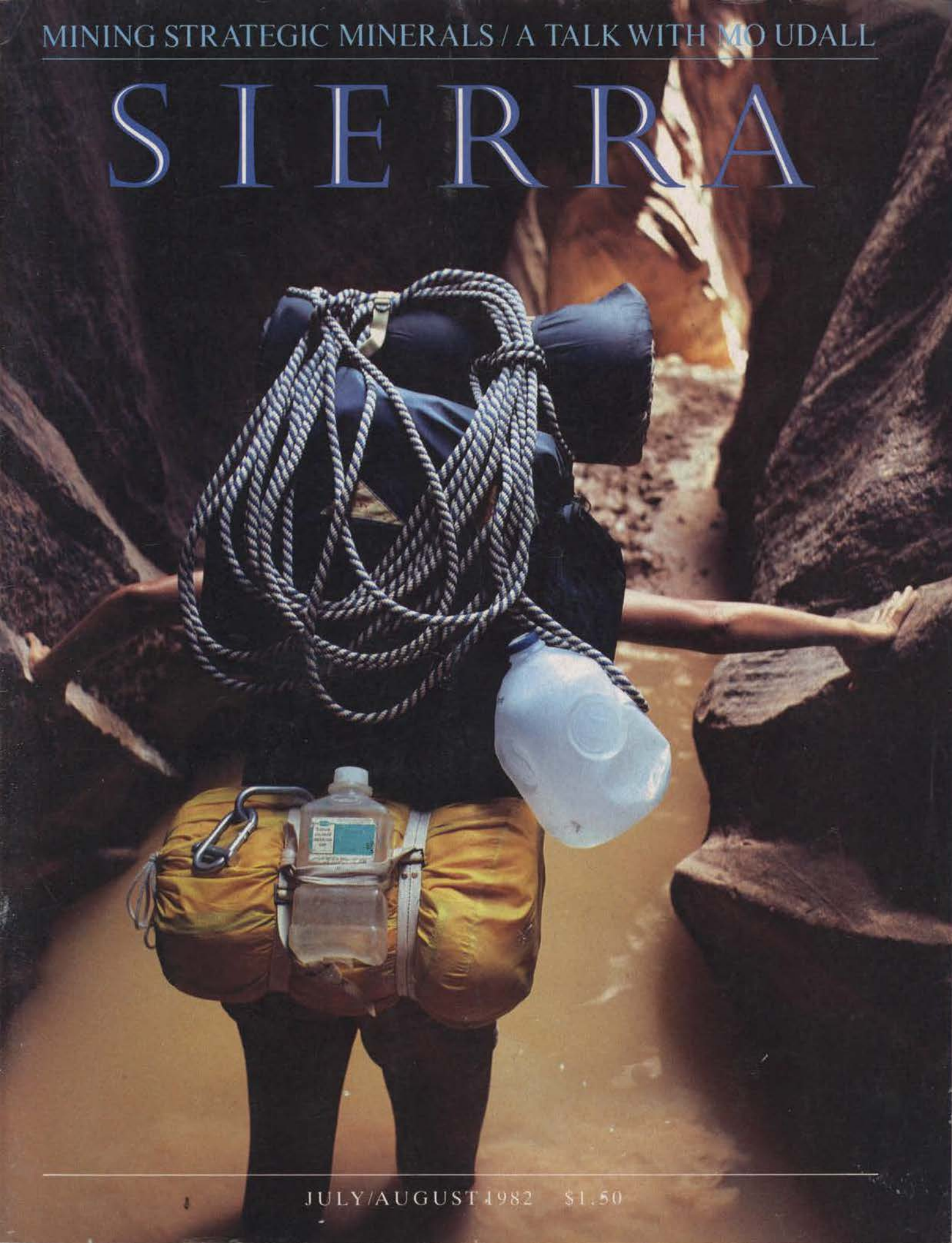


MINING STRATEGIC MINERALS / A TALK WITH MO UDALL

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"You couldn't pay me to wear

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"I mean, it's one thing to romp around in the wilderness. But to climb the Great Couloir of the North Face of Mt. Everest—a route that's never been taken before—I've had to

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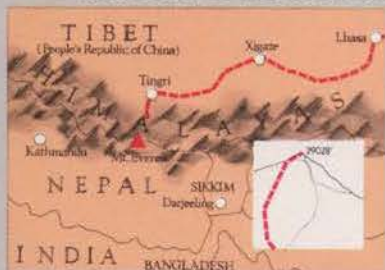
THE LEGEND OF THE EVEREST-BOUND BOOT.

A few years back, at the Mt. Rainier guide service Lou operates, he noticed his guides were climbing in running

shoes. "Why?" Lou asked. "Because they're a helluva lot lighter and more comfortable than those 8-pound leather leg killers."

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—Lou Whittaker

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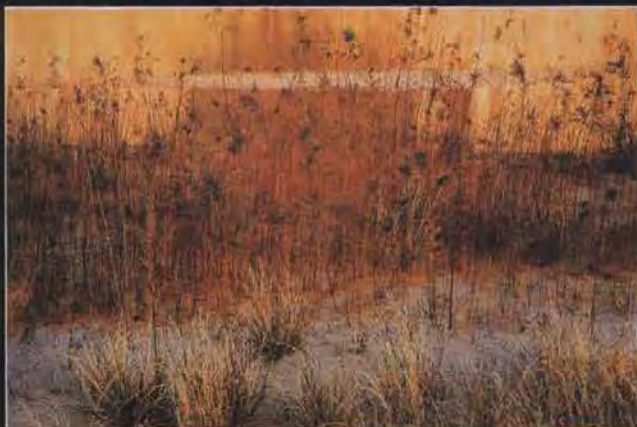


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THE PORTFOLIOS OF
ELIOT PORTER
 EXHIBIT 1 JUNE - 31 JULY 1982



Tamarisk and grass, Glen Canyon, August 1961

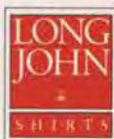
Eliot Porter

An exhibit of photographs from Porter's latest three portfolios — *In Wildness*, *Glen Canyon*, and *Intimate Landscapes*. All photographs are signed by Porter and are published in a limited edition dye-transfer color. Individual prints out of each portfolio starting at \$400.

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SIERRA

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COVER This photo by Carolee Campbell of Sherman Oaks, California, won first prize in the People in Nature category of *Sierra's* photo contest. The backpackers are in Buckskin Gulch, a side canyon of Paria Canyon on the Utah-Arizona border; the Paria River flows into the Colorado River at Lee's Ferry, Arizona.



Mo Udall, page 23.



Mining Strategic Minerals, page 28.

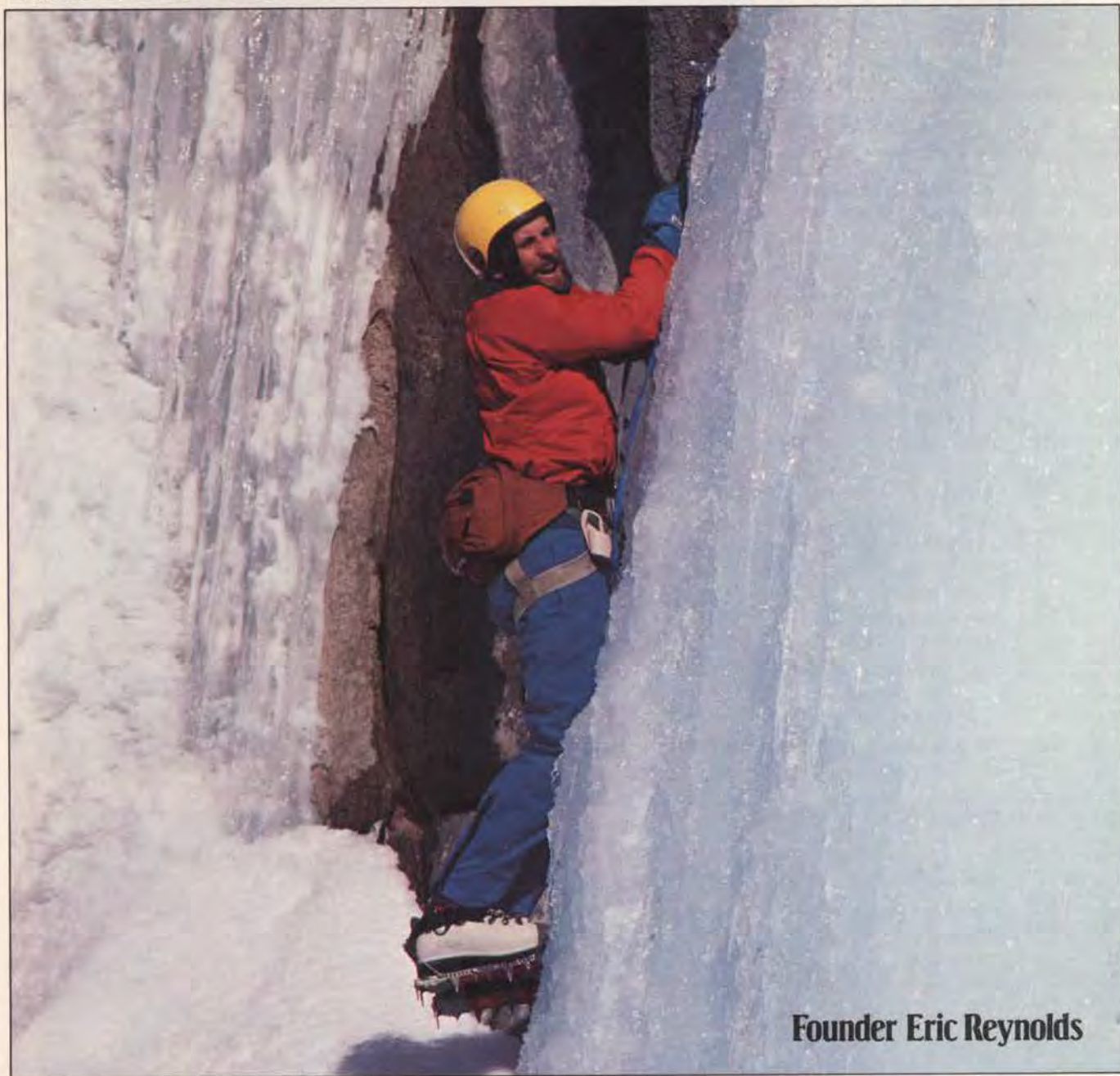


Canoeing Voyageurs Park, page 47.



Timber in Alaska, page 53.

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CONDOR CONFUSION

I presume that any number of *Sierra* readers have pointed out the mislabeled photograph on page 35 of the May/June issue. It is labeled "California condor, endangered," but the bird shown is a white-headed vulture, an African species. I suspect it is a zoo shot and that the photographers who are credited with the picture made the mistake. Incidentally, the species is not endangered.

Roger Tory Peterson
Old Lyme, Connecticut

THE WILD ALLEGHENY FOREST

In his article on oil and gas leasing in the wilderness in the May/June issue, David Sumner cites the Allegheny National Forest as a place where some progress has been made in recovering from drilling and extraction activities. There are a couple of phrasings that may mislead readers unfamiliar with the forest.

Although Pennsylvania does advise on what species to plant for renewal, it does not participate in the planting or the management of replanted areas. The Forest Service seeks and receives cooperation from sportspeople's groups and other service groups to do the work of planting and maintenance.

"The real wilderness is long gone" is particularly ill-chosen. The RARE II process identified several areas in the Allegheny forest that qualify as potential wilderness sites. The best are now recommended as wilderness areas in current legislation. They do have within their boundaries old wells, pump pads and pipelines, and yes, in the last year, more than 500 new wells were opened in the Allegheny. No, the Forest Service does not own the oil, gas and mineral rights beneath the areas proposed as wildernesses.

On second thought, perhaps there is no real wilderness in the ANF, just an unreal wilderness of confusion in our mental processes as we try to create a wilderness according to national criteria in an area where conditions are marginally acceptable.

Richard E. Bradley
Warren, Pennsylvania

TRANSPORTATION—MONEY

The three transportation articles in your March/April issue presented some of the current major issues in a concise yet thorough manner. Your articles highlighted the problem of costly new highway construction being undertaken at the expense of rehabilitating the existing system. A related issue is the influence of traditional design standards on the cost of new construction and rehabilitation of existing facilities. This is particularly true of federally funded projects; in California, more than two thirds of our current capital funding comes from federal sources.

Federal standards frequently result in larger-scale projects than would be required to satisfy safety and traffic-volume requirements under state and local guidelines. One case involves replacing a short bridge on a 22-foot-wide state highway in rural northern California. To qualify for federal funds, the state may be required to build a 40-foot-wide bridge, although the speed limit there is 25 miles per hour and the bridge serves only about 1600 motorists and 20 pedestrians and bicyclists per day. There have been no accidents on the old bridge in the last fifteen years. Moreover, the local population is about 1500 with few prospects for growth. A 32-foot-wide structure would serve, and it would save 12.5% of the cost.

There are many other locations in this state where similar savings could be realized. Multiplied across the country, the reduction in government expenditures could be quite dramatic.

Revising federal standards for roadway design appears to be one of several areas in which the interests of environmentalists and fiscal conservatives coincide. It should be just one element of a multi-pronged strategy of transportation for the '80s.

Adriana Gianturco
Director of Transportation
State of California

TRANSPORTATION—ENERGY

The transportation article in the March/April issue was a fine summary of the issues. I am particularly interested in the issues related to energy consumption

Although this article was an overview, environmentalists should not gloss over important specific facts about energy efficiency. Christopher Wasiutynski says subways, buses and streetcars consume half to a third the energy of a car. Generally this may be true, but two important details are needed to clarify the point: buses are considerably less energy-efficient than rail systems when compared rider to rider; and energy-efficiency comparisons are relevant only assuming

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similar numbers of riders. A bus that averages three riders per trip, which happens in some Chicago suburbs, is not more energy-efficient than cars with even one person in them, much less several people in a carpool.

To have a really energy-efficient transportation system, careful planning must assure the best match of transportation mode to need, as well as ensure enough riders on all modes.

William W. Garfield
Energy Chair, Chicago Sierra Club

DISCOVERING THE PRIMROSE

The cover of the May/June issue, the Antioch Dunes evening primrose painted by Dugald Stermer, is beautiful. This flower was first described by Philip A. Munz, who was a botanist, naturalist and gentleman of the highest order. His contributions to the rich flora of California include three major texts, particularly the definitive *A California Flora* and the subsequent *A Flora of Southern California*, as well as numerous handbooks on wildflowers for the casual plant-lover and wildflower-watcher. Those who were lucky enough to study and camp with Munz will remember his patient instruction, great knowledge and keen sense of humor.

Stephen Roos
Myrtle Creek, Oregon



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THREE MILE ISLAND

Your article in the March/April issue concerning the aftermath of the Three Mile Island nuclear power plant disaster was very informative. Now the owners of the plant are planning to complete another plant in the next few years in eastern Pennsylvania only 35 miles from Philadelphia, a metropolis of more than 4 million people.

No one can foretell the bitter consequences if a nuclear accident were to occur at this plant and trigger the evacuation of an entire city. The Limerick Power Plant, as it is to be called, is the subject of heated controversy between local people, who claim they will end up paying inflated rates to make up for Three Mile Island's losses, and General Public Utilities, which considers the March 1979 incident proof that nuclear power is safe.

My husband and I, both born and bred Pennsylvanians, have been so outraged by the injustices of the Nuclear Regulatory Commission and the Reagan administration that, concerned with the nuclear situation, we have recently relocated to British Columbia—where there is currently a moratorium on uranium mining and no nuclear reactors to speak of.

Dina Blade
West Bank, British Columbia

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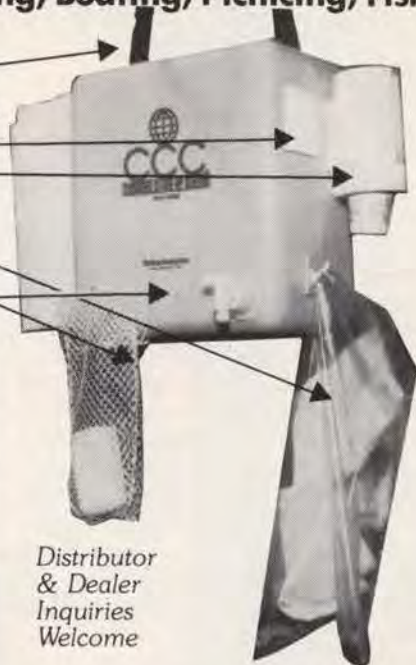
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PERIPHERAL CANAL DEFEATED

CALIFORNIA'S JUNE 8 primary election produced several environmentally beneficial results. Proposition 9, which would have authorized the controversial Peripheral Canal, was soundly defeated. The 43-mile canal was designed to divert water from the Sacramento River Delta—the main source of fresh water for the San Francisco Bay—for shipment to southern California. There, it would have been used largely for agricultural purposes. Debate over the canal focused on several issues. The project's cost grew increasingly prohibitive; recent projections (by canal critics) estimated that the canal would cost close to \$20 billion. Second, critics persuasively argued that a set of effective water conservation measures would obviate the need for the canal. Finally, critics argued that, once in place, the canal would inevitably be used to overexploit northern California rivers for questionable ends. On the other side, proponents of the canal argued that if utilized correctly, the canal would prevent environmental damage caused by water diversions within the critical Sacramento River Delta.

The political victory was unprecedented in California history. The California League of Conservation Voters hailed "a new era in environmental politics, our greatest victory ever" in the wake of the rejection of Proposition 9 and the election of more than 90% of the primary candidates endorsed by conservationists. Carl Pope, executive director of the League, called the rejection of Proposition 9 "the end of the reign of the water bureaucrats."

Pope attributed the overwhelming rejection of the canal to "the most intense door-to-door campaign in California history." More than a year ago the League began canvassing the Bay Area with door-to-door teams who, by election day, had talked directly to hundreds of thousands of voters in virtually every neighborhood. In the last three months the League followed up this effort by distributing 600,000 pieces of anti-Proposition 9 literature designed to guard

against the expected last-minute media blitz aimed at confusing voters. Then, in the last two days, thousands of volunteers recruited by the League and the other environmental groups in the "Green Vote Alliance" distributed another 250,000 copies of an environmental slate for each Bay Area county, reaching 700 target precincts.

Conservationists felt that the effort paid off handsomely. "Not only did we get an unheard-of No vote on 9," Pope said, "but we also elected virtually every candidate we supported. Overall 60 out of 64 endorsed candidates were elected."

WATT WANTS TO OPEN IT ALL UP

Interior Secretary James Watt proclaimed that he was going to protect the California coast by withdrawing four controversial basins from consideration for oil and gas leasing in the next sale scheduled for the area. His press release did not say, however, that lease sale 73 would include the entire coast of northern California from Point Conception to the Oregon border, some 8.8 million acres, including areas just as sensitive as the four excluded basins. Also, the sale would include all the lands immediately around the omitted basins.

Environmentalists and politicians from California were outraged. Republican Pete McCloskey (R-CA) said, "It seems to me the guy has lost his mind." Senator Alan Cranston (D-CA) said the proposal demonstrated that Watt "is an advocate for an extreme, pro-oil industry position, not the impartial arbiter of competing public interests that his position demands." Ten California representatives, including the chair of the Republican delegation, introduced a bill to ban oil drilling off the northern California coast until the year 2000.

Watt's announcement came on the heels of his newly announced five-year plan to lease more than a billion acres on the Outer Continental Shelf. This drastically expanded program is accompanied by reductions in the budget for the Office of Environmental Assessment, which is supposed to conduct environmental studies of areas to be leased, as well as reductions in the timetable for conducting such studies.

TEXAS REEF REMOVED AS SANCTUARY CANDIDATE

The Flower Garden Banks off the Texas-Louisiana border is the latest area to be dropped from the National Oceanic and Atmospheric Administration's "List of Active Candidates" for designation as marine sanctuaries.

Ringling Museums' Medieval Fair, Sarasota, Florida. Shot with an 80-200 mm zoom lens at f/5.6 at 1/25 sec



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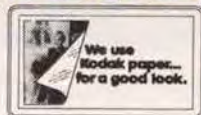
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The area, one of the few unspoiled reefs left in U.S. waters, was placed on the list in October 1979. Its deletion leaves six sites on the list. The chief threat to the area is from offshore drilling. Among the reasons the administration gave for withdrawing the site was that the threats to the area have been alleviated by other means, including stipulations on oil leases. Hermann Rudenberg of the Club's Lone Star Chapter, who has been working on this issue, is skeptical that such stipulations will be sufficient. The Club would still like to see the area added.

AGRICULTURE DEPARTMENT PROPOSES TO WEAKEN FORESTRY REGULATIONS

Assistant Secretary of Agriculture John Crowell is promoting a new set of proposed regulations that would result in rapid cutting of the old-growth timber in national forests; promote harvesting at a level above sustained yield; provide inadequate protection for wildlife; and make it harder for the public to participate in forest-planning decisions.

The Club has protested these changes in National Forest Management Act regulations, and two resolutions have been introduced in Congress to help fight this proposal. They are S. Con. Res. 97 by Senator Patrick Leahy (D-VT) and H. Con. Res. 344 by Representative Jim Weaver (D-OR).

You can help, too. Write to your two senators and your representative, asking them to cosponsor these resolutions. You can also write to John Crowell telling him how unhappy you are about the weakening of the NFMA regulations. His address is: Department of Agriculture, Washington, D.C. 20250.

ENDANGERED SPECIES ACT

Both the House of Representatives and the Senate have approved a three-year extension of the federal Endangered Species Act. The Reagan administration had proposed a number of weakening amendments and a shortened reauthorization schedule, but Congress opted for the stronger, conservationist-supported measure. Representative John Breaux (D-LA) noted, "We have not strengthened the act. We have not weakened the act." One adopted change accelerates the listing of endangered species, but a similar rule also speeds the exemption process through which controversial construction projects that might otherwise be stalled by provisions of the act can proceed expeditiously. Now the act will go to conference committee to iron out differences between the two houses' versions; then it will go to the President. □

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PUBLIC LIKES CONSERVATION

Pollster Says Support Grows

LOUIS HARRIS

AT THE SIERRA CLUB'S annual dinner on May 1, pollster Louis Harris delivered the keynote address to hundreds of Club members, many of whom had traveled from around the country for the weekend Board of Directors meeting. Harris's speech was welcome news, especially in this election year, and was also a challenge. Here are some highlights:

"One of James Watt's favorite shibboleths is that there are only two kinds of people in this country—Americans and liberals. Well, from the way our polling of the American people has been going lately, I have some news for Secretary Watt: at least in terms of public opinion, it looks more like the two kinds of people in the country are—a big majority who want to save the environment, on the one hand, and James Watt and his shrinking band of friends on the other. By 83% to 14%, an overwhelming majority of the people of this country want the Clean Air Act enforced as strictly as it is today or even more so.

"Sentiment for keeping the Clean Water Act intact or making it even stricter is nearly unanimous: 93% to 4%. By every measure, there is as strong a mandate from the American people today to strictly enforce the Clean Air and Clean Water acts as any that exists in our society.

"Perhaps as impressive as this overall view is the fact that not a single major segment of the public wants environmental laws made less strict. Let me call a roll of key groups. First, those *most* in favor of *not* relaxing the clean air regulations: big city residents (83% to 14%), young people under 30 (90% to

10%), women (82% to 13%), professional people (83% to 15%), white-collar workers (82% to 16%), union members (82% to 16%), Democrats (84% to 13%), and political moderates (83% to 16%). Now let me tick off another list that covers key elements from the 1980 Reagan majority and how they feel about *not* easing clean-air requirements: South (79% to 17%), West (80% to 17%), rural (77% to 19%), \$35,000-and-over income (75% to 24%), Republicans (76% to 22%), conservatives (76% to 21%), and Reagan votes in 1980 (76% to 22%).

"We bent way over backward in asking about cost considerations and the Clean Air Act. Let me read the question to you: "The Clean Air Act does not permit the consideration of costs when setting standards for the protection of human health. The Reagan administration is asking Congress to require that pollution standards designed to protect human health be relaxed if the costs are too high. Do you favor or oppose relaxing pollution standards affecting human health, if the costs are too high?"

"Well, by a resounding 65% to 32%, a substantial majority say they are opposed to any constraint on human health standards on grounds of cost. Even those who voted for Reagan in 1980 (by 55% to 41%), conservatives (by 56% to 42%), Republicans (by 56% to 42%), and those in the highest income groups (by 55% to 41%) oppose cost constraints on environmental regulations that protect human health.

"The results speak for themselves. By any measure, they add up to a powerful message to Democrats and Republicans alike in Congress: renew the Clean Air Act and don't do anything to it that would in any way make the air dirtier than it is now. While the public thinks some regulation in nonenvironmental areas ought to be relaxed or even abol-

Louis Harris.



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ished, they will oppose vehemently any measure that might have the effect of reversing environmental gains made in the last ten years.

"Now, when I first brought results such as these before Congress, the consternation was considerable among those who were counting on easing key provisions of the Clean Air Act. The Chamber of Commerce commissioned polls designed to show how wrong our results were, as did the American Enterprise Institute. Our firm was threatened by, and did lose, some industrial clients in the process. But by any measure, every poll with a semblance of objectivity bore out our basic findings.

"The opposition to the Clean Air Act next claimed that at best the environmental issue is a low priority and the dominant views about clean air are not deeply held.

"So we went back out to see just how much people would be upset if Congress eased clean-air standards. What we next found literally blows out of the water the claim that the American people don't really care about environmental issues. Fully 45% of the voters nationwide say that the way a candidate for Congress voted on clean air would probably or certainly affect their vote for that candidate this fall, even if they agreed with him or her on most other issues. How does that 45% divide? A big 39% say a candidate who votes for a bill that weakens Clean Air will lose their vote. Only a small 6% say they would vote against a candidate who votes to keep Clean Air as strict as it is or to make it stricter. This means that an incredible net of 33% of the voters this fall are prepared to defeat candidates for Congress who yield on Clean Air. Even if we take just the 16% who say the issue is *certain* to affect their vote, then 14% would vote against an anti-Clean-Air candidate, while only 2% would vote

against the pro-Clean-Air candidate. This net of a 12% swing for the pro-environment candidate is enormous in its own right. This kind of swing could affect the results in more than 100 congressional districts. In turn, that means no less than control of Congress itself is at stake on the clean air issue alone.

"Bluntly speaking, as far as *votes* on Capitol Hill are concerned, you in the Sierra Club and your brethren in the environmentalist movement have been out-spent, out-lobbied and out-organized up to now. The fact that pro-environmental PACs are just in their infancy is proof-positive that your side is starting late, starting behind. It is not enough any longer to write thousands of letters, make thousands of calls by phone or in person to your representatives or senators. You must also be in the business of politics 24 hours a day, 7 days a week, 365 days a year, every year.

"You have some great advantages. Your PAC money will go much further than that of your opposition. Only your side has the backing of 5 out of 6 voters on the merits of the issues. Only your side has a literal army of hundreds of thousands from your rapidly swelling membership.

"Mark it well, what is happening all over this country stems from a sudden realization that in Washington the foxes have been summoned to guard the chicken coop. And people of all ages, all segments of the population, are rising up to say that they want to take back in their own hands control of their own destinies—their own lots in life, their own land, their own water, their own air, their own environment—before others in the name of mindless greed destroy the very quality of human existence. But this battle is a race against time. Seize the nettle now . . . before it is too late."

For a complete text of Mr. Harris's



FUTZIE NUTZLE

speech, send a self-addressed, stamped envelope to Information Services, Sierra Club, 530 Bush Street, San Francisco, CA 94108.

NEW CLUB POLICIES

Board Takes Strong Stands

STAFF REPORT

DURING ITS MEETING in early May, the Sierra Club's Board of Directors took these actions with regard to conservation policy:

- Urged President Reagan to reconsider his administration's refusal to accept the Law of the Seas Treaty. The United Nations Conference on the Law of the Seas finally adopted the treaty on April 30, 1982, after years of negotiations. The Club, with other organizations and many nations, worked for nearly eight years to develop treaty provisions aimed at protection of oceanic ecosystems and resources.

- Adopted a policy strongly supporting the integrity of public lands, to ensure retention of the public lands in public ownership. The policy reads, in part, "The Sierra Club strongly opposes the so-called 'privatization' of the public lands . . . because of [its] threat to the integrity of the public land systems and because of [its] detrimental impact on urban park and recreation programs. The administration's proposal is aimed at the successor to the 'sagebrush rebellion'—a move to sell off public lands in an ill-advised attempt to deal with the federal government's many debt obligations.

"The Sierra Club strongly opposes the Reagan administration's 'Real Property Management Program,' which seeks maximum sale of public lands by executive action. . . ."

- Urged that, before any new dredging to deepen existing channels or to open new deep channels for U.S. ports, "a process be established to set national priorities for port development and to limit deep-channel dredging to selected waterways where the least detrimental environmental impacts will occur. Moreover, those who will benefit economically from such dredging should pay all the costs associated with such projects."

- The board also established a new standing committee on "The Environmental Impacts of Warfare." The board charged the com-



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mittee "to assist the Club in finding the means to prevent unlimited warfare, which would cause irreversible, long-lasting and widespread damage to the human and natural environments, and [to prevent] the employment of indiscriminate weapons of destruction, particularly such unconventional weapons as nuclear bombs, bacteriological agents and chemicals. . . . In the immediate future, the committee should specifically examine the threats posed by growth in the stocks of nuclear weapons, proliferation of such weapons into new hands, continued testing of such weapons, and the diversion of fissile materials into nuclear weaponry. The committee should identify public policies and developments which cause or aggravate these threats and also policies which might alleviate these threats." The exact makeup of the committee had not yet been decided at press time.

MINNEWASKA

Unease over Easement

LAWRENCE GROSS,
PAUL LOWY and
SAMUEL H. SAGE

ONLY 90 MILES NORTH of New York City lie the Northern Shawangunk Mountains (pronounced "Shon-Gum" by some), a narrow ridge stretching about 20 miles from Bonticou Crag (elevation 1200 feet) in the northeast to Sam's Point (elevation 2300 feet) in the southwest.

The white cliffs of the Shawangunk escarpment, one of the area's most pronounced features, rise several hundred feet above the surrounding forest on the southeastern side of the ridge. These are among the most popular technical rock-climbing areas in the East. For the hiker, jogger or cross-country skier there are miles of carriage roads, a legacy of two great Victorian-era resorts, Minnewaska and Mohonk.

The Shawangunks, or "Gunks" as they are known to climbing enthusiasts, cover more than 23,000 acres, most of which is protected by a combination of private and public holdings. These are New York's Minnewaska State Park (10,000 acres), the Mohonk Preserve (5000 acres), the Mohonk Mountain House (2500 acres), the Ellenville watershed (4000 acres), and The Nature Conservancy's Virginia Smiley Preserve (400 acres). The remaining 1300 acres belong to Minnewaska Mountain Houses, Inc., and include Lake Minnewaska, most

beautiful of the five glacial lakes in the area and the site of the Wildmere, a grand Victorian hotel overlooking the lake but now sadly in ruin. It is the proposed disposition of Lake Minnewaska and the surrounding area that has now precipitated a classic struggle between preservationists and developers.

In 1979, the Marriott Corporation announced its intention to purchase 590 acres, including Lake Minnewaska, for \$1.35 million, in order to build a conference center with an accompanying 400-room hotel, 300 resort-condominiums, an 18-hole golf course, a downhill ski center and other amenities. There has been bitter opposition to the project for several reasons.

Environmentalists believe the lake and its surroundings of fragile pine-barren ecology cannot support a complex of this size. The Marriott project, which would affect an area ten times as large as the old Wildmere, is just too large, opponents believe. Further, they fear that the enormity of the complex and the many visitors—championship-caliber golf matches draw thousands of people—will destroy the integrity, not only of Lake Minnewaska, but of the surrounding land. Under the New York State Environmental Quality Review Act, an environmental impact statement must be filed by the developer before agencies can grant water and sewage permits, and if necessary a public hearing must be held. Marriott submitted its draft EIS to the New York State Department of Environmental Conservation (DEC) and the hearings began in June 1980. Testimony was given by expert witnesses, including those called by the two major environmental groups involved, Friends of the Shawangunks and Citizens to Save Minnewaska. Their testimony showed that not enough water was available for the complex. However, the DEC, in its final ruling in June 1981, held that the project could proceed conditionally; after the first 50 condominiums were built, the project could continue if water was available. Undaunted, the two environmental groups, joined by the Boston-based Appalachian Mountain Club (AMC), have taken the DEC to court, charging that it acted improperly in granting conditional permission. The case is now in the New York Supreme Court.

Since the late 1800s, the Shawangunks have benefited from a stewardship that has had utmost respect for the land. In 1870, Albert K. Smiley and his twin brother, Alfred H. Smiley, opened their Mountain House wilderness resort at Mohonk Lake. The Smileys appreciated the natural beauty of their surroundings, and over the next few years they amassed more than 7500 acres for the Mohonk Estate.

In addition, Alfred Smiley acquired 10,000 acres and founded his own resort at

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The Minnewaska area is dotted with rustic shelters for low-key camping and picnicking adventures.

Lake Minnewaska to the west of Mohonk. As conservationists, the Smileys were far ahead of their time. They realized that the Shawangunks were to be admired and enjoyed rather than developed. They built the carriage roads of crushed shale with manual labor. Today, these roads are still in excellent condition, serving as fine routes for ski touring, biking, jogging or walking, and providing scenic vistas as well.

The two resorts offered diversion for a newly affluent society, and they prospered. As the years went by, however, the descendants of the original Smileys of Mohonk could not afford to keep their land because of increased taxes and operating costs. Fortunately, rather than subdividing for development, in 1963 they sold two thirds of their property at well below its market value to the Mohonk Preserve (then called the Mohonk Trust), a nonprofit entity committed to preserving the land in its natural state. Today the Mohonk Mountain House still thrives, and the preserve remains intact. However, the resort at Minnewaska did not fare as well.

In 1955 Alfred F. Smiley sold his 11,000-acre Minnewaska estate to Kenneth Phillips, then manager of the property. Financial difficulties beset the Minnewaska Mountain House, and in 1971, 7000 acres were sold to the state of New York to establish Minnewaska State Park. In 1975 Mr. Phillips proposed a commercial venture on his land near Lake Minnewaska, to include a motel, a restaurant, shops and automotive service. There was also to be another complex of souvenir and gift shops, a theater, a restaurant and so on. A residential development on the scenic ledges west of the lake was proposed. Lobbying by environmentalists, including the Appalachian Mountain Club, the Sierra Club and the newly formed Friends of the Shawangunks, succeeded in

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getting New York State to make an offer of \$1.725 million for an additional 3000 acres of Minnewaska property. The original offer was rejected by Mr. Phillips, but eventually he did sell 1400 acres to the state, retaining 1300 acres.

Although Lake Minnewaska was not sold, in 1977 Mr. Phillips received \$210,000 for a conservation easement over 239 acres, including the lake. In other words, he signed a contract selling the state his development right. The easement is for "... the conservation and preservation of unique and scenic areas; for the environmental and ecological protection of Lake Minnewaska and its watershed; and to prevent development and use in a manner inconsistent with the present use ... of Minnewaska State Park."

Last July, under pressures from the developer, local politicians and Governor Carey of New York, the agency holding the easement (the Palisades Interstate Park Commission) amended it to allow Marriott to build a golf course on the easement property. The plan for the golf course includes construction of 40,000 square feet of buildings and parking areas. In exchange for amending the easement, Marriott agreed to an access trail through the golf course, a \$50,000 trail-maintenance fund, an additional 70 acres of steep land and a restriction on the siting of condominiums. Conservationists were outraged, since there was no restriction whatever on the scope of the development. Such groups as the Appalachian Mountain Club and the Sierra Club fear that validity of all conservation easements (at least 70,000 acres in New York State are protected by such easements) have been jeopardized by the commission's actions.

Last October the Appalachian Mountain Club and the Sierra Club brought suit against the commission, charging that they acted illegally.

The fight over Minnewaska raises several questions: what right have environmentalists to oppose the sale of property by an individual? Is a new owner obliged to respect a tradition of care for the land that has been in effect for a century? What are the obligations of a major corporation to the land? Finally and perhaps most important, what are the responsibilities of a government agency to the public when it spends public money to prevent development and then, a few years later, reverses itself to permit the development?

Perhaps not all these questions can be resolved; but the answer to the last one should be clear. Conservation easements must be upheld or their great value as important legal tools for conservationists will be lost. The issue is before the New York State Supreme Court; it will affect the outcome of

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the fight for Minnewaska as well as the power of conservationists in the future.

Lawrence Gross, an attorney, is the former chair of the New York chapter of the Appalachian Mountain Club. Paul Lowy chairs the Mid-Hudson Group of the Sierra Club. Samuel H. Sage directs the staff of the Sierra Club's Atlantic Chapter.

SCCOPE Political Update

THE SIERRA CLUB Committee on Political Education (SCCOPE) has now conducted fifteen regional workshops on campaign involvement since the first of the year; more than 800 Club leaders took part.

The second phase of the Club's new political program is now under way—raising such environmental questions as the renewal of the Clean Air Act as important campaign issues; and endorsing environmentally sensitive candidates. So far, 23 congressional candidates have received Sierra Club endorsements; many others are now under consideration.

The next phase of SCCOPE's program is recruiting volunteers to work on election campaigns. For that, the Club needs help.

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A TALK WITH MO UDALL

Chair of the House Interior Committee

FRANCES GENDLIN

Frances Gendlin: *In March, the heads of ten major environmental groups presented to the public an indictment of President Reagan's environmental record. This move emphasized that the entire administration's position is antienvironmental; the problem is more than James Watt. Would you agree with that analysis?*

Morris Udall: Yes, I do, and I'm sorry to have come to that conclusion. I think we hoped in the first months of the Reagan administration that the harsh things Secretary Watt was saying really represented an unusual personality in a man who enjoyed shocking people and saying outlandish things, and that Ronald Reagan didn't approve of the content or style, and this would pass.

But it became obvious, as 1981 wore on, that Watt and the people at the Department of Agriculture and the Environmental Protection Agency were not speaking for themselves alone, but really represented the feelings of the President himself. So I thought it was appropriate and highly significant that these major conservation organizations, which have been traditionally bipartisan, have come to the same conclusion.

FG: *Secretary Watt has claimed that Congress has backed him in his major initia-*

tives. Do you think this is true?

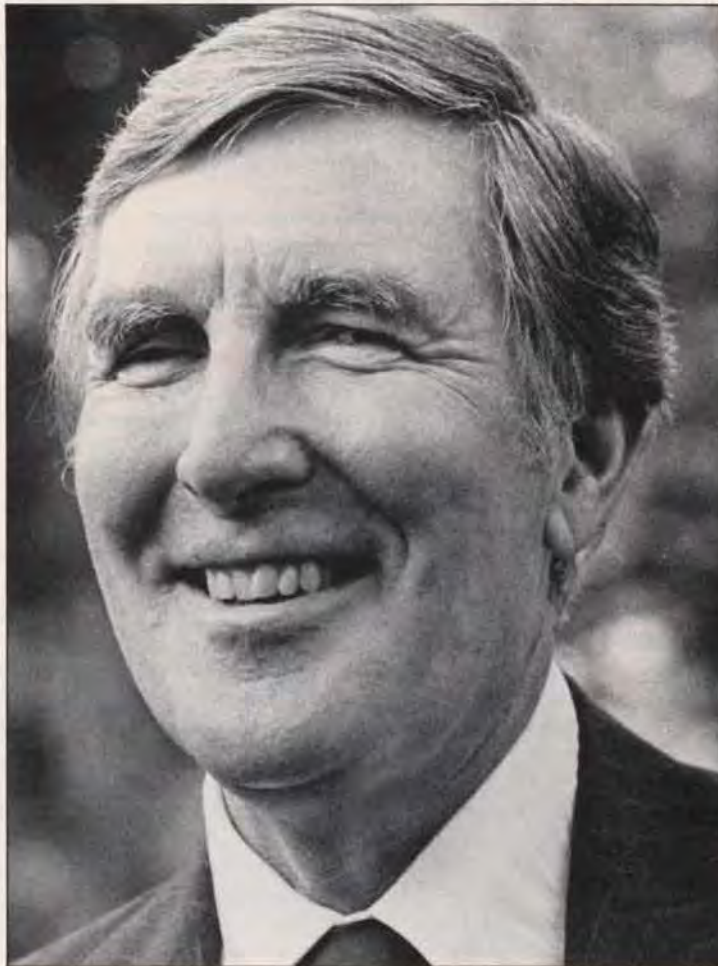
MU: No, not really. I don't always follow Secretary Watt's logic; he seems to find comfort in things I read differently. He was poised to allow drilling in the Bob Marshall Wilderness Area in 1981; we had an

emergency meeting and passed a resolution that prevented it. I think Congress is ready to bring him into line at the proper time.

FG: *He's an outspoken supporter of the so-called Sagebrush Rebellion and lately has attached himself to the notion of privatization, or selling off the public lands to alleviate the national debt. Do you think Congress is going to go along with this idea?*

MU: No, I don't. Yet I must give Jim Watt some credit on this one thing. After his appointment, he told me that he was against the Sagebrush Rebellion. I said that was a great relief to me, I was too. But, as with so many things, this one was a little bit different. He had the position that I did: he said, I'm going to tell all the governors we won't just give the land back to the states but if you have a special need in New Mexico, Arizona, Utah, or the other western states—for example if Flagstaff, Arizona is surrounded by federal land, and the university and the community need places to expand—why sure, we ought to make some land available.

So he was asking—and I approved of this—the mayors, the governors, the western legislators if they needed land, and he seemed to say, "Let's do it on a case-by-case basis." That makes sense,



and we have the authority in the law to do that.

But in recent months, he said some other things that seemed to indicate some support for the idea of wholesale transfers to the states. But in my own experience and conduct with him, he's kept his word. He hasn't gone out to undercut the BLM lands or to seek a big transfer.

FG: *But they're certainly not in favor of either preserving the integrity of wilderness, or of adding to the wilderness system; yet conservationists are of the opinion that still more is worthy of being saved. How do you think preserving wilderness would be best approached in Congress now?*

MU: One thing that kind of shocked me was realizing the fight we had on our hands when the Reagan administration had been in power long enough to stake out its programs. In the original Wilderness Act, we set up an orderly system of sorting out the lands, making evaluations as we did in RARE I and RARE II, and then making decisions. It was a pretty good program.

Now all of a sudden we have these proposals that provide for an immediate end to the wilderness study if action is not taken by a certain date. It looks to me like this administration wants to get as much of the stuff designated as nonwilderness as it possibly can, right now, and then move to open up the lands, so that once they're opened up they won't be available for future wilderness designation. We've got to fight that.

One thing that concerned me most was the memorandum that was leaked in which Watt told what his priorities were; one was to open up the wilderness areas. I couldn't figure out why he would want to do this, because probably only 1% or 2% of the country's oil and gas reserves are in the wilderness system. Let's drill as the last ditch if we're down to our last bucket of oil. But his reasoning suddenly struck. He's doing this and spending so much time because he believes any Secretary of the Interior and any President in the next 20 to 30 years could open up for drilling the Badlands, the sagebrush, the BLM lands, but he, backed up by President Reagan, has a good chance to open up the [designated] wilderness lands, and do it now, and if they don't do it now, they'll probably never be able to do this. That kind of attitude is pretty shrewd, but it also alarms me, and a lot of conservationists.

FG: *You recently introduced House Resolution 427, which would establish Congress' will to protect areas that are now wilderness and that are being considered for that designation. Would you like to comment on it?*

MU: We are trying to get commitments and

sponsors for this legislation, so that sometime before the end of the year we can convert this support into a specific bill to prevent the Interior Secretary and the President from doing violence to a lot of wilderness areas.

FG: *You were one of Congress' greatest champions for a strong Alaska National Interests Lands Act, and your leadership contributed greatly to its passage. How many of your own long-term objectives were realized when the bill was signed into law?*

MU: You could have been here for 50 years before and for 50 years after and probably not see as much history made or as much achievement as we saw in that one bill. It was an immensely satisfying thing for me. That afternoon at the White House, Jimmy Carter signed a piece of paper, and in one stroke of the pen, we doubled the national park system. We've been working on it since 1872. We also almost doubled the wilderness system, and we doubled the game refuge system in that one afternoon. So it was exceedingly satisfying.

As I look back, the tremendous expertise developed by the Sierra Club and all of these organizations was a beauty to behold. The bill passed through the House twice, and each time there were energy crises under way. People were sitting in gas lines the day we passed the bill the last time in the House. The opponents seized on that; they tried to turn this into a referendum on jobs versus energy and versus conservation, and we beat them, beat them bad.

That taught me there is deep-seated bipartisan support for conservation goals, and we can win these fights if we'll get organized. We put together a finely honed, tooled, interrelated legislative machine. We could find out in an instant that some senator was about to join up with somebody on a bum amendment, and we'd have five people from his home state who had credentials as supporters of his who would show up or would get on the telephone. We did the ultimate kind of civics and lobbying jobs that you read about in the textbooks.

I was very proud to help quarterback that whole effort with John Seiberling [D-OH], and a lot of other good people.

FG: *I was going to ask which environmental issues you think have been the most important to you, but it sounds as though the Alaska Lands Act was.*

MU: Certainly Alaska's got to rank ahead of everything else. It's as though someone had rolled the clock back 50 or 60 years and said, you can help create the national forest system, or you can come here with the pioneers and maybe save some of the forests that

were cut over in those days. The stripmining bill was critical, the land and water conservation program, the wilderness bill in 1964, just a whole row of them. But if you had to pick out the most important, it would be the Alaska Lands bill.

FG: *There are deficiencies in the Alaska bill though, in provisions concerning both administration and southeast Alaska. Can Congress do anything?*

MU: In this administration, additional environmental gains in those areas are going to be pretty hard to come by. But the Alaska people are going to want fine tuning of the law from time to time. A law that complicated is going to have defects in it, and I want to be in a position to bargain a little bit. Where we left out a piece of land that should have been in, or where a serious mistake is about to be made, I want to be in a position to go in and fine tune it. But this is a bad administration to get this kind of thing done.

FG: *John Seiberling said, "Mo's pretty much the best shot we have at standing up to James Watt and the rest of these people in the Reagan administration." How do you intend to do this?*

MU: Oh, I don't know. I'm flattered at what John Seiberling has said; he was the unsung hero in a lot of this, and had a lot more to do with some of these things than I did. It's tough to head off an administration that is smart, well armed and knows what it wants to do. I had assumed kind of simplistically, when Reagan appointed Watt, that everything had to come through my office, that I was the guardian of the gates, and the Secretary of the Interior couldn't do anything he wanted to do without coming through our shop and convincing my committee.

I discovered that Secretary Watt has immense powers to undo things we did, without coming to Congress. He hasn't come to us yet with a major bill I'm aware of to say, "I don't have the power to do something good, and I'd like to have the statutes amended to do it." There just isn't much of that around, so we'll have to head him off in other ways—through the oversight power of the Congress, and the kind of careful hearings that Representative Seiberling and others have held in relation to wilderness and Park Service proposals.

FG: *Which environmental issues do you see as the most important coming up?*

MU: The whole clean air and clean water fields, toxic chemicals, and the problem of the EPA. Mrs. Gorsuch is a disaster for the whole country at a time when we ought to be doing something about these toxic chemi-

cals and administering the superfund and toughening up the Clean Air and Clean Water acts. We've made so much progress—then they fire half the people and double the responsibilities. It's turning people loose to kill programs by administration, or maladministration.

Acid rain is a terrible thing that's crept up on us. You look at a beautiful lake in upstate New York and the water is blue, and you think, "Isn't that lovely." Well, it's dead. The whole complex lake ecosystem that's been there for thousands of years is gone. We've got to get on that and get on it quickly, but people in the administration don't care about that very much. They're not willing to spend any money, time or influence for things like that. We're going to have to shove them and push them.

FG: *You're going to be able to get legislation passed?*

MU: It's tough. A lot will depend on the fall elections. As things stand right now, the Reagan administration, and the Republican party generally, may take a hell of a beating at the hands of voters who don't like what the administration is doing to the environment. If we elect several dozen new representatives, many of them making these issues important in their campaigns, it's going to

"I worked on the farm,
and I got from my parents
an appreciation of wilder-
ness and the closeness
to the land."

send a shock-wave that will help a lot of Republicans who used to be our allies get back on our side, and it will keep them from supporting the environmental outrages that have come out of this administration.

FG: *You're chair of the House Committee on Interior and Insular Affairs. Is this something you expected you were going to be doing when you first got to Congress?*

MU: No, not really, although I think if you had wanted to start to train somebody 40 years ago to chair that committee, you would have done a lot of the things that happened to me. I grew up in a harsh area of northern Arizona. I hunted deer and rabbits and worked on the farm and I got from my parents an appreciation of wilderness and the closeness to the land.

Then I was a county attorney here in Tucson, handling state and local problems. I helped get the federal land here for the Tucson Mountain Park and the Arizona Sonora Desert Museum. In the Congress I was ambitious like everyone else, I guess, thinking my interests were more in foreign affairs and economics, and that I'd gradually climb the ladder of seniority. I ran unsuccessfully for leadership of the House, and I came fairly close to winning the majority leader's position 12 years ago.

As time went on, it looked as though I was going to spend the rest of my career in the Congress, and it turned out to be I was next in line to become Interior Committee chair. By then I'd written two books on the Congress, I'd been involved in the wilderness and the environmental fights of the 1960s, and I had pretty good relations with industry and Republican conservationists. So in many ways I had been trained to know about Congress, to know about the environmental agenda and to be in a position to push

TIMOTHY FULLER

it through the long legislative process.

FG: *You've been a long-time supporter, though, of the Central Arizona Project, which has been vehemently opposed by most environmentalists. Could you say a few words about your reasoning on that?*

MU: Yes, that's kind of painful in many ways. I try to be a reasonable person and to change with the times. When I grew up, my dad and all the people in town were farmers who depended on irrigation. Unlike attitudes today, dams weren't bad, they were good; they made communities possible, they made progress and livelihoods possible. This whole attitude was a part of my life and my family's life. I spent a year and a half trying to get the dams built in the Grand Canyon back in the '60s, and I had a big debate with Dave Brower and others up at the Grand Canyon.

Finally, working with my brother, who was then Interior Secretary, and Senator Goldwater, we made a deal. We said, all right, we'll give up the dams in the Grand Canyon. But we want the Sierra Club and others to join with us in getting an electrical plant built at Page to lift the water out of the river and get it to Phoenix. That's why we wanted the dams—to get the electricity to the water to pump the water to Arizona.

Ironically, we've all had to switch positions a little bit. I asked Dave Brower to help us build some good, clean power plants up here, and we would agree on the dams. They said okay, but in a very short time they were saying, "Those power plants are bad in northern Arizona. Let's get them out of here; they're wrecking the air."

I think I've grown and tried to adapt to situations and still represent my state, where the Central Arizona Project is an important thing. If you could turn the clock back to 1910 or 1912, it would have been much wiser, from a resources-planning standpoint, to build ten cities like Yuma along the river instead of evaporating all that water in a 300- to 400-mile canal all the way to Tucson and Phoenix. But we've passed the point of no return on that, and the project was sacred to the people of Arizona.

The Orme dam was a critically important issue to Arizona, and nationally. I was faced with the possibility of having to take on my own conservation friends and all my credentials in the movement, to build the Orme dam if that were the Arizona position. I had asked enough questions and slowed it down enough to force people to really look at it. But we finally ended up, to my utter amazement, with the whole Arizona establishment agreeing we really didn't want the dam.

But I've tried to be responsible and I've tried to grow and I've also tried to represent



the people of Arizona with whom I grew up and on whose side I've fought all these fights.

FG: *Water, of course, plays a role in all the politics of the West. The Federal Reclamation Act put a 160-acre limitation on land that could be irrigated with federally funded projects, originally intended to encourage family farms. Yet the law has been skirted and manipulated to provide agribusiness with cheap, subsidized water. How can we continue to subsidize water so heavily?*

MU: This is a very painful issue for me, and I tried to find a responsible solution to it. Every Secretary of the Interior for the last 60 years has been pushed to do something about it, and none has been able to; the big water interests in the West have always fought this off.

The purposes and the goals of that act in 1902 were good; to encourage family farms, and not to subsidize agribusiness with cheap federal water. We are faced, however, with a new set of conditions: 160 acres, which is the limit under that law, was a good farm in 1902. Now it isn't. A farmer has to buy a \$100,000 piece of farm machinery to grow lettuce or cotton. So the law had to be updated. I thought maybe from 160 we would go to 640, but a 960-acre limitation was the thing we finally arrived at, and the settlement has two basic features:

First, 960 acres—and I don't get much argument even from conservationists about that limit—will cover 97% of the farms using reclamation water today. The burning question, however, is what to do about the other 3%, which accounts for about 30% of the land. The abuses are largely in California. After trying all kinds of debates and filibusters, we finally fell back on an old formula that Senator Clair Engel, a Democrat from California, had been pushing way back in the '50s. We decided to enforce the law with regard to the first 960 acres, and then the farmers were going to have to pay the cost of the water.

A lot of the outrage has been about the size of the farms, but it has also been about subsidizing big corporations. So we say to the corporations, we're still going to require you when you sell to parcel the land out in 960 acre farms, but in the meantime you're going to pay the full cost of water. I think it's a pretty good solution. It's something less than 10% of all the farming land in America in irrigation, but that reclamation program produces a lot more than 10% of our food, fiber and farm products. The solution isn't perfect, but my attitude has always been to solve big problems—not let them fester—and put them to rest.

FG: *You played an important role in the*

passage of the Federal Surface-mining Control and Reclamation Act. It is a landmark stripmining act, but since then the issue has become enforcement. How do you think the Reagan administration is approaching that?

MU: They haven't done a very good job. Again, it's a situation where I wish we had had just another two years, because the Carter administration was moving to enforce it. It's complicated. We had a timetable arranged so that over a period of four years or so, we would give the power to handle enforcement to the states that wanted it—and most of them did. They would use their own inspectors and their own regulations, operating as tough as the federal law.

FG: *Yet aren't those key states solidly dominated by the mining interests?*

MU: Yes, but we were going to say to them, if you want to enforce the law in Ohio or in

“I've enjoyed my association with the Sierra Club. I've appreciated the tolerance people have had.”

Wyoming, you get your own inspectors; we help you pay for it; you pass your own law and regulations; and we'll come around several times a year or when local citizens complain, and if you're not enforcing the federal law, we are going to do something about it. This approach has worked with other kinds of regulating systems fairly well, and it was a basic part of the act.

But along came Jim Watt, who doesn't really believe in that law and thinks it was a mistake. So we got a good center set up in Denver and recruited scientists and hydrologists, good people who were out there to show how the water can be handled without polluting it. When we were just about over that hump where I think the states would have been doing an acceptable job, they closed down the center, moved some things to Casper, Wyoming, shook up some of the other parts of the country where we were beginning to get compliance and set us back a long, long time.

Director Harris, who is directing the office, was someone I was initially very suspicious of. He'd had some background in the legislature in Indiana and with the coal companies. He's certainly not a perfect administrator, but it's a matter of personal pride to him. He's not there to ruin a program; he

tells me he's there to make it work, and he's done some pretty good things. So I think if I'm going to criticize and heap the blame on people who ruin the environment, I think I ought to praise those who are trying to do an adequate job, and I rate him as doing an adequate job.

But Secretary Watt doesn't have a heck of a lot of enthusiasm, and it isn't a big priority of his to provide a good, tough administration of that law.

FG: *Then there are the agencies that are supposed to be protecting the environment, such as the EPA. Is there anything the Congress can do to restore the strength and mission of the EPA?*

MU: It's sickening to watch a set of beautiful programs be weakened that people need and want, that would do good things for the environment—that would stop killing babies with chemical compounds, stop acid rain from ruining lakes and stop all sorts of outrages. To see somebody at the head of that team who doesn't believe in doing these things, is trying to water them down, is a friend of industry, and will dilute everything possible, it's just sickening. Next year was the year when the EPA would begin to crunch and get industry compliance with a lot of those things, working through the states. They've fired about half the people, they've discouraged the idealistic engineers and investigators and inspectors and technical people, and they're leaving. This is the time when the work load is going up, and we need more people, and they're firing the good ones.

FG: *What can be done?*

MU: You can send a message to Ronald Reagan and the Republican party by electing conservationists, Democrats and Republicans, in the fall elections. You can't replace the President for two more years, but you can send a message. I think the Republicans are going to pay a heavy price. A lot of Republican representatives tell me privately that they're concerned, and that there's strong support for the EPA having the tools and people to do its job.

FG: *I want to ask about the Clean Air Act and your position on it. As it currently stands, the act requires air quality in class I areas such as national parks, which have the cleanest air, to be preserved. Yet there are serious attacks within Congress against the act. What can Congress do? What will happen?*

MU: Pollster Lou Harris said that he was amazed at the continuing, deep-seated support the American people give to clean air and clean water. They're willing to make a lot of sacrifices to keep clean air and clean

water. Industry's making a valiant fight either to avoid extending the law or to water it down, and I'm apprehensive. The President is on the side of the automobile companies and the other polluters.

I think the fight is worth fighting. We can at least save the kind of standards and guidelines that we have now. But again, I hope this becomes an issue in the fall elections, and I think it will. If a lot of congressmen get beat, and if it's considered that their defeats had something to do with their failure to stand up for clean air, that's going to send a message.

FG: *Both of these last ideas of yours, electing conservationists and candidates getting beaten, are consistent with something new the Sierra Club is doing; we've formed our own political action committee, the Sierra Club Committee on Political Education. For the first time we're endorsing candidates. How do you view the increased electoral involvement of groups like ours?*

MU: I welcome it. I think it's long overdue. I was one of the fathers of the political action committees, and I am appalled at what we have wrought. The big corporate donations from these corporate PACs have doubled, tripled and quadrupled what's being spent. People on the other side of these arguments and issues are going to have to fight fire with fire. So I've encouraged groups such as the Sierra Club to get PACs.

FG: *Our PAC is going to be even better in that we have a lot of feet, and we're going to be out there campaigning.*

MU: That's very important. Yes, groups can help a candidate not only with money, but with troops stuffing envelopes, knocking on doors. If you can get 1000 people, each of whom can change ten votes between now and November, you might change an awful lot of congressmen with those votes.

FG: *Would a Sierra Club endorsement help you in your campaign?*

MU: In all frankness, it's a mixed blessing in Arizona, but I welcome it. I've always said that people ought to know who my friends and supporters are. I am accused of being a tool of the Sierra Club anyway, and I may as well get some of their help.

Sierra Club members and others shouldn't ask for perfection in an elected official, though. In my congressional district, we produce one half the nation's copper. I am elected to represent this area, so I have to try to be sympathetic and helpful with the copper industry's concerns. So, you know, don't ask me for 100% every year. I think everyone knows my conservation record, but people ought to understand I represent a particular district, and I can't be

with you all the time on everything.

FG: *I think the Sierra Club and the environmental movement are grateful and appreciate what you're doing for conservation.*

MU: Thank you.

FG: *In addition to helping with traditional environmental issues such as wilderness, you've come out pretty strongly on the nuclear issue. Can you say anything about this in terms of the environment?*

MU: It's the ultimate environmental problem. If the disaster of nuclear war occurs or even if there is ever a serious accident in a nuclear plant, it will not only destroy wilderness, it will destroy people. We've got the potential to destroy an awful lot of the things we value on this earth, including our own species. The electric power part of nuclear development is in increasing trouble; there hasn't been a new nuclear power plant ordered in four years, and no one can tell you if there will be another one ordered. Also, the American people are at long last doing what General Eisenhower said years ago they would, rise up and demand we stop this senseless arms race. I think we're beginning to see a piece of that.

FG: *While you were talking about the Sierra Club expecting perfection, I was thinking that*

“The American people . . . are willing to make a lot of sacrifices to keep clean air and clean water.”

TIMOTHY FULLER



all cause-oriented organizations hope for perfection yet settle for some human compromises and are still very excited. When we publish this interview, 300,000 people are going to be interested to see what you have to say to them. Is there anything in particular I haven't asked that you would like to say to them?

MU: Oh, I don't think so. I've enjoyed my association with the Sierra Club. I've appreciated the tolerance people have had. I'll never forget going out on one of these field trips in the '60s—extremely important, we were looking at the redwoods. We spent three days in redwood country taking testimony. There had been a report from the Sierra Club that one of the companies had gone in to clearcut an area to prevent it from being put in the wilderness. The Sierra Club did a big ad calling it legislation by chainsaw. At the hearing that day, one of the officers of the company swore to us that they had not cut in this particular tract. Then Dr. Ed Wayburn came to me and John Saylor, who was one of the best friends the environment ever had, who's now dead. Dr. Wayburn said, "I'll get a helicopter. I'll get you in there."

That afternoon we flew in to the Tall Trees Grove, where the tallest trees on earth were—a fantastic, beautiful place. Then we flew about eight more miles up Redwood Creek and landed. We had to walk out five or six miles to the road, and we walked down one of the tributaries of Redwood Creek. It was an incredible, beautiful day in the spring. But we got to a tributary that emptied into Redwood Creek, and the thing was running with silt. It was horrible. Here were these huge trees that were down in the mud and the slime, and the topsoil was all going in, polluting the whole creek for miles. We were the angriest and most unhappy people you'd seen in a long time.

FG: *They didn't expect you to go in there.*

MU: That's right, and they lied to us. We got even with them and finally got a good redwoods bill, thanks to Phil Burton and a lot of other people who worked on that over the years.

The other thing I remember about redwoods is that Richard Nixon went after Adlai Stevenson pretty hard, and there was a little debate on the environment in the '56 presidential campaign. Stevenson said, "Richard Nixon's the kind of guy who would cut down a 2000-year-old redwood tree and then mount the stump for a speech on conservation," and I remembered that that day in the redwoods.

FG: *Thank you for sharing your ideas with us, and good luck in your campaign.* □

STRATEGIC MINERALS

Reality and Ruse

CAROL POLSGROVE

MANFRED P. KAGE/PETER ARNOLD, INC.

FOR THE LAST couple of years, the strategic minerals problem has been one of the mining industry's favorite weapons in its battle for access to the wilderness. Strategic minerals are minerals the United States needs for military and industrial purposes. The problem is that the United States depends heavily on imports for twenty of those minerals, and the level of dependence has climbed from an average of 54% in 1960 to 70% now. The administration, equating dependence on imports with vulnerability, has even conjured up the specter of potential wars over access to these and other resources—"resource wars."

The solution to the problem, according to the mining industry, is to encourage domestic production. *Business Week* outlined the plan in April 1981: "What minerals advocates are asking is nothing less than a government-spurred revitalization of the \$25-billion minerals sector of the U.S. economy. Proposed remedies range from easing air- and water-quality rules to government purchases and guaranteed minimum prices for certain metals, including cobalt and titanium, that are critical to defense needs."

What industry people do not say is that the five minerals of biggest concern—however valuable in defense systems—are used more for consumer goods than for strategic weapons. Brant Calkin, the Club's southwest representative, also notes that domestic ores couldn't fill the mandated mineral stockpile "even if we mined every square inch of the country." We do have enormous supplies of these minerals in domestic dumps; but recovering and recycling them is not what the miners have in mind.

Congress may be about to give the industry what it wants. H.R. 5540, reported favorably out of the Subcommittee on Economic Stabilization in May, directs the President to use the Defense Production Act to subsidize



Photomicrograph of platinum, a mineral useful for temperature resistance, as a catalyst and as an ingredient in plating on electronic components.

strategic minerals production. The bill also renews the act for five years; otherwise, it would expire September 30. Subsidies in the form of loans, loan guarantees or guaranteed purchases or prices, would be the most likely way to encourage the mining industry to make investments that are not now profitable.

The Reagan administration shied away from favoring subsidies, at present, when it issued its long-awaited interagency strategic minerals report in April. Instead, Reagan hoped to spur production by purchasing strategic minerals for the national stockpile. It is unlikely the funds will help much; the 1982 budget appropriated enough money to buy only 4% of the overall target for cobalt, leaving the stockpile at less than 50% of the goal established more than a decade ago.

Clearly, easing the environmental regulations related to mining and processing and giving companies easier access to the wilderness, as Interior Secretary James Watt wants either now or after the year 2000, may increase production of some minerals but not, as a rule, of strategic minerals, especially the most critical ones. In a 1980 Senate subcommittee hearing, Dr. John Hopson of the Los

Alamos Scientific Laboratory (one of the national weapons laboratories) testified: "For some of the most critical minerals, it is unlikely that either economic incentives or opening of large areas of government lands to conventional exploration and mining can insure a stable supply even in the short range."

The truth is that the mining industry has exaggerated the strategic-minerals problem as one more ploy to help it pursue private profits at public expense, and to fight the environmental movement.

The strategic minerals most often mentioned as being of critical concern are manganese (98% imported), cobalt (90% imported), chromium (90% imported), titanium (46% imported) and platinum-group metals (89% imported). Their status is critical because of the level of dependence on imports, the sources of supply, and their uses in weapons.

Of the five, chromium and cobalt have been the focus of the greatest attention. The United States uses 1.2 million tons of chromium a year. It uses considerably less cobalt, 8500 tons, which nevertheless accounts for one third of the world's consumption. These two metals have a variety of industrial uses. Cobalt is an ingredient in cutting tools, for instance, and chromium goes into computers. But the United States also uses one ton of cobalt in each fighter plane, and chromium is an essential ingredient in stainless steel.

"The criticality of chromium and cobalt toward Department of Defense [DOD] needs is well documented and understood," says the DOD in a plan for research to develop substitutes. Chromium and cobalt

Redwoods in California's Jedediah Smith park. Just north, a company has proposed a 2300-acre cobalt mine and 200-foot-high dam that would cause massive air pollution and siltation of the Smith River.

LOREN E. LANE/WEST STOCK, INC.





are essential elements of gas turbine engines in "such widespread military systems as fighter, bomber, cargo and helicopter aircraft; intercontinental ballistic missiles [ICBMs], cruise and tactical missiles, tanks and infantry fighting vehicles; naval surface ships and submarines."

The flap over availability of strategic minerals arose as the DOD began planning a major overhaul of weapons. Back in the summer of 1980, Dr. William J. Perry, then Deputy Undersecretary of Defense for Research and Engineering, warned the Senate: "We have under way today a major program in strategic force modification. . . . We anticipate that the 1980s will have a significant increase in acquisition of equipment and therefore in the demand for strategic minerals."

For its supplies of cobalt and chromium, the United States relies on some of the most problematical areas of the globe. The richest cobalt ore comes from a single mine in Zaire, that long-suffering tropical African country ravaged first by Belgium and now by internal political factions backed by external powers, including at times the United States.

The richest chromium ore is found in the Soviet Union and in South Africa. Policymakers assume that we can't count on the Soviet Union, although it is a current U.S.

Defense systems such as the F-14 (above) need "strategic" minerals, but even more of those minerals are used for industry and consumer goods, such as chromium in hubcaps (left), cobalt in tools (center) and platinum in jewelry (right).

supplier, and they are afraid that one of these days South Africa's apartheid policy will bring its society crumbling down. It is always possible, too, that the United Nations might impose an embargo on South African goods, although when that happened to nearby Rhodesia, another supplier of chrome, the United States simply ignored the embargo.

We have had a taste of what can happen when political upheavals disrupt supplies: in 1978 one situation in Zaire drove the price of cobalt from \$6 to more than \$30 a pound.

In the cases of several other strategic minerals, we can feel relatively safe, because we have either a variety of sources or have friendly arrangements with stable governments. But chromium and cobalt are different. Zaire's cobalt deposits are so rich—even though they are developed as byproducts of mining other ores—that they dominate the world market. Our cobalt deposits are so inferior by comparison that, while we could develop them at considerable public expense, the authors of a 1979 study for Georgetown University's Center for Stra-

tegic and International Studies concluded, "Stimulus to domestic mining of that mineral is simply not a viable alternative."

As for chromium, an essential ingredient in all stainless steel, New Mexico Senator Harrison H. Schmitt said in the summer of 1981 that "there certainly has been no indication of a good supply of high-grade chromium ore from any source other than these very, very special, very, very old rocks that are found in South Africa and in the Soviet Union."

Ernest Ambler, director of the National Bureau of Standards, concurs. "For chromium," he says, "domestic ores would not appear to offer a long-term solution."

The realistic alternatives to importing the critical strategic minerals are not, therefore, either relaxing wilderness protection and regulations that protect the environment or giving subsidies to the mining industry to encourage domestic production. Stockpiling, a workable short-term protective measure for critical industries, simply postpones the problem of finding new supplies. A better long-term approach is to work on developing substitute alloys, conservation measures and recycling systems.

Preliminary studies suggest, NASA reports, that "new classes of materials can one

Continued on page 33

ALL ACROSS the arid regions of the western United States you see them: short stakes, some marked with the tattered remains of paper tags, a few with tin labels, most of them unmarked and unidentifiable. If you stop near one of these stakes and wander around, you will probably stumble across strange holes, unlike animal burrows, for they point down. You are seeing the remains of mining's first step: an exploratory drill hole.

Large mining companies and individual entrepreneurs bore these holes as they search for valuable minerals. The exploratory process begins with the digging of long, narrow shafts up to 5000 meters deep. The core samples retrieved from the shafts indicate the depth and quality of the mineral ore. If the ore is of high enough grade and is accessible enough to make mining economically feasible, the miners map the deposit by digging holes 50 feet apart in a grid. If the deposit is too small to mine at present market prices, the owners may abandon the site.

The holes left behind open channels between layers of substances previously separated by solid rock. Often the holes pierce one or more aquifers (water-bearing rock or soil strata). The waters in the aquifers, previously isolated from each other, are then free to migrate and mingle, creating a potentially disastrous situation.

Water from a polluted aquifer can contaminate another aquifer by diffusion, the process that causes a drop of food coloring in a glass of water to spread until the color is uniform. In aquifers, the diffused molecules may be of salt, heavy metals such as mercury, or poisons such as arsenic. Water-soluble radon gas from holes dug for uranium exploration can dissolve into an aquifer, making the aquifer radioactive. The damage done by a single hole may seem negligible, but literally thousands of holes are drilled each year.

People in the semiarid lands of the West depend heavily on groundwater for their livelihood. The thought of irrigating with poisoned or radioactive water should be enough to stir them to action, but it takes time to recognize the problem. Groundwater moves slowly—perhaps only a few feet a year. Unlike streams and rivers, aquifers flush themselves extremely slowly. Water trapped

Test Drilling and Aquifers

VIRGINIA JUDD

in these underground sponges of porous earth can be drawn out in wells, but once a well is poisoned, it will not run pure for many, many years.

Groundwater quality in the arid country west of the hundredth meridian (Dodge City, Kansas, is on it) is variable at best. Some water is excellent; some contains dissolved solids; some is saline and useless for agriculture. Under these circumstances, degrading usable aquifers is insupportable.

Mining companies claim the holes they drill measure only two inches in diameter and fall in on themselves, sealing the opening (though not the entire length of the shaft, of course, since it is drilled through bedrock). Although companies may own equipment capable of making such narrow holes, they do not always use it; they often hire local well-drillers to dig for them. These drillers do not own equipment that can drill deep holes as narrow as two inches—they use regular water-well digging rigs that drill a hole approximately five inches wide, to facilitate the flow of water. The hired drillers are sometimes ranchers who do drilling as a sideline to supplement their incomes. If the work becomes too time-consuming, they often sell their equipment. The opportunity to keep concise records is diminished by these practices. Factors such as these make the problem even more difficult to solve.

The gravity of the situation calls for legislation that would require mining companies or their drillers to backfill, cap and seal their exploratory holes. This process entails refilling the holes with mud or clay mixed with bentonite, a very absorptive clay that jells well, to a point above the water level; capping the fill

with gravel or concrete up to within a few meters of the surface; and sealing the remaining space with concrete or bentonite. This assures the isolation of each aquifer, although most seals begin to deteriorate after 40 to 50 years.

Backfilling, capping and sealing are costly processes many mineral speculators would rather do without. Many resist voluntary compliance, making legislation vital. Today, however, only Montana and Wyoming have laws that regulate abandonment procedures for exploratory drill holes. Though these states are not noted for their environmental sensitivity, they have nevertheless recognized the folly of allowing such damaging practices to continue.

Part of the problem, however, is at the federal level. Anyone can stake a claim on eligible public land and begin mineral prospecting. A claim must be filed with the Bureau of Land Management and the proper state authorities *only* if a discovery is made. Therefore, if someone investigates a site and finds nothing of value, the site can simply be abandoned. No record of activity is made; the party involved cannot be traced.

Even if a claim is filed, few details need appear in the affidavit of work assessment. In order to keep a claim active once it is filed, only \$100 must be spent on exploration or on working it each year. The claim holder may state the amount of money spent on exploratory drilling but need not mention the number of holes drilled or their location. More closely kept records are essential.

Wyoming law requires that a bond be posted for \$10,000 or more, the amount being at the state's discretion, for each exploration site to guarantee the restoration work. Similar legislation must be encouraged in Utah, Nevada, Arizona and all the rest of the states feeling the fingers of mineral speculation.

More and more public land may soon be opened to prospecting. The time to act is now. Considerable damage has been done already. Much past drilling will never be cleaned up and restored. Curtailing future damage is vital to the groundwater supplies of the arid West, which is counted on to feed the nation. □

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IN APRIL, when the Department of the Interior released its study on strategic minerals, all groups concerned with the many issues involved read it avidly. The Sierra Club's response, stated very briefly, is that the long-awaited policy is basically a rehash of the proposals in Representative Santini's National Minerals Security Act (H.R. 3364) and in the "Lujan-Watt Wilderness Destruction Act" (H.R. 5603, officially called the Wilderness Protection Act of 1982). The policy focuses on the issues of availability of public lands for mineral development and on regulations that supposedly inhibit the mining industry. Under the banner of national security, the policy proposes to "unlock" the public lands. Among other things, the Reagan policy calls for the following directions:

- Accelerating the review of lands withdrawn from mining, and in some cases issuing "blanket revocations" of entire withdrawal classifications.

- Inviting the "public" (mining companies) to nominate for opening lands that may contain enough minerals to be commercially interesting but that are currently closed to mining.

New Reagan Plan Promotes Mining

DEBBIE SEASE

- Setting strict deadlines for Congress to designate areas as wilderness.

- Opening wilderness areas to new mineral activities in the year 2000 (under current law, no new mining claims could be staked in designated wilderness after 1984).

- Preparing "strategic and critical materials impact statements" for future proposals to withdraw land from mining.

- Reforming regulations that are "burdensome" to the mining industry, such as the Mine Safety and Health Act,

Bureau of Land Management leasing and patenting regulations, Endangered Species Act rules, Clean Water Act regulations, Clean Air Act provisions, and rules that protect historic and cultural properties.

A careful examination of the Strategic Minerals Policy reveals that it is nothing more nor less than a justification for the Reagan administration's systematic efforts to dismantle our nation's public-land and resource-protection laws and regulations.

Readers interested in learning more about these important issues will want to read *Minerals and Public Lands: An Analysis of Strategic Minerals Issues and Public Lands Policy*. Published by the Sierra Club's Conservation Department, this 105-page book is the product of seven major environmental organizations and thoroughly discusses all crucial issues in clear language. Readers may obtain copies by sending \$2.50 to Information Services, Sierra Club, 530 Bush Street, San Francisco, California 94108.

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DIFFICULT AS IT MAY BE to believe, hardrock mining activities on the public lands of the United States are governed to this day by a law passed 110 years ago—the Mining Law of 1872.

The single purpose of the 1872 law is "to promote the mining resources of the United States." No mention whatsoever is made of the nonmineral values of the land. Congress stipulated that anyone discovering a valuable mineral deposit anywhere on the public lands could extract the mineral without paying the government any royalty or fee. Until the Federal Land Policy and Management Act (FLPMA) passed in 1976, people staking claims on federal land did not even have to notify the government. They simply identified the claim by "staking" it (marking the boundaries with stakes) and filed a location notice at the nearest county courthouse. Since the passage of the FLPMA, miners on new locations must file claims with the local office of the Bureau of Land Management.

Once a "valuable mineral deposit" is identified, the claimant has the right to use the surface resources around the de-

The Mining Law of 1872

JOHN HOOPER

posit. Timber and water may be used without charge for purposes related to the mining operation; the claimant may construct buildings related to the mining operation and is required to pay no rent to the government for the land.

Miners need perform only \$100 worth of work a year to keep claims valid. Most claims are never mined, but instead are held by individuals or small companies for speculative purposes. Moreover, a miner with a valuable mineral deposit can obtain outright title to a mining claim by applying for a patent through the Department of the Interior.

In today's political climate, with the

administration admonishing government entities to "pay their own way," the Mining Law of 1872 seems ripe for replacement. The federal government is foregoing millions of dollars annually in potential royalties by permitting virtually unrestricted access to the vast majority of the public domain.

Yet the Reagan administration is doing nothing to replace the existing century-old claim-patent system with a leasing system that could significantly augment revenues. On the contrary, the only item on the administration's announced legislative agenda for hardrock mining is to extend the period during which new mining claims may be staked in wilderness for 20 more years, beyond the present deadline of December 31, 1983.

Consequently, as it has done in formulating its policy for oil and gas leasing, this administration is focusing its attention on the national wilderness preservation system—fragile land, only 1% of the contiguous states—rather than coming up with a rational minerals policy for the entire United States. □

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day supplant existing alloys and contain virtually no strategic elements. It is anticipated that this program alone will result in a 20% reduction in strategic metal utilization by 1985." Another research program on alloys that resist high temperatures leads NASA to estimate that, by 1990, we could reduce our dependence on foreign metals for turbine engines by 50%.

The U.S. Bureau of Mines has done research on recovering cobalt and nickel from lead-smelter wastes.

Recycling, already a domestic source of some minerals, could provide—at great energy savings—much greater quantities. The authors of the 1979 analysis for the Center for Strategic and International Studies noted the relative ease and economy with which we can recycle tin (81% imported), nickel (7% imported) and the platinum group metals (89% imported).

In an article on a successful recycling center in the San Francisco Bay Area, writer Meryl Natchez pointed out the enormous potential for recycling basic industrial materials: "In 1976, the combined Bay counties [now running out of land to fill with their junk] threw away enough aluminum for 100 jumbo jets, enough ferrous metals for 125,000 medium-sized cars."

H.R. 5540, which would subsidize the production of strategic minerals, authorizes expenditures for recycling, conservation, and development of substitutes. The bill sets aside \$1 billion for such expenditures—and for modernization of defense production facilities. At issue will be which of the two categories will end up with the biggest piece of the pie.

Recycling and conservation typically get only token nods in the strategic minerals debate. In part, that is because the scrap industry does not have the clout of the mining industry. In part it is because setting up a recycling system, involving as that would a myriad of local governments, appears to be more institutionally complex than opening mines or developing substitutes.

Dr. Harvey Alter, a chemist specializing in the use and recovery of materials from waste, noted sadly at a hearing before the Senate Committee on Commerce, Science, and Transportation that the United States recycles only 10% of its scrap iron and steel. Speaking as a representative of the U.S. Chamber of Commerce, he described the failure of federal efforts to set up municipal recycling systems, listed institutional discriminations against the scrap industry such as tax rates, zoning laws and freight rates, and suggested alternate ways the federal

government could encourage more municipal recycling.

To Dr. Alter's testimony, the senators responded with a couple of polite questions and "Thank you very much."

Meanwhile, the Navy has used the strategic-minerals issue to argue for a bigger fleet to protect sea lanes. South African investors have used it to encourage closer U.S. ties to that controversial regime. The Reagan government has used it to play up the Soviet threat; the U.S.S.R. is considered virtually self-sufficient in these minerals, although its imports are increasing.

With so much political hay being made from the issue, it is small wonder that the mining industry—now in its worst slump since the Great Depression—is pressing for feed for its own barn: more freedom to explore the wilderness, subsidies for mining at home, relaxed pollution standards for processing plants. It is important not to let the facts get lost in the shuffle. The industry and the government are exaggerating the problem for their own political uses, and their proposals to solve it would accomplish less than would a good, well-financed program of conservation and recycling. □

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Misty Fjords National Monument; 136,000 acres were left out of the boundaries for borax and molybdenum mining.

ERNIE GIEDD



BRINGING BACK THE BIGHORNS

ERIC HOFFMAN

MIKE McWHERTER



The Sierra bighorn, after a century of being hunted, have become wary of low pastures near humans.

ON THE MORNING of January 13, 1980, a Sierra bighorn ewe (*Ovis canadensis californica*, a subspecies of bighorn), her lamb and a ram stood on a rocky ledge at 10,000 feet, watching the humans below at the Pine Creek Tungsten Mine. The ewe wore a bright collar with a radio transmitter on it. Suddenly there was a loud snap followed by a muffled rumble. In less than a minute, an avalanche crashed down thousands of feet, swept the sheep off their ledge and spread out like a fan in the tailing ponds below.

The death of three of its members was another setback for the small and struggling band of nine sheep, which had been reintroduced into the species' historic range. The lamb was the third to die of the four born to the group the previous spring. In the parent herd, only 220 animals were left.

Three miles away, students Rob Ramey and Louis Andaloro from the University of California at Santa Cruz noticed that the

collar on ewe number four had stopped transmitting. They were studying the herd in the field for the California Fish and Game Department. They had been discovering that although the scientists hoped to develop new herds by transplanting small groups into a new range, the sheep didn't always cooperate. They often reacted in ways that increased their mortality rates.

By 1980 the population of the subspecies had dwindled to two herds, one of 20 individuals north of Mount Whitney, the other 220 animals farther south. In the early 1800s, however, the Sierra bighorn ranged along the eastern slopes of the Sierra from Lake Tahoe south for at least 300 miles. Known range also included the central-southern Sierra in what is now the heart of Sequoia National Park.

The story of the Sierra bighorn's disappearance has a familiar cast of characters: people with guns, disease from imported domestic stock, destruction of habitat, and

ignorance. The people pouring into California during the 1800s considered the bighorn their mutton supply when herds descended to temperate winter ranges from their cold, high summer pastures. In addition, many people who went into the high country during summer looking for gold and silver also regarded the wild sheep as food.

Then domestic sheep were brought in, and the bighorn faced overgrazed range and diseases to which they were not immune. A Lieutenant Macomb of the U.S. Geological Survey commented in 1877, "[Domestic] sheep are utterly denuding the mountain valleys of grass and nearly everything within reach. . . . If the sheep continue to be driven up into the Sierra in such vast numbers, the grasses will eventually be killed out and great injury inflicted on the country." John Muir called the domestic sheep "locusts." Their diseases ran rampant through bighorn herds; at the turn of the 20th century, scabies destroyed at least one entire large herd that



After being caught, tranquilized and tagged, the sheep were helicoptered from their own range to repopulate the species' historic range.

ROB ROY RAMEY

ranged along the Continental Divide in the southern Sierra. The herd had wintered in Kern Canyon and summered in the highlands with a view of the Central Valley.

Initially, Muir had been optimistic about the sheep. "Man is the most dangerous enemy of all," he said in 1894, "but even from him our brave mountain-dweller has little to fear in the remote solitudes of the High Sierra. . . . It will be long before man will care to take the highland castles of the sheep." But seven years later, his attitude had turned to despair: "Few wild sheep, I fear, are left hereabouts; for though safe on high peaks, they are driven down the eastern slopes of mountains . . . to ridges and outlying spurs where snow does not fall to great depth, and they are within reach of a cattleman's rifle."

Twenty-eight years earlier, the California legislature had outlawed the hunting of Sierra bighorn, an amazingly laudable action for the day. Unfortunately, however, the state

had little enforcement power and could not curb the poaching. The first arrest under the law occurred in 1911, when a poacher was cited for killing a ram in the now-extinct Convict Creek herd. The second—and last—arrest for poaching was in 1934.

As to the other problems of disease and overgrazing, in the 1920s ranchers began regularly to dip their domestic stock to prevent the spread of communicable diseases, and the practice helped the bighorn. But no one worked on the problem of overgrazing until the 1930s, when the U.S. Forest Service was instructed to curb the use of domestic sheep in bighorn habitats. Nevertheless, as late as 1970 domestic stock still competed for food with the one remaining viable herd that wintered on the slopes above the Owens Valley.

The continued problems had seriously depleted the sheep; by the 1930s, only a few remnant herds of ten to fifteen animals each remained north of Owens Valley. Most

bands wintered in the high country rather than descend to nutritionally superior but vulnerable lower pastures; consequently, lambs did not usually survive the winters. One of the last bands in the northern Sierra wintered in northern Yosemite on the southern side of 12,000-foot Dana Plateau. This band died out about 1940.

In 1971, when the sheep population had fallen dangerously low, the California legislature designated 41,000 acres in two areas inhabited by the remaining two herds as Zoological Areas for Bighorn Sheep. The ranges are primarily on the east slope outside Kings Canyon National Park, but during the summer, sheep often cross the crest of the mountains and enter the park.

The preserves are managed jointly by the California Department of Fish and Game, the National Park Service and the U.S. Department of Forestry. The interagency work produced four actions: first, no more than 25 people per day could use hiking trails in the

preserves; second, hunting was banned in the areas (although, much to the dismay of some conservationists, the ban was lifted for deer hunters in 1973); third, domestic stock were eliminated in the areas; and fourth, biologists were provided to gather the data essential to a better understanding of the animals.

In 1980 biologist John Wehausen wrote the only doctoral dissertation on Sierra bighorn, and his four years of field work brought focus and refinement to the study of these sheep. By analyzing fecal samples and spending countless hours observing, some-

sheep congregated near the valley floor. A drop-net was baited with apple pulp. Six veterinarians tranquilized and examined the animals, and a helicopter transported them to vehicles, which took them to new homes. Weaver said, "Live-trapping wild animals is always risky, and I'll admit I was nervous. We talked the whole thing through and rehearsed it. Nine sheep—four pregnant ewes and five rams—were caught and safely transported to their new home 30 miles to the north."

At first things looked rosy. The sheep stayed low on the slope for the winter and

country for the winter. Andaloro offers some educated guesses: "Bighorn are taught migration corridors by older animals, and a reintroduced group has no teachers; an early snow may have blocked their descent; or, with signs of predators—coyote and mountain lion—abundant, and without the security of a large herd, the desire to descend may have been overruled by fear."

Wehausen comments, "If a net were dropped over you, and you were tranquilized, tied up, blindfolded, suspended from a helicopter, locked in a horse trailer and released in a strange land, you might be

MIKE McWHERTER



Ancient petroglyphs show the area contained bighorn long ago.

MIKE McWHERTER



Most of the translocated sheep wintered in high country.

times through a telescope, Wehausen discovered key characteristics of diet, predation, herd behavior, general herd health, demographic trends and effects of human contact.

He found that the remaining healthy herd had grown rapidly for unexplained reasons, making it feasible to reintroduce the sheep to historic range. He also learned that the herd maintained boundaries within which the ewes and most of the rams stayed. There was no apparent mechanism that dispersed them. Some biologists feared that a sudden surge in population might be followed by a crash, once the habitat's carrying capacity was reached. Also, a contagious disease could spell the end of the subspecies.

Although Wehausen determined that the habitat could sustain substantially more sheep, the responsible agencies decided to relocate some. Live-trapping operations were coordinated by California Fish and Game's Dick Weaver in January 1979. The operation began in the winter, when the

followed the snow melt up in the spring. All four ewes lambbed successfully. The sheep summered at the 12,000-foot crest and appeared healthy. But when the winter storms arrived, traditionally triggering downhill migration, only one ewe and lamb descended; the rest remained above 10,000 feet, far above the snowline.

During the winter of 1979–1980, Andaloro and Ramey volunteered to monitor the band. The ewes and two of the rams had telemetry collars. Andaloro and Ramey penetrated the sheep's icy domain by using telemetry equipment, cross-country skis and a telescope. Before Andaloro was injured by a hundred-foot fall off an icy ledge, they made two important observations: the sheep had taken to southern exposures where the sun and wind often cleared the snow and exposed life-sustaining grasses; and two lambs perished in below-freezing temperatures.

No one is sure why all pairs of ewes and lambs but one chose to stay in the high

reluctant to descend to lower elevations where all that occurred." This postulation has some merit; the Dana Plateau band wintered at 12,000 feet rather than descend to the dangers of traditional wintering areas.

Because of the avalanche on January 13, however, the researchers discovered that the band's winter pasture was adequate. The tragedy yielded information. When the collar stopped transmitting, Andaloro and Ramey went to where they had last seen the ewe to make visual contact. Instead, they found tons of debris. They frightened away coyotes that were dragging around the lamb's fresh skin. Figuring the ewe was buried nearby, they dug into the massive slide. After several days of hard work, a sympathetic bulldozer operator from the mining company helped them. They finally uncovered the ram, but they never found the ewe. The ram's body had substantial fat reserves, indicating that the highland winter range had provided sufficient nutrition for the sheep.

At the end of the winter, seven sheep remained where nine had been reintroduced. The surviving lamb had been with the ewe that wintered below snowline.

During April 1980, Dick Weaver and his team caught 31 more sheep from the big herd. They released ten in the Warner Mountains in northeast California. Four Canadian bighorn were added to this group; originally there had been twelve Canadian bighorn awaiting release in California, but six died during capture attempts and two were shot by poachers while the animals were in a holding pen in a national monument. Ten more sheep were sent south to Mount Langley, near the southern terminus of the Sierra, and eleven were put onto the winter range of the first reintroduced band.

These new reintroductions had some problems. Many of the animals had been outfitted with telemetry collars that reflected sunlight; unfortunately, the bright collars seemed to attract mountain lions. The Langley group lost two collared ewes to lions shortly after release, and the group in the area of the first reintroduction lost one. In addition, three animals died from falls.

In the area Andaloro and Ramey were working, where two bands had been reintroduced a year apart but within a mile of each other, the two groups stayed separate for some time. Either they were ignorant of each other or were disinterested in banding together. Some researchers had hoped predators would take fewer animals if the herd were larger.

By the end of the winter of 1980-1981 these two groups mixed and showed improved signs pointing toward long-term survival of the herd. Seventeen animals descended to winter pasture, but instead of forming a herd, they scattered over a wide area in small groups. Apparently seven adults had died, including the avalanche victims, but overall, five lambs survived a very mild winter.

The population is now 17 animals where 20 were reintroduced. The Mount Langley band probably has slim chances for survival unless supplemented, while the Warner Mountains band was held even with two adult deaths and two surviving lambs.

When asked to comment on future reintroductions, Dick Weaver said, "Funding is erratic for collection and monitoring. We have to rely on volunteer help, and when it's not forthcoming, it's hard to get accurate data—which makes decisions on further reintroductions much more difficult. I'm hoping for philanthropic help. . . . No further reintroductions will be tried until we assess how well the source herd is able to replace the sheep we've removed. The telemetry collars and reluctance of sheep to come down the mountain to ensure lamb

survival will have to be studied. We've come a long way with bighorns. We can successfully live-trap them. I'm optimistic about the long range, but right now we should reassess."

With reintroductions put on hold, there is controversy brewing on the management of the last viable herd. In 1973 the Department of Fish and Game lifted the ban on hunting below 10,000 feet within the preservation areas. Fish and Game officials reasoned that the sheep are above 10,000 feet during the fall hunting season, so contact between sheep and hunters would be minimal. Still,

MIKE McWHERTER



A ram shows the species' flared horns.

despite long-standing laws against shooting bighorn in California, poaching of desert bighorn (another subspecies) is a well-documented problem. In addition, Sierra bighorn have been sighted as low as 6700 feet during hunting season. John Wehausen asks, "Can all hunters be trusted not to shoot bighorn, or can all hunters discriminate between bighorn and sheep from a hundred yards?"

An increasingly popular form of recreation, mountain climbing, presents another problem. Sierra bighorn range near some of California's most spectacular and popular peaks. Bighorns, like most wild goats and sheep throughout the world, react in a controlled manner even in rapid flight if they are able to look down on an intruder. When an intruder appears unexpectedly from above, however, sheep often panic. A U.S. Forest Service employee, who saw a ewe and lamb that had suddenly been confronted by a climber from above, said, "The sheep raced downhill in an uncontrolled manner that

invited death." Another ramification, Dick Weaver says, is that "if the sheep are continually confronted in their summer pastures, they'll retreat to areas that may offer poorer nutrition. We don't know how many confrontations sheep will put up with before they move off."

Some conservationists think the best solution may be to enlarge Kings Canyon National Park to include the zoological areas. This would eliminate hunting and pressures to allow hunting in the sheep's last stronghold. Also, by putting the habitat in the park, a single agency would manage the animals, eliminating inconsistent policies and difficulties in coordination. It would also prevent mining and drilling in the bighorn habitat; many currently inactive but still threatening mining claims have been filed for land that is bighorn habitat. In southern California, the Society for the Conservation of Bighorn has filed suit to stop mining activities that have expanded into lambing areas of desert bighorn. Those sheep, like the Sierra bighorn, live on land under the jurisdiction of the U.S. Forest Service.

Another area of concern is the sheep's classification. Wehausen and others have pointed out that Sierra bighorn could be listed as endangered species. The California Department of Fish and Game now calls them "rare." But listing them as endangered has disadvantages as well as advantages. Although ordinarily it would make additional money available for management and research, the Reagan administration has indicated it wants to cut such funding. Also, it would place the bighorn under the additional scrutiny of the U.S. Fish and Wildlife Service, which would provide more expertise but would add another agency to the management structure. Still, the endangered status would give conservationists a better position in a legal battle if mining activities were allowed in the zoological areas. The question may be moot, however, since the Reagan administration has decided not to consider any more species for listing as endangered.

In the meantime the reintroduced Sierra bighorn and the parent herd struggle along against heavy odds, in many cases afraid to go to the pastures that would provide the best food supply in winter, when they are most vulnerable. This may be a time when wildlife managers must of necessity refrain from further management and let the sheep do their best. Maybe, while we watch their efforts, we will find a way to share the mountains in peace with them. □

Eric Hoffman, a freelance writer, also teaches English and anthropology and breeds pack llamas. His book Renegade Houses will be published by Running House in fall 1982.

SIERRA'S THIRD ANNUAL PHOTO CONTEST

"It seems that one can define all the qualities of a work of art except that essence which is self-evident in the art itself, and which creates a resonance of thought and feeling beyond verbalization. . . . As for the creativity itself, I can only assert that it exists; that there is a magical potential that can be demonstrated only by reference to those works that possess it, through all ages, in all media."

ANSEL ADAMS

A GAIN THIS YEAR, *Sierra* readers participated enthusiastically in the photo contest. We received more than 600 entries, with a total of more than 2500 slides, even though we charged a \$2 entry fee. The fees paid for the clerical assistance we needed to make the process flow more smoothly than in the two previous years.

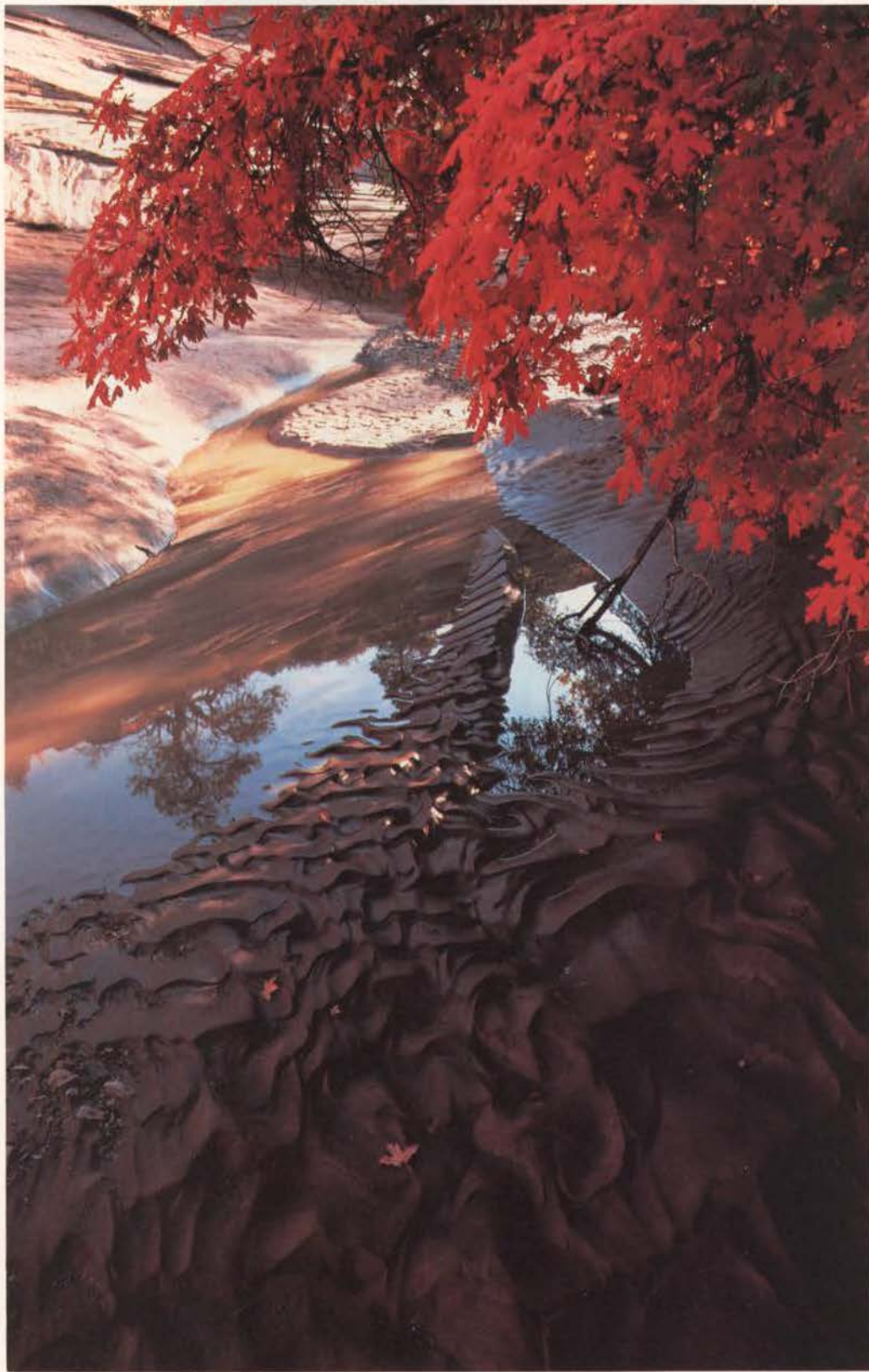
One surprise was that not many people entered the black-and-white categories. Apparently photographers today are not working with this artform very much, having abandoned its discipline for the liveliness of color.

This year's winners will receive lovely Sierra Club books, and their entries will be enlarged and printed, professionally mounted, and displayed in the Club's national headquarters in San Francisco, then sent around the country as a traveling exhibit to Club chapters. Consequently, Sierra Club members will be able to see these winning photos not only on these pages, but also in their own chapters, simply by requesting the exhibit from the Information Services Department at the Sierra Club, 530 Bush Street, San Francisco, CA 94108.

Thanks to the more than 600 photographers who made this third contest so interesting.

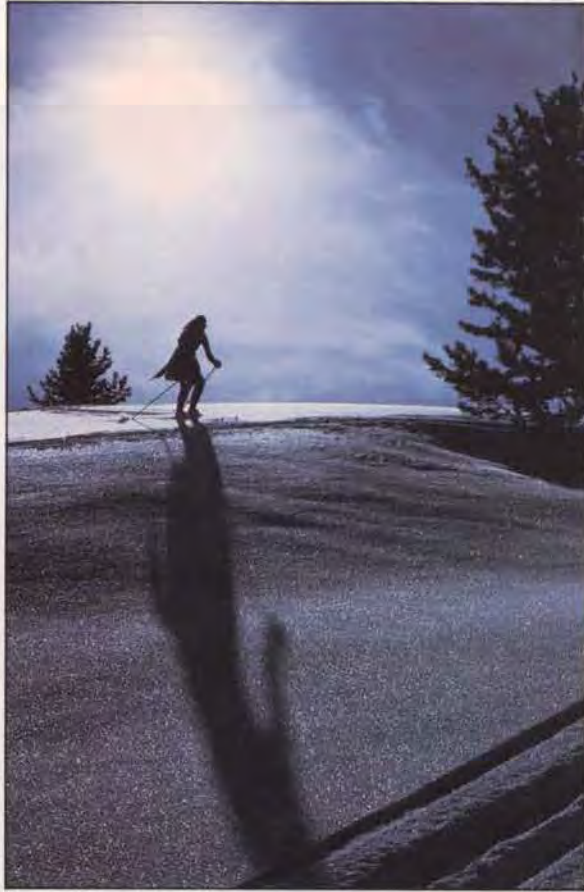
THE MEETING OF LAND & WATER / FIRST PRIZE

Wash after thunderstorm, Zion Park. By CARRICK MONTAGUE, Petaluma, California.



PEOPLE IN NATURE / SECOND PRIZE

Skier at Sawtooth Valley. By WILLIAM H. MULLINS, Boise, Idaho.



THE MEETING OF LAND & WATER / SECOND PRIZE

Waterfall, Lake Tahoe. By C. B. NOVAK, Tucson, Arizona.



WILDLIFE / FIRST PRIZE

Resting cow elephant seals, Baja California. By JOHN KIPPING, Lotus, California.



WILDLIFE / SECOND PRIZE

Salamander. By DAVID C. OCHSNER, Thousand Oaks, California.



ABSTRACTS IN NATURE, COLOR / FIRST PRIZE

Salsify plant. By TOM NAWALINSKI, Palo Alto, California.



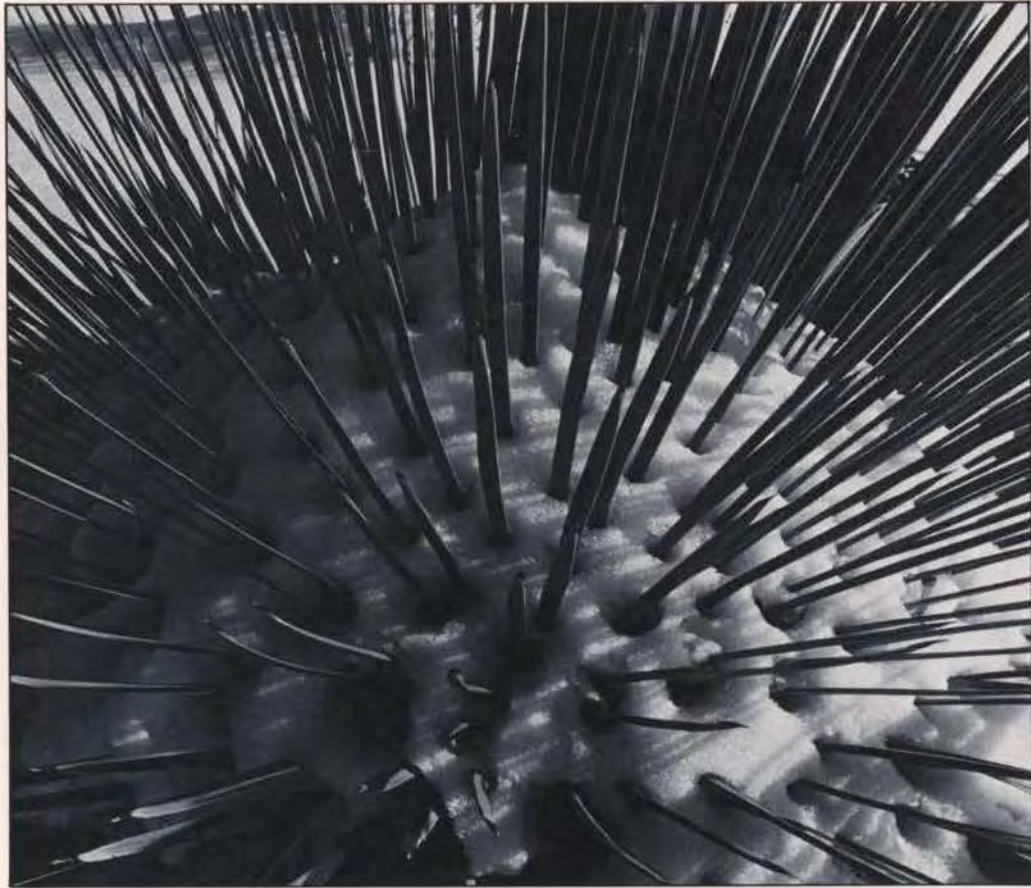
ABSTRACTS IN NATURE, COLOR / SECOND PRIZE

Concretion formation, New Zealand. By JIM THIELE, Anchorage, Alaska.



ABSTRACTS IN NATURE / BLACK & WHITE

San Gabriel Mountains. By STEPHEN P. ANDERSON, South Gate, California.



ENVIRONMENTAL STATEMENT

Southern sea otter. By IVAN R. SCHWAB, San Francisco, California.



The southern sea otter, a threatened species, uses tools to obtain its food. Generally, the tool is a rock the otter carries up from the ocean floor and uses while floating on its back to smash the hard shells of crabs or sea urchins so it can eat the soft inner parts. Otters have probably fed this way for millennia. This one, making use of the trash on the ocean floor, has picked up a beer can from the bottom of Monterey Harbor and will use it as a tool. [Editor's note: the Coors Company has opposed bottle-and-can deposit legislation in several states.]

THE URBAN ENVIRONMENT / BLACK & WHITE

San Fernando Valley. By FRANK MERKOW, Sherman Oaks, California.



NATURE / BLACK & WHITE

Pond and snow. By BRUCE MATHESON, Aberdeen, Washington.



NORTHERN LIGHTS CAST an eerie arc of green above windswept Rainy Lake. The August sky was shot through with falling stars. "Look!" murmured my companion. "One just poured itself into the Big Dipper!"

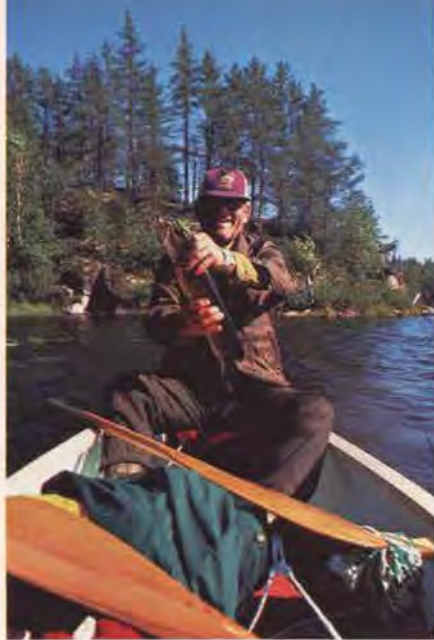
I was perched on a rock bluff with Lee Grim, seasonal naturalist for Minnesota's Voyageurs National Park, looking north over the faintly luminous lake and distant Canadian shoreline. "You can almost see them paddling out there," he whispered. "They'd be passing through here now, hurrying back to Lake Athabasca before freezeup."

A solitary shaft of light flared above the glowing horizon. I barely needed Lee's words to fantasize the silhouette of a 25-foot birchbark canoe carrying six to ten hardy French-Canadians straining against the black waves. Known as *voyageurs* (travelers), they explored, opened up transcontinental canoe routes, and ferried a fortune of furs and trade goods across North America for more than 100 years from the 1750s to the 1870s. One of their major waterways, Rainy Lake, lay right below us.

Paddling relentlessly, a stroke a second for twelve to eighteen hours a day, these extraordinary hired canoeists would cross half a continent during the five ice-free months. Two groups would leave in May, one from Montreal in the east, the other from Fort Chipewyan in the Canadian northwest, to rendezvous flamboyantly at Grand Portage (roughly 1500 miles each way) on Lake Superior in July. Thousands of men would exchange pelts (beaver, muskrat, wolverine, bear, fisher, marten, wolf and others) and wares (firearms, iron goods, rum, axes and blankets). They would drink and carouse for a month, then paddle and portage their separate routes home.

The shaft of green dimmed and my mystical image faded. We clambered back down to our sheltered campsite in Anderson Bay, where the fire flickered and threw highlights over a sliver of beige beach, a large motorboat and our overturned canoes. The boat was our security against becoming wind-bound on the large lakes; the canoes were our passports into the wilderness lakes that knifed through Kabetogama Peninsula in the park's interior.

I woke at dawn to a loon's laugh. "That's the rooster of the north country," grinned George Esslinger, my good-natured guide, a dog-team driver of renown and a longtime resident of International Falls. Ravens croaked sleepily from a ledge of ancient granite. Seagulls floated placidly near our



IN THE WAKE OF THE VOYAGEURS

Text and Photographs by
ANNE LABASTILLE



beach. Mist and peace hung over Rainy Lake. George puffed the fire into life and started a batch of sourdough pancakes. Sipping steaming camp coffee, I thought of Sigurd Olson, famed ecologist and wilderness author whose books span 50 years of outdoor observations and philosophy. He wrote, "My wilderness world has to do with the calling of loons, northern lights, and the great silence of a land lying north and north-west of Lake Superior."

Then, right before my eyes, another of his sensitive passages came to life: "The mists were beginning to move, the horses [white-caps] becoming restive with the rising of the sun. At first they were grey and moved slowly as though afraid to start, but as the east exploded and the level shafts of light hit them, manes flashed silver and they began to run, to crowd one another, and then were in full gallop. . . ."

Such is dawn in Voyageurs National Park, America's 36th and newest, not counting two recently upgraded from national monument status.

Voyageurs is a watery wilderness, 90 percent of which is accessible only by water and air. Its eastern boundary lies one mile west of the controversial Boundary Waters Canoe Area; both are part of the vast Quetico-Superior lake country. Voyageurs Park encompasses about 220,000 acres and runs 52 miles along the border between the United States and Canada. Within the park, there are three large lakes: Rainy, Namakan and Kabetogama, with smaller Sand Point and Crane lakes to the south. All five flow toward Hudson Bay and the Arctic Sea. At its heart lies Kabetogama Peninsula, pocked with rocky knobs, wild lakes, beaver ponds and muskegs (swamps). It was to this canoeist's and backpacker's paradise that George, Lee and I were headed.

By midmorning we were halfway into the peninsula and had left our boat and switched to canoes. We paddled slowly up the Cranberry River in a light rain that stippled the reflections of giant pines on the surface and muffled the quacks of ducks springing out of wild-rice beds. I soon discovered some of what the early voyageurs went through when, at the 1.3-mile portage between Cranberry Creek and Locator Lake, I insisted on carrying my own canoe. Within minutes my neck was aching, lungs huffing. Gritting my teeth determinedly, I glued my eyes to the trail, watching for tracks of

Top: a fairly small northern pike and a happy fisherman. Below: the ancient, fissured granite in this area is one of the most ancient rock formations on earth.

moose, bears, deer and perhaps even wolves. I could see that Voyageurs may not be the park for everyone. You have to feel young, be strong, like work and love water.

"Take a rest," urged George, muscles bulging under his own heavy, eighteen-foot wooden canoe. "The voyageurs did so every hour."

Nudging the bow into a crotched tree trunk, I slid out of my yoke gratefully. Again I imagined those early travelers. They'd be pulling out clay pipes and tobacco pouches, loosening bright sashes, and taking off their red woolen stocking caps.

Soon we were paddling again through a meandering marsh, where beavers slid nonchalantly between white waterlilies. But ominous thunderheads had built behind us, unnoticed. By the time we reached Locator Lake, first of the chain, lightning was flashing continually and a deluge was drenching us. George steered for a point. We got out, flipped over the canoes, and crawled underneath among the aromatic sweet fern. "We'll wait out the storm here," George said matter-of-factly, and he proceeded to rig his fishing rod.

Snug in our cocoon, I thought about those early frontiersmen. They might be taking advantage of this storm to prepare a meal. Voyageurs ate only twice a day—thick pea soups or corn stewed with salt pork and perhaps a pike, gull or beaver thrown in. If a canoe paddle stood up straight in it, the stew was all right. It *must* have been, because these men managed to carry two 90-pound packs each and their 300-pound canoes across long portages, to fight off mosquitoes, to endure rain, cold, hot sun, mud and slippery rocks. Many died in raging river currents. Today underwater archeologists dive in these rapids to recover relics from the wrecks.

VOYAGEURS HAVE BEEN GLAMORIZED as carefree, robust, feckless, courageous, polite and full of good humor. They have also been characterized as "herniated old men at 35." In any case, throughout their wilderness travels they left little more than firerings in the woods, keel marks on the beaches and songs in the air. They were as essential to young North America's fur trade and commercial life as longshoremen are to the shipping world and truckers are to land transportation today.

The rain suddenly slackened, and a brisk wind wiped one corner of sky robin's-egg blue. George, Lee and I continued up Locator, through War Club, and portaged into Quill Lake. By noon the Minnesota sun was beaming. We found a deserted trapper's cabin beside a tea-brown stream. At a little waterfall, I spied a white circle of foam

spinning lazily in the current. It looked exactly like an angelfood cake. Heading back down the chain of lakes, George hooked a two-foot northern pike. That evening at our campsite, he grilled it over coals for supper.

While we lounged by the campfire that night, George talked about the park's history. "The idea for a park first surfaced in April 1891, but didn't get going until the mid-1960s. I'll never forget the day when then-Governor Elmer Anderson showed up with Colonel Charles Lindbergh. We were running into a lot of opposition to the park and needed a big name to help gain national recognition for the plan. Yet no one really knew who was coming. When Governor Anderson introduced the famous conservationist to me," reminisced my guide, "all I could say was, 'Oh, my God!'"

"What did Lindbergh think of this country?" I asked, taking in the lofty pines, the shimmering stars and the gnawing of a beaver on a nearby poplar.

"He said it could be one of the great parks of the world," replied George proudly. "Thanks to a super effort by many people, Voyageurs was signed into being on April 8, 1975, just ten years from when we started campaigning."

The next day we headed down Rainy Lake to Kettle Falls. The falls has been the main bottleneck and funnel point of several waterways since time immemorial. First the early Sioux Indians, then the Ojibways, used it and showed it to the French-Canadians. Soon it became part of the famed "voyageurs' highway." In 1910 a dam was constructed here to provide electrical power and to facilitate logging. In 1913, the Kettle Falls Hotel was built to accommodate lumberjacks, fishermen and a few "shady ladies."

George, Lee and I toured the old building, which is in the National Register of Historic Places. We admired the slanting bar (while trying to keep our beer glasses from sliding off), the buckled floors, antique ironstone ware and other memorabilia scattered about. Kettle Falls Hotel is one of only two commercial accommodations within the park today (the other is the Whispering Pines resort). Its racy history, fine fish dinners and isolation make it a favorite stop for canoeists and boaters. When it came time to make the portage around the falls, I was pleasantly surprised to find a truck and trailer to do it for us.

Cruising away from Kettle Falls with our canoes in tow, we wound our way into Namakan Lake. At some sections of the route, we were actually travelling *north* into the United States and *south* into Canada! Lee and George kept up a running commentary on local history. A gold rush dazzled the area briefly in 1893 and the town of Rainy Lake

City, population 500, sprang up. But by 1901 the ephemeral gold mines had failed, and the little hamlet was abandoned.

A timber boom also came, but vanished when logging depleted the trees. Then homesteaders, commercial fishing people, sportspeople and tourists began to arrive. As a result of this tumultuous human activity, the park is far from being an untouched wilderness. Stands of virgin timber are rare, and an international joint commission controls most lake levels. Resorts and weekend homes have grown helter-skelter. In fact, if the national park had not been established, much of the land might have been sold for real-estate development. There was even talk of a "fly-in condominium" along the chain of lakes where George and I had paddled.

Fortunately, the creation of Voyageurs Park in 1975 put an end to land speculation and restored tranquility to the spacious lakes and forests. "Otherwise," sighed George with a heave of his burly shoulders, "all you'd be seeing now would be cabins and 'No Trespassing' signs. When you come right down to it, Voyageurs and the Boundary Waters Canoe Area are really all that's left of our midwestern wilderness canoe country."

At the time, only two people retained lifetime tenancies and were permanent inhabitants of the park. We were approaching one, the "Jackpine Savage," who lived alone on a large pine-clad island. I wasn't quite prepared for a spare, neat, khaki-dressed Norwegian. Mr. Ingvard Stevens welcomed us at his dock and ushered us into his immaculate kitchen, saying, "I knew you were coming, so I baked a cake." And there sat the very twin of the angelfood creation I'd seen spinning in the stream three days ago. Steve (his nickname) served the cake with homemade blueberry jam and stories about his 47 years on Namakan Lake. Shyly, he showed us his fan mail. Since an Associated Press article was published in March 1977, the spry bachelor has received no fewer than 252 fan letters, mostly from females. Many would like to share his remote island. But Steve will have none of it. He says firmly, "Ought to have got *some* sense after all my 94 years."

He took me on a tour of his property, pointing with pride to his root cellar, which took months to build. There Steve kept canned and pickled foods, which he prepared himself. Even the harshest cold of a Minnesota winter could not penetrate that fortress.

From Steve's we cruised and paddled through Namakan and into Kabetogama Lake to visit Lydia Torry, the other park resident. Again I was startled. A stout, smiling Finnish lady of 86 years met us with a



The Kettle Falls area shows why alternately canoeing and portaging are strenuous pursuits.



pitchfork in her hands and red woolen socks on her feet. Her pleasant round face was framed with thick grey braids; she looked exactly like a Lapp transported to Minnesota. Inside her white frame house, I noted an Old World charm—hand-crocheted tablecloth and curtains, an organ, one enormous purple dahlia in a ketchup bottle. The organ was a birthday gift from her husband, who had hauled it in for her over the ice one winter.

“What do you do during the winter, Lydia?” I asked. “Don’t you get lonesome?”

“Oh, I just knock around inside, or take my sauna,” she shrugged, “or haul water through the ice and carry in firewood. This country is some kinda cold.” She grinned impishly. “When hard knocks come, I just knocks ’em away. I make my life the best I can do it.”

Considering that Lydia had lived on her island for 56 years, 25 of them widowed, the last 14 without leaving it except for medical emergencies, I’d say she had managed well. We walked about her sunny, open island, admiring her flower gardens bright with dahlias, tiger lilies and sunflowers, and her vegetable plots. Every bit of soil had been carried in by bushel basket and fertilized with fish, which her husband used to catch commercially. I saw stacks of firewood, much of it cut by visitors who love Lydia and stop in to help her. Down by the water was

her washing spot. A wood stove heated large metal tubs for soaking and scrubbing clothes. Then Lydia rinsed the clothes in the lake and hung them to dry in the fresh wind.

When we said goodbye, Lydia walked with me as far as her ramshackle dock. “If I ever leave this land, alive or dead,” she mused, “it will be the saddest day of my life. I love this rock so much.”

Over the next few days as I canoed, backpacked and portaged on the many lakes, bays and trails of Voyageurs, I thought about Steve and Lydia. Somehow they blended perfectly with the rocks of Voyageurs, part of the Canadian Shield, one of the oldest land masses on earth after 2.5 billion years. They were one and the same. The rocks are fissured by frost, rough and cracked, encroached upon by hoary grey lichens and caribou moss. The old-timers, like the rocks, were cracked and beaten down by time. They since have left the park, but they had learned to endure the wildness, the vastness, the utter timelessness, the incredible stillness. Both knew that, as Sigurd Olson said, “Only the strong will see the spring.” □

Anne LaBastille is a writer and lecturer who won the Gold Medal for Conservation from the World Wildlife Fund in 1974. Her most recent book, *Women and Wilderness*, was published by Sierra Club Books in 1980.

The park’s two best-known former residents. Top: Ingmar “Steve” Stevens, waiting to greet visitors at his dock. Below: Lydia Terry at her island cabin beaming a hearty welcome to visiting canoeists.

BIRDS OF PREY IN SHAKESPEARE



“What peremptory eagle-sighted eye...”

LONG BEFORE Shakespeare's time, the birds of prey used in falconry marked their owners' social as well as sporting status. By the Middle Ages, a powerful symbolism had developed around the pursuit of game with any type of trained hawk. What we call falconry today was then called hawking; it was the primary diversion of the nobility, particularly those at court. This is why Shakespeare frequently used the characteristics of birds of prey to describe human emotions and character, and to flatter royalty.

All the hawks used in falconry became emblems of social rank; the size and hunting prowess of each species attested to the importance of their owners. Thus, emperors and kings were represented by eagles and gyrfalcons; senior nobility by the peregrine, lanner and saker falcons; bishops by the goshawk; noblewomen by the merlin falcon; a knight's squire by the hobby falcon; a minor cleric by the sparrow-hawk; and a holy-water clerk, like a peasant, was rated a kestrel. (All of this is in Dame Juliana Berner's *The Book of Saint Albans*, printed at Westminster in 1496 by Wynkyn de Worde.)

Throughout Shakespeare's work he mentions or alludes to 73 species of bird, fourteen of them birds of prey. The most noble birds of prey, the eagles, are represented by the imperial and golden eagles. The great size, strength and speed, the far-seeing eyes and regal lines of the eagle make it “the king of birds.” The penetrating look of the eagle draws special attention to its eyes; it is said to be able to look into the sun without being dazzled. How do you praise a person's beauty, and power through beauty? Shakespeare's way was to endow the person with attributes equal to or greater than those of the eagle. Nowhere has it been said better than in *Love's Labours Lost*:

“What peremptory eagle-sighted eye/
Dares look upon the heaven of her brow/
That is not blinded by her majesty?”
(4.03.222) And a few lines further on . . . “A
lover's eyes will gaze an eagle blind”
(4.03.331).

Trained gyrfalcon ready to hunt, by Josef Wolf from Traite de Sauconnerie by Hermann Schlegel and A. H. Verster de Wulverhorst. Reprinted by permission of A & W Publishers, Inc., from The Great Bird Illustrators and Their Art 1730–1930 by Peyton Skinwith. Copyright © 1979 The Hamlyn Publishing Group Limited.

MICHAEL JENEID

The golden eagle comes to mind here because it is indigenous to the British Isles. In *Timon of Athens* (1.01.49), we have a glorious line that does maximum justice with minimum words to the flight of a golden eagle: “. . . An eagle flight, bold, and forth on, leaving no track behind.” But in *Julius Caesar* (5.01.80), we read that, “Coming from Sardis, on our former ensign/Two mighty eagles fell; and there they perch'd,/Gorging and feeding from our soldiers' hands;” These must have been imperial eagles, not only because they are native to the area, but also because the Roman standard was an imperial eagle.

Though socially ranked below the eagle, the peregrine falcon is the most prized bird in falconry today. Female birds are more highly regarded than males because they are bigger, stronger and faster. The female is always referred to as the falcon, while the male is called a tiercel gentle. The word “gentle” comes from the French *gentil*, meaning “noble”; the term separates the male peregrine from the male goshawk, which is called simply a tiercel. “Tiercel” implies that these male hawks are a tierce, or

William Shakespeare, from Art for Commerce, courtesy of Scolar Press.



one-third, smaller than their partners. This is true, whereas the folk tale that says males are hatched from the third egg in a clutch of four is false.

So it is that King Duncan, who was held in high esteem, is referred to as a “falcon towering in her pride of place,” struck down by a far lesser creature, Macbeth, “a mousing owl” (2.04.12). In *Romeo and Juliet*, we are told how a falconer calls to his bird, just as a huntsman calls to his hounds. Juliet's nurse has heard a suspicious noise coming from behind her charge's locked bedroom door. She demands to know what's going on. Juliet has to divide her effort between stalling her nurse and regaining Romeo's attention. “Hist! Romeo, hist! O, for a falconer's voice, / To lure this tassel-gentle back again” (2.02.148).

Next in order after the powerful birds of prey used in falconry there are four small hawks trained to the chase. They are half the size of peregrines and goshawks; all of them are about eleven inches long, only a shade bigger than an American robin. In order of merit they are the merlin, the hobby, the sparrow-hawk and the kestrel; but the last two are regarded as rather less than noble.

The merlin is probably the most cooperative hawk to train to the fist, and for this reason became the favorite of the ladies. Traditionally it was used to hawk at skylarks over open ground. The hobby is extremely fast, but erratic; it has the unfortunate habit of hawking after dragonflies when it is supposed to be chasing swifts. The sparrow-hawk is a smaller version of the goshawk, fierce but without much weight. And the kestrel is for very lowly people, since it thrives on mice, beetles and tiny birds.

The hobby can be verified in Shakespeare because it was sneaked in with the sparrow-hawk and the merlin in *The Merry Wives of Windsor* (3.03.22). Here we find an unusual play on words in which a male sparrowhawk is named, with the added term “eyas” meaning a young bird just off the nest—also, the pet names for a male hobby and a male merlin are thrown in for fun.

To follow this situation the reader needs to know that all male hawks have a traditional name separating them from the females of their species. For the merlin, hobby and sparrowhawk, these names are Jack, Robin and Musket. (The gun is named after the “explosive” little hawk.) When Sir John

Falstaff's young page enters the house, Mistress Page announces, "Here comes little Robin!" And Mistress Ford also greets him with "... How now my eyas-musket." These jolly comments compliment the boy's youth and his spirited maleness. The word "spark" is still commonly used in England to mean "a bit of a lad," and it has come down to us from sparrowhawk, through spar'hawk, to spar'k. So Mistress Ford's meaning is quite clear.

Since the page's name is Robin, why not show off more names in the falconer's vocabulary? Robin delivers his master's message, whereupon Mistress Page says, "You little Jack-a-Lent, have you been true to us?" The clincher for this falconry humor comes from the Robin-Jack-Musket himself when he says he'll be "put into everlasting liberty" if he doesn't do his master's bidding. This is precisely what happens to a hawk that won't obey its master.

The kestrel, lowliest of falcons, is identified through the poetic use of the word "staniel," meaning stand-gale, as in *Twelfth Night* (2.05.133). Stand-gale is one of several old-English names for the kestrel; it refers to the hawks' ability to hover and hold station over the earth while "checking" at what's below. The word "coystrill" occurs many times in Shakespeare, and it's often assumed that it is linked to the kestrel as well as meaning "a coward;" for example, "He's a coward and a coystrill." (*Twelfth Night*, 1.03.40) But "kestrel" is not derived from a coystrill, which is a lowly peasant or a peasant's dagger. The kestrel was named for its clear and bell-like call, like the peal of the small bell the French call a "cesserelle."

Now we come to two ignoble birds of prey, the kite and the buzzard. Falconers say these two lack courage because they are slow-flying and useless for the chase. "Oh slow-winged turtle, shall a buzzard take thee?" asks Petrucchio in his argument with Kate (2.01.207). But, much worse than their lack of speed, these birds live primarily off carrion. When Macbeth addresses Banquo's ghost he says, "If thou canst nod, speak too. / If charnel houses and our graves must send / Those that we bury back, our monuments / Shall be the maws of kites" (3.04.72). Shakespeare knows that kites have the raptorial habit of disgorging undigested food in the form of pellets. He uses



Golden eagle from *The Original Water-Color Paintings* by John James Audubon for *The Birds of America* by the American Heritage Publishing Company. Courtesy of the New York Historical Society, New York City.

the kite seventeen times, the buzzard four times and the puttock, which can be either species, three times.

The last of Shakespeare's diurnal birds of prey is the vulture. There is "sharp-toothed unkindness like a vulture, here" says King Lear, as he draws our attention to the greed and lack of gratitude of his daughters (2.04.135). Vultures stand alone, pariahs

The Vulture, from *Art for Commerce*, courtesy of Scolar Press.



among the predators, because their only feeding instinct is to gorge on carrion. They watch for death and watch each other so that none shall miss anything.

Finally we come to the nocturnal birds of prey, the night-watchers. As the vulture is a symbol for greed, so do the owls signify terror. There are many owls in Shakespeare's writing. When Lady Macbeth has drawn the daggers of King Duncan's two drunken chamberlains, preparing the way for Macbeth to kill his kinsman, she waits for her husband's return. A night-bird screams. "Peace! It was the owl that shrieked, the fatal bellman / Which gives the stern'st good night" (2.02.03). The owl in this situation would be a ghostly white barn owl; it has the worst shriek. We know that the owl speaks for death, but what about the "fatal bellman"? He is the night watchman calling out "good night" to the felons awaiting execution in the morning.

Since owls of several species represent terror in the night, it is important to identify one exception, the tawny owl. At the conclusion of *Love's Labours Lost* (5.02.887), Armado the Braggart offers a song "compiled in praise of the owl and the cuckoo." Here the owl is a symbol for life in winter: "When icicles hang by the wall . . . Then nightly sings the staring owl, Tu-whit, / Tu-who! A merry note, / While greasy Joan doth keel the pot." There's nothing very desperate about this owl. (In fact, those are the notes always sounded by a pair of tawny owls. The first owl says, "Kee-wo," and the second responds, "Hoo, hoo, hoo-oo-oo.")

Shakespeare was always intrigued by birds of prey, because of the qualities each bird traditionally embodied, and because they mirrored the social position and the behavior of the nobility. There's no doubt that he was expert in the vocabulary and manners of the sport of hawking. He may not have spent much time handling hawks in the field, but he must have passed many hours thinking about them, reading and talking about them with professionals, and hanging about the mews. □

Michael Jeneid is manager of the Clair Tappaan Lodge in Norden, California. He will be conducting a seminar on bird imagery in Shakespeare at the lodge from August 6 through 8.



SCANDALS IN THE TONGASS FOREST

Up Chilkat River from Chilkat Inlet (above) just north of Tongass Forest, 48,000 acres of eagle habitat were protected this year from logging.

JOE UPTON/ALASKA PHOTO

JOE CONE

IT MUST HAVE LOOKED GOOD for Alaska in December 1980. There was Cecil Andrus saying he was "proud" of the new Alaska Lands Act, looking for it "to protect the awesome wonders of our largest state." Senator Paul Tsongas of Massachusetts was among those who joined the Secretary of the Interior in extolling the act; "It's perhaps the greatest conservation achievement of the century," Tsongas extolled.

Indeed, with more than 100 million acres placed under federal protective management, it certainly must have seemed to most Americans that Alaska was taken care of—preserved, once and for all.

But the act, as significant as it is, has hardly stopped the development pressures on at least one major portion of the state's rich but fragile environment, the 15.4-million-acre Tongass National Forest in southeast Alaska. There, in the nation's largest public forest, the perennial American struggle between conservation and industry has instead quickened since the act's passage.

For several years, evidence has been accumulating that the U.S. Forest Service



has been poorly managing the Tongass; today, that mismanagement has assumed alarming proportions.

The indications of Tongass mismanagement accumulate from the ground up, literally. The forest itself is in danger of being overharvested, and yet the Forest Service routinely loses money on these harvests—in recent years more than \$10 million annually.

The main beneficiaries of this subsidy are two multinational corporations that sell vir-

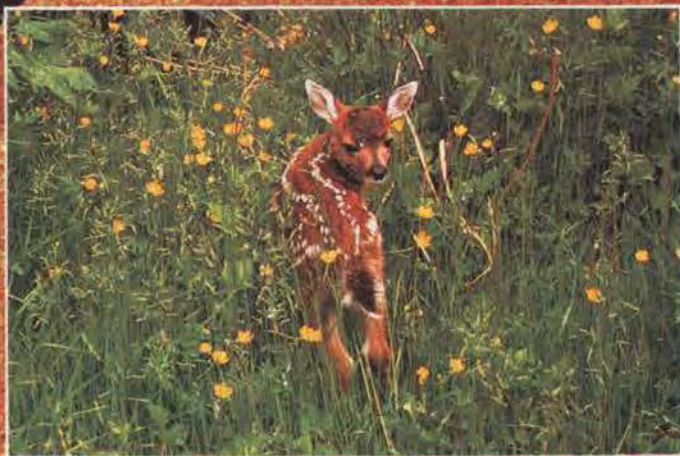
tually all their wood products to Japan and that were recently convicted of a long-term price-fixing conspiracy. This conspiracy, it now appears, defrauded the federal treasury of perhaps tens of millions of dollars.

Nevertheless, the Reagan administration's top man in the Forest Service, Assistant Secretary of Agriculture John Crowell, has pledged his administration to "economic efficiency" while at the same time proposing to increase the Tongass harvest still more.

Not all the troubles are administrative, however; some can be attributed to the implementation of the Alaska Lands Act itself.

Outside the sealed-shut windows of the passenger lounge on the Alaska state ferry, the winter dawn arrives soundlessly as the "Taku" approaches Ketchikan. Islands drift by the window, their snow-draped spruce trees ghostly in the half-light. Around a bend of shoreline, long fingers of light stretch out abruptly from a handful of bright dots on the shore, like upside-down exclamation points. The source is the giant Louisiana-Pacific Ketchikan spruce mill, awake at this hour and fueled by the timber coming to it in peak-capacity volumes, courtesy of the Alaska Lands Act.

The act bypasses the congressional ap-



appropriations process and authorizes the Forest Service to spend \$40 million or "whatever sums are necessary" to harvest 4.5 billion board feet of timber per decade. (A board foot is a standard measure used by foresters: one foot long, one foot wide, one inch thick.)

The average annual cut of 450 million board feet was set during planning for the Tongass in 1979 as the amount needed to sustain "dependent industry." That policy of providing supplies to maintain the private timber industry is itself a relic of the 1950s push by the federal government to settle Alaska by creating jobs.

Whether the "450 cut" is appropriate today is open to serious question. First, there's the matter of actual supply. Recent on-the-ground reinventories in some areas of the Tongass have found considerably less timber than was originally estimated by photo-analysis during the Tongass planning process in the late 1970s.

Actual timber volume is crucial for two basic reasons. In the short run, if there's less timber than was thought, the Forest Service will have to allow more acres to be cut if it wants to meet the 450 goal. In the long run, since the Forest Service bases the allowable cut on what is sustainable (able to be regrown) over time, the harvests will gradually whittle the forest away. This depletion is considered bad forestry and is also against the law.

Currently the Tongass is being harvested at approximately 16,000 acres per year to meet the 450-million-board-foot goal, which translates into an average volume per acre of just over 30,000 board feet. But not all Tongass land yields anything like this volume; in fact, large harvests have been sustained in the last two decades only by cutting the majority of the high-volume "old growth," the western hemlock and Sitka spruce that often are several hundred years old, four feet in diameter and a couple of hundred feet tall.

Because there's more wood in each big old tree, the timber companies prefer to cut them, but two tradeoffs need to be considered. Not much high-volume old growth is left—only 3% of the commercial forest. When it's gone, more acres will need to be cut to meet the 450 goal. But old-growth forests are valuable for purposes other than timber. Take the needs of wildlife, for example.

John Matthews is a man with a cause. As wildlife biologist for the Alaska Department of Fish and Game (ADFG), he frowns as he points to a color overlay map of planned

The clearcutting that builds piles of chips at Ketchikan Pulp Mill (left) also deprives the Sitka black-tailed deer (inset) of habitat.

MATT DONOHUE/ALASKA PHOTO
INSET: JIM FARO PHOTO/ALASKA PHOTO

logging areas in the Tongass National Forest. He has marked in color the areas where he wants the Forest Service to banish the chainsaw.

"The Forest Service says they'll protect deer," says Matthews. "They're just not being honest."

Recent studies by the ADFG and the Forest Service had shown that the Sitka black-tailed deer are dependent on intact old-growth stands. This is a life-and-death matter for this species prized by both naturalists and sportsmen, especially in winters like this past one when snows are deep. The deer find their only available food under the snow-catching boughs of the old-growth stands; areas that have been clearcut are virtually worthless, because they become covered with snow.

To protect the pressured deer population, the department has proposed that the Forest Service leave intact one out of five of the units available for timber harvest on the Tongass. "This still leaves over 7.5 million board feet for harvest, more than enough to meet the Forest Service's first decade quota," Matthews notes. It seems a fair compromise to him; he is one of a growing number of people criticizing what he calls "the service's blatant timber bias."

"This plan gives us time to do the research to understand wildlife needs better," Matthews emphasizes. Moose, brown bear and mountain goat may all have important needs for old-growth timber, but good data are lacking.

Time is an element again in the last major factor affecting the 450 cut. Demand for Alaskan wood products fell off in 1981, but in 1980, the last year for which complete figures are available, 480 million board feet were harvested from the Tongass. That figure doesn't even take into account the cut from Native and state lands, which brought the total to 550 million board feet. The Forest Service itself estimates that annual harvest on Native lands will amount to between 250 and 350 million board feet during the current decade, with state lands contributing an additional 180 million. Combined with the 450 million board feet planned from the national forest, the industry's total would be well over the 450 quota. There's still a wild card, too, the lower-grade "utility logs," which are not even counted in the 450 harvest although they come from it. More than 53 million board feet of such logs were, in effect, free to the mills in 1980.

Jim Stratton, executive director of the Southeast Alaska Conservation Council (SEACC), a grassroots coalition of seven

Old-growth hemlock-spruce forest before (right) and after (inset) logging. The government loses money and trees in the operation.

JOEL W. ROGERS/ALASKA PHOTO
INSET: GARY BRAASCH



Life After Death in the Forest

SALLY DUNCAN

IN THE DEPTHS of an old-growth forest, you'll find yourself surrounded by death and dying. Fallen trees cover about a quarter of the forest floor, and standing dead trees, or snags, regularly interrupt the greenery above you. The outlook seems grim, and to many forest managers the prognosis is further mortality and waste. The preferred action is to remove these fire and safety hazards, the disorderly piles of logs that could be partly salvaged as lumber at the mill. But a closer look at these dead giants tells another story, one of life and activity within the silence of rotting wood. The forest lives yet, and it has wisdom to impart.

Snags and fallen trees are the casualties of suppression by competing trees, insect infestation, disease, lightning strike, wildfire and windthrow. For a long time they have been considered wasteful and hazardous byproducts of an aging forest, but research in the last decade has revealed that they perform a myriad of ecosystemic functions and maintain population balances.

The most apparent role of snags and logs is as wildlife habitat, which is largely responsible for pushing them into the limelight of research. For example, in the Blue Mountains of Oregon and Washington, snags provide habitat for 63 species of vertebrates—39 birds and 24 mammals. Also, 179 species of vertebrates—5 amphibians, 9 reptiles, 116 birds and 49 mammals—make some use of logs. Similar figures show high use in areas as diverse as western Oregon, New England, the southeastern United States, Europe and England.

Depending on the climate and the species of the dead wood, both of which control the rate of decay, snags and logs can provide habitat for several years or several centuries. Because logs persist on the forest floor, they connect successive stages of the plant and animal communities surrounding them, and they ameliorate the various stresses on the forest such as windstorm, wildfire and flood.

The diversity of the ways wildlife uses snags and logs indicates just how central they are to forest ecosystems. Animals first use snags for nesting while the wood is still too hard for excavating. Then

come the primary excavators, such as the pileated woodpecker (*Dryocopus pileatus*) in western Oregon. Woodpeckers need large, hard snags for themselves, but the cavities they make help soften the snags through deterioration, preparing them for further use by other birds and mammals. Cavities supply sites for courtship rituals, nesting, reproduction and overwintering, and they even harbor food sources—insects inhabiting the dead wood and bark. The foraging activities of birds reduce endemic insect populations.

Fallen logs provide an even greater array of uses. They are sites for lookouts, cover and protection, for feeding and reproduction, for storage of food and for bedding. Their high moisture content makes them particularly attractive to amphibians. The protection they offer encourages small mammals to venture into bare areas such as clearcuts and wildfire sites, helping to reestablish animal populations.

In addition, tree seedlings will survive and grow only if inoculated with the appropriate fungal spores, which grow in rotting wood. Small mammals traveling these log-pathways carry the spores of fungi they have eaten, helping to continue the vital inoculation process.

Rotting wood also nourishes seedlings, which replace the dying trees around them as openings appear in the overstory. The "nurse log" phenomenon is particularly important for western hemlock reproduction; in one old-growth stand in the Cascade Range, 64% of the hemlock had taken root in rotten wood.

Fallen trees and other debris influence evolving shapes and structures of streams as well as provide habitat for a range of invertebrates, microorganisms and fish. This is because streams naturally become loaded with large quantities of woody debris, from whole trees to the smallest leaves and twigs, that wash into their channels. This litter can build up to form debris dams that eventually constrict water flow enough to change the stream's channel.

Sometimes events such as erosion or landslides can dislodge debris dams and carry them as debris torrents or "sluice outs," causing severe and lasting damage to streams. This phenomenon shows how valuable litter and woody debris are

as stabilizers of the forest floor, preventing erosion and other catastrophes.

Debris dams that remain intact cause a "stepped" stream profile, which lessens the stream's capacity to scour out its own bed because water moves more slowly and thus carries sediment more slowly. Consequently, sediment and particulate organic matter collect in the pools that form on the upstream side of debris dams, giving the stream's microorganisms and invertebrates plenty of time to use them and process them before they are carried on.

Fish benefit, too. The invertebrates they feed on that live in and around debris dams are different from those in faster waters, offering variety in food sources. The dams also afford protected rearing areas and cover from predators.

One mystery, however, is the full role snags and logs play in recycling nutrients in the forest. Some things are known: decaying trees act as reservoirs for some nutrients, and because they make nutrients available to soil and water slowly, they act as a buffer against major disturbances to the forest, natural or otherwise. Also, variations among tree species in their rates of decay can control the long-term balance of nutrients available to forest vegetation.

Nitrogen fixation, both bacterial and nonsymbiotic, has been detected in dead wood from forests of widely varying environments. Although rates and amounts have only recently begun to be carefully measured, apparently nitrogen fixation in logs helps them decompose while contributing significant nitrogen to the forest floor. Research also suggests that concentrations of nitrogen and phosphorus increase as decay advances.

Carbon cycling is another process that is still puzzling. How fast do snags and logs return carbon to the forest floor? Which contribute more carbon to the soil as they decay—roots or trunks?

The research is important. Greatly reduced soil fertility in some of the squeaky-clean forests of Europe makes researchers suspect that snags and logs are more valuable left in place than hauled to the mill. The information being revealed by studies in undisturbed old-growth forests suggests that death and dying in the forest are not isolated or self-contained events. They are part of a continuum of life and living. □

Sally Duncan is a freelance writer who specializes in conservation, environmental and social issues.



Louisiana-Pacific now owns the Ketchikan Pulp Mill (above); Ketchikan Pulp Company helped drive seven small companies out of business by participating in price-fixing with a "competitor."

member groups, summarizes his concerns about the timber harvest: "We're looking at a real harvest of as much as 700 million board feet per year. Taking all these factors into account—wildlife's need for old-growth forests, the inventory questions, the contributions from Native and state logging—the Tongass cut should be reduced.

"Besides," Stratton adds, "reducing the cut from the public land will save the government—all of us taxpayers—millions of dollars." He smiles. "And the Reagan administration does say it's in favor of cutting wasteful federal spending."

At the moment, the Forest Service does waste money on the Tongass. In 1980 the Natural Resources Defense Council studied revenues and expenditures in this forest covering the five-year period from 1974 through 1978 and found that Tongass timber sales resulted in net loss to the federal Treasury of about \$50 million. This loss, the study found, can all be considered a direct subsidy of the timber industry generally, and specifically of the two multinational corporations—Alaska Lumber and Pulp, and Louisiana-Pacific Ketchikan—that control 90% of the market.

Moreover, the Forest Service expects to spend more but earn less on timber-related activities in the Tongass in the 1980s. It has estimated that expenditures will increase to an average of \$78.22 per thousand board feet to maintain the harvest level at 450 million board feet. In contrast, recent annual Forest Service receipts have been averaging about \$25 for each thousand board feet.

The costs of building roads—which the Forest Service pays—are the largest part of

the subsidy, according to the NRDC study. Road-building has increased since the passage of the Alaska Lands Act and it is projected that from 250 to 300 miles will be built annually during the 1980s. In fiscal 1982, for example, the Forest Service plans to spend more than \$7 million on logging-road construction.

The extent of the subsidy given these two large companies has many observers concerned. Not the least of reasons is that last year a federal court found that the companies engaged in a massive price-fixing conspiracy from 1959 to 1975.

The conspiracy was part of their successful effort to monopolize the timber industry.

The case that brought the conspiracy to light, *Reid Brothers Logging Company vs Alaska Lumber and Pulp Co. and Ketchikan Pulp Co.*, has serious implications for Forest Service policy. The story began in the woods, with an independent logger named Glenn Reid and his attempts to make a living.

Glenn Reid came to southeast Alaska with two brothers in 1938 and set about logging. The Reid Brothers operation was "pretty successful," says Glenn, making between \$30,000 and \$40,000 a year during its heyday in the 1960s. But then the prices the mills offered loggers dropped too low for them to stay in business, Reid says, and like more than 100 other independent loggers in southeast Alaska, he found himself unable to continue operating.

He is low-key when he talks about his case against the mill owners, Ketchikan Pulp Company (now Louisiana-Pacific Ketchikan) and Alaska Lumber and Pulp. Maybe it's because the case is still coming up for

appeal this year; maybe it's because he's been living with his grievance since 1973, and it all seems obvious to him, and maybe he just feels that the facts themselves say plenty.

Sitting at his dining-room table in Petersburg, looking down into a coffee cup resting in two outsized hands, Reid reflected on an early episode from the case:

"In the fall of 1976 we got the right to go back fifteen years in the Ketchikan Pulp mill's books. So they gathered up their documents and put them in a plywood room in a company warehouse out on a dock. Well, there was a fire there one night, but luckily one of our nephews heard what had happened and went down to the dock.

"There the fire captain was, just about to push this 'garbage' into the water, when my nephew told him that it was court evidence. Later, you know, they found that the fire alarm had been cut, the sprinkler system turned off, and there was this trap door with a rope leading to the beach. And the oil was turned on. . . .

"There were several things that would lead you to think that it might have been a little suspicious."

The way Reid tells it, it sounds like something out of another era, when "The Company" just about always got its way. This "last frontier" impression is reinforced by information from the trial; Judge Rothstein found that the two companies conspired to control the timber industry by refraining from competing against each other in obtaining their log supplies. However, they competed vigorously against any newcomers.

One particularly damaging example of this strategy was revealed in a letter written in 1969 by Ketchikan Pulp Company's timber manager, Art Brooks. The letter concerned the efforts of the Alaska Prince Company to get timber for its new mill. Brooks advised his boss: "There is little doubt that Alaska Prince will bid on the sale, since they're desperately in need of timber. . . . and the real question is whether we should . . . run it up on them to the point it will really hurt."

By bidding up the price on selected timber sales and thereby controlling supplies, Ketchikan Pulp was able to drive Alaska Prince out of business. Ultimately Ketchikan Pulp and Alaska Lumber and Pulp drove at least seven other mills out of business and subsequently bought them up.

Then they controlled the prices that loggers were paid for their raw material, and they also drove independent loggers out of business by a similar practice of bidding against them for timber sales.

In both situations, the court found, Ketchikan Pulp and Alaska Lumber and

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Pulp used illegal "fronts" to do the bidding on their behalf. The fronts were often independent loggers who were in financial straits because of what the judge called the "artificially low prices they received for their logs and logging services." In debt to the mills, the loggers were advanced funds that, the court found, the mills "expected would not be repaid." At that point the loggers became subject to the mills' pleasure.

"As a practical matter, when one of the defendants cut off further financing of an indebted logger, the logger would go out of business," Judge Rothstein found. The defendants then acquired the companies and claimed the advances as bad debts. Through it all, evidence showed that they achieved their main objective of keeping the price they paid for timber low—and concealed from the Forest Service.

"We used to be quite naive," Glenn Reid says with a thoughtful slow smile. "We used to think that the companies were helping the logger, but that was never true."

The court found that the Reid Brothers logging company would have received a higher price for logs it wished to sell Ketchikan Pulp if the market had been "truly competitive." The judge awarded the Reids damages that may total \$1.5 million if the decision holds up under appeal.

As the court process goes slowly ahead, the Forest Service has been making its own investigation of the Reid Brothers evidence. Shortly after the ruling was handed down in April 1981, Alaska Regional Forester John Sandor named a three-person team to recommend changes in how the Forest Service manages the forest. The team was asked to consider amendments to the service's long-term contracts with Alaska Lumber and Pulp and Louisiana-Pacific Ketchikan, as well as additional damages the companies should pay the Forest Service for their restraint of trade.

Although the team's recommendations arrived on the regional forester's desk at the end of June 1981, the Forest Service refuses to give them to public-interest groups that have made requests under the Freedom of Information Act. The refusal is allegedly because the U.S. Department of Justice is conducting its own investigation into the case; this agency is supposed to take the lead in any further government action. But it appears to many observers that it is a case of a questionable slowdown.

Particularly troubling in this whole affair is the problematic role of Assistant Secretary of Agriculture John Crowell. Crowell was general counsel for Louisiana-Pacific, Ketchikan Pulp's parent company, and had been in charge of antitrust compliance from 1973 until assuming his current job in 1981. During his confirmation hearing before the

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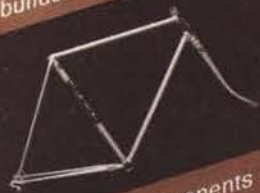
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Senate in May 1981, Crowell acknowledged that he selected and advised the lawyers for the subsidiary company's defense in *Reid Brothers*, but he denied that he had been involved with the circumstances that led to the suit.

Still, it would appear that Crowell was closely tied to the day-to-day operations of Ketchikan Pulp, as revealed by a 1975 memo from Crowell to Louisiana-Pacific President Harry Merlo. In the memo, Crowell suggests that a small logging company, Alaska Timber Corporation, might become qualified to take advantage of sales set aside for small businesses. Alaska Timber was one of the small companies that were victims of the coconspiracy, according to Judge Rothstein's findings.

Crowell wrote to Merlo: "Ketchikan Pulp Company would have . . . plenty of time to do what might be necessary to qualify ATC as a small business if that seemed at the time to be in RPC's interest."

In remarks entered in the *Congressional Record*, Representative Jim Weaver (D-OR) advised senators: "The court's findings indicate that L-P and KPC were involved in a sophisticated monopoly that could hardly have been fabricated and controlled by subsidiary managers in Alaska."

Crowell, subsequently confirmed with more opposition than any of Reagan's appointees until that time, promised to excuse himself from all *Reid Brothers* issues.

Still, as Weaver observed, given Crowell's role as chief administrator of the Forest Service, he "will obviously influence the administration's actions on the Tongass, whether or not he directly involves himself."

The influence of the Forest Service's Washington office has been felt in recent months in another significant decision affecting a major industry, in this case the mining industry. The U.S. Borax Company has development rights to 139,000 acres in the Misty Fjords National Monument, a wilderness east of Ketchikan. A key issue dividing the industry and conservationists has been the location of the access route to the molybdenum mine the company has proposed.

Last October, a planning team of specialists from the Forest Service and Alaska state agencies voted that they preferred the access route conservationists had also favored because it was likely to have the least effect on salmon-spawning streams. The local forest supervisor relayed that preference to Washington.

But the draft environmental impact statement released by the Forest Service in December did not mention that there was a route preference, and the responsible official listed had been changed from the supervisor to the chief of the Forest Service,

Max Peterson. Subsequently, the supervisor retired.

SEACC director Jim Stratton was among those who expressed dismay at the Forest Service's handling of the evaluation process. "Apparently the Washington office wasn't satisfied by what the local specialists decided," Stratton observed. "It smacks of special consideration being given to the industry."

Indeed, long-time observers of resource politics in southeast Alaska note that both the mining and timber industries are watching the U.S. Borax development for an indication of the favor they will find with the Reagan administration. Observers note that Don Finney, John Crowell's former colleague, the general manager of Louisiana-Pacific Ketchikan's mill, was hired by Borax as project manager for the molybdenum mine.

"Centralized decision-making in Washington, D.C., ruins the *esprit de corps*," says a former information officer for the Tongass. "It's not that local Forest Service staffers don't care about other resources," says this young and disillusioned professional, "it's just that Washington is boss and timber is king, and you either bow to it or get out."

Quite a few of the Forest Service staff, particularly specialists in resources other than timber, have had rather brief careers on the Tongass. Forest Service statistics on the turnover rate are understandably hard to obtain, but knowledgeable present and former staff agree that, in recent years, about two years tends to be the average tenure.

Of all the service's management problems in Alaska, turnover probably has the farthest-reaching consequences. "It's a shame," says Cynthia Craxton, a former timber-unit planner in the Stikine area. "It takes at least two years to understand how to plan timber sales in these forests, but the bureaucracy and the rainy weather get to people out in the woods, and both the dissidents and the professionally ambitious move on."

With departures continuing, Forest Service veterans are "generally the ones who can toe the timber line," says former service wildlife biologist Butch Young. Young, who says he's happy with his switch to the state Department of Fish and Game, notes that the Forest Service gets itself into a vicious circle with its large timber-management budget.

"The money is there to cut timber," he says "and each expenditure reinforces the timber bias." □

Joe Cone is editor of Forest Planning, the Public Interest Forestry Magazine, published in Eugene, Oregon.

1983 FOREIGN TRIPS



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The leader's approval is required for participation on most trips. For information about individual trips or for a reservation application, write: Sierra Club Outing Department, 530 Bush Street, San Francisco, CA 94108.

EUROPE

(650) HUT TO HUT BACKPACK IN CORSICA—May 30-June 10. Though just 100 miles off the coast of the French Riviera, Corsica is serene, scenic and sparsely populated. We carry our own food and gear hut to hut at elevations up to 9000 feet for much of the island's 150-mile length. We will stop at "bergeries" enroute to supplement our menu with delicious fresh food. *Leaders, Jim Watters (Jr.) and Michele Ferrand.*

(655) HIGHLANDS AND ISLANDS OF SCOTLAND—June 12-July 7. Edinburgh is our gateway to the Scottish Highlands and

western islands where the lochs and glens will be bright with spring and early summer blossoms. A Scottish naturalist will be our guide as we travel the backcountry roads and walk the trails. Walking or hiking can be as moderate or strenuous as desired. *Leaders, Mildred and Tony Look.*

(660) HIKE AND BIKE IN IRELAND—June 22-July 7. Cost: \$1240. Lose yourself in the winding back roads of this ancient, green and tranquil land on a moderately paced, mostly biking trip. Bike between 400 and 500 miles; hike in the high bogs and sweeping mountains of Clare, Connemara, Mayo and Donegal; explore prehistoric ringforts and early Christian ruins; enjoy Gaelic music, a Guinness and the beautiful people. *Leaders, Frances and Patrick Colgan.*

(675) SLOVENIAN ALPS, YUGOSLAVIA—July 10-23. Staying in some of the excellent huts, we travel with light packs from six to ten miles a day on sometimes precipitous trails in two principal ranges: the Kamnik and Julian Alps. There will be time to climb Mt. Triglav, highest in the country, and sightsee in the Slovenian capital, Ljubljana, and in the elegant resort city of Bled. *Leader, Fred Gooding.*

(680) CYCLING THE SCOTTISH HIGHLANDS—July 10-24. Pedaling from one hostel to another, our travels through the Scottish Highlands will be leisurely and relaxing. With Aviemore as a base, we will go by train to the famous Findhorn Gardens and take a field trip to Ft. William to ascend Ben Nevis. *Leader, Dennis Look.*

(695) ON FOOT FROM AUSTRIA TO GERMANY—August 18-

September 2. Cost: \$940. Take a picture postcard tour on foot in the Austrian Tirol to near the German border. See snow covered peaks, jeweled lakes, green farmlands and neat little wooden houses trimmed with geranium-filled window boxes. Hiking will be moderate with one layover day. Accommodations will be at small pensions and Alpine Club huts. *Leader, Anneliese Lass.*

(700) HIKING THROUGH RURAL SWITZERLAND—September 5-14. Cost: \$730. Hike through the legendary Alps of Heidi's fame, the Lotschental. A pastoral area of storybook villages, flowering meadows, and forests neat and trim, it has mountain vistas that are unparalleled. Hiking will be moderately strenuous. Overnight accommodations will be at small mountain inns. *Leader, Anneliese Lass.*

(705) MEDITERRANEAN SAILING ADVENTURE—September 21-October 2. From the Island of Rhodes, cruise to the unspoiled "Turquoise Coast" of Turkey. On daily excursions ashore explore wooded inlets, islands, villages and archeological sites—ancient Lycean, Graeco-Roman, Crusader and Byzantine are all represented here. Nights and most meals will be aboard a comfortable 65-foot motor-sail ketch. *Leader, Ray Des Camp.*

(725) ISLES AND ANCIENT GREECE—Three weeks in October. Begin with a short cruise to some of the islands then explore the Peloponnesus and northern Greece. From the Pindus Mountains and Meteora to Gyphion and the Mani Peninsula, we travel by bus visiting classical and Byzantine sites. Take short day walks; stay overnight at small village hotels and in homes of villagers. This trip may be combined with Mediterranean Sailing Adventure which immediately precedes it. *Leader, Ray Des Camp.*



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AFRICA

(635) TANZANIA WILDLIFE SAFARI—January 28-February 11.

Cost: \$1765. This trip is timed for the wildebeest calving season on the Serengeti plains and Ngorongoro Crater. We will walk, drive and camp in the heart of East Africa's game country; see colorful flamingos at Lake Natron and herds of zebra, giraffe and gazelle; visit tribal villages and prehistoric sites. An optional climb of Mt. Kilimanjaro follows. *Leader, Emily Benner.*

(690) WILDLIFE SAFARI: KENYA AND ZAMBIA—August 8-26.

Cost: \$2570. In Kenya, explore the classic Meru, Samburu and Masai Mara game parks; walk the moorlands of Mt. Kenya; enjoy the waterfowl on Lake Naivasha in the Great Rift Valley. In Zambia, walk among the more than 40 game species including the world's largest concentration of elephant and rhino. *Leader, Blaine LeCheminant.*

(710) SERENGETI MIGRATION SAFARI—September 23-

October 9. Vast herds of wildebeest and zebra, and their predators, will be on the move across the plains during our visit to this remarkable Tanzanian park. With a naturalist as guide, we explore by landrover, visit little known places off the beaten track and walk among the animals with a game ranger. Optional hike of Mt. Meru. *Leader, Betty Osborn.*

(740) ZAMBEZI RIVER RUN—December 19-30. Cost: \$2030.

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day exploration of Lake Kariba and its islands. *Leader, Blaine LeCheminant.*

LATIN AMERICA

(640) CHILE'S ANDES HIGHLIGHT & BASE CAMP—February

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(630) GALAPAGOS ISLANDS—February 17-March 10. Cost: \$2185. Darwin's legendary islands are green and lush in spring, in contrast to the stark lava land and clear blue ocean. The abundant bird, animal and marine life, still unafraid of man, offer exceptional opportunities for close-up observation and photography. We can walk or swim among them with a naturalist guide. Optional trip to Machu Picchu. *Leader, Betty Osborn.*

(645) JAMAICA JAUNT—March 20-April 2. Cost: \$840. Hike for seven days in the beautiful hills and mountains of eastern Jamaica, climb Blue Mountain, then relax for five days in a north shore ocean-front camp, where shelter and food are provided. With a mixture of moderate hiking at elevations up to 7400 feet and a few easy days at sea level, the trip reflects the island's remarkable variety. *Leader, Ron Skelton.*

HIMALAYAN COUNTRIES

(620) CHRISTMAS AT ANNAPURNA, NEPAL—December 20-January 8, 1983. Cost: \$875. Spend Christmas with the Sherpas and enjoy your holiday season amidst some of the Himalayas' most spectacular peaks. Days are almost always sunny and the skies clear at this time of year. Highest camp at the Annapurna Sanctuary is about 13,000 feet. *Leader, Phil Gowing.*

(665) ZANSKAR TREK: KULU TO KASHMIR, INDIA—June 26-July 25. Cost: \$1275. Cross five major passes into three different areas, each with its own distinct culture, in 22 days of trekking. From the verdant Hindu Kulu Valley, into the arid Buddhist



Nepal

WAYNE R. WOODRUFF

Zanskar region, to the green Moslem Vale of Kashmir, the route is never less than 10,000 feet and reaches a height of 16,700 feet. Mules or ponies carry the duffel. *Leader, Peter Owens.*

(685) KASHMIR-LADAKH—Three weeks in August-September. Exotic Kashmir and Ladakh are for those who want to savor the cultural heritage of northern India and trek the valleys and ridges on the other side of the Himalayas. Stay in houseboats on Dal Lake in Srinagar; jeep trek to Leh, principal city of Ladakh; walk for a week in the alpine areas and fish for trout in some of the world's highest streams. *Leaders, Nadine and Norton Hastings.*

(735) ANNAPURNA SANCTUARY, NEPAL—October 16-November 5. Cost: \$1055. Trek the most beautiful mountains in the world and enjoy the splendid panorama of the massif Annapurna Sanctuary. Eighteen days of moderate trekking take you through bamboo, rhododendron and oak forest. Highest camp is 12,000-foot Machhapuchhare Base Camp. Trek returns via Tatopani Hot Springs and ends with a Newari dinner in Kathmandu. *Leader, Mike Brandt.*

CHINA

Three trips to the People's Republic of China are planned for 1983. Approval for these trips is expected but has not yet been received. Dates are tentative and costs can only be given in an anticipated range.

(715) CHINA CYCLE—Spring or Fall. Cost from \$2000 to \$2500. Travel in China as the Chinese do and you can get out of the cities and onto the backcountry roads, meeting the people in villages and farms that few tourists get to see. *Leader, Patrick Colgan.*

(720) MT. GONGGA TREK—Five weeks in September-October. Cost from \$4000 to \$5000. Trek around 24,900-foot Mt. Gongga in the Hengduan Mountains of Sichuan Province. *Leader, Kern Hildebrand.*

(730) TREK TO EVEREST, TIBET—Five weeks in October-November. Cost from \$4000 to \$5000. Hiking on the Rongbu and Kangxun glaciers, you can see both the north and east faces of

IMPORTANT NOTICE!

RESERVATIONS for Sierra Club outings are subject to the reservation/cancellation policy and other conditions printed in the 1982 Jan./Feb. issue of SIERRA. Please see page 107 of that issue for this information and trip applications. The deposit for all foreign trips is \$100 per person. Please include the deposit(s) with your application(s). Trip prices (where listed) are approximate and do not include air fare. Further price information will be listed in the 1983 Outing issue. The November/December issue of SIERRA will include a preview of Winter and Spring trips. For supplemental information on outings, clip this coupon and mail to:

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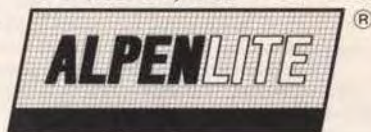
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(670) **LANDS BELOW THE WIND**—July 4-29. Indonesia is blessed with immense natural resources, diverse scenery, foods and languages and exotic flora and fauna. Its people are immersed in ancient cultures and traditions, grappling with the thrust of modern technology. The trip has an anthropological focus and participants will walk among primitive tribes and villages of western New Guinea, visit the high Torajanese valley of Sulawesi and small rural towns of Bali. *Leader, Ray Simpson.*

1982 FALL TRIPS

(605) **HIKE IN JAPAN**—September 11-October 1. Cost: \$1295. Hike in the northern Japanese Alps and national parks in Hokkaido and North Honshu, with a three-day visit to Kyoto at the end. *Leader, H. Stewart Kimball.*

(610) **SIKKIM**—October 10-30. Cost: \$1560. Views of the Himalayan giants—Everest, Kanchenjunga, Kagra—are the rewards of trekking in fabled Sikkim. *Leader, Norton Hastings.*

(615) **GORKHA-LAMJUNG HIMAL, NEPAL**—November 6-28. Cost: \$1285. Nineteen days of moderate trekking takes you to the higher foothills of western Nepal, an area special to the Nepalese, but rarely visited by foreigners. *Leader, Al Schmitz.*

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ADVANCE NOTICE— 1983 WINTER TRIPS



Ski-touring

DAVID R. BROWER

(292) ADIRONDACK SKI TOURING, NEW YORK—January 16-21. Leader, Walter Blank, Omi Rd., West Ghent, NY 12075. Cost: \$330. On this trip we ski to different inns or wilderness log cabins each day. Your baggage is carried for you

by vehicle. The trip includes lodging, meals, and assistance in transferring your luggage. It features continuous wilderness skiing in the southern Adirondacks.

(224) HIGH DESERT SPECIAL, CALIFORNIA—January 30-February 5. Leader: Dolph Amster, P.O. Box 1106, Ridgecrest, CA 93555. Cost: \$250. Best visited in late winter, when temperatures are moderate, illumination low and soft, and shadows transparent, the Mojave desert offers us a sensual feast. We will car camp among sites in or near Death Valley, with frequent layover days to encourage the leisurely exploration of colorful canyons, voluptuous sand dunes and unusual formations unique to the Mojave. Members of all interests are welcome, especially the artist or photographer around whose deliberate ways this trip will be planned.

(45) WHALE WATCH, MAGDELENA BAY, BAJA, MEXICO—February 19-26. Coordinator, Ruth Dyche, 2747 Kring Dr., San Jose, CA 95125. Magdalena Bay, one of the largest Grey Whale mating grounds in Baja, covers 80 square miles of quiet, deep water and a network of canals, inlets and islands. We will have the privilege of observing at close quarters the activity of these magnificent animals. There are mangrove swamps which support a variety of sea and shore birds, giant rolling sand dunes and shell-filled stretches of beach along the Pacific. Our home will be the 'Don Jose,' a comfortable 80-foot boat with room for group and individual relaxation. Meeting place is San Diego.

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JOE FONTAINE ON THE SIERRA CLUB AND DEMOCRACY

AFTER SERVING as president of the Sierra Club for two years, I would like to pass on some of the impressions I have developed about our organization and its place in American society. My thoughts revolve mostly around democracy and participation.

The Club is very American in the way it arrives at positions. One obvious reason people join is that they believe in protecting the environment and want to do something about it, but there's more to Club members than that. The theme of democracy runs strong throughout the membership, and according to its principles, all citizens have a right to participate in decisions affecting their welfare and future. All have equal rights and opportunities regardless of their wealth or who they know.

The Club is therefore organized according to democratic principles and considers the opinions of its diverse membership in its decisionmaking processes. It deals with difficult issues openly and fairly and usually reaches a final position after proponents of different views find a workable compromise. As a result, policies enjoy broad support from the members. We use this process because as individuals and as an institution, we are products of the American culture.

But some antienvironmental extremists in the Reagan administration, notably James Watt, James Edwards, John Crowell and Anne Gorsuch, have suggested we are dupes of the communists, have been infiltrated by leftists or are somehow trying to subvert American democratic institutions through forced social change.

In fact, we are strengthening American democratic institutions by insisting on open public dialogue about issues affecting the environment. It is some of our opponents, especially those in the Reagan administration, who are trying to reduce public influence on decisionmaking. In the process, they favor narrow economic interests unsupported by a majority of Americans, and they are forced to call us un-American in an effort to discredit us. Our skyrocketing membership and public support show they are failing.

Still, I get angry when I see others try to use their money and influence for selfish gain at the expense of the general public. Free enterprise and the profit motive have contributed to the greatness of this nation, but there are people who, in their zeal for profits, are unwilling to submit their propos-



als to public scrutiny or who refuse to acknowledge that there are public-interest issues that must also be considered in making decisions.

A case in point is the Clean Air Act. The administration—which campaigned with the theme, “We must get the government off our backs”—wants to gut the act. But public opinion polls show that more than 80% of the public supports enforcing the act as strictly or more strictly than it has been enforced in the past. This attitude, that the administration knows better than the people what is good for us, results in an attempt to force an unwanted philosophy upon us. This is un-American and could ultimately undermine the whole democratic approach.

Of course, in our contributions to the process, we environmentalists should—and do—consider the economic consequences of our positions, and we must consider costs and benefits. But people making public decisions must consider other grounds in addition to economic ones, and we must insist above all that these important decisions be debated openly and publicly.

Fortunately, the bad behavior I have described in which some people indulge is unusual in the business community, although sometimes such people are the most vocal. Usually, corporate executives do have a social conscience and are willing to sit down and open a dialogue to see if an accommodation can be reached.

But unfortunately, the Reagan administration seems to ignore other people in order to listen to economic extremists who, if given their way, would inadvertently sow the seeds of destruction of our democratic society. For example, James Watt meets

frequently with business leaders but refuses to speak to our paid staff, whom he calls “hired guns.”

If Watt believed in democracy, as his predecessor in the same office did, he would meet with people from all perspectives and would consider public opinion in his decisionmaking. Instead, he is an antienvironmental zealot trying to force an alien philosophy of nonparticipation down our throats. He takes the view that “Big Brother” knows what is best for us. We are asking that environmental standards be determined by open public debate in a democratic process. The red-herring charge that we are a narrow special-interest group just doesn't work. Public opinion polls say that in most cases, a majority of the public supports our positions on environmental issues, and that support grows stronger every year. We are simply trying to make democracy work, and we demand an opportunity to participate in decisionmaking as equals. As long as there are groups such as ours participating in the process, balancing the efforts of people who want to manipulate decisions for their own profit, there is a chance that the democratic experiment will continue to work.

How much influence can the Sierra Club wield in our nation? I don't know—but I do know we haven't reached our limit. In California, where we have more than 100,000 members, we are a significant voting block. Our membership nationwide is more than 300,000 and growing faster than ever before. Nearly all of our members are registered voters, and the politicians know it.

For the first time this year, we will participate in electoral politics at the national level. Our political action committee, the Sierra Club Committee on Political Education (SCOPE), is organized; we are conducting workshops to train our leaders in the electoral process; and we are identifying candidates for office whose ideas on environmental protection we can support. We will work for Democrats and Republicans alike because environmental protection is broader than partisan politics. I look forward to November. Three hundred thousand voters and activists cannot be ignored. We intend to make environmental issues prominent in the campaign, and I am confident that an informed electorate will repudiate the antienvironmental extremists in the Reagan administration. The results will be limited only by our resolve. From the enthusiasm I have seen at the grassroots level throughout the Club, I can tell you that people are anxious to get on with the job.

I hope you share my pride in the Sierra Club and my great expectations for its future, and I thank you for giving me a privilege shared by few—the opportunity to serve as your president. □



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SIERRA CLUB'S ANNUAL DINNER

DAVID GANCHER

Photographs by Mush Emmons

ONE OF THE CLUB'S long-standing traditions is its annual dinner. The dinners have been held for nearly 90 years and, though times, circumstances and restaurants change, a few things always seem to remain the same. The participants usually include Club leaders, visiting dignitaries, old-timers and recent initiates. Sometimes the mood is formal and the setting dignified; on other occasions, jeans, hiking boots and metal cups have prevailed. But usually the mood is one of relaxed good cheer. Over the years, as the Club has grown, the number of participants has increased.

Below: Representative Phillip Burton rounded out a busy day by addressing the annual dinner.



The event almost always involves some good-natured, affectionate tributes to leaders past and present, an ever-lengthening series of awards and honors, a formal address by a distinguished speaker (these have included Supreme Court Justice William O. Douglas, Jacques Cousteau, and then-Secretary of the Interior Cecil Andrus) and a certain amount of horseplay revealing a hard-to-define but unmistakable Sierra Club sense of humor.

This year's annual dinner extended the tradition. The featured speaker was Louis Harris, the noted pollster, whose message was one of cheer to the environmental movement. Despite the opposition of the Reagan administration to many of the goals

of environmentalists, the American public seems to be rallying behind the cause of conservation. The numbers of Americans who strongly support the strengthening of the Clean Air Act seem to be increasing; Harris encouraged the Sierra Club to seize on this historical opportunity and to use it in upcoming election campaigns to ensure that the next congressional elections reflect this welcome trend in public opinion. In this first year in which the Sierra Club has formally involved itself in direct electoral activity, it seems a challenging—if occasionally daunting—opportunity. The numbers are there, Harris assured the crowd of 390, so go ahead and use them.

The proceedings, for the most part quite



Above: Dick Leonard blew out the candles on the cake celebrating the Club's 90th anniversary. Below: Edgar Wayburn congratulated novelist Wallace Stegner, winner of 1982's John Muir Award.



dignified, were interrupted at one point by an unplanned skit staged by unnamed and costumed conspirators who impersonated James Watt and Anne Gorsuch. The performers took outgoing president Joe Fontaine prisoner, but he was released by the shade of John Muir himself. All this was set to music, in a manner strongly reminiscent of the tradition of the Hasty Pudding Club's hoary shenanigans at Harvard University.

A duo of Texas musicians regaled the assembly with a collection of environmental songs, including "Watt Won't Do," "Habitat" and "Snail Darter March."

The evening closed on a more serious note as the John Muir Award, the Club's most prestigious honor, was presented to novelist, essayist and conservationist Wallace Stegner.

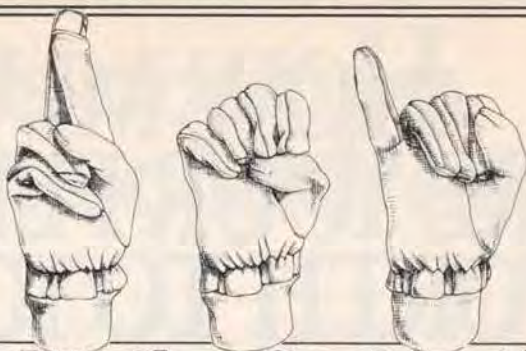
PROJECT WILDERNESS, LOMA PRIETA'S ANSWER TO WATTISM

ROBERT IRWIN

Since the Reagan administration came to power in January 1981, its plans for the nation's wilderness have been clear: explore and exploit. That message has not been lost on the wilderness committee of the Loma Prieta Chapter.

This 49-year-old chapter, based just south of San Francisco, had always depended on the handful or two of volunteers on its wilderness committee to cover important wilderness issues. With the advent of Interior Secretary James Watt, however, the committee saw not only that campaigns to set aside and safeguard new parks and wilderness areas would be more difficult, but also that battles they thought were won would have to be fought all over again. The committee obviously needed help, and the chapter could provide it, with the help of what committee member Bob Reid called "a little old-fashioned organizing."

Four volunteers—Reid, John Miller, Bill Thielen and Phil Farrell (one of the founders of the California Wilderness Coalition)—launched a drive they called Project Wilderness (PW). In March 1981 they issued their first "Call to Action" as a special mailing to members known to have an interest in wilderness, then later as an article in the *Loma Prieta*, the chapter's newsletter. They were forming Project Wilderness (PW), they announced, to counter "the new administration's assault on our wilderness heritage." PW would continue the work and expand the scope of the old wilderness committee by "enlisting... those thousands of us who favor wilderness preservation and who



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The "Call to Action" asked hundreds of volunteers to take the first step by returning an enclosed coupon or postcard listing specific tasks they were willing to perform. Some volunteers wanted to jump immediately into grassroots wilderness politics—participating in letter-writing parties, making phone calls, attending workshops and lobbying for wilderness. Some opted for hikes or study trips into wilderness areas. Still others volunteered to write letters when needed, even if they only signed their names to ready-made messages. The first appeal brought in some 100 members; by spring 1982 there were more than 300 wilderness advocates.

Looking back over the project's first twelve months, Reid pointed out some of its major accomplishments:

- A series of standing-room-only public lectures by such prominent environmental figures as Wallace Stegner, Roderick Nash, and Anne and Paul Ehrlich. The lectures were organized by Bill Thielen and funded by a grant from the Sierra Club Foundation.

- An outspoken, lively, informative monthly newsletter, *First Stand*. Reid chose that name, he said, "because it's aggressive... It says that before we can get anything done, we've got to stand up and admit proudly to one and all that we love the wilderness." The name also suggests that, "far from facing our last stand, we've only begun to give the exploiters what they've got coming to them." *First Stand* now stands on its own financial feet, thanks to support from its PW readers.

- A regular column, "Miller for Project Wilderness," written by John Miller for the *Loma Prieta*. It reaches all 16,000 chapter members, alerting them to action on wilderness issues and reporting on the project's developments.

- Letter-writing parties held at least once a month. Teams of PW volunteers crank out letters in their own words to legislators, public officials and other decisionmakers, including corporate executives. One example of the latter approach was a letter from PW to the chair of Hewlett-Packard, urging him to help nudge the California Wilderness Bill out of the U.S. Senate Committee on Energy and Natural Resources, chaired by Idahoan James McClure. The letter reminded Hewlett-Packard's chair of his company's long commitment to the welfare of California and suggested that since the company operated a plant in Idaho, he might send the Idaho senator a corporate com-

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• Frequent "feet-and-hands-on" contacts with wilderness, all to keep PW members in touch with the realities of the wild places they are trying to protect. An ascent of Pyramid Peak, a backpack into roadless Granite Chief, and two other Sierra wilderness outings late last fall all helped pull PW members out of their armchairs. For an even more purposeful wilderness experience, last spring PW member Bill Webster led five weekend exploratory trips into the backcountry of 100-square-mile Henry Coe State Park, on the back doorstep of metropolitan San Jose. Because of a funding crunch, California park officials had asked the Sierra Club to organize a volunteer-run natural resource inventory of the 50,000 acres of predominantly wild lands the park had recently acquired.

Project Wilderness has made a genuine difference throughout the Loma Prieta Chapter's "Silicon Valley" territory. Along with the efforts of other groups, its outpouring of letters, frequent contacts with the media, efforts to inform the public, and lobbying of high government officials have led the state to expand Coe Park and raised the community's awareness of the value of saving wilderness.

The leadership of Project Wilderness has grown in strength and depth since the project's inception. Its original four-person steering committee has expanded to fifteen members, who share tasks and exchange roles. Begged or borrowed computers generate membership, mailing and special-talent lists. Terry Alton is taking his turn now at coordinating the steering committee's activities and maintaining day-to-day contact between Project Wilderness and the world at large. For details on how to launch a Project Wilderness in your area, write either Terry Alton or Bob Reid at the Loma Prieta Chapter, 2253 Park Boulevard, Palo Alto, CA 94306.

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The Club estimates that approximately 1000 to 1500 members will attend; activities will include outings, meetings, workshops. Preliminary plans call for a registration fee of approximately \$25 to \$35. Housing accommodations will be at the Snowmass development; they'll cost a maximum of \$45 per night for double occupancy.

A planning committee is being formed now to work on the details and arrangements. *Sierra* and chapter and group newsletters will report on further developments. Anyone with ideas for workshops or other activities is encouraged to write to Director Peg Tileston, Sierra Club, 530 Bush Street, San Francisco, CA 94108.

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DEVELOPMENT OFFICE SEEKS VOLUNTEER FUNDRAISERS

More than 25 million members in 1994! If the Club's current growth rate continued, one ninth of the current population of the United States would be Sierra Club members by then. That peak is highly unlikely. But, by the time you read this, the Club will probably have achieved a record 320,000 members, a gain of 44% over the 223,000 total on July 1 last year.

That tide of new members wasn't washed in by James Watt alone—it started to flow around September 1980, in response to the Club's stepped-up direct-mail program to recruit new members. Mailings now bring in 60% of all new members, according to Peggy Hynd, associate director of development. This source of new members has one significant drawback, however. It's too impersonal. The Club should strive both to give the throngs of new members a warm welcome, and to enlist them in local programs and activities, Hynd says. The thousands of concerned conservationists constitute the most

Continued on page 86

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NUCLEAR WAR: EXTINCTION AND ETHICS

DAVID GANCHER

The Fate of the Earth, by Jonathan Schell, Alfred A. Knopf, New York, 1982. \$11.95, cloth.

FEW PEOPLE would have predicted, six months ago, that the Nuclear Freeze movement, along with its siblings and relations, would become front-page news in such a brief period. Yet, seemingly out of nowhere, with little organization and few material resources, a nationwide antiwar movement has sprung into being. Demonstrations and other public events have been staged in many cities, and the media coverage has been serious and extensive. As a basic text and reference, the antiwar movement has adopted *The Fate of the Earth*; few books in recent years have become so politically important.

It is an unlikely book to play an essentially

**THE FATE
OF THE
EARTH**
JONATHAN
SCHELL

political role. In discussing nuclear weapons and strategy, it strains so hard to avoid being a polemic that it strays very far from current political realities.

Originally a series of articles that appeared in *The New Yorker*, *The Fate of the Earth* is divided into three sections. The first is by far the best; it consists of a methodical, matter-of-fact and meticulous examination of the physical and ecological processes and consequences of a nuclear war. The tone is sober, the prose measured and stark. Entitled "A Republic of Insects and Grasses," the section is shocking without being sensational. The author's method is one of incremental horror; Schell adds detail to detail, extrapolates consequence from consequence until the reader is overwhelmed by the dimensions of possible catastrophe. The entire piece could be aptly summarized by saying, "Nuclear war will cause the extinction of the human race."

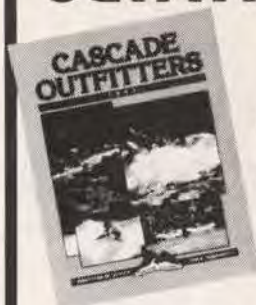
But then what? Schell realized of course that his book could not stop at citing the myriad horrors of nuclear war. The details would lead inevitably to controversial questions of defense, of politics. Schell obviously wanted to avoid total immersion in these issues, but how to do it? A frontal approach to geopolitical questions would probably polarize the issue, driving each "side" further apart. Schell manages to find a common ground on which these questions can be examined: the ground of ethics.

The second section, "The Second Death," is a long, thorough examination of the ethical questions involved in the human extinction that would be the inevitable consequence of a nuclear war. Several critics have pointed out that, given its foregone conclusion—that nuclear war and extinction would benefit no one—the section is too exhaustive. It examines the question of extinction from so many perspectives that it seems repetitious and risks becoming an intellectual exercise undertaken for its own sake. This sentence typifies, perhaps, the general tone of the entire chapter: "Doom can never be a human purpose at all, truly serious or otherwise, but, rather, is the end of all human purposes, none of which can be fulfilled outside of human life." Indisputably true and eloquent—perhaps abstruse.

The concluding section, "The Choice," is a plea to "put aside our fainthearted excuses, and rise up to cleanse the earth of nuclear weapons."

Some readers are enormously moved by the eloquence and depth of the book, by its obvious sincerity and possibly by the sheer excellence of its prose. The most avid of these readers are to be found in the active ranks of the reborn antiwar movement. To them, the work is far more than a flawed if passionate statement of purpose. But critics

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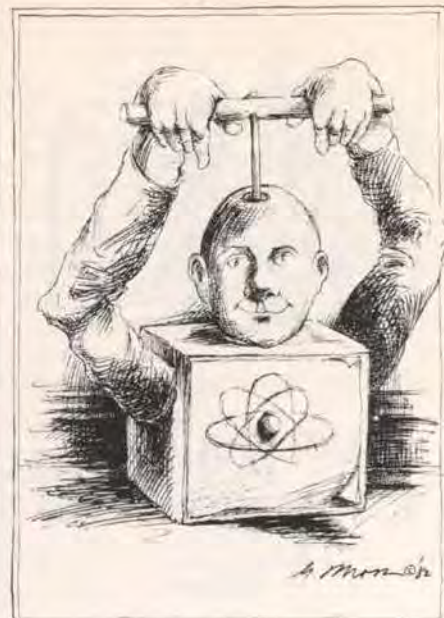
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have decried the political naiveté of the book and its apparent disregard for the harsh military and economic realities that have helped create the present untenable situation. By calling for a reinvention of politics, the critics argue, the book has abdicated its own political responsibilities—to make a difference in this world in our times.

But I wonder if the critics are correct. The book is a work of undeniable power, and the fact that it has created such a controversy is argument enough that it is, in the final analysis, helping.

See book excerpt on page 82.

ENVIRONMENTALISM IN RUSSIA

MARSHALL GOLDMAN

Man and Nature, by Evgeni Federov. International Publishers, 381 Park Avenue South, New York, 1981. Cloth, \$8.00; paper, \$2.75.

ENVIRONMENTAL DISRUPTION has been a matter of considerable concern for most Russians. Even more than we in the United States, the Russians tend to be very close to nature, since so many of them were so recently peasants in the countryside. As late as 1961, more than 50% of the Soviet population lived in villages and rural areas. In addition, Russian mythology has always emphasized a love of Mother Russia. These sentiments tend to be shared by even the non-Russian nationalities in the Soviet Union, from the Ukrainians to the



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Uzbeks. There are few other cultures where the soil and nature are so revered.

At the same time, most Soviet citizens also recognize the need for economic growth and approve the fact that the Soviet Union has been transformed from what was one of the most backward countries in Europe into the second-largest industrial power in the world. Most seem to realize that such a transformation would have been impossible without despoiling some water and air and ravaging some forests and mineral deposits. It is hard to build large modern inland cities without chimneys, sewers or flush toilets and the consequent discharge of wastes into the air and rivers. Economists call these "trade-offs"—more material production in exchange for less pristine nature. The hope is, however, that this will not be done in a needlessly destructive fashion and that the cost in terms of despoiling nature will not be too high.

There is good reason to believe that some people in the Soviet Union have become concerned that the despoliation that has taken place has been excessive. They do not necessarily regret the "progress," only that the cost has been higher and more wanton than it need or should have been. *The Destruction of Nature*, an unofficial monograph by Boris Komarov, is apparently one reflection of this concern. This *samizdat* publication written for private circulation has been translated into English and seems to reflect the concerns many Soviet citizens have for what has happened to their environment.

As if to reply to the Komarov book, Evgeny Fedorov has written what appears to be an official statement on the interrelationships between economic growth and nature. He discusses many of the same issues but concludes that economic growth can be compatible with the environment, particularly if carried out within the framework of a communist state.

Actually, Fedorov first addressed himself to these matters in *The Interaction of Society and Nature*. The first volume, published in 1972, was supplemented in 1977 by a second book called *The Ecological Crisis and Social Progress*. Thus both versions predate the Komarov book and, if anything, reply to the Club of Rome's *Limits to Growth*. Nonetheless, the decision to translate Fedorov's book into English does seem to reflect the need to respond to some of the concerns raised by Komarov.

Fedorov is well suited to the task. Until his death in December 1981, he was one of the Soviet Union's leading meteorologists and a highly regarded scientist internationally. He headed Russia's Hydro-Meteorological Service, the counterpart of the United States Weather Bureau, from 1939 to 1947 and again from 1962 to 1974. Between times

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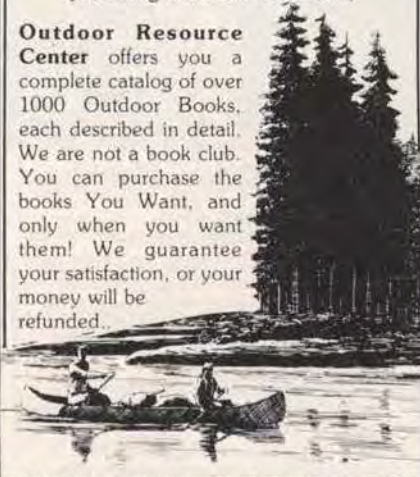
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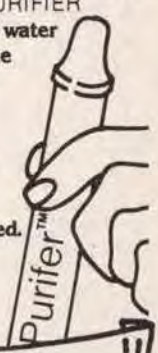
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and thereafter, he conducted research in geophysics and became director of the Institute for Applied Geophysics. Sections of his book embody a solid discussion of the inter-relationship between meteorology and ecology.

In that same analytical framework, he discusses some of the fundamental environmental problems confronting the Soviet Union and the West, including inadvertent as well as intentional weather modification. He presents these matters objectively. Fedorov, for example, admits that the Soviet Union has a pollution problem, and that it did little to remedy the situation until 1972. However, he excuses the failure to act with the explanation Soviet leaders use to rationalize all domestic shortcomings. The lack of action, says Fedorov, is because the Soviet Union suffered so in World War II and during its civil war and the foreign intervention of 1918 to 1919. That certainly explains a good deal but is hardly justification for not acting in the 1960s and to do more since.

Having explained away this embarrassing delay in coming to grips with the Soviet Union's pollution problems, Fedorov then goes on to devote an unduly large portion of the book to political and sociological matters and the argument that capitalism is poorly suited for dealing with environmental disruption. This is not the time nor the place to repeat the debate. It would have been better, however, if Fedorov had simply acknowledged that both capitalist and communist societies do a poor job. But ideologically this would have been a difficult concession, particularly in a book the Soviets decide to translate into English. Moreover, anyone familiar with the way the Soviets handle environmental matters, both inside and outside their country, knows that the Soviet Union still has a long way to go. Thus the reader feels embarrassed for Fedorov as he asserts, for example, that quotas for whales "can become effective only in the condition of true peaceful coexistence." Is that why Soviet whaling fleets have not agreed to lower limits on their whale catch? Nor is Fedorov exactly convincing when he insists that "the land surface of our planet could accumulate no less than [that is, up to] 30 billion people to even 40 billion people"—a tenfold increase. Of course this would require a new economic and social system, freed of Malthusian-type constraints, that bears a remarkable resemblance to the Soviet planned society. Given the fact that the Soviet Union, which prior to the revolution was often the world's largest grain exporter, now finds itself all but permanently dependent on others to provide it with 35% of its grain, it is unclear how Fedorov expects his argument to be taken seriously.

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Similarly it is hard for an environmentalist to understand how Fedorov, in one of the last articles he published before his death, could be so supportive of a plan that would bring about the reversal in flow of the Soviet Union's main Siberian rivers. The exact consequences of such an undertaking are as yet unknown, but from an environmental point of view they promise to be very disruptive. He also seems less protective of Lake Baikal than an environmentalist should be. He quotes Russell Train, the former chair of the Council on Environmental Quality, who visited Lake Baikal and was impressed by the control measures he saw. But Fedorov does not mention that Train was not told that the pollution equipment processing the discharge into the lake from two of the region's cellulose plants was frequently inoperative, nor was Train informed of the plan to locate a zinc refinery on the northern shores of Lake Baikal.

For that matter, the Hydro-Meteorological Service, which Fedorov once headed, itself reflects the dichotomy between economic growth and environmental protection. As unlikely as it seems, the service under Fedorov became the Soviet counterpart to our Council on Environmental Quality or Environmental Protection Agency. That is equivalent to putting the United States Weather Bureau in charge of environmental control. The explanation for this surprising turn of events was that Soviet leadership was reluctant to put any organization that had real power in charge of pollution. An organization with authority to act would have had to be able to challenge Gosplan and the industrial ministries, and this would most likely disrupt production. But production is the highest tenet of Soviet faith. Thus environmental protection was consigned to an organization far from the top of the power structure. Indeed, if it had not been for the signing of the environmental treaty with the United States in 1972, and the consequent need to find a Soviet counterpart for dealing with our environmental agencies, the Soviets would probably never have bothered to assign any organization this coordinating function.

To Fedorov, the ultimate solution to the environmental problem requires some unified world order. His suggested order bears a close resemblance to the way the Soviet Union operates. However, based on the way the Soviet Union has dealt with its environmental problems so far, that does not promise much, if any, improvement.

Marshall Goldman is a professor of economics at Wellesley College and the associate director of the Russian Research Center at Harvard University. He is the author of The Spoils of Progress: Environmental Pollution in the Soviet Union.

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ON THE FATE OF THE EARTH

ON APRIL 22 Senator Alan Cranston (D-CA) offered a joint Senate-House Resolution (S.J. Res. 191) that hopes to begin the process of stopping the nuclear arms race by:

- Freezing the production of nuclear warhead material by the United States and the Soviet Union through "immediate negotiations to prohibit further production of highly enriched uranium and plutonium for military purposes," under the supervision of the International Atomic Energy Agency (IAEA).

- Reducing the nuclear stockpiles of both nations through immediate negotiations to achieve "phased dismantling of substantial numbers of nuclear warheads," with the reclaimed weapons-usable fissionable material to be turned over to the IAEA.

- Prohibiting underground nuclear testing by "prompt completion of a Comprehensive Nuclear Test Ban Treaty" with the Soviets.

Senator Cranston said, "This proposal, which draws on ideas first advanced by President Eisenhower and John F. Kennedy, offers a reasonably simple and direct way of freezing nuclear arms production by cutting off its source."

The senator also published in the Congressional Record an authorized excerpt from Jonathan Schell's *The Fate of the Earth*. The following text is taken from that excerpt:

There are some 50,000 nuclear warheads in the world. They are a pit in which the whole world can fall—a nemesis of all human intentions, actions and hopes. We must bend our efforts toward ridding the world of them. The alternative is to risk surrendering ourselves to absolute and eternal darkness: a darkness in which no nation, no society, no ideology, no civilization, will remain; in which never again will a child be born; in which never again will human beings appear on the earth, and there will be no one to remember that they ever did.

This threat of self-destruction and planetary destruction is not something that we will face one day in the future, if we fail to take certain precautions; it is here now, hanging over the heads of all of us at every moment. The machinery of destruction is complete, poised on a hair trigger, waiting for the "button" to be "pushed" by some misguided or deranged human being or for

SENATOR ALAN CRANSTON

some faulty computer chip to send out the instruction to fire.

The most fateful of the possible consequences of a full-scale nuclear holocaust would be the extinction of mankind, which could come about not because every human being would be killed by bombs directly but because the holocaust would destroy the global ecosphere on which human and other life depends.

Bearing in mind that the possible consequences of the detonations of thousands of megatons of nuclear explosives include the blinding of insects, birds, and beasts all over the world; the extinction of many ocean species, among them some at the base of the food chain; the temporary or permanent alteration of the climate of the globe, with the outside chance of "dramatic" and "major" alterations in the structure of the atmosphere; the pollution of the whole ecosphere with oxides of nitrogen; the incapacitation in ten minutes of unprotected people who go out into the sunlight; the blinding of people who go out into the sunlight; a significant decrease in photosynthesis in plants around the world; the scalding and killing of many

crops; the increase in rates of cancer and mutation around the world, but especially in the targeted zones, and the attendant risk of global epidemics; the possible poisoning of all vertebrates by sharply increased levels of Vitamin D in their skin as a result of increased ultraviolet light; and the outright slaughter on all targeted continents of most human beings and other living things by the initial nuclear radiation, the fireballs, the thermal pulses, the blast waves, the mass fires, and the fallout from the explosions; and, considering that these consequences will all interact with one another in unguessable ways and, furthermore, are in all likelihood an incomplete list, which will be added to as our knowledge of the earth increases, one must conclude that a full-scale nuclear holocaust could lead to the extinction of mankind.

We are uncertain whether or not a holocaust would bring about human extinction, and this uncertainty cannot be remedied.

We cannot run experiments with the earth, because we have only one earth; we are not in possession of any spare earths that we might blow up in some universal laboratory in order to discover their tolerance of nuclear holocausts.

While we cannot know for certain whether or not our species will be extinguished in a holocaust, the mere possibility of it imposes unprecedented obligations on our generation.

The risk of extinction has a significance that is categorically different from, and immeasurably greater than, that of any other risk. Up to now, every risk has been contained within the frame of life; extinction would shatter the frame. It represents not the defeat of some purpose but an abyss in which all human purposes would be drowned for all time.

That so much should be balanced on so fine a point—that the fruit of four and a half billion years can be undone in a careless moment—is a fact against which belief rebels.

We have found it much easier to dig our own grave than to think about the fact that we are doing so. Almost everyone has acknowledged on some level that the peril exists, but the knowledge has been without consequences in our feelings and our actions, and the superpowers have proceeded with their nuclear buildups.

The use of nuclear arms was contem-



Senator Alan Cranston, a Democrat from California, is the Senate Minority Whip. He is a member of the Senate Committee on Foreign Relations.

plated in past crises and will continue to be contemplated in future ones. The sequence of events once hostilities begin lies open. The state of mind of the decision-makers might be one of calm rationality, of hatred, of shock, of hysteria, or even of outright insanity.

Predictions about the size and form of a nuclear holocaust are really predictions about human decisions, and these are notoriously incalculable in advance—especially when the decisions in question are going to be made in the midst of unimaginable mayhem.

No generation before ours has ever held the life and death of the species in its hands. But if we hardly know how to comprehend the possible deaths in a holocaust of the billions of people who are already in life, how are we to comprehend the life or death of the infinite number of possible people who do not yet exist? How are we, who are a part of human life, to step back from life and see it whole, in order to assess the meaning of its disappearance? To kill a human being is murder, and there are those who believe that to abort a fetus is also murder, but what crime is it to cancel the numberless multitude of unconceived people? In what court is such a crime to be judged? Against whom is it committed?

With the fate of the earth at stake, we are summoned as citizens and as officeholders to fresh thinking and fresh exertions.

We and our adversaries have so far had no better idea than to heap up more and more warheads, apparently in the hope of so thoroughly paralyzing ourselves with terror that we will hold back from taking the final, absurd step. Considering the wealth of our achievements as a species, this response is unworthy of us.

While the events that might trigger a holocaust would probably be political, the consequences would be deeper than any politics or political aims, bringing ruin to the hopes and plans of capitalists and socialists, rightists and leftists, conservatives and liberals alike.

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OBSERVER

Continued from page 76

valuable asset the Club has, one not to be ignored or dissipated.

Audrey Berkovitz, now completing her first year in the new position of director of development, thoroughly agrees. The Office of Development is responsible for all deductible and nondeductible income from gifts and grants, and for all membership programs. (For details, see the November/December 1981 *Sierra*.) Every prospect, every new or old member, is important to the Club, Berkovitz says, both as a potential activist with skills, talents and time to devote to the Club, and also as a potential donor of funds. Activists and donors alike are needed urgently now.

To stop the undoing of the environment will take a great deal of money and work. Recent polls and the unprecedented influx of new members are clear signs that we have the support of "mainstream America," not just that of a "few extremists." But, Berkovitz was asked, if we're getting thousands upon thousands of new members, each of whom pays \$25 in dues, why the urgent need for money? Part of her response was that with dues still at the 1979 level, they buy less than they did then. The cost of living has risen 35%. But also, she added, the Club's major expenses are for important communications with members, legislators and the press—they require printing, postage, telephone and travel—and those costs have escalated tremendously. (One personal example: in two months' time last winter the mailing cost for my chapter's newsletter soared from \$91.91 to \$166.52, or 83%!) Even though we cannot begin to match the massive cash outlays of corporate opponents, she said, we will have to plan our spending as best we can to "sell our product"—a sound, healthy environment.

The Sierra Club holds one key advantage, however—its people power. It can activate its army of volunteers. Not only can they do the usual lobbying, testifying, letter writing and telephoning, but they will be taking on important new tasks in 1982. The first is electioneering and getting out the "green vote."

The second is fundraising. Until about two years ago, raising money for the Sierra Club and the Sierra Club Foundation was largely the responsibility of two or three staff professionals in San Francisco. That arrangement once served the Club well; as the Club's environmental concerns and membership multiplied, however, the need for change became apparent. Now the Club patterns its fundraising methods after those of more traditional nonprofit organizations, which rely largely on the efforts of their volunteers.

To oversee this intensified push for funds, the Club has formed a seven-member national Development Committee, chaired by life member and Foundation Trustee Charles Brush of New York. The committee plans to build a nationwide cadre of several hundred volunteer fundraisers, who will solicit substantial donations in their respective regions. Volunteers will serve on the local subcommittee responsible for associate-level gifts (\$500 and more), foundation or other types of grants, major gifts, general giving and several types of planned giving. Anyone wanting to take on this challenging, crucial work for the Club is urged to contact the Office of Development at Club headquarters.



Denny Shaffer, the new Club president, served most recently as Club treasurer and before that as chair of the membership committee.

NOMINATING COMMITTEE FOR THE BOARD OF DIRECTORS

The committee that will nominate candidates for election to the Board of Directors for the 1983-1986 term invites Club members to recommend prospective candidates. Members of the Nominating Committee are Jerry Lieberman, chair, from Charlotte, North Carolina; Joe Jacob, Chapel Hill, North Carolina; Dave Raney, Honolulu, Hawaii; Jim Dodson, Lancaster, California; Sue Merrow, Colchester, Connecticut; Carolyn Carr, Auburn, Alabama; and Dr. Robert Howard, Albuquerque, New Mexico.

The Board of Directors is the top policy-making and managing unit of the Club, which now has more than 300,000 members, a staff of more than 180 and an annual budget of \$13 million. Candidates must be Club members, have demonstrated exceptional commitment to the Club's objectives and have experience managing a volunteer organization.

"Nomination to the Board of Directors should not be construed as a reward for services rendered to the Club," says Lieberman, "but as a challenge to even greater commitment and, incidentally, a lot more work."

Members should send their suggestions to Jerry Lieberman, Nominating Committee Chair, 7111 Carosan Lane, Charlotte, North Carolina 28211, before September 1.

BOARD ELECTIONS

At its May meeting, the Board of Directors elected officers for 1982. Denny Shaffer was elected President; Shaffer, formerly the Club's Treasurer, is a businessowner from Fayetteville, North Carolina. The new Vice-President is Michele Perrault, from Lafayette, California; she has been active in conservation work in the Northeast and in Northern California, focusing on coastal protection and land use. Sandy Tepfer, Professor of Biology at the University of Oregon in Eugene, is the Club's new Secretary. Peg Tileston from Anchorage, Alaska, was elected Treasurer; and Marty Fluharty, a farmer and oil and gas pipeline contractor, will serve as Fifth Officer and member of the Executive Committee.

JAMES PRICE, SOUTHEAST REP

The Sierra Club has hired James Price as its staff field representative for the southeastern United States. Operating out of Knoxville, Tennessee, Price will work with volunteer leaders to coordinate local, regional and national conservation efforts for eight states: Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee.

Price is the staff in the Club's tenth field office. He has been a local and regional planner, and most recently he managed the Community Mobilization Program for the Tennessee Valley Authority. A southerner, he has served on the boards of directors of the Alabama Conservancy and the Greater Nashville Area chapter of the National Audubon Society.

Price's appointment and the establishment of the field office mark a significant expansion of the Club's activities in the Southeast. The region faces many environmental challenges, including coastal protection, national forest management, surface mining, nuclear-waste disposal proposals, the Tennessee-Tombigbee Waterway and the Clinch River Breeder Reactor.

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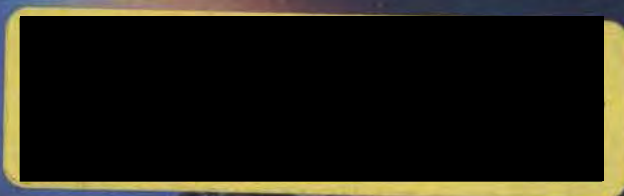
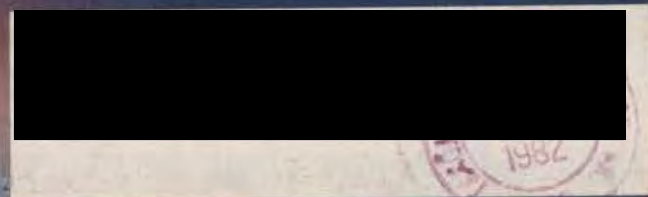
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