest conservation achievement of the century—it was not an end but, potentially, a great beginning. Without a vigorous revival of our efforts, the greatness of that beginning may be irrevocably lost. □

Edgar Wayburn is a member of the Sierra Club's Board of Directors and chairs the Alaska Task Force.

The junction of the Rohn and Regal glaciers in the new Wrangell-St. Elias National Park. GEORGE HERBEN/ALASKA PHOTO

Campaign Journals

MARY LOU VAN DEVENTER

The Fight to Save Wild Alaska, by Robert Cahn. National Audubon Society, Information Services Department, 950 Third Ave., New York, 1982. Free.

GETTING the Alaska National Interest Lands Conservation Act passed was a years-long effort that involved thousands of people across the nation. Recently two small books worth looking for have been published on the subject. One, a special issue of *Alaska Geographic*, is reviewed in the books section of this issue of *Sierra*.

The other is *The Fight to Save Wild Alaska,* published by *Audubon* magazine and written by Robert Cahn, one of the country's preeminent environmental writers. It is a 32-page account of the political campaign to save the Alaskan lands; it includes the stories of surprises around every corner that are so characteristic of political life, especially in Washington. The biggest wheeling and dealing in the country goes on there, and big futures sometimes hang on whether someone was in the office on a particular morning when a phone call was made.

Even though the legislative conclusion has long since been known, the tale as told by Cahn still is suspenseful and amusing. It's also full of well-known environmentalists, including many Club activists, who helped coordinate the Alaska Coalition, which had 62 member groups.

The bill that was finally passed protected more land than any other single legislative act in history. Its complicated passage makes a good tale and a valuable historical document. □

HOUSING:
THE ENVIRONMENTAL ISSUES

Wasteful misuse of agricultural and rural lands is only one aspect of housing as an environmental issue. BILL OWENS

HOUSING MAY BE the sleeper environmental issue of the '80s. In the past, environmentalists who advocated slower residential growth were accused of undermining the American dream of owning a single-family home on a quarter-acre lot. Ironically, today that dream is dying, precisely because society has ignored the constraints of natural resources on unplanned home building.

With the nation's attention now riveted on high mortgage rates and their impact on housing prices, the primary reason for exorbitant home prices—the rising cost of land, lumber and energy—has been largely ignored. Although the Federal Reserve System can lower interest rates with the stroke of a pen, there is no similar way to control the cost of housing's basic building stocks. Plans to save the housing industry now advocated by the President's Commission on Housing and the National Association of Home Builders will fail if they do not directly tackle the problems of preservation of farmland, timber management, and energy standards for residential construction and maintenance.

BRUCE STOKES

The price of a house is determined by the type of land it occupies and the materials, labor, financing and energy that go into building it. In 1980, land represented 23% of the price of an average single-family home, and materials accounted for an additional

31%. Financing, by comparison, represented only 12% of the price. Although these proportions may differ somewhat in California or in some big northeastern cities, the importance of natural resources to the housing industry is clear.

As rising affluence and population growth have intensified the demand for residential land, prices have spiraled upward. During the '70s, the average cost of housing lot rose by 6.6% per year, somewhat slower than the inflation rate. This average, however, masks more dramatic price rises in rapidly growing cities. Land costs in the San Diego area, for example, quadrupled between 1975 and 1980.

Residential land prices increase fastest on the fringe of urban areas, and high prices determine the ways we choose to use such land. In the Midwest, the value of land for agricultural use is often less than half its value as a home site. This price difference acts as a magnet, drawing farmland on the edges of cities into residential use. As a result, nearly a half-million acres of prime cropland were converted to residential use each year between 1975 and 1979. At this pace, lower prices for residential land today will be offset by higher food prices to consumers tomorrow.

Another natural resource, lumber, is as important as land in building almost every type of housing. Wood-frame homes have walls, roofs and sometimes even foundations made with lumber; concrete structures use extensive amounts of wood for frames and joists. Moreover, wood is widely used to build floors and to finish and furnish houses.

It takes more than 11,600 square feet of softwood lumber and 5800 square feet of plywood to build an average single-family dwelling. Until recently, roughly 1.7 million new houses were built every year. So it is no surprise that about two fifths of the total annual U.S. production of softwood lumber and plywood is currently used for home building, making housing the single largest user of lumber.

Builders must buy this basic component of housing at increasingly higher prices. While annual price changes have followed the roller-coaster path dictated by the erratic nature of housing starts, softwood lumber and plywood prices have tripled in the last ten years. Soaring lumber prices, according to a study by the Council on Wage and Price Stability, "have been a recurring problem of increasing severity in every expansion of housing demand since the mid-sixties."

Several factors should keep lumber prices climbing. Although the United States is in no immediate danger of being deforested, the rising demand from overseas, especially from Japan, will reduce the supply for domestic building, as will the growing use of timber for firewood. These external pressures, combined with the steady call for more housing on our own shores, could have an explosive impact on lumber prices.

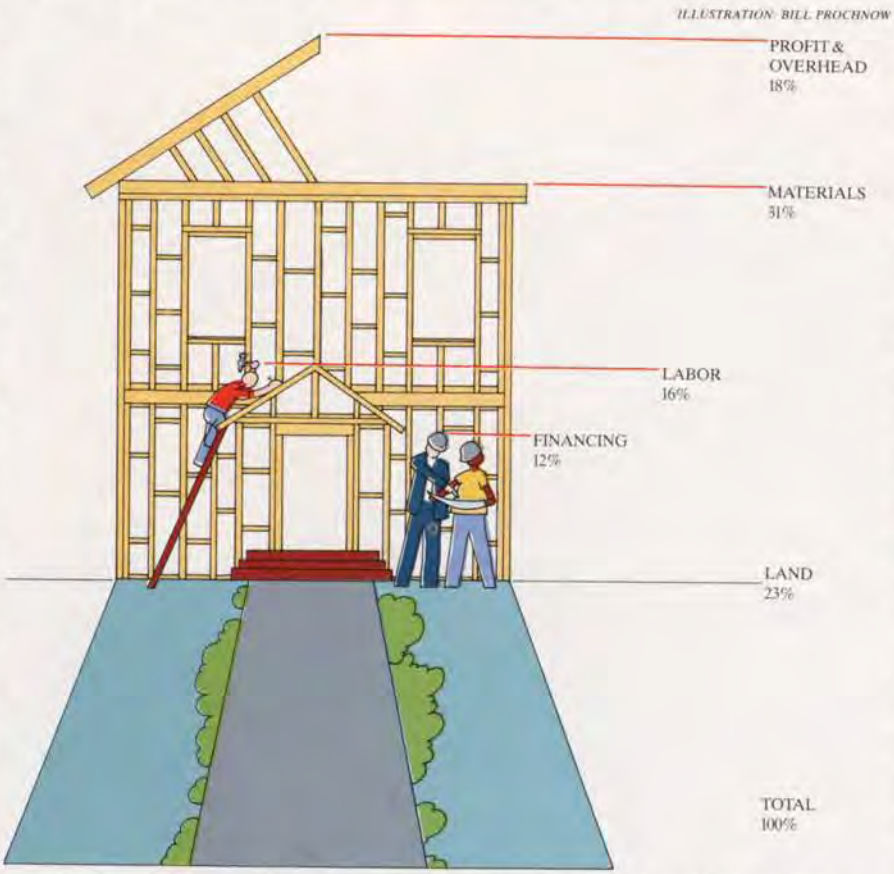
Because U.S. production of softwoods has not kept pace with demand, imports have increased along with prices. In 1960, the United States imported (principally from Canada) less than 10% of the softwood it used. By 1977, net imports had jumped to 22% of consumption, and the U.S. Forest Service expects them to remain near that level through the end of the century.

The cost of another natural resource, energy, often isn't figured into the price of a house. Houses consume energy both in their construction and in their day-to-day use. Residential construction accounts for about 2% of overall U.S. energy consumption—including the energy used directly in the building process and the energy that has gone into producing construction materials as a result of their mining, harvesting, or manufacture, their finishing and their transportation. By comparison, the energy used to light, heat, cool and ventilate buildings accounts for roughly one third of U.S. energy consumption.

A homebuilder's choice of materials has significant energy implications, both short- and long-term. Softwood products require an average of 7700 BTUs per board foot; plywood contains an average of 9300 BTUs per square foot (roughly equivalent to a board foot). In addition, rising fuel costs now represent between a third and a half of the basic production expenses for cement. Thus, building a house involves a large investment of energy no matter what construction materials are used.

Moreover, housing construction in this country historically has disregarded energy considerations, resulting in highly inefficient residential energy use. Single-family houses and high-rise apartments dominate the market, even though they are the most energy-intensive to build and consume the most energy to maintain. It is increasingly apparent that the home construction industry is where the American automobile industry was a couple of years ago: building energy hogs it can no longer sell.

In the past, efforts to deal with rising housing costs have focused on manipulating the mortgage rate to stimulate new building, in the hope that sheer volume would somehow solve the problem. Today, as the limits



Cost Components of a New Single-Family House in the United States in 1980
Source: National Association of Home Builders.

Smaller Houses for Smaller Households

© BARRIE ROKEACH

Typical single-family houses with surrounding yards divide and waste valuable open space.

BRUCE STOKES

THE COMPACT, resource-conserving house of the future will be ideally suited for the new American household. The archetypal home-buying family of a husband, wife and 2.2 children is passé—the needs of single-parent households, the divorced or single, and the elderly call for innovative housing arrangements.

A homebuying tidal wave hit the United States in the seventies and will continue through the eighties. The post-war baby boom has come of age. In 1980, 28% of the population was in the prime homebuying group of 25 to 44. In a decade, this portion will grow to 32% before it begins to shrink.

Population size is only a rough indicator of housing demand, however. A more precise measurement is the rate at which new households are formed, through marriage, divorce, children leaving home, and so forth. The number of households has been growing at an unprecedented rate of 2% per year, largely because of changes in people's incomes.

Over the last two decades, with greater financial resources at their disposal than their parents ever had, young married couples bought homes of their own at unprecedented rates. New job opportunities for women and rising incomes brought more female-headed households into the housing market. Incomes became increasingly concentrated in the hands of two-income families, giving them greater leverage to buy a home. Thus, while in one out of five households both partners are employed full-time, a 1979 survey in Chicago showed that such two-income couples represented three fifths of all homebuyers. Overall, more than one fourth of the demand for new housing arose because of higher family incomes.

The impact of higher incomes on housing patterns has been amplified by recent social trends—principally the breakup of the nuclear and the extended family. The divorce rate has doubled in the last 20 years. More and more young people have chosen to live on their own after they complete their schooling. Lastly, the combination of increased longevity and improvements in government income-maintenance has meant more elderly people can live on their own for a number of years rather than with their families or in institutions. As a result of these social changes, the number of one-person households grew by 54% over the last decade, and currently accounts for nearly one in every four homes.

Changes in the social trends that affect patterns of household formation are more difficult to predict than demographic changes, but they would appear to increase the demand for housing. The divorce rate is likely to remain high. The rising age of marriage increases the chance that more young, single adults will want to set up housekeeping on their own. In the years ahead, people over age 65 will represent an even greater share of the population, potentially sharpening the demand for housing.

These social trends have added to housing demand in the past; in the 80's and 90's they will be pitted against bleak economic prospects, which could inhibit future household formation. Although the Census Bureau expects female participation in the work force to continue to increase even while some "baby-boom" era women pause in their careers to have children, the recession may inhibit some women from striking out on their own. Similarly, many young adults are already living with their parents beyond the age their older brothers and sisters did, largely because of the rising costs of rents and mortgages. Group living by unrelated individuals, a traditional indicator of a lack of affordable housing, is also rising. And in years ahead, as a shrinking portion of the population works to support the elderly, retired people living in homes of their own may be something society can no longer afford.

These demographic and social changes are already creating a push for new types of housing. Smaller households, which face rising costs for land, building materials and energy, are exploring ways to make better use of living space. "Mingles" units, housing units with two or three master bedrooms but with a common kitchen and living area, are becoming popular. Such households give unrelated individuals, such as single people in their first jobs, the opportunity to own a home at an affordable price while maintaining a measure of privacy not available in a communal arrangement. Older people and couples with grown children who have left home may find this a particularly attactive way to avoid the isolation of impersonal apartment complexes. In addition, large houses increasingly are being divided into several units, while the basements of single-family dwellings are being turned into apartments. As many as 1.7 million new housing units could be created from the surplus space in existing homes, roughly the equivalent of one year's supply of new housing.

These trends demonstrate that the housing market can respond, albeit slowly, to environmental constraints and demographic and social changes. The nature of these changes suggests a future for housing quite unlike the immediate past. □

Sprawling suburban developments annually destroy millions of acres of agricultural land. © BARRIE ROKEACH

of the world's finite resources become clear, more finely articulated housing policies are needed, policies that directly manage the land, building materials and energy that go into housing.

Getting a handle on land costs would be a good first step. The average size of an unfinished residential lot in the United States is currently more than 12,800 square feet. Such profligate use of land cannot continue. Establishing minimum density requirements would promote house clustering and a more efficient use of land. In time, individual yards and gardens might give way to common space, reducing land costs.

The process has already begun. For example, Village Homes, a 230-household development in Davis, California, was designed in clusters of eight to ten homes each. Lot sizes measure half the national average. The clusters' shared backyards are maintained by the community and include vegetable gardens, fruit trees and playing areas.

Planning this way allows land to be used for more than just housing. "By eliminating the small front lawns," says Mike Corbett, Village Homes' developer, "we were able to use that acreage collectively. . . . We now have twelve acres (out of 77) in agricultural production." Clustering houses has also cut heating and cooling costs and has reduced the amount of energy and materials used for roads and parking areas. The development's environmentally sensitive construction avoided the need for expensive storm drains. Instead, natural runoff creates attractive brooks and lakes during the rainy season.

Slowing urban encroachment on agricultural land cannot, however, be left to the discretion of individual builders. To redirect development will require public intervention in land markets. Recent efforts in New England and the Pacific Northwest to buy up farmers' development rights have proved cumbersome and expensive. A more promising alternative may be the French system of nonprofit land banks. These *Sociétés d'Aménagement Foncier et d'Établissement Rural* can legally preempt any sale of farmland, assist those who wish to remain in farming to obtain land, and keep prime land from being subdivided. These land banks now control about one eighth of all French agricultural land sales. Even when they do not enter the market directly, their right of preemption has an important effect on market behavior.

As with land transactions, the availability and price of key building materials can no longer be left solely to the marketplace. In an era of abundance, the free-market approach made sense. Today, with multiple demands placed on timberland—for wood products, for recreation, for energy and minerals and for habitat preservation—domestic lumber requirements must be plotted against expected foreign demand and against needs for other forest-products. Only in this way can we ensure that timber now being grown in the Pacific Northwest is not being counted on to build houses in both Japan and southern California.

Any closely coordinated timber management involving both the Forest Service and

the major timber companies will be politically volatile. Considering the current political climate and slack housing market, such planning is unlikely. Yet the nearly unrestricted production advocated by some supply-side economists and industry representatives would perpetuate the current boom-and-bust cycles, with devastating long-term effects. Forest environments would suffer, as would communities in lumber-producing areas.

But better management of forest resources by itself will not meet future building needs. To preserve these resources, we will have to use alternative construction materials. Plywood and other wood-based flooring materials are already being used increasingly in place of sawn wood. The amount of plastic now employed in construction could be increased severalfold by the end of the century, reducing the use of wood and metals while saving energy, because plastic building materials require significantly less energy to produce than do steel or aluminum. In addition, since engineered plastics and plastic reinforcements are often stronger and lighter than other materials, their use could reduce shipping costs and the amount of materials required in building superstructures.

Designing houses with an eye to reducing their use of vital materials will be one of the architectural challenges of the '80s. Finding a way to support a roof with less material or designing an attractive wall without using expensive finishings may not be as exciting as building an all-glass skyscraper, but innovations like these will certainly reduce demand for natural resources.

Still, probably the most important change needed in housing is reducing residential energy use. Recent studies indicate that a homebuilder's choice of materials can result in as much as a 40% difference in energy use over a fifteen-year period. A survey in the early '70s found that multifamily structures use at least one-third less energy than single-family dwellings do. These findings need to be translated into policies that encourage builders to construct energy-efficient, low-rise multifamily dwellings.

There is every indication that consumers are waiting to buy homes. In a recent survey of 1400 homebuyers, three out of five people said the energy-saving features of their new houses influenced their decisions. Even more said they thought energy conservation would affect their next home purchase, and the majority of those surveyed said they would be willing to pay more to get an energy-efficient home. Just as appliances now carry labels indicating their level of energy consumption, the market seems ready for house advertisements touting low lifetime energy use.

Natural-resource constraints facing housing in the '80s will inevitably begin to shape our living patterns. The single-family, free-standing house is a peculiar design based on cheap energy, land and materials. The rising cost of these resources means that a growing portion of the population will live in townhouses and small, multifamily dwellings—units that take less energy to build and maintain, while at the same time conserving land and materials.

More people will also choose to rehabilitate older housing in an attempt to cut costs by conserving resources. Recycling a building saves resources in two ways: first, use of existing walls and internal structure reduces the amount of material and energy needed to create a livable space; and second, rehabilitation often uses materials that require less energy to perform a given function. The building materials used in alterations embody much less energy compared with materials used in new bulidings. Also, older buildings, often designed to be compatible with their environment and to be naturally heated and cooled, can be rehabilitated to rely on many of these same solar energy principles, thus reducing their dependence on nonrenewable fuels. Overall, the energy used per square foot in rehabilitation is roughly half that for new construction.

The house of the '80s, like the car of the '70s, will be downsized to conserve resources. The typical new home in 1990 may contain less than 1400 square feet of finished living space, a return to the size of homes built in the '60s. Architects will face the challenge of creating a spacious feeling within a smaller area. The total number of rooms per home will be reduced; people who could afford a separate dining room when housing cost $40 a square foot may no longer want one a decade from now, when housing could cost more than twice as much. Most new homes will have one bathroom, smaller kitchens with fewer energy-consuming appliances, and more compact bedrooms with built-in furniture, cabinets and closets. In short, households will have to make do with less overall space, energy and materials.

But although most people can expect to live in smaller, less resource-intensive homes, the quality of their lives need not be diminished. New and innovative uses of building components can create a positive, affordable housing future. If society learns to manage supplies of land, building materials and energy, we can increase the chances that today's children will live in housing just as good as, if not better than, that of their parents. □

Bruce Stokes is a senior researcher with Worldwatch Institute and author of Helping Ourselves: Local Solutions to Local Problems.

NAHB and the Club Agree

In January 1982, the National Association of Home Builders and the Sierra Club issued a joint statement on development principles that both groups agreed to. Following is the text of that agreement:

America's demand for housing and the pressure on natural resources continues. To promote decent, affordable housing in a sound environment, the National Association of Home Builders and the Sierra Club will encourage:

1. Building of needed housing as "infill" on appropriate vacant land within urban and adjacent suburban areas at densities sufficient to encourage cost-effective transit service.
2. Rehabilitation of older usable housing.
3. Compatible mixes of housing, commerce and industry.
4. Energy-efficient building designs and water conservation measures.
5. Development of adequate, cost-effective transit service.
6. Governmental acquisition, with fair and equitable compensation, of parks and open spaces.

These development patterns would conserve energy, water, land and building materials. Such patterns would improve air quality and make better use of existing urban infrastructure. Additionally, these patterns would reduce development in forest lands, agricultural lands, wetlands and other natural areas.

We urge neighborhood leaders and groups, builders and planning officials to cooperate to produce projects that respond to community needs and that respect existing neighborhoods.

We urge state and local governments, after assuring this cooperation, to improve permit processes by specifying development requirements in advance, by coordinating review times when projects are proposed, and by eliminating unnecessary delays and duplicative reviews.

We further encourage local governments to adopt incentives and development standards that promote more efficient land use through higher densities and through cost-effective site design for infill areas. □

ACONCAGUA
GUIDING ON THE POLISH ROUTE

Text and Photographs by
PETER CUMMINGS

ACONCAGUA (22,835 feet) has attracted climbers for nearly a century because it is the highest peak outside of Asia, lying in Argentina near the Chilean border. Paul Gussfeldt, a German, led the first attempt on the Andean giant in 1883. It was not until fourteen years later that Aconcagua was conquered. A party led by an Englishman, Edward A. FitzGerald, ascended the mountain from its easy western slopes but was repeatedly turned back by exhaustion and the terrible cold at high elevations. FitzGerald's professional guide, Mattias Zurbriggen, finally reached the top alone on January 14, 1897.

By March 1934 the mountain had been climbed five times using the gentle but grueling western slopes. In that month a Polish expedition pioneered a new route using the long glacier on Aconcagua's eastern flank.

Aconcagua came into my life in the fall of 1980, when I was looking for work as a professional guide. A company operating international expeditions offered to hire me as assistant guide on Aconcagua. The job didn't pay anything, but my expenses would be covered.

From a climber's point of view the regular (Zurbriggen) route holds little attraction, since it is basically just a long slog up easy rock slopes. Setting a personal altitude record and reaching the summit of the Western Hemisphere are the usual reasons for grinding up this path. Hundreds have been to the summit in Zurbriggen's footsteps, often using the metal huts that now adorn the way. I was pleased that our group would attempt the more difficult but more beautiful and lonely route on the east side: the Polish Glacier.

Although I have been up higher and harder mountains than Aconcagua, I never look at a peak higher than 20,000 feet with complete equanimity. The altitude and weather are always major challenges. A small error or injury that would cause only aggravation in the Sierra Nevada can easily lead to tragedy on a major Andean summit. Many climb faster than their bodies can adjust. Dozens have perished on the upper slopes, victims of high-altitude cerebral and pulmonary edema often combined with hypothermia, brought on by the cold temperature and the fierce winds.

Early on January 19, 1981, I met the trip leader, Bruce Klepinger, at the Miami airport, and we checked 300 pounds of expedition gear aboard the flight to Argentina. I felt prepared for the climb but wondered how I would feel about the responsibilities and chores of guiding.

Seen from above, Camp I on the slopes of Aconcagua at 15,400 feet.

During our first week in Argentina the sense of romance about guiding began to fade. I felt more like a purchasing agent for a restaurant, since Bruce and I spent all our time planning menus and buying groceries. We spent more than $1000 on everything from cashews to cooking oil. Imagine shopping for all the food needed by nine hungry adults for a month, knowing that you couldn't keep it in a refrigerator and couldn't run to the store if you forgot anything. The strangest task was buying horseshoe nails for the mules we had hired to carry group equipment to basecamp.

Finally our clients arrived. They were just in time, since ants had discovered the crate of apples stored under my bed in the hotel. The members of the group were a cross-section of professional life: a lawyer, a doctor, three engineers, an author and a physics professor. All had strong climbing backgrounds, and all but one had climbed to 20,000 feet at least once.

The most unusual member of the party was Norman Croucher, a 40-year-old English writer and physical-disability consultant. Norm lost both legs below the knee at age 20 when a train ran over him. In 1969 he decided to toughen his stumps by walking the length of Great Britain on prosthetic limbs. He followed this with ascents of Mont Blanc, the Eiger, the Matterhorn and finally Huascaran, Peru's highest peak. His sense of humor became apparent the first day. Bruce lectured the group on weather hazards, ands he described the dangers of frostbitten toes, his gaze met Croucher's. Norm could not resist remarking with a grin, "I'm not worried, I never get cold feet."

On January 27, I beat off the ants and we drove to the trailhead. During the next three days we hiked more than 30 miles along the Rio de las Vacas (Cow Creek). The scene is one of dry desert mountains, much like Death Valley. The heat was debilitating, and it seemed doubtful that we would ever really need the thermal underwear, down jackets and double boots that filled our packs. Diary entry: "Yesterday was one of those exhausting days that really test you. As you slog uphill you think, 'Why am I suffering like this?' I am only moderately pleased with my role as guide. It is a lot of work. Because of the cooking chores, I am first up and last to bed. Always things to do."

We arrived at basecamp (13,100 feet) on January 30. All that day, as we dragged

Aconcagua, at 22,835 feet the highest peak in the western hemisphere, after a fresh snowfall.

Pat Morrow (with camera) and John Pratt on Aconcagua's summit.

ourselves upward, we had stunning views of the mountain. To my amazement, this side was beautiful, and the size of the peak was awesome. The summit rose nearly two vertical miles above our camp. The hot desert would disappear in the valley below us and, with sunset, chilly winds blew off the nearby ice. Washing dishes was painful in the morning because the water quickly froze on the cooking pots.

On January 31 the mountain began to take its toll of our group. Henry Bergner, the youngest at 28, was an experienced Seattle-area climber but had never been higher than the summit of Mt. Rainier (14,410 feet). In the evening it was clear that he had high-altitude pulmonary edema (HAPE): blue lips and nails, headache, hacking cough and marked apathy were now obvious.

With this illness, fluid leaks from capillaries into the air spaces of the lungs and, if the climber does not descend, he will literally drown in his own juices. When I listened to Henry's chest with a stethoscope I could hear the dreaded bubbling sounds, like a hundred tiny hookahs. There are three rules in the treatment of HAPE:(1) descent; (2) descent; (3) descent. We took Henry down to a private camp of his own. After a drop of only 1000 feet he improved markedly. Although he coughed up small amounts of blood for the next two days, he made steady progress toward recovery. He was denied the summit but was rewarded with several views of guanacos, the llama-like animal that inhabits this region. The deer-sized creature is quite fleet and graceful but has the habit of uttering a ridiculous cry like a turkey gobbling.

The next day Norman Croucher broke one of his prosthetic legs. Having journeyed halfway around the world, he was betrayed by metal fatigue. The engineers in our group examined the shattered support and suggested design changes, but without a spare, Norm's chance for the top was gone. Smiling and joking through what must have been bitter disappointment, Norm joined Henry in the lower camp. He stuffed the broken limb into a spare rucksack, leaving the ankle and boot protruding, and attached a note: "Help, I'm stuck in this pack!" Getting about on one leg and forearm crutches, Norm cut up a duffel bag and made knee pads and a canvas skirt. Solo, he crawled up a nearby peak of 17,000 feet. After several days he reached the top, slept up there, then slid down on his ingenious canvas padding.

It is often said that bad news comes in threes. On February 2 we could see helicopters high up on the mountain. That evening three Argentine climbers came down from the upper mountain. We fed them bread and cocoa and listened to a tale of disaster. With one other companion, they had been nearing the summit when two of them fell. The fourth man sustained such serious chest injuries and facial cuts that he could not eat or drink. Nor could he be moved, so for several days the three nursed him on an ice platform with no shelter. The helicopters had attempted a rescue but one of them crashed, killing the pilot. With this hope gone and the injured man now delirious, the others left him. Although they still talked of rescue, it was obvious their friend would die. Four days later a Canadian group found his body tied to an ice axe and dragged it to the lower part of the Polish Glacier. When we passed it later, the brightly colored down gear seemed out of place in the waste of snow and ice.

The next week brought increasing work and hardship as we carried loads to successively higher camps. The story is the same on all expeditions; the loads are too heavy, the slopes too long, the air too thin. When you move you are hot, with rest you become cold. Each camp is more cramped and less comfortable than the last. But with each sunset the view is more expansive, the colors more stunning. With each dawn you are closer to the summit and the scene is wilder and more removed from the world below.

If Aconcagua has any unique climbing feature, it is the *nieve penitentes*. These ice towers are an exaggeration of the suncups in the Sierra Nevada. The elevation and dryness on Aconcagua conspire to produce gigantic *nieve penitentes* more than ten feet high. Acres of the ice daggers set amidst a rocky moonlike landscape form a bizarre scene that contributes to the feeling one has climbed far away from planet earth.

By the time we reached our high camp at 20,000 feet I was feeling more comfortable with guiding. Bruce and I had worked out a good routine for the cooking chores, and I was enjoying the route and feeling well acclimated. The others were cheerful and eager for the top. One client, Mike Skreiner, magically produced two pounds of tasty fruit candies from his pack and shared them with everyone.

On February 9 my wristwatch alarm went off at 4 a.m. Four of us were crowded into a three-man tent on an uneven rocky ledge. I made room for the stove and by 5:30 had

scrambled eggs and tea ready. Soon we were all outside the tents struggling with crampons and uncoiling ropes. If a mountain god had looked down, we would have seemed like tiny colorful insects scurrying about our hives. Because we were high on the east side of Aconcagua, the sun reached us early and eased the bitter cold. It was clear but windy. I roped up with John Pratt, 31, a physics professor, and Tom Vaughan, 43, a San Francisco physician. We started climbing at 8 a.m., moving left and up across the huge glacier, weaving a path between crevasses and seracs.

While climbing, my mind wandered back 47 years to the Polish climbers' expedition. I had read their journal in *Mas Alto Que Los Condores* before our trip.

The journal said Koko Jodko-Harkiewicz, Victor Ostrowski, Stefan Daszynski, and Stefan Osiecki had been cutting steps in the ice all morning. Ostrowski's mood alternated between optimism that they would succeed and despair that the slopes would never end. When they finally crossed the gaping bergschrund at the top of the glacier, some of the nervous tension eased. They rested on the gentler snow slopes above, drinking hot liquids from a thermos and eating sugar cubes. While trying to get his breath, Ostrowski watched condors circling lazily below. It was March 8, 1934.

In less than four hours we were off the steep upper slopes of the glacier and astride a narrow ridge. To one side we could look past our boots at the 7000-foot drop of Aconcagua's south face. In the other direction lay the thousands of feet of ice and rock we had already climbed. The ridge was so narrow that we took care walking for a quarter of a mile until it broadened into a gentle slope. We trudged on for hours over a series of snow-covered false summits. Finally at 4 p.m. we were on top among the mementos and junk left by previous expeditions. The earth fell away in every direction.

The old journal said at 6 p.m. the Poles were on top. They felt overwhelmed by emotion. They were amazed to find a note saying that an Italian expedition had climbed the regular route the same day and had descended just a few hours before. Thus the mountain's sixth and seventh ascents occurred within a few hours of each other. Finally they realized they had to leave; it was rapidly becoming dark, and Aconcagua's giant shadow was swiftly covering the peaks and clouds to the east. As they started down they felt horribly fatigued.

Just a half-hour after we started down, John Pratt developed the signs of high-altitude cerebral edema. He had had tremendous physical and psychological drive to reach the top, frequently being the fastest hiker on the trip. Now his sense of balance deserted him, and he repeatedly staggered and fell. His speech became slurred, and he acted like a comic drunk. But there was no comedy, since we still had to negotiate the narrow ridge and steep slopes below. During the next few hours I earned my keep as a guide. Tom Vaughan was very strong and led down first. I went last on the rope to check the falls of our sick companion. Pat Morrow, part of the Canadian group that was on the route, joined the rope just ahead of John and helped him down. As we descended I kept thinking that this was like escorting a drunk over a tightrope with no net. John's balance improved as we got lower and by 8 p.m. we reached the tents. Bruce, Mike, and Jan Balut had reached the top shortly after us. Jan, 56, was born in Poland, so it seemed only fair that he should reach the top. They came down well after dark, tired but pleased.

Top: Norman Croucher, early in the expedition, hiking along the Rio de las Vacas. Above: Bruce Klepinger cooking in a tent at Camp II.

The Polish journal said shortly after dark Koko collapsed and refused to go on despite cajoling and threats from the others. The two Stefans decided to go down, leaving dried fruit, sugar, and their scarves. Victor carved out a platform in the ice and he and Koko huddled there for the longest night of their lives. The cold was terrible but the thirst was worse. Their tongues were sore and their throats felt raw. They could see lights in basecamp far below and wished themselves there with sleeping bags, warm food, and unlimited water. Luckily there was no wind and they survived. With the dawn Koko was able to go on and they slowly made their way down to Dr. Dorawski and Adam Karpinski, who had climbed up to bring them chocolate, raisins, and precious water.

Coming down from the summit, I saw a lone climber at the high camp. It was Henry Bergner, who had recovered and now hoped he could go to the top. Tony Batelle, who had been too tired to come with us on summit day, now felt recovered and wanted a chance as well. I agreed to go with them, but the next day a storm came in with high winds, creating avalanche conditions that forced us to retreat.

A few days later we reached the Rio de las Vacas and had our last view of the Polish Glacier. Looking back, we felt a bond of adventure and achievement with the men who had been there 47 years before. □

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OFF-SEASON

The colors are bright and the trails less crowded during fall in the Colorado Rockies. © LLOYD ENGLERT

THE MOUNTAINEERS, an innovative publisher based in Seattle, Washington, has published *Hiking Light*, a valuable guide to the entire spectrum of the latest innovations in hiking equipment and techniques. Now that fall is here, the following two excerpts might be especially useful.

THUNDERSTORMS

In thunderstorms, the chances of being struck by lightning are almost statistically out of the range of possibility if you make the right decisions at the right time. Do not make yourself into a human lightning rod and avoid positioning yourself inside or right next to natural lightning rods. Lightning's initial thrust hits the highest points in an area or the highest objects in otherwise flat terrain. After lightning strikes, then the charge or current moves. It streaks along cracks in rocks or along shallow moving water. Metal also attracts lightning.

Storms come on gradually. They seem sudden only because you have not heeded the warning signals. In some locales storms follow easy-to-discern patterns. Each afternoon, for example, a brief thunder and lightning display rolls in. The rounded mass of dark clouds, the thunderhead, creates a distinctive warning, and if you stay in tune with the hour-by-hour observable subtleties of the weather, you will know far in advance that a storm is brewing.

When a storm commences, you can be scientific about locating lightning relative to where you are. For every five seconds between the visible flash and the audible thunder, there is one mile between you and the center of the lightning activity. Determine the direction of the wind, since it is important to know if the storm is moving toward or away from you. If it is coming your way, you can make another scientific deduction and know that, in the average 25-mile-per-hour wind, a thunderstorm will move about a mile every two or three minutes. With the storm coming your direction, avoid anything prominent: a cliff's sharp edge, the highest peak or dominant outcropping, overhanging ledges that misleadingly look like safe caves, ridges in general, the base of a cliff where the charge could move from top to bottom. In addition, avoid being the prominent object yourself. A flat plain, meadow or plateau all make you the highest feature. For safety, go to places such as the bottom of a valley in contrast to a ridgetop, or to timber where the growth is pretty much the same height instead of crouching under the single tall, lone tree. Even there, posi-

CAMPING

MARLYN DOAN

tion yourself in a low, out-of-the-way manner. Then stay away from metal, including your pack frame, camera, belt buckle, tent poles, stove, or cooking utensils.

Off-Season Extras

When the hiking season stretches into fall and spring, refreshing isolation is possible even in summer-popular places. Off-season you'll experience new backcountry flavors. Fall colors brighten green hillsides. Budding plant life mingles with patches of snow, and springtime warmth erases the wintry nip in the air. In many areas off-season also means inclement weather and colder days and nights. To enjoy, you must come equipped for such possibilities.

In harsh off-season weather, tarping becomes risky; a tent offers more effective wind resistance and additional insulation. Tents go up faster, too, an important feature after a cold or wet day on the trail. For cooking shelter, an 8-by-9 tarp of 4-mil polyethylene with anchors and line is a reasonable and economical 26-ounce addition if the likelihood of rain is high. The extra tarp helps you avoid the dangers of in-tent cooking, allows you to stretch your legs while you're protected from wind and rain, and makes a small ultralight tent seem less cramped.

If you noticed the storm warning signs too late, and obvious electrical activity such as crackling and a visible bluish glow surround you, crouch or kneel away from your metal pack frame instead of stretching out full length or standing. Put an insulator such as your foam sleeping pad between you and the ground. The experts suggest that the members of a group spread out as many as 30 feet.

People struck by lightning can sometimes be revived. That's when your knowledge of first aid and CPR comes in. Your response must be quick. One person should immediately begin cardiac massage, another should use mouth-to-mouth resuscitation. Both procedures should be sustained until signs of life reappear.

For extensive off-season use, the extra warmth and wind resistance of lightweight rain pants of laminated fabric justify the added cost and weight. The improved heat retention means fewer pant layers are necessary. I've found that long underwear, either a wool fishnet weave or a thin wool-nylon tight weave, along with laminated fabric rain pants makes cotton-polyester summer pants comfortable down to freezing and slightly below. With vigorous activity wool fishnet weaves ventilate well. Some people like the 100 percent polypropylene under-layer. This light synthetic wicks moisture away from the skin and avoids the chill of perspiration-wet clothing. For people who cannot tolerate itchy wool next to the skin, polypropylene may be an especially attractive layering option. Wool pants add even more warmth in this three-layer approach, and of course when damp or wet woolens retain heat better than cotton-polyester combinations. Since off-season temperatures can range from the 70s and 80s or higher during the day down to freezing or below at night, wool pants with an extra sewn-in lining limit flexibility. When temperatures rise, you cannot remove the inner lining layer.

Use layering for top-of-the-body warmth too. Start with an underwear shirt, long or short sleeved depending on expected coldness. As with long-underwear pants, you can choose from fishnet wool, a thin nylon-wool combination, and polypropylene. All offer comparable warmth, cost, and weight. Your personal reaction to the feeling of the material against your sweaty skin should be one factor in your ultimate choice. Borrow from friends so that you can try out these under-layer fabrics. Then play with various over-layer combinations. Try two thin wool shirts or sweaters topped by a heavy tightly woven wool shirt or sweater and a lightweight laminated fabric rain jacket. You'll be certain that the warmth is adequate only if you test your combinations at home in temperatures comparable to what you expect in the backcountry.

Weigh what you are considering, for during the heat of a fall or spring day those warm layers will be in your pack. In the mountains during late fall or early spring, I occasionally take, in addition to my layers, my winter-weight down jacket. I pack it first in a coated nylon stuffing sack and then place it with the other extra and warm clothes in a small garbage bag. I have a fiberfill jacket, but it is half again as heavy as the down and its bulk consumes more pack space than I have with the other off-season extras along.

A person particularly sensitive to cold may always want an extra jacket for in-camp wear. In the future look into jackets using compressed insulation or metallic membranes meant to supplement fiberfills, and any other innovations which aim for a weight-to-warmth ratio comparable to down. With a jacket, the trick is to locate simple designs that are light enough, trim enough, and devoid of fancy styling extras so that you can reasonably carry them. Innovative materials are often marketed initially to capture the widest possible variety of buyers—the skier, the hunter, the fishing person, the back-yard leaf raker, the outdoor competitive sports spectator, the cold climate sailor—all of whom need warmth but do not carry the jacket's weight and bulk as you do.

Some people find vests are a just-right extra warm layer. I've taken my fiberfill vest, but the bulk consumed more pack space than three light wool shirts. A down vest in a stuffing sack, however, weighs only 10 ounces and compresses well.

Off-season a complete change of basic clothes become a necessity for safety, instead of a luxury. Adjust your choices to cold and wet weather. Long sleeves can replace short, a crew neck style is better than the cooler V-neck. Depending on drying out or laundering becomes unrealistic.

When any part of your body is cold, put on a wool hat and you reduce heat loss dramatically. Snug-fitting single-layer tight-knit wool hats average 1½ ounces, but a 3-ounce double layer hat increases the heat retention. Avoid extra topknots or decorations that provide no warmth.

When it's cold and wet, eating hot food provides a mental and physical boost. Your stove, your fuel, cooked meals, even hot soup for lunch make sense off-season. Since the cold itself makes your body consume calories, you'll need extra quantities of food. Keep track of the increases in your trip notebook so that the off-season weight additions correspond to real needs and you can plan accurately in subsequent years.

The off-season pack load has to be heavier than the weight carried for moderate summer-weather trips. Knowing this, you must prepare yourself with increased pretrip conditioning. If you run or bicycle 30 minutes three times a week, change to 45 minutes five times a week. Condition your back muscles too by walking with your pack a half-hour a day. Gradually increase your usual load to the anticipated heavier off-season load. If you are pressed for time, wear the pack with its gradually increasing load around the house while you do daily chores. Fifteen minutes morning and evening will develop the necessary muscle readiness. □

A Visit With John Muir

WILLIAM AND MARY NEWTON

John Muir and the Newton family on a hike in Muir woods.

MARIBETH PATRICK

"Saving these woods from the axe and the saw, from the money changers and the water changers is in many ways the most notable service to God and man I have heard of since my forest wanderings began. . . ."

—John Muir

In 1909 my grandparents took an extensive trip through the West, including Alaska, Yellowstone, Yosemite, Grand Canyon and the Petrified Forest. Among their travel journals I chanced upon entries about a meeting with John Muir. On Friday, August 20, grandmother, Mrs. William Newton of Omaha, Nebraska, wrote:

WILL TELEPHONED to Mr. John Muir (the naturalist) at Martinez, and his son-in-law answered for him that Mr. Muir was going to Muir Woods the next day, and invited us to meet him at the Santa Fe slip the next morning at 8:25, and go with him. Of course, we were glad to accept this invitation as we felt it would be a rare treat and privilege for us all, especially the children, to know Mr. Muir.

Accordingly, Saturday morning, August 21, we went to the ferry station and met Mr. Muir. He is of moderate height, thin, with grey hair and beard, and blue eyes. His accent betrays his Scotch birth, his manner is simple and quiet, his dress careless, but his keenness of observation is unusual. With him we went to the Mills Building, where we met the secretary of the Sierra Club, and then to the ferry station again, where we took a ferry across the bay. He talked interestingly all the way over of glaciers, their formation, action, results, and the marks and rocks they have left behind. After landing, we took a train to Mill Valley, where we changed to an open car which took us a delightful route up the mountainside. The way was dense with vines, trees and bushes for a while, and as we climbed higher, turning and twisting, we got beautiful views of the hills above and the valley below, with tracks here and there that we had gone over, or would go over soon, and presently a view of the bay and its islands. Climbing up the side of Mount Tamalpais, we obtained broader and still broader views, and found ourselves among redwoods, Douglas firs, and other beautiful trees.

When we had gotten about two thirds of the way up, we changed cars again, this time to a gravity car that took us at a rapid rate, around unnumbered curves and through enchanting scenery, down into the canyon—or valley—of Muir Woods; here we brought up before Muir Inn, where we had dinner. Mr. Muir invited us to stay overnight as his guests, and we finally decided to do so. We were assigned to cottages. Ours had two double beds, a showerbath and a porch overlooking the valley below. It was close to Mr. Muir's cottage.

As soon as we were settled, we started out with Mr. Muir on a long tramp down into and through the most wonderful forest of redwoods, interspersed with Douglas firs, chestnut oaks, bay, hazel, madroña, arbutus and other trees, besides bushes, vines and plants innumerable. Almost all the flowers were gone, but the woods were nevertheless gloriously beautiful, with the giant redwoods towering to heights of 150 to 200 feet. We walked until suppertime, seeing a large part of the park, and enjoying its beauties doubly because of the company of so great an authority as John Muir. His commentaries on all we saw made everything more

WILLIAM AND MARY NEWTON

John Muir on the grounds of his home; a freeway has now replaced Muir's orchards.

interesting and comprehensible to us. He showed us things we otherwise would not have noticed, and told us facts about those we did notice that we had not known before.

On our way back to the inn, we met a Mr. Gleason, a photographer from Boston, sent out by Houghton, Mifflin and Co. to get pictures for a new edition of Mr. Muir's book, *Our National Parks*. We all had supper together and then sat before the fireplace in the inn for some time, talking. Presently we four and Mr. Muir retired to our cottage; the children went to bed, and we three grownups sat on the porch in the cold. We might have stayed up all night listening to this delightful old man, simple and reverent, with a marvelous fund of learning concerning nature, especially glaciers, trees, plants and some of the animals, if it had not been for the extreme cold. He is one of our great naturalists. He told us, among other personal experiences, of how, while he was exploring Muir Glacier, he slept on the ice nine nights.

We had gotten so thoroughly chilled through that it took us a long time to get warm after we went to bed.

The next morning, Sunday, August 22, after breakfast, Mr. Muir, Mr. Gleason and we four took another long walk through the woods, and Mr. Gleason took a couple of pictures of Mr. Muir and ourselves, as I did not fetch my camera along.

Muir Woods is certainly a wonderfully beautiful place, with its giant redwoods rearing their heads to the sky without branches until they have reached the height of ordinary big trees, with trees of other kinds all about them, trees making a harmony of various shades of green; all this with a beautiful tangle of bushes, plants, and vines, and a tiny stream purling near made a picture never to be forgotten. There were a few birds in the woods, and a few fish and newts in the water. We know there must have been deer and other animals also, because we saw their tracks in the dust of the road.

Many of the redwoods have been badly burned, but fortunately they are very hard to kill, and even when they are badly burned or fallen or felled, ambitious roots and cones send up new trees by the dozens. But they grow only near the ocean, and in no other place in the world now, save California (and two small groves in Oregon), though in other ages they covered the earth, Mr. Muir says.

Tourists bothered Mr. Muir a good deal, stopping him and asking him if he really were Mr. John Muir, and wanting to shake hands, talk and ask questions.

At 11:05 we left Muir Inn after Mr. Muir had paid all our bills, insisting that he was our host and we his guests, and we had the same delightful ride back to the city. On the way we met Miss Alice Eastwood, a great California botanist, who was connected with the Academy of Sciences, but is now at Cambridge, and who has written a book, *Trees of California*. With her was Robert Porter, a lawyer here—both were friends of John Muir and of Mr. Colby, secretary of the Sierra Club, of which Mr. Muir was president.

Arriving in the city, Mr. Gleason got his wife, and they and Mr. Muir took dinner with us, and then we all escorted Mr. Muir to the ferry station. Before going, he invited us to visit him on Tuesday at his ranch at Muir Station near Martinez.

TUESDAY AUGUST 24, 1909, we got up quite early and at the ferry station purchased fruit for breakfast. We took the ferry boat across the bay, and then the train through the hilly country to Muir, which is a little station near Mr. Muir's residence, set in a beautiful little valley. The train crossed the lowest part of the valley on a trestle, and up to the right we saw Mr. Muir's house on a hill with grapevines and various kinds of fruit trees dotting the hills and valleys all about. We presently saw Mr. Muir coming to meet us with a cheerful "halloo." It was extremely dusty everywhere we looked.

A short walk brought us to some big-fin locust trees, where we turned through a large gate and, with Mr. Muir stopping to explain to us about all the trees, bushes and flowers that we passed, we walked through the vineyards and orchards to his yard, around which he led us, still explaining and showing and picking fruit for us. He has been growing grapes, oranges, lemons, pears, pomegranates, figs, olives, peaches, quinces, apples, blackberries, walnuts, almonds, etc., besides every sort of flower and bush, and many glorious trees, including eucalyptus, camphor, pepper, and deodar from India.

Picking for us the most delicious peaches I ever ate, he led us up to the front door of his house and into a large hall. To the right was

WILLIAM AND MARY NEWTON

Mr. Newton and John Muir chatting on the steps of Muir's Martinez home.

the parlor, and back of it was the library. He took us into the sitting room, to the left, which opened into the dining room, back of which are pantry and kitchen. Everything was barren and dusty and showed the lack of a woman's care and attention. The rooms were sparingly furnished, and there were no curtains at the windows. In the sitting room was a large brick mantel that Mr. Muir fashioned with his own hands. In this sitting room, and in the parlor and library, he showed us a number of paintings of different scenes in the Yosemite and the high Sierra, and one large one of Muir Glacier. His collection was the work of Keith and Hill. In the parlor was a beautiful onyx mantel. The library was entirely wood paneled, but devoid of furniture and littered with old papers, pictures, etc.; the kitchen and pantry were in fair shape. In the dining room, newspapers were spread on the table, on which were a coffeepot and remnants of a lunch.

We sat in the sitting room, talked a while and ate pears Mr. Muir got for us from the cellar. He then took us upstairs, where all the bedrooms are deserted, without furniture and strewn with odds and ends, save two: one containing an unmade bed, and the other—the front room to the left (over the parlor)—which was his study. Nothing was really dirty, only very dusty and disorderly. The upper hall was heaped with books and magazines, piled on the floor and against the wall. His study was the dustiest of all. It was crammed with books, papers, magazines, pictures, drawings, and specimens, all in what seemed the greatest disorder. But he made no apology for anything and went about the room explaining everything to us, the embodiment of kindly interest.

All that John Muir says is well worth listening to. He told us of himself, his family, parents and other relatives, and of his early life. He has a brother and a sister in Pacific Grove, another sister a mile from Muir Station, and another brother in Lincoln, Nebraska. His daughter, Helen, whose room he took us into, was much interested in mechanics and could run an engine. She was in poor health, however, and at the time near Los Angeles. His older daughter, Wanda, was married about four years ago to Thomas Hanna, and lives in a very old adobe house on the ranch nearby. She has two little sons, Strensel and John Muir.

After a long visit in the study, we all went to the Hanna home and had luncheon. We did not see Wanda, Mrs. Hanna, but we did see her husband and his mother, the two children, one three years and the other five months of age, and a pair of three-month-old twins—children of Mrs. (Wanda) Hanna's cousin, who is sick. Our two children had a delightful time with these four babies.

Mr. Muir returned to his study soon after luncheon, to write for me letters of introduction to the managers of the camp and hotel in the Yosemite, and to the manager of the hotel in the Grand Canyon, and one to the hotel keeper at Adamana, near the Petrified Forest, all of which were delivered to me later on to smooth my way after Will should leave us.

Then followed another long, delightful talk with Mr. Muir on subjects personal to himself. He presented me with a copy of his book *Stikeen*, recently published, writing on the front page: "To Mrs. William Newton, from John Muir, with sentiments of warm regards and memories of auld lang syne, Martinez, California, August 1909." He also gave me a copy of *Rab and His Friends*, writing his name on it.

He allowed me to photograph him a number of times and loaded us with fruit when we departed. He visited with us until train time, showing us his books and views of some of his travels, with most interesting and instructive comments.

We reached Muir at 8:48 a.m. We left at 5:13 p.m. Mr. Muir walked over to the station with us, the train was flagged, and as the train pulled out we saw him, a pathetically lonely figure, going down the path alone, back to the house where he lives by himself, with Ah Fung turning up semioccasionally. He makes his own coffee in the mornings, and takes his other two meals at his daughter's. But in spite of his loneliness, he does not appear gloomy or unhappy.

He told us when we were in Muir Woods, "I have enjoyed a long life. When my time comes, I shall simply say 'thank you,' and go willingly." He is a grand old man, and I count as red letter days in my life the three we spent as his guests, for which I am indebted to the friendship Will's mother manifested for John Muir when a young man in Prairie du Chien. □

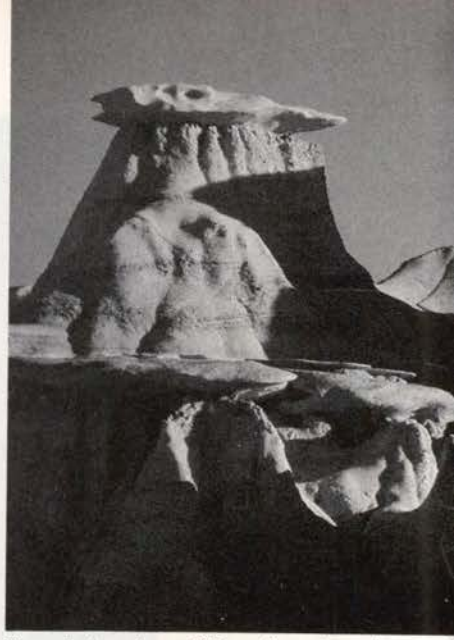
Maribeth Patrick is a freelance writer and photographer who lives in Scotts Bluff, Nebraska.

NATIONAL PARK SERVICE PHOTOS BY RICHARD FREAR

Left: John Muir's home in Martinez, California, is now a national historic site. Below, a guide in period costume in John Muir's study, as it was during his lifetime.

COAL & CULTURE CLASH IN THE BISTI BADLANDS

MICHAEL RICHIE



The eerie "mushroom" forest formations characteri

Ancient Anasazi ruins at Chaco Canyon, just south of the Bisti badlands.

MICHAEL RICHIE

Bisti badlands.

R. VALENTINE ATKINSON

THE BISTI BADLANDS in northwest New Mexico, just north of Chaco Canyon and just east of the Navajo Reservation, is an area of fantastic eroded shapes, some resembling giant mushrooms because the supporting rock eroded faster than the caprock, of multicolored layers of rock, of unusual fossils and important archeological sites. The Bisti is one of three areas in the San Juan Basin designated as wilderness study areas (WSAs) by the Bureau of Land Management (BLM) in 1976. The other two areas are the De-na-zin and the Ah-shi-sle-pah. Together, the three contain almost 30,000 acres of buttes, spires, pinnacles, "mushrooms," hidden alcoves and canyons. They possess clean air, big vistas and absolute solitude.

But the Bisti also has coal worth at least $40 billion, and there is an intense controversy about whether it and the other areas of the San Juan Basin should be stripmined.

The scientific importance of the area is undisputed. In 1977 a three-month paleontological survey of the San Juan Basin revealed 1100 fossil-bearing sites. The key to the richness is that 65 million years ago, the area was a delta region. Now huge petrified trees dot the land south of the Bisti in the Fossil Forest, and well-preserved fossils of mammals, dinosaurs, marine animals and invertebrates are exposed. This area is one of the few places in the world where the transition from dinosaurs to mammals can be adequately studied. A single excavation in the Fossil Forest turned up 20 previously undiscovered types of prehistoric animals.

The BLM originally recommended that the entire 1920-acre Fossil Forest be preserved for use as a world-standard research site. When 50 million tons of coal were discovered beneath the forest, however, the BLM revised its recommendation to protect only 512 acres and provide ten years for fossil removal.

Other cultural sites in the area are also threatened by mining. Just south of the Bisti Badlands, Chaco Canyon contains what is jokingly called the world's oldest known condominium. Half-moon-shaped Pueblo Bonito is the most outstanding example known of the architecture of the Anasazi people. A thousand years ago, the town was a bustling population center with a complex of roads radiating out to more than 80 other towns (for a much fuller description of Chaco Canyon and the uranium mining that also threatens the area, see *Sierra,* November/December 1979). Some of these prehistoric roads, surfaced with imported clay, were up to 30 feet wide and were equipped with curbs and gutters. They are thought to have been the links within a population of 70,000 people with the highest level of culture north of Mexico. Scientists have yet to figure out how or why the people built such a complex culture in this arid land.

But the Anasazi disappeared completely and apparently suddenly for no obvious reason. Perhaps the invading Athabascans drove them out. Research is generating more questions than answers as it examines the huge area of the culture. The National Park Service estimates that the whole San Juan Basin contains at least 250,000 archeological sites covering 10,000 years.

Mining would, of course, obliterate many valuable archeological sites related to the Anasazi, and also to the Navajos. Some of the earliest known Navajo sites occur in the Bisti area. The Navajos look to this land for religious and cultural inspiration. In addition, many of their families farm and graze

cattle on this land, and the impact on the water resources would affect many more families. Six local tribal chapters have adopted strong resolutions against any stripmining.

But the lure of the coal is strong. Geologists estimate that the San Juan Basin contains some 200 billion tons of low-grade coal, of which about 2 billion tons are strippable.

Part of the question of whether the coal will be mined depends on land ownership. Some of the coal is on BLM land, and the agency seems eager to accommodate the interests of big energy corporations. The coal in question here is a belt just below the surface running directly through the Bisti Badlands, just five miles from Chaco Canyon. This coal was deposited 50 to 100 million years ago in bands a few feet thick that follow the lines of an ancient deltaic shoreline much like the one along today's Gulf of Mexico.

The proposed development would strip 90,000 acres in ten mines, with an annual production by 1990 of 30 million to 75 million tons. To take some of the coal out of the

state, a 112-mile Star Lake Railroad and a 108-mile Fruitland Coal Transmission Line would be built. To generate elecricity with the rest of the coal, four 500-megawatt coal-fired plants would be built on the boundary of the Bisti, 15 miles from Chaco Canyon. To use the electricity, several facilities have been suggested; one is an aluminum smelting plant, another is a coal gasification plant. About 2300 acres of public lands would be opened for commercial development along major highways in the area, and rights-of-way would be made available for two major powerlines and a large water pipeline for the generating stations. Finally, to service the facilities, a 3000-acre town for up to 20,000 people would be built, practically adjacent to the De-na-zin Wilderness Study Area.

Environmental impacts would be extreme. The region would simply cease to exist in its present form. More than 90,000 acres would be torn up, and because this is the most arid coal region in the country, successful reclamation of the land is highly unlikely, perhaps a preposterous notion. Present reclamation attempts at other mine sites are not very impressive.

Both air and water will also be big problems. It is difficult to see where the water to support the proposed developments will come from. Air pollution is expected to be extreme, and the National Park Service thinks it is likely to produce acid rain that will do severe damage to the Chaco Canyon archeological sites. The skyline would be shrouded with smog.

Whether this proposed future will come to pass is a question whose answer is currently lost in a tangle of conflicting interests and governmental regulations, although James Watt may be one indicator. Because the San Juan River Coal Region is one of twelve regions in the country designated by Congress to satisfy the demand for domestic coal, the BLM prepared its *Chaco/San Juan Management Framework Plan Update* in September 1981 to determine which of the deposits in the area would be developed. The plan said, "After the BLM has sorted its coal deposits into those suitable and those unsuitable for potential leasing, much of the remaining decisionmaking on exactly which lands should be offered for lease falls to a joint state-federal board known as the Regional Coal Team . . . composed of representatives of the governors of New Mexico and Colorado, and the BLM state directors for those states plus a BLM chairman. The team includes ex-officio members from many other state, federal and tribal agencies, including the U.S. Geological Survey, the Bureau of Indian Affairs, and the state archeologist. . . . The ultimate decisionmaking authority for the selection and scheduling of tracts for lease resides with the Secretary of the Interior upon completion of the San Juan River Regional Coal Leasing Environmental Impact Statement."

When the decision is made, however, it will have to take into account five major factors: Preference Right Lease Applications (PRLAs); the Ute Mountain Land Trade done by the Public Service Company of New Mexico; the congressionally mandated Navajo-Hopi Relocation Program; BLM's Coal Unsuitability Criteria; and the competitive coal leasing process.

Preference Right Lease Applications (PRLAs) are applications for mining leases held by companies that originally found the coal in the Bisti area. The leases have not already been let, but the BLM treats them as though they have. They are not subject to competitive bidding. This kind of lease was discontinued by a 1977 law, but previously existing lease applications are still valid. There are 26 PRLAs, covering about 85% of the strippable coal lands, in the Bisti area.

The Ute Mountain Land Trade is a plan the Public Service Company of New Mexico has to exchange some undeveloped mountain land near Taos to gain Bisti land for the site of its proposed generating plant in town. Since the company would then own the Bisti site privately, it would not need to file an environmental impact statement. The Fossil Forest is among the lands the company wants; its 19,000-acre Ute Mountain Tract borders the BLM-managed wild and scenic portions of the Rio Grande. Under the terms of its proposed deal, the company would retain both the water and the mineral rights to the Ute Mountain land, even after the initiation of the trade.

A big complication in the matter is the Navajo-Hopi land dispute in Arizona, which gives displaced Navajos the right to choose, with some restrictions, acreage from any publicly owned lands that are managed by the BLM. The Navajos have decided they want the same land the Public Service Company of New Mexico wants. They contend that the Resettlement Act has given them prior legal right to select the Fossil Forest area. The BLM disagrees and contends that it has final jurisdiction over the disposition of the land in question. While the legal battle continues, the BLM and the company are apparently trying to strike a deal with the Navajos.

But the basic decision as to whether *any* portion of public land will be considered for mining leases hinges on the BLM's application of the 20 unsuitability criteria set down in the federal coal-leasing regulations. Of the 20 criteria, seven were found to be applicable to various tracts in the Bisti region. They concern wilderness study areas, endangered species, and Native American religious sites.

The BLM has decided not to protect the Fossil Forest. It has also decided that the Ah-shi-sle-pah WSA is not suitable for inclusion in the national wilderness preservation system, although it maintains that the Bisti and the De-na-zin WSAs are suitable. Congress has the final word on designating an area wilderness, however.

The Bisti and De-na-zin WSAs, along with land connecting them, would ostensibly be managed as an area of critical environ-

Pueblo Bonito, an ancient city in Chaco Canyon, offers outstanding examples of Anasazi culture.

R. VALENTINE ATKINSON

mental concern (ACEC). The Bisti WSA has been declared undesirable for stripmining, and only underground mining will be permitted in the De-na-zin WSA. But the connecting lands may be opened to mining, since they already contain preference-right lease applications. The BLM has also decided not to close any more of the Bisti Badlands to traffic; only the 3520-acre Bisti WSA will stay off-limits to vehicles. In short, the protection offered the so-called Bisti/De-na-zin ACEC will be minimal.

A number of environmentally concerned groups have been monitoring the decisions being made in the San Juan Basin. The Sierra Club has been the nucleus over the years for many attempts to save the Bisti. The most recent effort centers around a legal plea filed with the federal Office of Surface Mining. The petition has been filed under the Surface Mining Control and Reclamation Act of 1977, which stipulates that coal lands must be declared unsuitable for mining if they possess outstanding scenic or scientific values, or if they can be shown to be unreclaimable, or both. The Sierra Club thinks much of the Bisti area falls under these criteria.

Whether the BLM agrees will be revealed in two separate environmental impact statements now being prepared. The first will discuss the impact of the rights of way for power and pipelines associated with the generating plants. The second will concern the mining of San Juan regional coal. In addition, the BLM is preparing a cumulative overview to look at all the effects from the various developments. The final filing date for all documents is April 1983. These papers, besides studying the impact of coal development on air quality and water resources in the area, will have to discuss whether reclamation is feasible.

The Southwest Resource and Information Center in Albuquerque is taking another tack to protect the natural wonders of the Bisti region. It has released a detailed study suggesting that PNM knowingly overestimated the demand for electricity in New Mexico and that there is no need to destroy the Bisti and build a generating plant, which would simply export cheap electricity out of state. The SRIC believes that if the unneeded generating plant is not built, there would be little reason or pressure to mine the Bisti area coal.

One environmental question not being discussed enough is water. In the BLM's *Management Framework Plan Update*, one key paragraph has not been discussed by any of the parties involved. It reads: "BLM will protect the physical and legal availability of all existing water sources on federal coal leases (including PRLAs) by means of stipulations. Any water removed due to stripmining will have to be replaced [with water of] equal quality or better." How the agency plans to fulfill this promise has not been talked about in any literature available on the development proposals.

Clearly, big energy corporations are trying to obtain as many mining leases as possible in a favorable political climate, whether there is a real need or market. Once they had the leases, they would be free to develop them or not. The BLM is currently assisting them because, even though it is mandated to be operating on a multiple-use principle, in practice it is encouraging maximum development and minimum protection.

The fate of the Bisti is now in the hands of the courts. Sunbelt Mining Company applied for a permit to stripmine state land in the heart of the Bisti. This particular section of land is surrounded on three sides by the Bisti Wilderness Study Area and is, in its own right, a highly scenic area.

In August the director of the state Mining and Minerals Division of the Energy and Minerals Department ruled against the Club's unsuitability petition and granted Sunbelt the mining permit. The Sierra Club has appealed this decision. As this article went to press, the Sierra Club had obtained a temporary restraining order in state district court to prevent Sunbelt from degrading the area until the courts could review the case. □

Ruins of kivas, religious structures, in the east section of Pueblo Bonito. JONATHAN MEYERS

Michael Richie, a freelance writer and photographer, teaches science and mathematics in Albuquerque, New Mexico.

BUILDING COALITIONS

THE MORE DIVERSE THE MEMBERS THE MORE LIKELY THE SUCCESS

DINA COWAN and

JUDITH KUNOFSKY

THE SIERRA CLUB was founded 90 years ago by a small group who joined together to have a stronger influence on decisions affecting their environment. Their first objective was to protect Yosemite Park from legislation that would have reduced the park's boundaries. That initial battle was won—Yosemite was preserved intact—and the new Club went on to become one of the largest conservation organizations in the world.

Membership in the Sierra Club now exceeds 310,000 people but the essential goals and methods have not changed much. It is still, first and foremost, a grassroots organization of individuals who have realized that combined voices have a more powerful effect than single voices on important decisions. This approach is the cornerstone of grassroots organizing and the motivation behind coalition building.

Community organizers and activists well understand that, on the same principle, coalitions are powerful because the possibilities for legal action, media influence and political clout are vastly increased when more than one group is involved in a campaign. A politician can discount the complaints of a health group, for example, about the health hazards posed by air pollution. However, when labor organizations, neighborhood councils, senior-citizen groups and medical associations add their voices to

WARD SCHUMAKER

those of the health group, the politician can no longer afford to ignore them.

Similarly, a few angry citizens can rarely get the news media to cover their position, but when they are joined at a press conference by representatives of a number of groups, the story suddenly becomes newsworthy.

A coalition also has greater strength in fundraising. All campaigns require budgets, and the more groups participating, the more resources will be available for collecting and contributing money.

Once the advantages of forming a coalition are recognized, the next step is to seek out the most likely groups to work on the campaign. This is where an important characteristic of coalitions emerges: the members of a coalition need not agree on everything as long as they can agree on one thing—the issue at hand. Nor is it necessary that member groups are on the same side on a given issue for the same reasons. Some people may support preservation of a wild river because they like to fish there, others because they want to be able to kayak, still others bcause they feel that a proposed water project will cost too much in relation to its benefits. The history of community coalition building is filled with stories of strange bedfellows who begat successful, productive campaigns.

The Sierra Club has long been a part of that history. The national office of the Club in San Francisco houses files containing hundreds of affiliation papers from groups and chapters that have formed or joined a coalition of interests.

Many of the largest and best-known coalitions in which the Club participates involve other environmental organizations. Often these are national campaigns, such as the Alaska Coalition, or the current Clean Air Coalition, which includes Citizens for a Better Environment, Environmental Defense Fund, Environmental Policy Center, Environmentalists for Full Employment, Friends of the Earth, Izaak Walton League, National Audubon Society, National Parks and Conservation Association, National Wildlife Federation, Natural Resources Defense Council, The Wilderness Society, and the Western Organization of Resource Councils, as well as many labor, health and other organizations. Individual Club chapters and groups commonly coordinate efforts with other environmental organizations on local issues as well.

However, Club activists are also constantly forming and joining coalitions with organizations whose concerns range far afield from environmental issues. In 1974 and 1975 the Club worked with a landowners' group in Nebraska, the Save the Niobrara River Association. The association, made up primarily of farmers and ranchers, joined with the Club in fighting a Bureau of Reclamation plan to dam the river; it coordinated lobbying, fundraising and strategy planning. The eventual outcome was a court injunction against construction of the dam.

Also in Nebraska, the Club was instrumental in organizing the Sandhills Resources Council, a group of ranchers working to limit the uncontrolled use of center-pivot irrigation in the Sandhills area. This arid, delicate region is good grazing land but cannot support water-intensive crops. Some agribusinesses, in an effort to grow corn, have initiated widespread center-pivot irrigation in the area. The accompanying exploitation of groundwater causes the water table, normally quite near the surface, to drop, reducing the amount of water available for ranchland and grazing, as well as upsetting the ecology of the region. Environmentalists oppose this practice because it wreaks havoc with an unusual ecosystem; ranchers oppose it because it damages their ranchland. During the course of this common effort, a close working relationship has developed that has been a source of strength for both groups.

In 1976 the Lone Star Chapter of the Club initiated a coalition called Citizens Against Water Taxes, whose purpose was to defeat a bond issue that would have funded a controversial Texas Water Plan. Many fiscal conservatives participated in the coalition, not for environmental reasons, but because the benefits of the plan were vastly outweighed by its excessive costs. The bond issue was defeated. In 1981 Texas voters rejected a state constitutional amendment that would have allowed surplus revenues to finance such projects as the Texas Water Plan. The Lone Star Chapter led the fight against the measure and was joined by the AFL-CIO. The proponents of the defeated amendment had outspent their opponents by 30 to 1!

A city zoning issue on the ballot in Sioux Falls, South Dakota, in 1979 catalyzed a

unique political coalition, Citizens for Efficient Growth, with eleven civic organizations and professional groups as members. In this campaign the Club found itself aligned with the local Chamber of Commerce, a rare partnership of two groups that have often been at odds over development and zoning practices.

In Alaska and Washington the Club worked with six major commercial fishing organizations to support the designation of the Misty Fjords region as a wilderness area. The Misty Fjords National Monument was established in December 1980 and, with the exception of an enclave for development of U.S. Borax's molybdenum deposit, is now a wilderness area. Three of Alaska's most prolific salmon-spawning streams run through the fjords, and irresponsible use of the area by the mining company could pollute the river with silt and toxic wastes,thereby destroying the fishery, eliminating a major source of local and regional fishing jobs and degrading the adjacent monument, as well. The Club and the fishing organizations are still working to ensure that this does not happen.

There are many examples of issues on which the Club has joined forces with labor unions, particularly in the area of worker protection. The Club supported the 1973 strike by the Oil, Chemical and Atomic Workers Union against Shell Oil, in which the union asked for regular safety and health inspections of the workplace and regular medical testing of workers. In addition, the Club's long-standing relationship with various transit workers' unions around the country enables the two groups to work together on mass-transit planning issues.

The Sierra Club, the National Urban League and other urban and environmental groups jointly organized the City Care Conference held in Detroit in April 1979 to discuss urban matters of concern to both. Some of the groups participating in the conference were the South Bronx Community Development Corporation, the Bronx Frontier Association, Chinese for Affirmative Action and Arriba Juntas, a Filipino organization. The organizers of the conference hoped that it would improve communication between environmental and urban factions, who have often in the past imagined their concerns to be unrelated. By establishing personal and organizational contacts, and by sharing concern for such problems as housing, parks, air quality, toxic substances and mass transit, the way was cleared for future working collaborations on these issues.

In a successful campaign that lasted more than a year, from 1976 through 1977, a local Sierra Club group, the Riverside Archeological Society and the California Indian Services coordinated their efforts to prevent construction of the Sun Desert Nuclear Power Plant in Southern California. The three groups pooled information and strategy to participate in the administrative hearings of the California Energy Commission. The nuclear plant was not constructed.

In 1977 the Iowa Chapter was one of 50 citizen organizations that fought for passage of a bottle bill in the state. The coalition, Iowans for Returnable Beverage Containers, counted among its members such varied groups as a number of garden clubs, the Ecumenical Commission on Legislative Issues and Strategy, the Girl Scouts, Goodwill Industries, Governor Robert Ray's office, the Iowa Wildlife Federation, the League of Women Voters, the Iowa Consumers League and the Iowa Federation of Women's Clubs. This bill passed.

The Sierra Club's Eastern Pennsylvania

"I don't have much hope for this broad-based coalition."

Group has been active in the Delaware Valley Toxics Coalition since the coalition began in 1979. It is a broad-based group of environmental, community and labor organizations that include Concerned Citizens of Bridesburg, Citizen Action in the Northeast, and local units of the National Lawyers Guild, the Audubon Society and the Clean Air Council. A grassroots citizen campaign culminated, in January 1981, in the passage of the "Right to Know" law, the first legislation in the nation that gives residents and workers the right to know the names of toxic substances handled by local industries. The Club's active participation included testimony given by members at public hearings on the legislation.

In a three-year campaign to prevent logging and mining of a river valley in Western Canada, the Vancouver group joined fifteen other organizations and more than 45,000 individuals in the Save the Stein Association. The British Columbia (B.C.) Horse Owners Association, the Four Wheel Drive Association of B.C., Golden Rods and Reels and many other sports organizations participated with environmental groups in the coalition, despite a long-standing conflict between sporting and environmental interests over wilderness issues.

The Southern Nevada Conservation Council is a large coalition of (primarily) sports organizations that the Toiyabe Chapter joined in 1976, when debate over the Bureau of Land Management's proposed Organic Act was a key issue. Members include the Motorcycle Racing Association of Nevada, the Las Vegas Jeep Club, the Southern Nevada Off-Road Society, the Nevada Wildlife Federation (represented by members), the Henderson Rod and Gun Club, the Las Vegas Archers and the Audubon Society.

One of the most impressive accomplishments of the council was its lobbying effort in 1979 to support a bill that created the Nevada Department of Wildlife. The impact of the council was enhanced by the presence of a wide diversity of groups at a hearing on the bill. It was remarked that it was the first time the Sierra Club and the Motorcycle Racing Association of Nevada were in so much agreement on any issue. The bill made it through the legislature with little difficulty after that hearing.

Jeff van Ee, the chapter conservation chair, wrote: "A few words of explanation are probably in order, particularly since the majority of organizations on the council have been identified, in the past, as opposed to the ideals and goals of the Sierra Club. The Las Vegas group first became interested in the activities of the council when it issued a press release supporting the BLM's multi-

Continued on page 94

ED COOPER

Mt. Drumm, a 12,000-foot peak in the Wrangell Mountains, Alaska.

The Alaska We Saved

EDGAR WAYBURN

Alaska National Interest Lands: Volume 8, #4/1981, *Alaska Geographic*, Alaska Geographic Society. $14.95, paper.

Passage of the Alaska National Interest Lands Act (ANILCA) in December 1980 radically changed the future of federal lands in Alaska. In this landmark legislation, Congress classified 131 million acres—out of Alaska's 375 million—as national parks, national wildlife refuges, national forests, wild and scenic rivers or special management areas under the Bureau of Land Management. Of the 131 million acres, 106 million were designated as new conservation units.

Volume 8, #4/1981 of *Alaska Geographic*, entitled "Alaska National Interest Lands," summarizes ANILCA and its far-reaching results. Two longtime Alaskans with both conservation and literary backgrounds, Celia Hunter and Ginny Wood, wrote the text, which is factual and descriptive but spare in light of the magnitude of the subject. After a short introduction, the book devotes 90 pages to the new National Park Service units, 50 pages to the national wildlife refuges and 40 pages to the national forests. It also gives the essentials of the wild and scenic rivers and the new conservation areas administered by the Bureau of Land Management. A short section on wilderness travel and an atlas of the NPS units take up the rest of the book's 240 pages.

Like the other quarterly volumes published by the Alaska Geographic Society, this one is loaded with gorgeous photographs. It shows the magnificence and beauty of Alaska in a well-chosen mix of great landscapes, flora, animals, birds, people, houses and boats.

I highly recommend this reference for any one who wants to know about the new national-interest lands in Alaska, especially anyone who may want to visit them. As it is likely to whet the reader's appetite for more background information and details, a bibliography would have been helpful. But this is minor criticism of an otherwise excellent overview of ANILCA and the remarkable scenic and ecological treasures Congress has set aside in Alaska for everyone to take pride in, cherish and enjoy.

Edgar Wayburn is a member of the Sierra Club's Board of Directors and chairs the Alaska Task Force.

Why Science Needs a Soul

ALAN EPSTEIN

The Reenchantment of the World, by Morris Berman, Cornell University Press, Ithaca, New York, 1981. $34.50, cloth; $8.95, paper.

In the last 400 years, the ability of human beings to change the natural environment has been revolutionized by Western cultures. Today no task seems too difficult; we are forever impatient with the *status quo* and constantly searching for more facts or better tools to use in the struggle with nature for supremacy on the planet. We are steeped in a certain view of reality, which takes as an article of faith that to know something is to act on it; consequently, it is sometimes difficult to comprehend that this view is vulnerable to the limitations of space and time, as is any other historical phenomenon.

Historians have been examining for some time the characteristics of the Western world-view. They have concluded that sometime between the Renaissance and the modern period, a rupture occurred in how reality was perceived. It was the Scientific Revolution, which decreed that everything

Morris Berman

The Reenchantment of the World

that could not be quantified or reproduced in the laboratory, that could not be verified in a way the scientific community agreed on, was "metaphysical" or "unscientific" and thus outside the realm of what could be claimed to be known. Science was merely a process of discovering facts and was neutral, with no political values of its own.

But Morris Berman, along with a growing number of other scholars, asserts that science is not neutral, that "progress" is a political concept requiring constant reexamination and evaluation. He suggests that a future science will develop to permit an "enchanted" view of the world, reminiscent of the one our forebears held. Ultimately *The Reenchantment of the World* raises more questions than it answers, but its questions have serious implications and make the book a valuable contribution to the literature about the origins and profound impacts of the Scientific Revolution.

Before this revolution, people felt the world was a harmonious place, however dangerous and incompletely understood. As Berman notes, "The view of nature which predominated in the West down to the eve of the Scientific Revolution was that of an enchanted world. Rocks, trees, rivers and clouds were all seen as wondrous, alive, and human beings felt at home in this environment. The cosmos, in short, was a place of *belonging*."

Humans also belonged. No more or less sacred than trees, birds or stars, humans—the perceiving animals—saw themselves as reflections of the surrounding natural world, embodying both the order and the chaos of nature through the cyclical rhythms of time in birth and death, day and night, summer and winter, growth and decay. Everything was alive, spirited, infused with the grace of God, and the purpose of frequent natural catastrophes such as famine, plague or

floods was a natural one of redressing imbalances in the customary order of things.

The Scientific Revolution changed all that. As Berman says, "The story of the modern epoch, at least on the level of mind, is one of progressive disenchantment." Purposive, rational activity in pursuit of a desired end could not tolerate a worldview that was at once magical, mystical and harmonious.

One concomitant of the Scientific Revolution was the Commercial Revolution, which nurtured capitalism, which in turn influenced and reinforced the changing worldview. Capitalism relies on transforming raw materials into products and products into profits. To take root, it required a dynamic worldview that saw motion and change as the way of the world; humanity's role was to seize upon this motion and be swept up in it. Wherever it went, capitalism denounced mystery and changelessness, establishing instead the goal of reason and improvement.

But improvement has its price. As Berman says, "For more than 99% of human history, the world was enchanted, and man saw himself as an integral part of it. The complete reversal of this perception in a mere 400 years or so has destroyed the continuity of the human experience and the integrity of the human psyche. It has very nearly wrecked the planet as well."

No longer was the world seen as a randomly ordered collection of hierarchies arranged so that humans, as part of the arrangement, could not know the whole. With Bacon, Descartes, Galileo and Newton leading the way, the best minds of the age denied the medieval Catholic Church's prohibition against intervening in nature. Instead, they declared, God's special purpose for humanity, the planet's only rational species, was to uncover nature's hidden secrets, to glorify God by coming to know Creation through learning, experimenting, discriminating, categorizing and reordering.

Humans were thus removed from their traditional side of the cosmic equation, the side with the plants, animals, stars and rocks, and were placed on the other side, which had previously been reserved for God. God was taken out of this particular equation entirely, moved upstairs, and given the title of Prime Mover. We humans became His representatives in the field. Our task was to go to the four corners of the earth, constantly improving things and constantly bringing new, unaware people into the equation, despite their reluctance. We were to act upon and intervene in nature, guided by the heavenly mandate. Berman says, "In the sixteenth century Europe discovered, or rather decided, that to *do* is the issue, not to *be*." The result was the fateful

marriage of science and industry, the alliance of doing and knowing, especially in the worldwide pursuit of profit.

Now it has been 400 years since Bacon exhorted us to vex nature, to break it down into its component parts, examine it, measure it, and recombine it so it would satisfy the requirement of value: that it be useful and have purpose for us humans. Where has this view brought us? As we look around us, we can see toxic Love Canal, hazardous Three Mile Island, poisoned Lake Erie, acid-killed Adirondack lakes, mercury-contaminated oceans, deteriorating ozone, climatic changes from the "greenhouse" effect, oil-poisoned marine life, stripmined mountains, clearcut hills, eroded slopes, flooded rivers, and on and on.

As surely as AMOCO's profits have risen, these disasters are the result of the marriage of science and industry. The marvelous seventeenth-century revolution enabled us to use natural resources on a scale that could not have been imagined before. It turned the world into a global village accessible to all the world's peoples; it generated a revolution in communication and information rivaled only by Gutenberg's invention of movable type; it put members of our species on the moon and brought them back safely.

But now we also sit on a stockpile of 50,000 nuclear warheads, the equivalent of about 1.6 million bombs the size of the one that leveled Hiroshima. We have the ability to destroy not only all life—including our own species—but the planet itself. Can there be any doubt that the wonderful revolution has gone too far, that now we are the mastered and not the masters?

What we need today, Berman asserts, is a "new science" to save us from the old one. What will this "new science" be like? What are its empirical data, its methodology? To find out, Berman looks at much of the literature of the New Age, from fiction to futuristic studies, from commentaries on politics and economics to recommendations for technologies and delivery systems. He says, "We stand at a crossroads in the evolution of Western consciousness. One fork retains all the assumptions of the Industrial Revolution and would lead us to salvation through science and technology; in short, it holds that the very paradigm that got us into trouble can somehow get us out. . . . The other fork leads to a future that is as yet somewhat obscure. Its advocates are an amorphous mass of Luddites, ecologists, regional separatists, steady-state economists, mystics, occultists, and pastoral romantics. Their goal is the preservation (or resuscitation) of such things as the natural environment, regional culture, archaic modes of thought, organic community structures, and highly decentralized political and

civic autonomy."

Through all this, Berman does not really think he knows how, when or in what form this "new science" will take shape. He describes only possibilities. This should not deter or dissuade us from considering them, however, or render us hopeless in the face of a formidable opponent, the now-old science.

The first step in this consideration is to regard reality not as a series of disassociated phenomena but as connected phenomena. One example is the question of where humanity fits into the world. The current view holds humans apart from nature, separate from the animals, rocks and so on; this is dualistic thinking, which divides phenomena from their paired opposites. The new view would be that while we are different from everything else in nature, we are still part of nature. By changing our thinking this way, we keep our identity and also a harmonious relationship to the whole. This is holistic thinking, which considers all things as interdependent parts of the cosmos.

The sooner we perceive society, culture, nature, and reality itself as an integrated totality, the sooner we will broaden our ability to solve problems. We will see that, as Berman says, "the true unit of survival . . . is not organism or species, but organism plus environment, species plus environment."

We must look for the system-wide ramifications of our actions; but more than that, we must acknowledge effects other than those that can be measured empirically. For example, the traditional methods of training a rat to press a bar for food can measure the time it takes the rat to learn, the frequency of bar presses and other such data, but it does not even consider what the entire process does to the psyche of the rat. Similarly, we can count how many people will fit into a square block if we build apartment houses twenty stories tall, but we have not yet learned what psychic factors cause some people who live there to thrive while others despair.

Science must once again consider the soul, Berman says—not in the medieval, animistic sense that also denigrated the importance of the body and material life, but in a gentle way, a participatory way, in which all theory is integrated to include everything, physics as well as metaphysics, the material and the spiritual, waking life and the dreamworld, the practical and the imaginative. Nothing about this idea is really new; *The Way of Life* (*Tao te Ching*) by Lao Tze, written more than 2000 years ago, contains a glimpse of a worldview that is yielding, simple, gentle, never insistent but surprisingly practical at the same time.

In this "new" science, people and their needs will matter more, but they won't be

considered separately—only as part of a generally higher consideration for the needs of the planet as a whole. The new science will not devalue humanity but will presume that we must live harmoniously with all other forms of life.

What Berman concludes—as many have concluded in many ages—is that an enchanted, holistic view of reality leading to a "new science" must pay careful attention not only to the practical, useful and matter-of-fact aspects of the world, but also to the sensual, aesthetic and dreamier aspects of human nature. It must not study things or beings in themselves, but also in relation to other things and beings that may appear on the surface to be disconnected. It will evaluate relationships and take as its starting point not humanity, but the planet.

What is clear throughout Berman's book is that our dependence on and reverence for traditional scientific principles has led us to ignore a vital part of us—a part that is still there when we dream, when we are children, when we play. As Nietzsche said, if we do not rouse ourselves from this blind allegiance to science, then what we have repressed and tried to cast out will return to extinguish those who attempted to murder it, and life will regroup anew—perhaps this time without the "rational" animal.

Holism and Hierarchies

CHRIS GOODRICH

The Ecology of Freedom: The Emergence and Dissolution of Hierarchy, by Murray Bookchin, Cheshire Books, Palo Alto, 1982. $19.95, cloth; $9.95, paper.

For several decades Murray Bookchin has been ahead of his times; he was among the first of the social philosophers to note and analyze the inevitable effects of ecological processes and changes. He continues to anticipate the profound changes implicit in the relationship between ecological developments and social evolution.

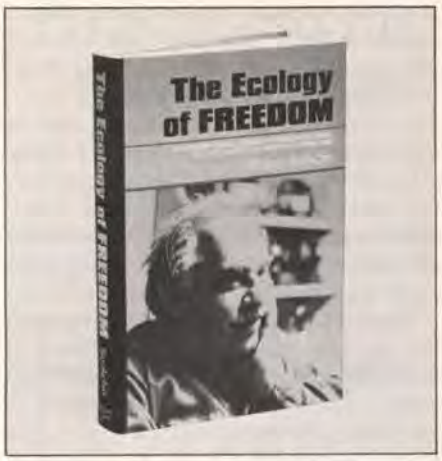
His newest book is perhaps his most ambitious; the topic and the scope are tremendous. But his energy and the vigor of his intelligence are commensurately broad.

Bookchin's thesis is that freedom is an organic thing, as rooted in nature as the study of ecology itself. True freedom, Bookchin says, can be achieved only through an "ecological holism" that believes humanity, once reintegrated with nature, can achieve a utopian existence.

He says, "From a 'backward-looking' utopianism, commonly based on the image of a bountiful nature and unfettered consumption, arises a 'forward-looking' utopianism based on the image of a bountiful economy and unfettered production. Between these two extremes, religious and anarchic movements develop a more balanced, although equally generous, vision of utopia that combines sharing with self-discipline, freedom with coordination, and joy with responsibility."

He also says, in the introduction, "That a society is decentralized, that it uses solar or wind energy, that it is farmed organically, or that it reduces pollution—none of these measures by itself or even in limited combination with others makes an ecological society. Nor do piecemeal steps, however well-intended, even partially resolve problems that have reached a universal, global, and catastrophic character. If anything, partial 'solutions' serve merely as cosmetics to conceal the deep-seated nature of the ecological crisis. They thereby deflect public attention and theoretical insight from an adequate understanding of the depth and scope of the necessary changes."

The argument that leads to the author's



conclusion is complicated. Bookchin has drawn on every conceivable field of study to support his view, which has been called "eco-anarchism." Although his Marxist orientation is obvious and occasionally intrusive, his vision is so fiercely independent, so staggeringly broad in scope, that it is rewarding on almost every page.

Much of the book is taken up with Bookchin's version of the history of humanity. His concern is with the nature of hierarchy; he believes that "the very notion of the domination of nature by man stems from the very real domination of human by human."

"Domination," he says, "now enters into history as a social 'need'—more precisely, a social imperative—that entangles personality, daily life, economic activity, and even love in its toils. The myth of contractual 'trust,' with its sanctimonious seals and archaic language, is built on the persistence of contractual mistrust and social estrangement, which the idea of 'contract' continually reinforces. That everything has to be 'spelled out' is evidence of the ubiquity of moral predation."

In preliterate cultures Bookchin sees a respect for nature so great that everyone, and everything, was equally valued—there was a belief in "an equality of unequals," an ethical system derived from nature. Bookchin believes humanity's decline began when men began to dominate women, when shamans began to hold power over other men. What resulted were societies based on "the inequality of equals," and this alienation of person from person reflected an alienation of humanity from nature.

People were alienated from nature, then, because the individual's striving for independence ran completely contrary to the reality of natural *inter*dependence—the essence of the ecological viewpoint.

Consequently, Bookchin insists that true ecologists must not compromise in their work. "To speak of 'inappropriate technology,' 'convivial tools,' and 'voluntary simplicity' without *radically* challenging the political 'technologies,' media 'tools,' and the bureaucratic 'complexities,'" he writes, is to "completely betray their revolutionary promise."

He also finds that many people committed to the concepts implied in the phrase "small is beautiful" suffer from the disease of futurism, which he says is "so committed to the present that it cancels out futurity by denying anything new that is not an extrapolation of the exisiting society."

His analysis of history and most other things is speculative, but nevertheless his insights are often stunning. He is particularly good on current society, which he takes to task for reducing ethics to "little more than matters of opinion and taste." The root problem, he says, lies in the devolution of objective reason into a "logic of manipulation." "Domination and freedom become interchangeable terms," he writes, "in a common project of subjugating nature *and* humanity—each of which is used as the excuse to validate the contol of one by the other."

Life itself, he contends, has become "economized": "The shopping mall is the *agora* of the modern society, the civic center

of a totally economic and inorganic world." Social life has become fused with technical life, and terms such as "input" and "feedback" apply to both.

In Bookchin's view, the major problem with such sciences as economics is that they do not know their limits. They are functions of the state; they want to perpetuate themselves; consequently, they have no motivation to discover "what is or is not valid in various ways of knowing reality."

One example is the mystification of scarcity. He says, "Scarcity can be defined in terms of its biological impact and also its *cultural* consequences. There is a point at which society begins to intervene in the formation of needs to produce a very special type of scarcity: a *socially* induced scarcity that expresses social contradictions. Such scarcity may occur even when technical development seems to render material scarcity completely unwarranted. Let me emphasize that I am not referring, here, to new or more exotic wants that social development may turn into needs. A society that has enlarged the cultural goals of human life may generate material scarcity even when the technical conditions exist for achieving outright superfluity in the means of life."

Scarcity, totally contrary to natural abundance, has been created to perpetuate the current economic system, and this in turn has led to "survivalism."

It may seem strange to say that the book is ultimately optimistic, but that is in fact the case. Perhaps it's a result of the "unabashedly messianic" nature of the book; perhaps it's because his writing radiates so much energy. But Bookchin does believe humanity can work with nature and even direct it, in a sound way, as long as the approach is based on ecological holism.

In one extraordinary passage, Bookchin describes exactly what went wrong with humanity; we left our ecological niche and suffered a "loss of community"—we became domesticated, like a wild animal taken from its natural habitat, and lost any sense of meaning or direction. We have forgotten "how to be organisms." We are now changed but must nevertheless attempt to regain our place, "to reclaim our legitimacy as the fullness of mind in the natural world—as the rationality that *abets* natural diversity and integrates the workings of nature with an effectiveness, certainty, and directedness that is essentially incomplete in nonhuman nature."

That may be asking a lot, but it is much more farsighted than today's "thermonuclear ethics."

Chris Goodrich is an associate editor at the San Francisco Review of Books.

Politics and the Public Lands

DENNIS DRABELLE

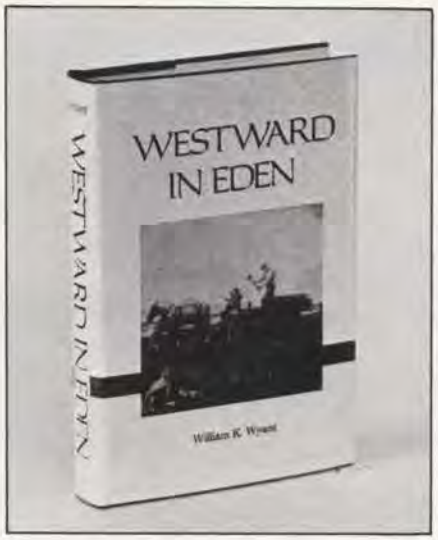
Westward in Eden: The Public Lands and the Conservation Movement, by William K. Wyant, University of California Press, Berkeley, 1982. $24.50, cloth.

During the 1960s and 1970s some of the most incisive environmental reporting in the country appeared under the byline of William K. Wyant in the St. Louis *Post Dispatch*. Wyant has since retired but continues to write. This, his first book, provides the historical background and describes the current status of every major natural-resource issue attached to the public lands, with the exception of wildlife management. *Westward in Eden* is a storehouse of solid information and bright anecdotes that belongs in every environmentalist's library.

For those who tend to concentrate on headline issues—oil spills, rivers to be dammed, parkland acquisitions—the most valuable sections of the book are likely to be those dealing with more obscure, slow-pulse topics, such as federal grazing policy. Realizing that they may not be intrinsically scintillating, Wyant takes pains to enliven them. He entitles the chapter on grazing "Come Blow Your Horn" and interlards it with bovine allusions: a bureaucrat adept at exerting his authority over stockmen is characterized as "a good hand at swinging the Federal lariat."

Droll though his prose may be, Wyant's message is grave. For decades federal grazing fees have been absurdly low. As the late Senator Lee Metcalf pointed out, "A sportsman will pay more for a license to hunt or fish for one day than it costs to graze a cow for one month on the public lands." Expenditures for maintenance were correspondingly meager; by the mid-1970s the federal rangelands were overgrazed, eroded, depleted, "in a dismal state." A 1978 statute may provide some help toward restoring the lands' productivity: $2 billion is to be spent on range improvement over the next two decades.

But the stockmen still pay far less for federal forage than they do for the private-market equivalent. Pressed to account for the differential at a congressional hearing, then-director of the Bureau of Land Management Frank Gregg unwound a thirteen-factor formula. Wyant adds that Gregg "did not mention a fourteenth factor—western politics."



Another particularly illuminating chapter is devoted to mining. Wyant exposes the prodigality with which the United States has lavished wealth on its miners. Under the Mining Law of 1872, miners can acquire title to minerals and the overlying federal land merely by paying a minuscule claim fee and, over the course of a few years, taking token steps toward extraction. (A new study by the General Accounting Office notes a marked increase in squatting on federal lands "under the guise of mining.") Under current tax laws they can apply a depletion allowance to the minerals "that belonged to all citizens until the day before yesterday." Together these statutes permit miners a kind of double gouging.

Wyant reminds us that the law had a difficult time getting on the books. Checkmated repeatedly by Representative George Julian of Indiana, who headed a key public-lands committee and considered the scheme an outrageous giveaway, the bill's supporters got it enacted by trickery. In the Senate they eviscerated a bill with a different title and purpose and substituted the mining provisions. Back in the House, Julian could not muster the votes to kill the bill.

There have been many attempts to convert this statutory largesse into a leasing system, as happened long ago with oil. In 1977 Interior Secretary Cecil Andrus made a determined effort to convince Congress of the need for reform. But once again the "mineral minority" successfully applied its pressure. "The industry's witnesses were welcomed with hearty camaraderie and sympathy, as if an apology were in order for bothering them."

Other chapters cover oil, both inland and offshore; coal, natural gas and oil shale; timber; construction projects; and Alaska. In his epilogue, "Looking to the Future," Wyant touches upon a problem sporadically ignored and rapidly approaching crisis—"the frightening loss of prime and other farmland to urbanization."

My only reservation about this book is its air of genteel deference to authority. Wyant tends to let disappointing national leaders off the hook. For example, he mentions Gerald Ford's 1976 visit to Yellowstone Park, where the President proposed to double the acreage in the national park and wildlife-refuge systems, and then notes: "Much of the expansion would consist of the growth already anticipated for Alaska."

The truth, which caught up with the President in newspaper articles a few days later, is more lurid. There *was* a new proposal, originated by Vice-President Rockefeller, to double the systems (or redouble them, if you count the Alaska d-2 proposals), but the Office of Management and Budget scotched it. Yet the sound of "doubling" was so bewitching that the phantom concept stayed on the campaign agenda. All Ford did was take the d-2 proposals, which had been pending in Congress for three years and which by happenstance would double the systems, dress them up in a new label (the Bicentennial Land Heritage Proposal), and present them as his own creation. The kind-

est word for this sort of maneuver is sleight-of-hand.

Now and then, too, *Westward in Eden* seems a bit blithe in the context of the Reagan administration's animosity toward conservation. Stances that may have seemed solid a little over a year ago—Wyant's out-of-hand dismissal of the Sagebrush Rebellion and his assumption that a grateful nation acknowledges its enormous debt to the conservation movement—appear wobbly. Not that this is Wyant's fault—he must have finished his manuscript just about the time Watt and company were moving into their offices, when no one foresaw how tenuous certain assumptions could become.

But by the same token, maybe Wyant was right to go easy on the Nixon and Ford administrations. (He has little but praise for Jimmy Carter's environmental record.) Whatever their shortcomings, the men and women who filled natural-resource posts during those administrations had reasonably open minds and sensitive consciences. They would never have dreamed of freezing environmentalists—or anyone else—out of the decision-making process.

Dennis Drabelle is a freelance writer who specializes in environmental issues.

Holistic Forestry

JOHN HOOPER

Tree Talk: The People and Politics of Timber, by Ray Raphael. Island Press, Covelo, California 1981. Paper, $12.00.

HERE IS A READABLE BOOK about forestry—its history, changing technology, problems and future. Organized as a series of interviews with loggers, industry foresters, fishers, ranchers, tree planters and others who live and work close to forests, the book makes a compelling case for drastically changing the way we manage our forests in this country.

The author believes we must turn to holistic forestry, in which "the ecosystem is maintained in its basic form but is modified here and there to bring it into harmony with human needs." Holistic forestry "is, quite simply, forestry that cares about the future."

Raphael says our present system of forestry makes decisions according to financial accounting procedures that have little or nothing to do with sound silviculture; "forests are the fastest-disappearing ecosystem on this planet." Trees are being cut at economic maturity, second-growth stands are producing inferior timber, herbicides are being overused and soil productivity is declining through erosion, compaction and the depletion of nutrients.

As an alternative, the author presents the Swiss model. In Switzerland foresters are elected; the profession is considered a position of public trust, and competence is measured by how well regeneration can be accomplished. "In the long run, it's the growing stock that counts the most. The determining factor in timber management should not be the quantity of wood *harvested* in any given year, but rather the quantity of wood that the forest is actually producing."

Raphael proposed that forest land can be divided into three broad categories: (1) land too remote, too sensitive or simply too beautiful to be logged; (2) steep, sensitive land that can be carefully and selectively logged while still supporting future generations of trees; and (3) land capable of sustaining a continual human presence and of producing commercial timber for the indefinite future.

The author emphasizes how little we really know about the natural order and argues that we must not convert all our forests into tree farms. He says, "All the tricks the geneticists have learned cannot match the ultimate test for environmental endurance: survival for thousands of years in a natural setting. This is nature's test, and the gene pool we have in our untouched forests represents the strains that have passed this test." One lumberjack he interviewed said, "They're breeding these trees for improved yields, but I'm not too sure how that's going to turn out. . . . How do you know? You're looking three, four hundred years into the future, maybe a thousand years. I don't think we should put all our eggs into one basket. We should let nature take its course, too."

This is a refreshing and optimistic book. It conveys a vivid sense of on-the-spot effects of logging, it describes the institutional problems that need to be overcome to move toward holistic forestry, and it gives an outline of how we can move toward a system of sustainable forestry.

John Hooper is the public lands specialist in the Sierra Club's San Francisco office.

The South Coast: The Lore and the Shore

MARY LOU VAN DEVENTER

"Coastal Affair," *Southern Exposure*, May/June 1982, by the Institute for Southern Studies, P.O. Box 531, Durham, NC 27702. $4.00.

THIS SPECIAL ISSUE of a quarterly magazine is an eloquent and beautiful compendium of essays, photographs, personal reminiscences, cultural critiques and environmental discussions, all related to the coasts of the South.

A hundred-year-old man talks about the earthquake in 1886 that shook his coastal island, poured "across the face of the island . . . the Great Atlantic Ocean!" and drowned a whole settlement, "every soul." Years of pestilence followed, because the crops were destroyed and most survivors were seriously malnourished. Thank goodness the editors didn't take away this man's voice by making him grammatical.

Writer Elizabeth Fenn tells the story of Mary Read and Anne Bonny, two eighteenth-century women who disguised themselves as men and became shipmates and pirates. After she had been captured and was in jail, Anne Bonny said of her captain, Calico Jack Rackam, "If he had fought like a man, he need not have been hang'd like a Dog."

But above all, this is an environmental publication. It discusses developing the coasts, draining marshes, building on barrier islands and organizing a multiracial conservation effort; and it gives a synopsis of coastal conditions and policies in nine southern states. One of the people who helped develop the special issue was Shirley Taylor, chair of the Sierra Club's coastal committee. Other environmentalists also helped, and the product is impressive. Attention to detail in the analysis is impeccable; the design is

JOHN H. SHEALLY II

appealing; and the text is thoroughly imbued with a sense of sympathetic and warm-blooded humanity. This is a book about people and the coast that has been a part of their lives.

The ultimate environmental point is that the coast known and loved by generations is being changed, damaged and destroyed, and although some parts are now beyond redemption, others can be saved with enlightened action.

Beyond Our Means?

U.S. Carrying Capacity: An Introduction, by Maryla Webb and Judith Jacobsen, Carrying Capacity, Inc., 1525 New Hampshire Ave., N.W., Washington, D.C. 20036, June 1982. $3.00.

Nearly everyone but Ronald Reagan has finally realized that renewable resources can replenish themselves only so long as they are not used beyond their carrying capacities. (Carrying capacity is the load a system can carry and still sustain its yield and its health.)

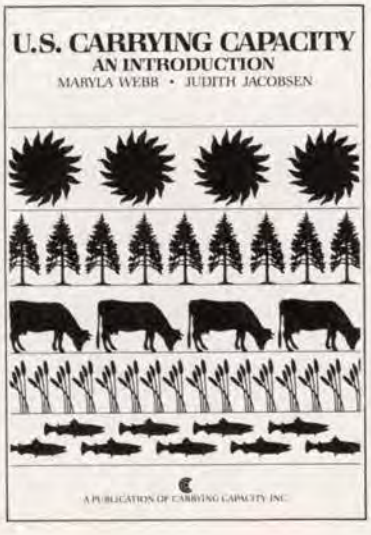
This new group, Carrying Capacity, Inc., has been established to study the questions of the current state of our renewable resources, how long our civilization's patterns can continue, whether technology can rescue us, and how many people the planet can in the end sustain. This 80-page pamphlet is the group's first report.

A sample of the conclusions: "Lester Brown notes that the world's three billion ruminants—over one billion of them beef cattle—are already 'overtaxing the earth's grasslands, making it impossible for [their numbers] to continue to expand apace with human numbers.' That 'overtaxing' is the chief cause of the desertification that, according to the United Nations, threatens 12% of the earth's land surface."

The pamphlet's scope is broad, and ideas are treated in such a way that the completely uninformed reader will learn vast amounts, especially about concepts of renewability, while the person who has kept track of these issues for years will still find new and interesting details. This is the first time some of these pieces of information have been put together.

This is a scary booklet from a new group that seems to do solid research and present it well for lay people. It seems to suggest that our population and its demands have already put too much of a burden on our natural systems, that we have exceeded the carrying capacities of our land and water already. Therefore, we can only conclude, we must change our ways of living, or reduce our population, or both. To find out more details about exactly how the various systems are being overtaxed, read this booklet. Having information is essential to making new plans.

—Mary Lou Van Deventer



HOW SEA MAMMALS BEAT THE HEAT

Text and Photographs by

TUPPER ANSEL BLAKE

DURING THE HOT DAYS of summer, which last well into October in California, most mammals get very hot. For humans, heat is not too much trouble; we have sweat glands to carry off heated internal fluids, and the process of evaporation cools our bodies. We also have long arms and legs to act as radiators, letting our heat escape into the air.

But many mammals have only small areas with sweat glands, or they have none at all. Dogs, for example, sweat only through their feet. If that isn't enough cooling power on a hot day, they open their mouths and let their evaporation-cooling take place in the mouth.

Some mammals that live in the sea also get hot. Northern fur seals, for example, have short, thick bodies that keep heat in instead of letting it out. They also have thick fur and heavy layers of body fat. These keep them warm in northern waters, but they get hot when they go south. Because they have no sweat glands, they have to cool themselves off some other way.

The photos here show another interesting thing about how mammals that live in the sea beat the heat: different species do it different ways. The pictures were taken by Tupper Ansel Blake, and here is what he says about the place, the mammals, and what the photos show:

"Each year seals and sea lions return to favorite locations, or rookeries, to mate, to give birth and in this way to keep their species going. This rookery is off the coast of Santa Barbara, California, on San Miguel Island. San Miguel is one of the world's most diversified rookeries; it is host to California sea lions, Steller sea lions, northern elephant seals, harbor seals and Guadalupe fur seals. Some northern fur seals from Alaska visit there, although one small group also uses it as a rookery.

"When I first saw the sandy beach in July, my first impression was that it was a mass of confusion. But it turned out to be a structured society of different species of mammals, all living in their own different ways in the same place.

"Over the years, animals that live close to each other learn to use a different part of the same place. In the process, evolution has given each species a slightly different way to solve a particular problem.

"In the case of being hot, the seals and sea lions can't take off their thick coats of fat or fur. So on San Miguel, they do other things, and each species reacts to the sun's heat differently.

"The California sea lions all go together from their homes in the sand dunes down to the water. Here they spend hours in the ocean or right along the breakers on the beach to keep cool.

"On sunny days, the northern fur seals do not go to the water, but stay on the beach. They cool themselves by waving their hind flippers and opening their mouths. Often, they have tears streaking down their cheeks; the tears serve the same function as sweat in humans. In *Alice in Wonderland*, author Lewis Carroll wrote about a walrus that cried in sympathy for the oysters it was about to eat. Perhaps Mr. Carroll got the idea from seeing a walrus cooling off.

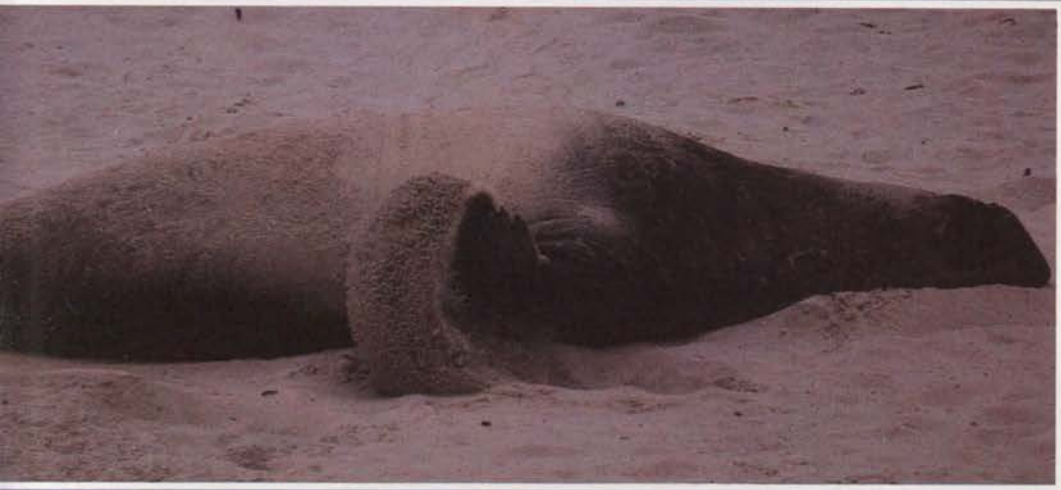
"The northern elephant seals use still a different approach. They lie on the beach and use their front flippers to throw damp sand over themselves.

"By looking at how these seals and sea lions cool themselves, we can see that nature provides different methods of doing the same thing in the same place. That allows many species of animals to live closely together without having to fight too much over space.

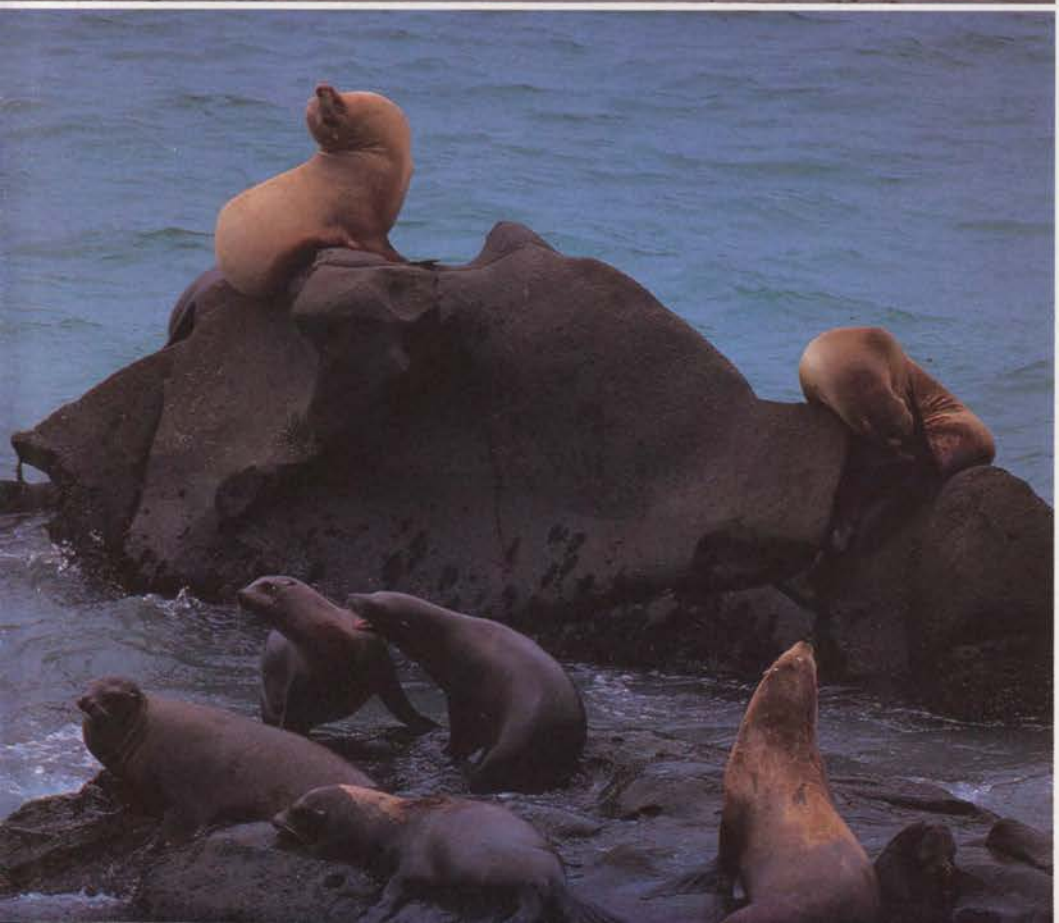
"But the seals and sea lions don't understand the big idea behind this part of evolution. They just do what comes naturally to beat the heat." □

Tupper Ansel Blake is a photographer, writer and naturalist whose special interest is birds and mammals of North America.

Northern fur seals keep cool by waving their hind flippers and opening their mouths.



This northern elephant seal cools off by flipping wet sand onto its back.



California sea lions lower body heat by swimming in the ocean or resting on rocks and beaches near the cool water.

ANSEL

DAVID GANCHER

THIS PARTICULAR STORY was approximately 30 years in the making. In the 1950s, Ansel Adams undertook an educational project for the Club: for the first time, he enlarged a number of his favorite prints and mounted them for exhibition at the LeConte Lodge. The U.S. Information Service then decided to use them as a traveling exhibit, which toured the nation. They were so popular they stimulated publication of a book, *This Is the American Earth*, which was in turn so well received that it generated the entire series of Exhibit Format books by the Sierra Club.

The Adams photos remained at Club headquarters, some hung on walls and some in storage, their beauty appreciated but not their value. The years took their toll, and the photos became dog-eared.

Finally the Club noticed these irreplaceable works of art were needlessly deteriorating. They were removed from the walls and bookcases and sent off to be restored. When they were returned, Adams was notified, and he dropped by to inspect the restoration. If they met his exacting standards, he would sign them. He did. Besides signifying his approval, these signatures—engravings, actually, since they were done with a pointed engraving tool rather than a pen—carried an additional meaning. The photographs instantly shot up in value by a factor of several thousand when he engraved his name; similar Ansel Adams photographs now command very high prices.

Ansel Adams' visit to the Club's offices, a rare occasion these days, quickly assumed the proportions of a quiet celebration. Staff and volunteers assembled to meet him, quite a few of them with photos, books and magazines in hand for autographs.

MUSH EMMONS

Ansel Adams signing one of his earliest large prints—almost 30 years after he made it.

Club Phone Banks

ROBERT IRWIN

They all had volunteered to take a hike, not on the trails of the High Sierra, but on the streets of San Francisco. The 84 Bay Chapter members had responded to a call from a phone bank a few days earlier, asking them to walk some city precincts delivering anti-Proposition 9 leaflets door to door.

Proposition 9, a referendum on the building of the highly controversial Peripheral Canal, would be voted on two weeks later in California's June 8th primary. The 43-mile-long, 400-foot-wide canal would have diverted water from the fragile Sacramento-San Joaquin Delta southward, mostly onto the vast farmlands of the Central Valley. Virtually all environmental groups in the state, including the Sierra Club, opposed the project. It had strong support in southern California, however, which has a majority of the state's voters.

From the beginning Proposition 9 had been expected to win handily. It didn't. An unprecedented 95% of San Francisco voters rejected it. Those 84 precinct walkers and the hundreds of Club members who joined them all contributed to that stunning "green vote" victory.

The success of the phone-bank approach in activating the Bay Chapter's previously uncommitted general membership exceeded all expectations. Out of one series of phone calls to 580 members, 84 volunteered immediately and 196 said they were willing to help at a later date. Thus, almost half (48%) of those contacted responded positively. Those figures convinced the phone bank's initiator and chief coordinator, Marc Francis, that this recruiting technique was a success.

After the "No on 9" verdict, Francis

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reflected on the campaign and on the approaching November election. He was impressed, he said, by the friendly, eager-to-help response from the general membership. It seemed that people were just waiting to be called and given the chance to do something; many even seemed to feel honored to be contacted by the Sierra Club.

Those hundreds of members who performed the nitty-gritty chores of precinct politics, Francis continued, deserve all the recognition and appreciation they can get. He called them a priceless human-resource bank that the chapter must continue to draw on, for environmental and especially for political activists.

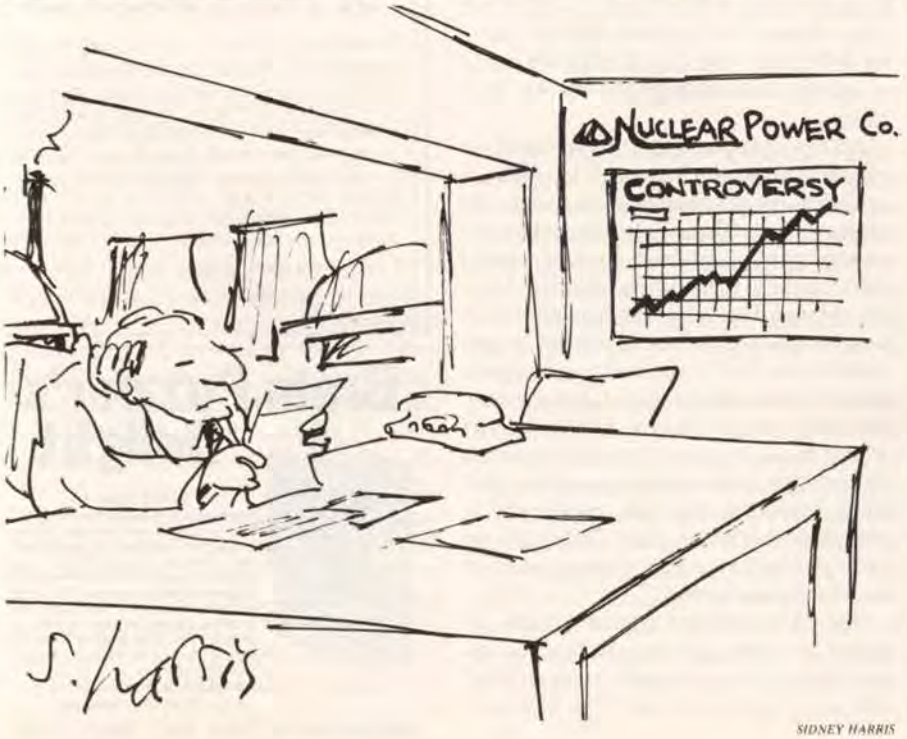
Francis and the Bay Chapter's SCCOPE committee are already preparing for the crucial days of November. (SCCOPE, the Sierra Club Committee on Political Education, for the first time has endorsed candidates for federal office.) Less than three weeks after the June primary, the committee had endorsed the Democratic candidates in San Francisco's three federal-level races: Rep. Phillip Burton and Barbara Boxer for Congress and Governor Jerry Brown for the Senate. More state- and local-level endorsements followed.

Electing pro-environment candidates will take considerably more effort and more volunteers than in the single-issue "No on 9" operation, said Francis. But that campaign was a good training exercise. Appeals have already appeared in the chapter newsletter, *The Yodeler*. Mailings have gone out to local activists as well as to "No on 9" veterans. Francis will reactivate the phone banks early this month, and he has added two coordinators to help direct the higher volume of telephoning. But after it's all over, he added, he plans to take a phonebank sabbatical.

Of course, Marc Francis wasn't the first to realize the value of phone banks. Francis patterned his phone bank after the volunteer-run national Telephone Action Network, which has been operating phonebanks out of Sierra Club headquarters since late 1979. TAN, used on national issues only, alerts activists on urgent issues, such as an upcoming critical Senate vote on the Clean Air Act.

Before 1979 the Conservation Department's staff, assisted by 20 or so volunteers, was responsible for all national action-alert telephoning. Francis was one of those volunteers. He got hooked in 1977 while he was a student at San Francisco State. On a field trip, his class on "Environmental Organizations in San Francisco" visited the Sierra Club. Ceil Dickinson, now a campaign and issues specialist on the conservation staff, told the class about the Club and its programs and concluded with a pitch for volunteers. Francis raised his hand and instantly became a phonebank caller. After his second stint, he was made a coordinator. That, he observed, was his first Sierra Club lesson: show up twice for a volunteer job and you'll be put in charge.

The idea for the all-volunteer Telephone Action Network surfaced in fall 1979, during the heat and fury of the Club's campaign to stop President Carter's proposed Energy Mobilization Board, which would have been largely exempt from environmental con-



SIDNEY HARRIS

trols. At that time Paul Growald, a San Francisco conservationist with a long involvement in volunteer motivation and organization, was working for the Club, building an energy coalition to oppose the Carter plan. He observed that while the staff was working full tilt against the EMB, it was simultaneously rushing to recruit, train and supervise phone bank volunteers. Why not, he asked, have the volunteers take over the whole operation? Both staff and volunteers leaped at the suggestion, and after a few discussions, TAN was born.

Here, briefly, is how TAN's phonebank system works. Approximately 170 San Francisco Bay Area volunteers constitute the Telephone Action Network Committee. The phone bank is activated in response to a critical upcoming legislative or administrative development in Washington, D.C. The Club's Director of Federal Affairs, Doug Scott, and key Sierra Club volunteers and staff decide whether TAN should be used. They also determine who will be phoned, whether it be all Club leaders, activists or just members in certain special districts, and what specific action or actions the people called will be asked to take.

At this point the staff liaison and communication coordinator, Campaign Coordinator Winky Miller, steps in. (Actually, she too has been involved earlier in the process.) She consults by phone with the five volunteer coordinators on the TAN Steering Committee to request and establish the data for the phone bank. They prepare and send out notices with background information and full details to all TAN members at least a week before the date of the phone bank. Each coordinator then telephones his or her callers (about 30) and records their names on 5x7 cards. The calling stops when the coordinators have filled the roster of needed callers.

No more than ten callers can be used per phone-bank session, since only ten lines are available in Club headquarters, where the calling is done. The coordinators take turns managing the phone-bank sessions, usually held from 5:30 to 8:30 in the evening, Monday through Thursday. The number of evening sessions depends on how many people must be reached. Volunteers can complete about 450 calls on one fully staffed evening. During the phone bank, each caller delivers a brief message prepared by Conservation Department staff, answers questions, and, when necessary, asks the coordinator to provide further information. Callers also log every call and response, making notes on any intelligence gained.

The TAN Steering Committee works together as a team, according to Francis. The members of this remarkable team are Patti Johnson; Hank Martinson; John Murnane,

the newest member; Paul Faustini, now on the Conservation Department staff; and Marc Francis, now on election leave. Three other "founding fathers and mothers" deserve mention: Dewey Webster, Randy Barrow and Shelly De Corte.

Unfortunately, TAN can be used only in limited ways for this fall's electioneering. For that reason, Winky Miller, Pam Brodie and others on the Conservation Department's campaign desk are eager to help activists in other parts of the country set up their own local get-out-the-vote phone banks. (Contact Miller or Brodie at Club headquarters for more information.)

Several chapters and groups, including the Eastern Pennsylvania Group, Minnesota's North Star Chapter, and the New England Chapter, have had experience with phone banks. What these groups have in common is that they all have their own offices to work from, or can borrow an office with phone lines from a charitable member. Any group or chapter with an office—there are currently about two dozen—should have little trouble starting a phone bank.

Offices provide many advantages: a meeting place, a communications center for phones and mail, a repository for records, a library, and room for mailings, workshops, newsletter production and book sales. And, perhaps best of all, it establishes a constant Sierra Club presence in the community. Staffing the offices and keeping them open on a full-time basis is another story, however. Irregular hours and poverty-level pay discourage all but the most dedicated staff. Unanswered phones and locked doors turn away the public and members alike.

Some chapters have found innovative solutions to those problems. The New England and Loma Prieta chapters both rent out facilities with other organizations, sharing rent and perhaps getting some phone coverage. The office of the Ventana chapter in Carmel, California operates in the afternoons, Tuesday through Friday, with its staff of dependable volunteers.

Iowa's office is open only two days for a total of eight hours, yet it enjoys five nine-hour days of phone service, thanks to Bell Telephone's call-forwarding service. When the office is closed, all calls are automatically switched to member Larry Ladin's business office, where they are answered. (It was a pleasure to call Chapter Chair Dennis Nicholson recently and reach a live human being on the other end instead of some beeping machine.) Call-forwarding also can be used without an office. A Club member willing to take calls can subscribe to the service with a Sierra Club listing in the phonebook. The service is inexpensive: a $9 installation fee plus $2 added to the monthly service bill. One or more other persons can be designated to take the calls in their own homes when the service's subscriber is away. A telephone call notifying the phone company of any change in the alternate receiver is all that is necessary.

Phonebanks, opening grassroots offices, using a call-forwarding service—anything that improves internal communications will help mobilize Sierra Club members to get out a huge "green vote" this fall.

NEW DISTRIBUTOR FOR SIERRA CLUB FILMS

The Club's selection of authoritative conservation films is now available for rental through a new distributor. These documentaries range in subject from the lost beauty of Glen Canyon to the particulars of the off-road vehicle controversy. Many of these films are prizewinners, such as "The Redwoods," which received the Academy Award for best short documentary in 1968.

Chapters, groups or individuals may rent from the Sierra Club Film Library; Club membership is not required. Film prices run from $10 to $12.50 per usage; any film in the library also may be purchased outright. For a list of prices and brief descriptions, write to the Film Distribution Center, 1028 Industry Drive, Seattle (Tukwila), Washington 98188, or call (206) 575-1575. The list also may be obtained from the Club's Information Services Department at 530 Bush St., San Francisco, CA 94108.

THE GREENING OF CONGRESS, THE GROWTH OF MEMBERSHIP

Following the success of last year's membership drive, the Club is staging another membership contest this year from October 1 to November 2, Election Day. This promotion, formulated by the national Membership Committee, has a slightly different twist—it links the buildup of membership with the push to get out the "green vote" in November.

Part of the reason for last year's membership surge was its connection with the Watt petitions, said Kim Martin-Carroll, director of membership development. Many people heard about the Sierra Club for the first time and decided to join after they read the Watt petition and discussed its merits. This year, said Martin-Carroll, the contest will be directly tied to SCCOPE's endorsement of Congressional candidates—the "greening" of Congress. When Club members walk

Continued on page 93

OBSERVER, *continued from page 89*

precincts in support of their local pro-environment candidate, many will also be carrying membership information. In this way the Club hopes to double its impact on the elections and on future environmental legislation.

Any member who recruits a new member during the contest period will receive a special membership patch. Special recognition will go to the three chapters that garner the highest percentage of new members as a result of the contest. (Another addition to this year's contest is that the growth of groups within chapters will also be tallied.) Official contest membership forms are available in this issue of *Sierra*, in local Club newsletters, or from chapter and group membership chairs. For further information, contact Mike Lyon, Membership Development Coordinator, at Club headquarters, 530 Bush St., San Francisco, CA 94108.

THE 300,000TH MEMBER

Patricia Kilroe, the 300,000th member, with Jerry Lieberman, national Membership Chair.

It took the Sierra Club 90 years to reach the 200,000-member mark. Now, only one year later, the Club has more than 300,000 members.

Member number 300,000 is Patricia Kilroe, of Bala Cynwyd, Pennsylvania. Denny Shaffer, president of the Sierra Club, and Greg Moore, chair of the Eastern Pennsylvania Group, welcomed her into the Club on June 24, in a ceremony on the steps of Pennsylvania's Independence Hall. Kilroe, a copy editor at *TV Guide*, said her concern over "growing world pollution" led her to join the Club. After the ceremony, she met with other group and chapter officers and members to celebrate. Kilroe, by the way, has already lined up another new member as her contribution to the membership contest. □

COALITIONS, *continued from page 67*

ple-use concept. In effect, the council opposed the powerful mining and ranching forces in this state on the revision of the BLM Organic Act. Looking at the interests of the Las Vegas group and of the council on this one particular issue, there is agreement that the proposed BLM Organic Act is a bad one.

"Looking at other environmental issues, there are disagreements with the other organizations' positions. But all the members of the council agreed to air these differences among themselves rather than before courts, agencies and the general public. Everyone hopes that minor differences of opinion can be explained and, perhaps, changed before costly and lengthy battles are waged. If differences of opinion can't be resolved within the council, bylaws still allow the free and unrestrained expression of opinion by any organizations, in any media."

Officers of the Toiyabe Chapter were involved in two other large and diverse coalitions—Nevadans Opposed to MX and the Great Basin MX Alliance. Other participants in these coalitions included ranchers, miners, peace-group members and residents of small towns in Nevada. The informal presence of the Club in these coalitions helped bridge the gap that has prevented the Club from achieving a great many of its goals in the state.

These stories are examples of the two critically important reasons for forming and joining coalitions with a wide range of other groups: we enlarge the chances of success, and we open lines of communication and understanding that will enhance the possibilities for future working partnerships. □

Dina Cowan wrote this article while she was an intern and later an administrative assistant for the Sierra Club's Conservation Department. Judith Kunofsky is a national conservation representative for the Sierra Club.

Creating Coalitions

JUDITH KUNOFSKY

ALTHOUGH organizations sometimes create permanent coalitions to share information or act jointly, most coalitions are formed for specific purposes. It might be to create a park, to get a law passed, to support a candidate in an election or to jointly sponsor an event such as an Earth Day. In some cases groups are formally asked to join the coalition; more often, groups and constituencies are asked to undertake specific activities to support the overall effort.

When developing a list of groups to be asked for help, first state the issue and the goal very clearly. Then compile a list of all organizations and constituencies that already have an interest in the issue and support your goal, or who *should* support your goal. Be sure to include groups whose reasons for wanting the goal are likely to be different from yours.

When you are asking for help, remember the following things:

- Compose a letter explaining precisely what the problem is, the solution you want and the kinds of help needed, but do not mail the letter. This is more necessary than it seems at first, in order to clarify your ideas. When working with dissimilar groups (i.e., those not thought of as "automatic" allies), a personal visit is the best way to proceed. Get the name of an appropriate leader of the group; speak with him or her directly, or write to request a meeting and follow up with a telephone call.
- Make it clear to your own members and to those you contact that groups are being asked to agree with you on nothing but the one goal being discussed.
- Ask for something specific. Many groups unable or unwilling to join a formal coalition will nevertheless be happy to contribute to the effort. In such cases, ask: Will you put an article on this subject in your newsletter? May we use your name on a letterhead? Will your group donate money? Will you give us access to names of your members for recruiting volunteers? Will you make a statement at a public hearing?

Remember that the strongest coalition is one whose members seldom agree on anything else. □

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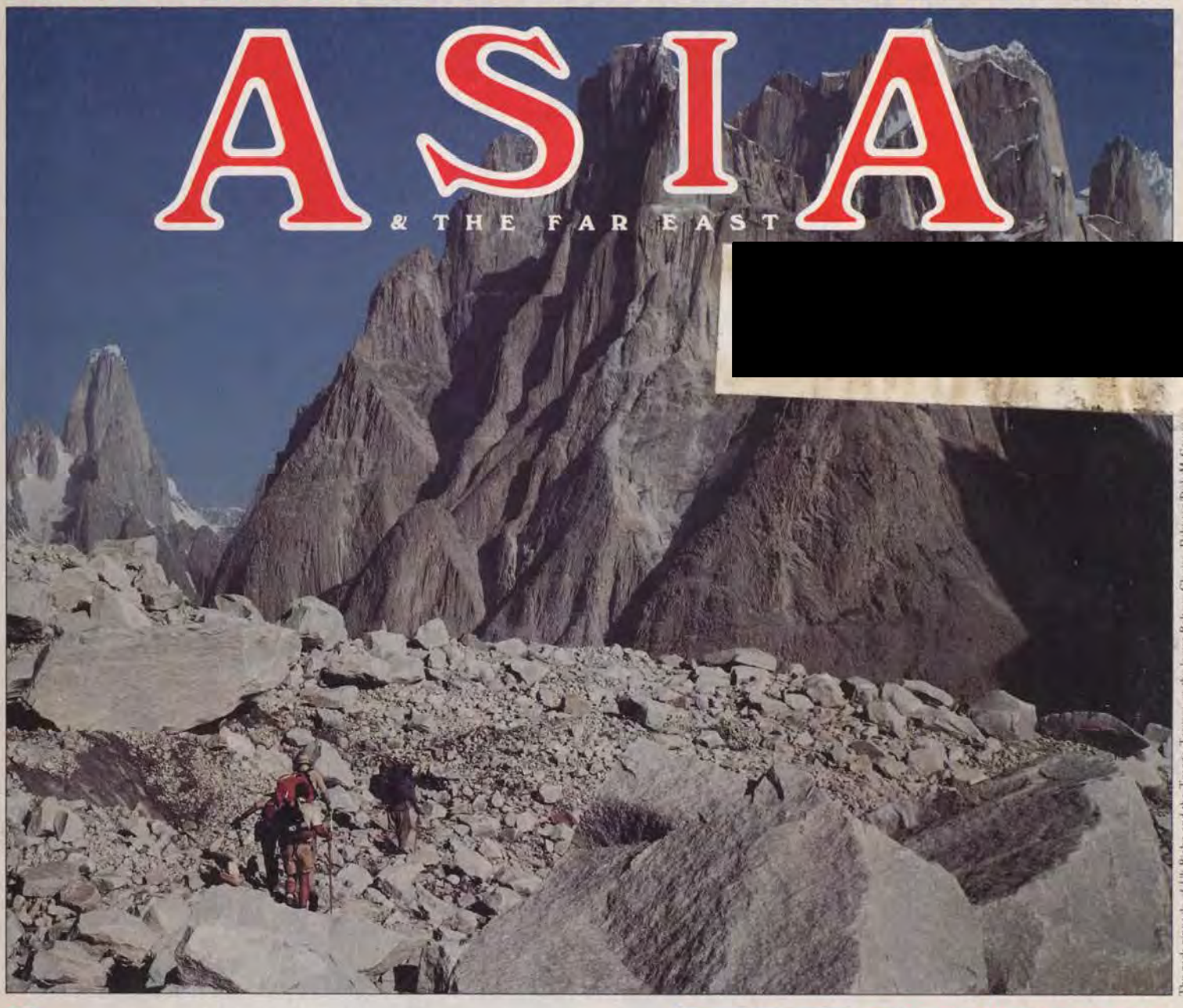

The rock pinnacle of Uli Biaho and the Trango Towers on the lower Baltoro Glacier. Pakistan/Dick McGowan

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