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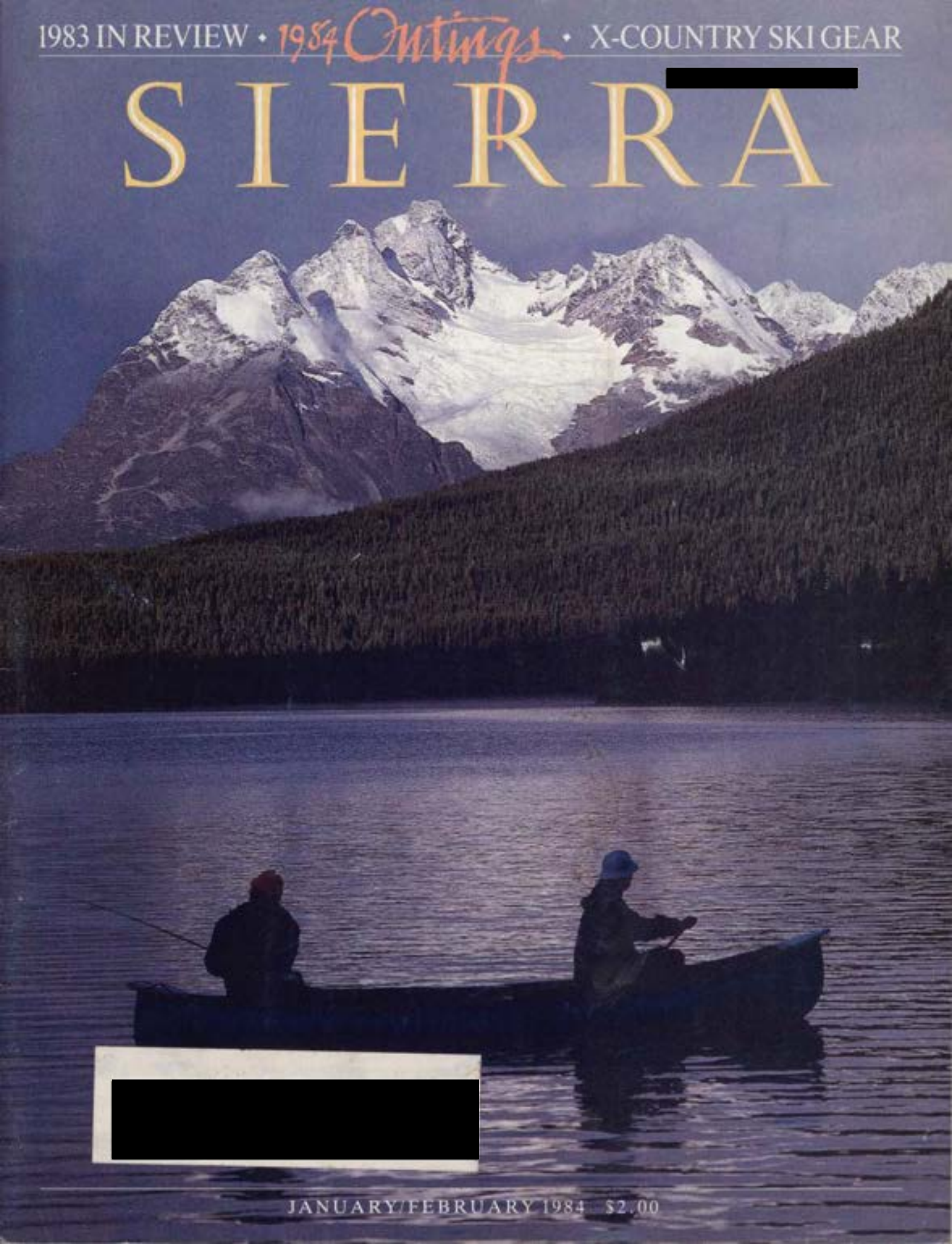

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FEATURES

DEPARTMENTS

COVER: Anglers on Widgeon Lake, in Canada's Tweedsmuir Provincial Park. Photo by Keith Gunnar.

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Cross-Country Ski Gear, page 114.

Victory at Brumley Gap, page 120.

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

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No Savings With Solar?

I appreciated your recent article on photovoltaic residences. ("The New Alchemy of Photovoltaics," November/December, 1983). As someone working in the field, however, I must take issue with one statement you made about the economics of photovoltaic systems. The 40-year payback period you mentioned is not necessarily correct; it is certainly misleading.

Your calculation was based on several unstated assumptions: (1) there will be no increase in electric-utility bills over the next 40 years; (2) no tax credits are available from the state or federal government; (3) no loans are used to pay for the system; (4) the system adds no value to the home. All of these assumptions are debatable. Future increases in utility bills will increase the value of a system. In many states, a large percentage of the system cost will return to the consumer as tax credits or tax deductions in addition to the incentives offered by the federal government. The other assumptions affect your conclusion as well.

Renewable-energy systems in general, and photovoltaic systems in particular, should be evaluated from a life-cycle-cost perspective. This would include all related costs and benefits over the life of the system. The result can then be compared with other alternatives on a common basis. Statements about payback periods are simplistic and misleading, and have a nasty habit of staying in people's minds. It's a careless way to keep people from understanding that photovoltaics are here and are economical today for many applications. It's also not in keeping with the rest of this fine article and your excellent magazine.

Lenny Reiter
Sierra Madre, Calif.

The Race Against Extinction

"Sea Turtles" by Nicholas G. Pappas (September/October, 1983) was an excellent article. It quite clearly set forth the precarious status of turtle populations around the world.

Because of their natural history, sea turtles afford people many opportunities to aid in their conservation. For instance, the world's largest nesting population of loggerhead sea turtles nests each year on beaches from North Carolina to Florida. This area is also visited by millions of tourists each year, many of whom are unaware of how their activities affect the turtles. We have distributed a brochure in the southeastern U.S. to let tourists know how they can enjoy the beach without disturbing nesting sea turtles, and how they can positively contribute to sea-turtle conservation.

International trade remains the gravest threat to sea turtles. There may be little that individual citizens can do about the sale of sea-turtle products in major markets such as Japan and Western Europe. However, individuals *can* make a significant contribution by not purchasing such products in the United States or in their travels abroad, particularly in the Caribbean region. Such illegal tourist trade is a major drain on local sea-turtle populations.

Michael Weber, Director
Sea Turtle Rescue Fund
Center for Environmental Education
Washington, D.C.

On Undervaluing Coal

I would like to compliment Brooks Yeager on his article in the September/October, 1983, *Sierra* ("Coal Leasing: More Reagan Giveaways"). It is articles like this that will enlighten people about what is still going on in this area.

It is amazing to me how the same government that makes budget cuts in all areas can afford to receive $100 million less than the fair market value for our coal. If the government is going to have giveaways, I think it could choose better recipients.

John Britt
San Diego, Calif.

A Hole Other Matter

I enjoyed "All About Bark" (November/December, 1983)—but one of the captions accompanying the photos of different bark types was partially incorrect. "The holes in this crabapple tree," you said, "were made by birds going after insects that live in its bark." The holes were made by a sapsucker so it could consume the sap that wells up in the wounds. These birds also feed on small insects attracted to the sugar water, but this is only secondary.

Neil Garrison
Oklahoma City, Okla.

Righting a Sighting

A "Sightings" photo in your September/October, 1983, issue supposedly showed members of the Sierra Club's Atlantic Chapter and New York City Group gathering signatures at New York's Bear Mountain State Park in opposition to a proposal by the Palisades Interstate Park Commission that would have permitted deer hunting in Harriman State Park. The signature-gathering was in fact sponsored by the Club's National Wildlife Committee, not by the two groups you cited.

Tom Hoffman
New York, N.Y.

Forswearing Fossil Fuels

While *Sierra* prints articles such as "Coastweek '83: Celebrating Our Shores" and "Strengthening Wetlands Protection" (September/October, 1983), the EPA releases reports stating that within a few years the "greenhouse effect" will warm the Earth sufficiently to melt polar ice and inundate most of the world's beaches, wetlands, coral reefs, and low-lying lands. Additionally, vast areas of habitable and productive land will become desert.

It is ironic that in the next 20 years, while this awesome tragedy begins, we will be scouring the Earth for its remaining deposits of coal, oil, and gas, the burning of which releases the gases that cause the greenhouse effect.

While some may feel that this looming catastrophe calls for a letter-writing campaign to our politicians, I feel that it calls instead for us to quit, once and for all, driving our cars, heating our big houses, and turning on our innumerable electrical devices. It calls for abandoning a lifestyle that, in its glut and waste, is condemning much of this beautiful Earth to destruction, and condemning millions of people to starvation on a blistering land.

David Barclay
Nevada City, Calif.

Travels With Farley

I was pleased to note that premiere performances of the Walt Disney movie *Never Cry Wolf* in New York and San Francisco were held as benefits for the Sierra Club ("Sierra Notes," September/October, 1983). Although the film has been getting excellent press, none of the reviews I have read mention the impact of the original Farley Mowat book outside the United States. For example, because of the book's influence in the

Soviet Union, the wolf is now on the endangered-species list there, and the wolf population is increasing.

When Farley Mowat traveled to Russia following the success of his book there, he was recognized and honored by the people and by government officials wherever he went. Now, whenever the Russians do anything bad, the media tells us about it. If we don't hear about the good things, too, how can we get on to a universal peace in this world? Surely this is the heartfelt wish of people everywhere.

Catherine H. McLaughlin
Springfield, Va.

HENRY JACKSON, 1912–1983

Over four decades in Congress—including 31 years in the Senate—Henry "Scoop" Jackson provided thoughtful leadership in the field of natural-resource management. He was a man of high principles and high energy, and a true believer in America. He knew well the pressures of decision-making in the glare of the spotlight and the frustration of long hours spent on projects about which few seemed to care.

Throughout his long career, Scoop was a champion of the outdoors and of recreation. Early in his career he served as one of eight congressional members of the Outdoor Recreation Resources Review Commission (1958–1962), an effort that contributed greatly to the expansion of recreational opportunities in the 1960s and 1970s and to the environmental consciousness of our nation. Scoop took an active role on the commission, and was more centrally involved than any other person in converting the group's recommendations into law and action.

Americans who share Henry Jackson's deep love of the outdoors will continue to benefit from his lifetime of service to the nation. Scoop will be a man sorely missed and surely not forgotten.

Sheldon Coleman, Chairman
The Coleman Company, Inc.
Wichita, Kan.

A NOTE OF THANKS

We sincerely appreciate the November/December, 1983, "Observer" ("Chapter Lobbying Goes Professional"). Your inclusion of the photo taken at the bill-signing ceremony in Gov. Celeste's office (for legislation enabling state-tax refunds to be directed to conservation programs) was a wonderful supplement to Bob Irwin's description of our chapter's efforts to build its lobbying program. We are very proud to be part of the Ohio Chapter's lobbying team.

Janet Gentzler and Ron Good
Columbus, Ohio

"Sodbuster" Bill Passes the Senate

The Senate has passed legislation that would end existing government subsidies and incentives for crops that farmers grow on newly plowed, highly erodible grasslands. The Sierra Club supports this "Sodbuster Bill," S. 663, as part of the Club's new "agricultural land and water conservation" campaign.

Bob Warrick, Northern Plains regional vice-president and chair of the steering committee for this campaign, said, "This is a first significant step toward a sound soil-conservation program. It will bring some consistency to our farm program, and the government will not be rewarding operators who plow erodible land with federal farm-program subsidies."

The Second Session—Pollution on The Front Burner

At the end of the First Session of the 98th Congress, little progress had been made on the required reauthorization of the Clean Air Act, and neither the House nor the Senate committee with authority over the legislation had settled down to work on it. On the other hand, the Senate Committee on Environment and Public Works has completed action on the Clean Water Act, and the House Committee on Public Works and Transportation had begun its hearings on this act.

In order to build momentum for passage of legislation to reauthorize these key environmental laws—and at the same time to address pollution problems not adequately dealt with by those laws—the environmental community is urging members of the House to cosponsor two important bills. They are:

- H.R. 3400, by Rep. Henry Waxman (D-Calif.), to control acid rain. This bill mandates a 10-million-ton gross reduction in sulfur-dioxide emissions. This falls short of the 12-million-ton minimum reduction that scientists recommend, but it's a good start;
- H.R. 3282, by Rep. James Howard (D-N.J.), is a comprehensive update of the Clean Water Act. It will be the focal point for House discussion.

You can help put some pressure behind the drive to clean up air and water pollution by asking your representative to cosponsor these two bills. The address: House Office Building, Washington, DC 20515.

Congress Boosts Funding for UNEP

During the last-minute negotiations over the FY 1984 Continuing Resolution, intended to fund government operations while final appropriations bills are being hammered out, the U.S. funding contribution to the United Nations Environment Programme (UNEP) was increased to $10 million by the House. This action was taken in spite of the fact that the administration had requested only $3 million for the program. The Senate had gone along with the administration.

The funding increase came in an amendment offered by Reps. Jack Kemp (R-N.Y.) and Gillis Long (D-La.). The U.S. has traditionally played a leading role in UNEP, which at present employs 168 professionals worldwide and has an annual operating budget of $30 million.

Paraquat Spraying on Public Lands

Environmentalists scored a victory when a U.S. district-court judge in Washington, D.C., halted the Drug Enforcement Administration's spraying of public lands with the toxic herbicide paraquat to eradicate marijuana. The Sierra Club, the National Coalition Against the Misuse of Pesticides, and Friends of the Earth were represented in the case by Rick Middleton of the Sierra Club Legal Defense Fund.

The public-interest groups argued that inadequate environmental analysis had been done and insufficient public notice given regarding the $2.5-million program. Physicians who testified warned that para-

Nelson Bighorn Target of California Senate Bill

The Nelson desert bighorn is declining throughout its range in Southern California as a result of disease, poaching, competition with livestock, and the encroachment of civilization. Sport hunting will be added to that list if California Assembly Bill 1548 is passed. Although the bill calls for a number of needed studies on the status of the Nelson bighorn, it would also permit trophy hunting as a form of herd management. The Sierra Club opposes AB 1548 on the grounds that hunting is no way to manage a sensitive species in decline.

quat can have harmful effects on smokers' lungs, and predicted that the chemical would drift in the wind if applied from helicopters, affecting forest plants and animals as well as any marijuana sprayed. The environmental groups maintained that removal of the plants by hand is both less expensive and safer than spraying them with paraquat.

Clinch River Reactor—the Last Nail in the Coffin?

In a major defeat for the nuclear industry, the Senate has killed the proposed "alternative financing" plan for the Clinch River Breeder Reactor. The 56-40 vote, which came on a motion to table a committee amendment containing the financing language, capped a long struggle by environmental groups and such groups as the National Taxpayers Union to kill the controversial and expensive project.

Conceding defeat the day after the vote, Energy Secretary Donald Hodel indicated that his department would begin an orderly termination of the project.

"The Senate's rejection of the administration's so-called 'cost-sharing plan' was clear and emphatic," said Brooks Yeager, the Sierra Club's Washington representative on energy issues. The fight against the project was led by Senators Dale Bumpers (D-Ark.) and Gordon Humphrey (R-N.H.). Since it was first proposed in the early 1970s, the CRBR's projected cost had increased tenfold—from $400 million to almost $4 billion.

EPA Lifts Ban on Compound 1080

The Environmental Protection Agency has lifted its 11-year-old ban on the use of the deadly poison Compound 1080 to kill coyotes. The decision had been pending when Anne Burford resigned as EPA administrator. Conservationists had hoped that Burford's successor, William Ruckelshaus, would continue the ban, but the agency caved in to pressures from western stockmen.

Within hours of the EPA announcement, a lawsuit appealing the decision was filed in federal court in Washington, D.C., by the Defenders of Wildlife, the Sierra Club, and 20 other environmental groups. The Pacific Legal Foundation also appealed, arguing for even weaker standards for ranchers. The

court challenges may delay any use of Compound 1080 in the immediate future.

Compound 1080 is a nonselective, odorless poison (sodium fluoroacetate) with no known antidote. Many nontarget animals harmless to domestic stock, including endangered species, have been killed by the use and abuse of Compound 1080. Citizen concern and scientific advice led the Nixon administration in 1972 to ban all uses of the chemical.

The new EPA policy allows the use of both single-lethal-dose baits laced with 1080 and toxic collars containing the compound that are placed around the necks of sheep. Conservationists maintain that neither use is effective, that the baits kill nontarget animals, and that the collars are removed by some ranchers who extract the chemical for widespread poisoning. Critics argue that the decision ignores other, nonlethal forms of livestock protection, including guard dogs, predator-resistant fencing, and improved husbandry practices.

Park Protection Act Passes . . . Again

Although the Reagan administration claims that such legislation is unnecessary, duplicative, and inflexible, the House once again passed, by an overwhelming margin, Rep. John Seiberling's (D-Ohio) Park Protection Act (H.R. 2379). The lopsided vote was 321 to 82.

The legislation, which has the support of the Sierra Club, would require the National Park Service to report every two years on the status of the parks, and to issue an annual list of the greatest threats facing the parks.

A key element of the bill is a section that would require any federal agency granting permits for activities within or adjacent to a national park to consult with the Park Service about possible degradation of the park. The bill would also require that protection be the main objective in determining Interior-department policies within the parks.

Those concerned about the fate of America's national parks and the threats to them from development outside their borders should write to their senators, asking each of them to support this House bill.

Hazardous-Waste Law Passed by House

The House of Representatives has passed a bill that strengthens the Resources Conservation and Recovery Act. The bill would close the loophole that now exempts from regulation companies producing less than one ton of hazardous waste per month. It would give citizens access to the courts in order to protect themselves from hazardous-waste sites that threaten their health, and it would require the Environmental Protection Agency to identify wastes that are too hazardous for land disposal, thus beginning their transfer to safer treatment technologies.

Action now shifts to the Senate, which adjourned until late January without acting on similar legislation (S. 757) that has been reported by the Environment and Public Works Committee.

Desert Cycle Race Is Run Despite Appeals

On November 26, the infamous Barstow-to-Las Vegas motorcycle race across fragile California desert was held for the first time in nine years. Despite an emergency appeal by the Sierra Club, represented by the Sierra Club Legal Defense Fund (SCLDF), that the event be enjoined, some 1,000 motorcyclists participated in the 155-mile race.

The course cut through one BLM wilderness study area (WSA) for about seven miles and ran along the boundaries of three others. The area is habitat for such protected species as desert tortoise and desert bighorn sheep. Additionally, it is rich in cultural and archaeological values.

Jim Dodson, chair of the Club's Southern California Desert Committee, monitored the race with a dozen volunteers. Dodson pointed out the significant scarring of the landscape, saying, "Riders cut a wide scar across the wilderness study area. You can't mitigate the impact of 1,000 motorcycles."

Despite abundant evidence dealing with the environmental damage caused by the race, the motion in federal district court to enjoin the race was denied on November 18. The Sierra Club Legal Defense Fund then appealed to the Ninth Circuit Court of Appeals, but an injunction was denied on November 23.

Many of the BLM's own resource specialists opposed the race. The California State Resources Agency said the race "would seriously damage the wilderness and scenic resources of these WSAs," and further anticipated "spillover effects [off-course] resulting in wind and water erosion, wildlife and wildlife-habitat degradation, and damage to the wilderness and scenic values of adjacent areas."

In spite of the denial of the injunction, the district court will still rule on the permanent establishment of the race course. A date has not yet been set for trial of the case. □

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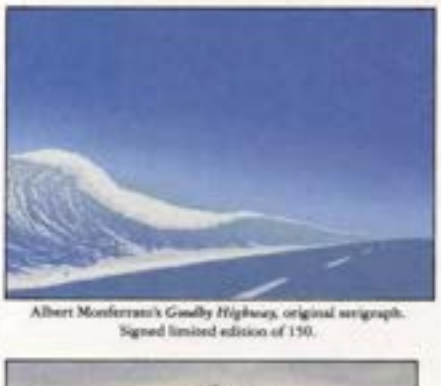

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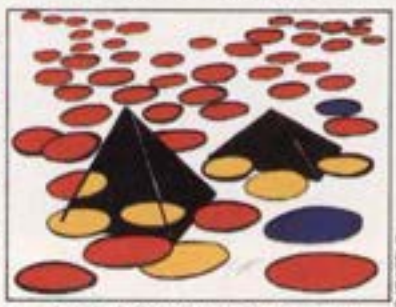

Alexander Calder's *Horizontal Pyramid*, original lithograph. Signed limited edition of 100.

Rob Wood, Stansbury Hunsaker Wood, Inc.

Neither the wildlife nor the vegetation in this tranquil section of the north woods would be immune to the widespread destruction that would follow a major nuclear exchange.

Freshwater systems would freeze in the "nuclear winter" that such a war would cause, with much attendant damage to the food chain. The bear and conifers in this picture have been killed by radioactive fallout.

Dead, dry vegetation would become fuel for thousands of massive firestorms that would sweep across the world's forested regions.

POLITICS

FIRE AND ICE
The World After Nuclear War

ELLEN WINCHESTER

THE WORLD'S NUCLEAR ARSENAL stands at more than 12,000 megatons, enough explosive force to destroy a million Hiroshimas. Yet recent scientific studies have shown that the explosion of as few as a hundred megatons by nuclear missiles targeted at cities could so shock the structure of the atmosphere that the whole Earth could be plunged into darkness and killing cold for as long as a year. The World Health Organization has estimated that as many as a billion people might be killed outright in a large-scale (5,000-megaton) nuclear war. Another billion would later die from the effects of blast, heat, and radiation. In the long term, climatic conditions following such a war could be so hostile to surviving life that the possibility of human extinction cannot be excluded.

On two beautiful days at the beginning of November, more than 500 people attended a conference on "The World After Nuclear War" at the Washington (D.C.) Sheraton Hotel. They came to hear respected authorities present the latest scientific findings concerning the long-term effects of nuclear war, and to question those findings further. The conference, sponsored by 31 environmental and public-interest groups (including the Sierra Club), was funded by a long list of foundations and individuals, and coordinated by the Global Tomorrow Coalition and the Open Space Institute.

Pivotal to the proceedings was the 1982 publication of an article by atmospheric chemists Paul J. Crutzen and John W. Birks in *Ambio*, the journal of the Royal Swedish Academy of Sciences. The authors drew attention to previously unanticipated global atmospheric effects that would render the use of nuclear weapons suicidal, even if limited to a first strike without retaliation. Birks, a member of the Sierra Club's Committee on the Environmental Impacts of Warfare, later wrote on this subject for *Sierra*. (See "Darkness at Noon: The Environmental Effects of Nuclear War," May/June, 1983.)

Crutzen and Birks reasoned that soot—from burning cities, refineries, oil wells, coal mines, forests, and other organic materials—would block sunlight long enough to stop photosynthesis for many weeks and chill the earth below the freezing point. These conclusions, as well as more-detailed findings by some one hundred other concerned scientists, were presented at the conference by Cornell University astronomer Carl Sagan (who addressed the atmospheric and climatic consequences of nuclear war) and Paul R. Ehrlich of Stanford University (who outlined the biological conse-

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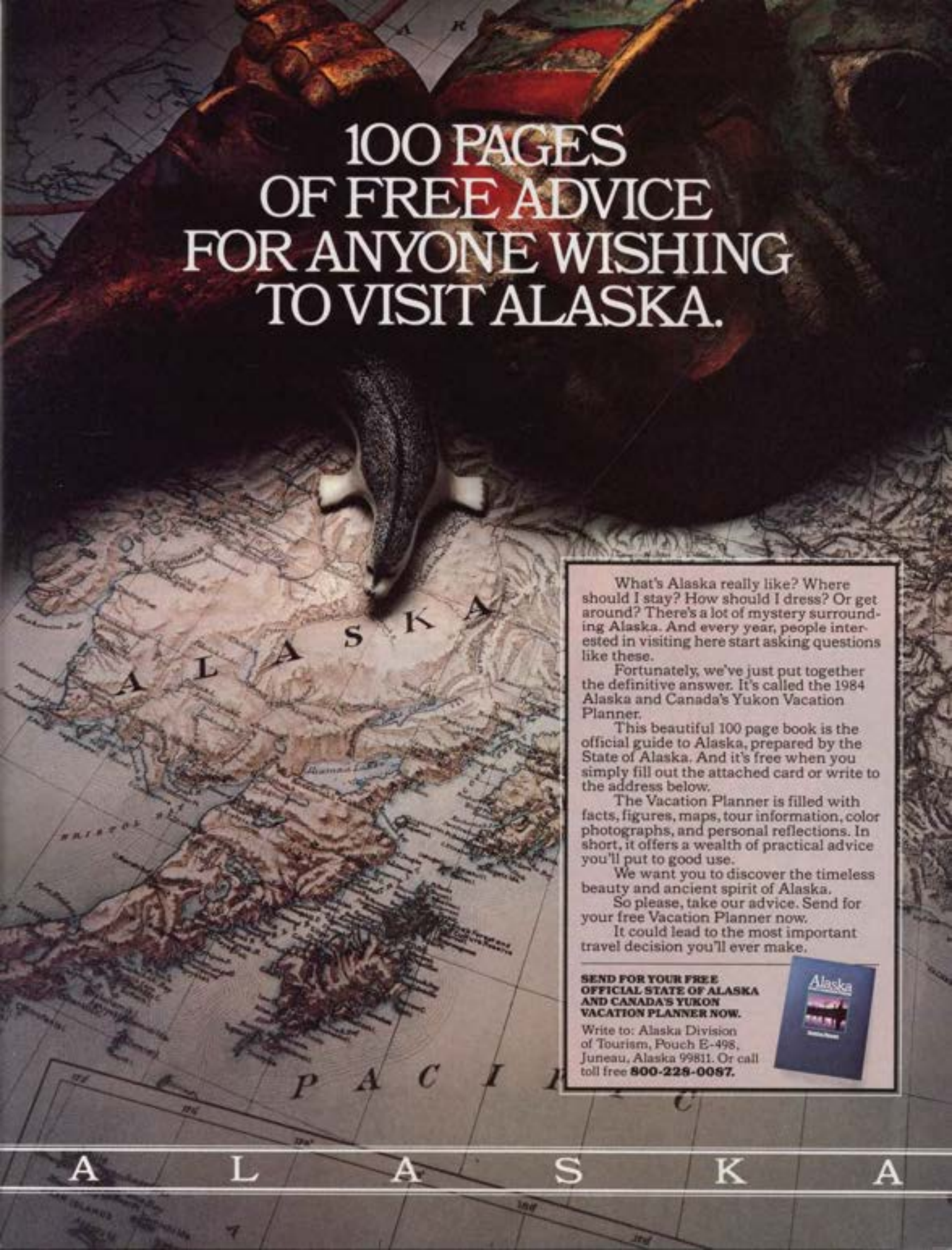
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A L A S K A

quences). Further panel discussions among experts in both fields confirmed and expanded on the findings. A dialogue between the conference leaders and a panel of Soviet scientists (televised live via satellite) revealed that the Soviets have conducted parallel investigations and have reached substantially the same conclusions.

The audience, which listened decorously to scenarios of doom, had the professional appearance of participants at conventional scientific meetings. The speakers, anxious to avoid overstating their cases, repeatedly asserted their intention to stick to scientific facts and avoid policy recommendations, leaving these "for another day." Prominent leaders of peace organizations were conspicuous by their absence. Indeed, the keynote speaker, biologist Donald Kennedy, president of Stanford University, identified himself as "neither a likely technical resource for an arms-control conference nor a promising candidate for cheerleader at a peace rally."

Televised live by satellite, the "Moscow Link" was an unprecedented exchange between Soviet and Western scientists concerned with the environmental impacts of nuclear war. Seen on-screen in this photo is Evgeny Velikhov, vice-president of the U.S.S.R. Academy of Sciences.

Yet, referring to the mass extinction of diverse species that occurred at the end of the Cretaceous period, Kennedy stated that "a major nuclear exchange will have, among its plausible effects, the greatest biological and physical disruptions of this planet in its last 65 million years—a period more than 30,000 times longer than the time that has elapsed since the birth of Christ, and more than 100 times the life span of our species so far. That assessment of prospective risk needs to form a background for everyone who bears responsibility for national-security decisions, here and elsewhere."

The reports by Sagan and Ehrlich of their own and their colleagues' research summarized disaster scenarios that were described as "by no means the most severe that could be imagined with present world nuclear arsenals and those contemplated for the near future." Yet the conclusions presented were basically the same: After a nuclear war, fine particles of black soot released into the midtroposphere would block the sun's rays,

causing, in effect, a "harsh nuclear winter" to prevail over both hemispheres.

Following such a nuclear event, soot, dust, poisonous chemical smog, and (as the Soviets later pointed out) gaseous nitrogen oxides would be held in the high atmosphere for months. This noxious cloud would first blacken the sky of the Northern Hemisphere; then, new data suggest, it would spread over much of the Southern Hemisphere as well.

Life-giving sunlight could not penetrate this barrier; accordingly, land temperatures in the Northern Hemisphere would drop to a low of minus-13 degrees Fahrenheit and stay below freezing for months. Such a phenomenon, if it occurred during the spring or summer growing season, would kill or damage virtually all crops in the Northern Hemisphere. (Although the temperature would drop less in the Southern Hemisphere, the effect on tropical vegetation would still be devastating. Tropical gene pools, upon which world agriculture depends for renewal, would largely disappear.) Tremendous storms caused by the clash between subzero air temperatures and the stored heat of the world's oceans would wrack coastal areas, once thought a possible source of refuge and food. Human survivors of the holocaust would thus quite likely starve—because crops and farm animals could not be grown to replace destroyed food supplies—unless they first died of thirst as surface waters froze solid.

As the vast cloud of particulate matter slowly began to fall from the sky, it would shower the Earth with lethal levels of radiation. Acid rain and toxic chemical smogs would further weaken life. The thinning clouds would admit welcome sunshine to a light-starved Earth, but because nuclear blasts inject nitrogen oxides high into the stratosphere, a diminished ozone layer would permit high levels of cancer- and mutation-enhancing ultraviolet light to reach the Earth as well. Unpredictable effects would occur, caused by the interaction of complex hostile elements. In sum, ecosystems in vast areas of the Earth would suffer irreversible changes.

Paul Ehrlich pointed out that modern agriculture is dependent on petroleum-based fuels and fertilizers and on systems of seed distribution that would no longer be available. Inhabitants of countries accustomed to importing food would be forced (as would their former suppliers) into primitive foraging under increasingly adverse conditions, while insects, rats, and other scavengers of carrion would flourish. According to Ehrlich, "Human survivors of a thermonuclear holocaust will face an environment both completely different from today's and incredibly more hostile." As Carl Sagan noted in his answer to a question from Ralph Nader, even a unilateral first strike that knocked out the missile silos of an adversary could be suicidal for the aggressor.

Dr. Paul R. Ehrlich (left) and Dr. Carl Sagan hold forth at a conference press briefing.

Impressive corroboration of these findings came on the last day of the conference during the "Moscow Link," an unprecedented televised interchange among Soviet and American scientists. Led in Moscow by

Evgeny Velikhov, vice-president of the U.S.S.R. Academy of Sciences, the Soviets described the results of their own research concerning the environmental dangers of nuclear war. Their earnestly expressed informed fear of an unprecedented ecological catastrophe matched that of their American counterparts.

In spite of the subject of the conference, its tone was cautiously hopeful. Even as the House of Representatives was passing the appropriation to fund the MX missile system, conference participants expressed belief that, at last, irrefutable arguments had been disseminated that could lead both sides to disarm their nuclear arsenals. Eddying through the conference was the assumption that if political leaders refuse to hear or to credit the evidence, humanity's common urge for self-preservation will result in a worldwide movement to avert disaster.

Shortly after the conference concluded, members of the conference steering committee met with representatives of peace and environmental groups to invite suggestions for follow-up action. The conference proceedings will be published as a book, as was the issue of *Ambio* containing the Crutzen & Birks article (*Aftermath*, Pantheon Books). Reports of much of the research will appear in *Science* and will attract further attention. Two other studies—one by the Lawrence Livermore Laboratory, the other by the National Academy of Sciences—have independently arrived at similar conclusions and will soon be published.

The conference received some scattered media attention, including television-network coverage and articles in *Time* and *Newsweek*. (As *The New Yorker* put it, ". . . the failure to cover the end of the world was the media's own. . . . Few columnists or editorialists were stirred to thought by the discovery that mankind threatened to freeze itself to death.") Since then, however, the ABC-Television movie *The Day After* has dramatically educated the American public concerning the immediate consequences of a nuclear exchange; *Testament*, a recently released theatrical motion picture, is also gaining attention. Now it is up to an informed and concerned public to influence our government's policy in favor of reason, light, and life.

Ellen Winchester chairs the Sierra Club's National Energy Committee and is a member of the International Committee.

A DUBIOUS TRADEOFF: Mining Bridgman Dunes

MATTHEW M. DOUGLAS

THE IMMENSE DUNE SYSTEM that flanks the eastern shore of Lake Michigan contains the only tall freshwater dunes in the world. In places they sprawl, sphinxlike, for miles inland. The grandest of the dunes within this ecologically unique transition region attain heights of nearly 500 feet and command spectacular views of Lake Michigan—itself something of a world marvel.

Because their fine-grained sands have been smoothed and sorted for thousands of years, Lake Michigan's dunes and beaches are not only beautiful, but sensuous underfoot. Unfortunately, such uniformly fine sand is also found highly desirable by industries involved in the manufacture of casting molds. During the past 50 years many of Michigan's magnificent sand dunes have been reduced to molehills by unregulated sand-mining operations. The dunes—typically covered by mature deciduous forests—are first bulldozed and stripped of all vegetation before their sand is hauled away by rail or truck. The largest dunes are among the first to go, because they contain the most sand per acre and are thus more economical to mine.

While conservationists have succeeded in securing protection for some of the dunes of the Great Lakes area—including those in the Pictured Rocks, Sleeping Bear Dunes, and Indiana Dunes national lakeshores—a large number of dunes from Gary, Ind., to Ludington, Mich., have already been mined out. Currently a last-stand battle is raging between Unimin Corporation of New Canaan, Conn., and environmental groups devoted to preserving one of Unimin's holdings—the ecologically singular Bridgman Dunes of the Grand Marais Embayment, located in Berrien County, Mich. The embayment contains hundreds of acres of unsurpassed dunes, wet and dry prairies, inland lakes, bogs, streams, and Lake Michigan beaches.

C. J. Elliott

Many of Lake Michigan's sand dunes have been mined out. A similar fate awaits the Bridgman Dunes if their corporate owners cannot be persuaded to donate or sell the land to the state.

Now the finest Bridgman Dunes are about to be defiled. Before Unimin's purchase of the Bridgman site from Martin Marietta Aggregates (MMA) for $30 million, the Michigan Department of Natural Resources (DNR) granted MMA permission to mine 144 acres of its 253-acre Bridgman South site. The issuance of this permit made a mockery of the Michigan Sand Dune Protection and Management Act of 1976, which was designed explicitly to protect the state's most fragile and unique dunes areas. Even more embarrassing to the Michigan DNR, an environmental impact study conducted by the agency's own staff reported that the Bridgman site exhibited "irreplaceable natural, scenic, and aesthetic qualities" that would be destroyed if sand mining were permitted.

After reading the report, then-DNR Director Howard Tanner was moved to deny Martin Marietta Aggregates permission to mine sand at the Bridgman South site. But MMA appealed to Michigan's Natural Resources Commission (NRC), which oversees DNR policy, and the NRC agreed to the firm's request for a contested-case hearing. The battle was joined by groups with an interest in dunes preservation, such as Hope

For the Dunes and the Michigan Environmental Protection Foundation. These groups and others helped marshall scientific testimony that the Bridgman Dunes are unique, remarkable, and significant from an international point of view.

The NRC, however, ignored this body of informed opinion, and reversed DNR Director Tanner's decision to forbid mining. Thus, with the stroke of a pen the Bridgman Dunes were suddenly slated for extinction. Mark Miller, former chair of the Sierra Club's Mackinac Chapter, is among the leading environmentalists who now fear that, with this reversal, all of Michigan's coastal dunes—even those in the public domain—are in jeopardy. (A temporary restraining order, sought by a coalition of Michigan environmental groups, has been issued; the order prevents mining at the Bridgman South site until it can be determined whether the NRC's reversal of the DNR decision violates the 1976 dunes-protection legislation.)

Martin Marietta already suffers from a poor public image in Michigan with regard to its attitude toward the Bridgman Dunes. Apparently, Unimin Corporation wishes to follow suit. The two companies have turned deaf ears to requests that they donate the land or sell it to the state. The only recourse now appears to be a lengthy and costly legal battle probably destined for Michigan's Supreme Court.

Yet it is not too late for compromise. The Bridgman site can still be sold to the state of Michigan by Unimin, or donated in exchange for state-owned sand lands—not coastal sand dunes. By MMA's own estimates, the sand at the Bridgman South site will be exhausted within 20 years at expected rates of mining. But Martin Marietta and Unimin have shown no inclination to use alternative mining sites. And while both companies have argued that they must continue to mine the south site to meet customer requirements—and to justify a multimillion-dollar investment in site facilities—other options have in fact been open to them (even though their claim has been that no feasible or prudent alternatives exist). These options include sand recycling, dredging, and—most important—the mining of inland sand, which is of excellent quality and is plentiful enough to serve industrial needs for hundreds of years. Rather than consider such viable alternatives, Unimin actually asked the Economic Development Corporation of Berrien County to issue $900,000 worth of tax-exempt bonds at low interest rates to finance the development of the Bridgman site. After a storm of protest, Unimin quietly withdrew its request.

So the Bridgman Dunes—sentinel landmarks to the midwestern tourists who swarm

"up North" on I-94 each summer—face the most critical threat ever to their existence. Their destruction would be senseless in a state where tourism is the second-largest industry. In 1982, for example, tourism in Berrien County created about 5,000 jobs, and tourists spent more than $200 million there. In fact, the state sales tax levied on the million-plus visitors to Warren Dunes State Park (also in the area of the Grand Marais Embayment) generated on its own nearly $300,000 more than the total tax revenues derived from both sand and gravel mining in all of Michigan. Should the state surrender a resource of international significance in a one-shot deal involving a dubious tradeoff?

As this issue of *Sierra* was in preparation, there were indications that a compromise might be struck between Unimin and the Michigan DNR. A pretrial hearing was held in October 1983, and there was talk that a court date might be set for sometime this spring. But as things now stand, the struggle for the Bridgman Dunes is far from over. One fact is beyond question, however: If the dunes are mined, nothing short of another full-blown ice age can ever re-create them.

Matthew M. Douglas, a specialist in zoology and biophysical ecology, is a senior research scientist at the University of Kansas.

CLARK'S INTERIOR
Another Fox in the Henhouse?

STAFF REPORT

THE FIRST REACTION to the nomination of William Clark as Interior secretary was incredulity. After James Watt's resignation on October 9, rumors of who might head the Interior department abounded. Clark's name appeared on no one's list, not even as the wildest of possibilities.

The Sierra Club did not immediately oppose his nomination. First, Club leaders requested a meeting with Mr. Clark; at the same time, the Sierra Club Legal Defense Fund investigated his environmental record. A list was quickly compiled of 17 judicial decisions concerning the environment rendered by Judge Clark during his tenure on the California Supreme Court. In all of them Clark sided with development interests against environmental protection. In 15 of the 17 decisions he ruled in the minority.

According to SCLDF attorney Durwood Zaelke, "Judge Clark consistently rejected environmental controls that the majority of the court found to be reasonable. He lacks the balance needed to perform a job that requires the careful reconciliation of competing environmental and development interests."

During a private meeting with Mr. Clark,

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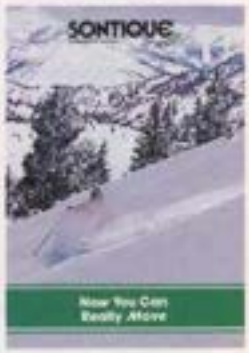

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Wide World Photos

William Clark, left, confers with Sen. James McClure (R-Idaho) prior to the start of Clark's confirmation hearings.

attempts to learn more about his thoughts on environmental issues proved fruitless. Clark was distracted by the then-ongoing invasion of Grenada, which he had helped plan. Denny Shaffer, president of the Sierra Club, characterized the discussion as "disappointing and cosmetic."

At another meeting with representatives of a number of environmental groups, Clark emphasized that he would report directly to President Reagan, whose policies he would faithfully implement. Clark pointed out that as undersecretary of State he had been concerned with environmental issues. He cited two examples: First, he had headed up the Reagan administration's involvement with the Law of the Seas Treaty. (Unfortunately, the U.S. scrapped years of careful international negotiation by refusing to sign the treaty—a move universally deplored by conservationists.) Second, Clark had been in charge of the administration's Interagency Task Force on Acid Rain—a body responsible in part for the Reagan administration's notoriety for delay in addressing this important pollution issue.

On October 31, the Sierra Club announced its opposition to the Senate confirmation of William Clark as Secretary of the Interior. President Shaffer expressed concern that Watt's appointees were still in power: "Key architects of Secretary Watt's resource-giveaway programs are still running the show at the Interior department, with no signs that they will be removed."

The confirmation hearings before the Senate Energy and Natural Resources Com-

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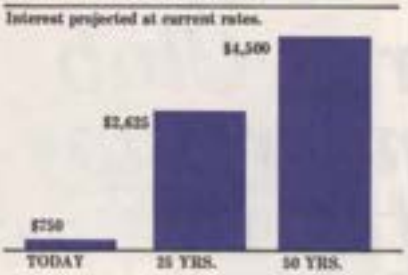

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mittee were singularly uninformative. Clark repeatedly avoided committing himself to any position, insisting only that he would review the full array of Interior department policies and personnel. Senator Paul Tsongas (D-Mass.), summing up the hearings, told Clark: "You have done a very good job in these hearings. You have been here two days and have said absolutely nothing quotable or controversial." The Senate confirmed Mr. Clark on November 18.

Secretary Clark inherits a difficult situation. The Reagan administration's environmental policies are unpopular in the Congress and with most Americans. Clark must make a number of critical decisions on a wide variety of policy issues—decisions that in many cases include choosing whether to reverse the ill-considered policies formulated by his predecessor. He faces these decisions uninformed and powerfully opposed. A list of key issues follows.

Onshore Oil and Gas Leasing. Congress and the Reagan administration are currently at a standoff on the issue of leasing wilderness land (and land being considered for wilderness designation) for oil and gas exploration and development. Defying tradition, the Reagan administration has pressed the Interior department to open for leasing all areas under wilderness review.

Coal Leasing. The Reagan administration's coal-leasing program currently calls for the sale of 11 billion tons of coal in five months, two thirds as much as the total of 16 billion tons sold over 63 years by the previous 11 presidential administrations. The subject is controversial, especially in coal-rich New Mexico, where opposition has come from Gov. Toney Anaya, the United Mine Workers, the Navajos, archaeologists concerned with protecting ancient ruins, and environmentalists seeking to protect prime BLM wilderness lands. Secretary Clark has the opportunity to halt the sales, reevaluate the leasing program, and issue a new, more reasonable schedule of sales that would begin by scaling down the scope of the enterprise to millions rather than billions of tons of coal.

Parkland Acquisition. The Reagan administration has halted all new acquisition of parkland and ignored major threats to existing national parks. Budget cuts have drastically slashed the Land and Water Conservation Fund, the primary source of money for establishing or completing parks, wildlife refuges, and other recreation areas. The fund also gives money for state and local parks.

In fiscal 1983 the Reagan administration requested only $69.4 million for the Land and Water Conservation Fund and proposed no monies at all for the state matching-grant program. Congress rejected this request and appropriated $226 million. For fiscal 1984, Watt asked for only $65 million; again, Congress rejected the request and appropriated $240 million. Will Secretary Clark end the moratorium on parkland acquisition and

SIGHTINGS

Sierra Club sailors stand watch aboard the Argo, *on their way to California's Farallon Islands, a national wildlife refuge 24 miles from San Francisco. By leading guided trips to this spectacular sanctuary for birds and marine mammals, the Bay Chapter raises funds to support wilderness, wildlife, and Inner City Outings programs.*

increase the fund's budget for 1985 to meet anticipated needs?

Leasing in Wildlife Refuges. Federal wildlife refuges have always been available for some limited commercial uses, such as grazing. Previous administrations, however, have held these activities to a minimum. The Reagan administration has proposed opening 1 million acres of refuge lands to oil and gas leasing. Environmentalists have won a temporary court order forbidding such leasing until an environmental impact statement (EIS) has been prepared. Congress has also deferred money for the leasing program until the EIS is completed.

Wilderness Review. The Interior department has attempted to drop 1.5 million acres of BLM roadless areas from wilderness review, with an eye toward opening them up for development. A court order now restrains the department from damaging these areas before their final disposition can be determined. Secretary Clark must decide whether to reinstate the wilderness acreage or let the BLM wilderness-review program proceed unimpeded.

Leasing Geothermal Resources. Currently before the Interior secretary is a proposal to lease geothermal resources on national-forest lands near Yellowstone National Park. Such energy development could destroy some of the park's geysers. (See "Geothermal Energy: Trouble Brews for the National Parks," July/August, 1983.) The decision to risk the resources and proceed with leases is now Clark's. He must also decide the terms for any such leases.

Offshore Oil and Gas Leasing. A congressionally imposed moratorium has not dissuaded the Interior department from announcing plans for oil and gas leasing off Florida's eastern Gulf Coast. Florida Gov. Bob Graham protested to President Reagan: "The effect of this proposed course of action would be to negate the spirit of the legislation as expressed by Congress to adequately protect the offshore environment and the beaches of the State of Florida. . . ."

Secretary Clark must decide whether to pursue this leasing plan in light of Congress's moratorium. In a larger context, he must decide whether to modify the general lease-it-all approach that has so far prevailed in the Reagan administration.

The prospect for meaningful change at the Department of the Interior is not clear at this time. Sierra Club President Shaffer says, "The policy failures and resource giveaways . . . bring shame on an administration whose party has traditionally supported conservation and environmental protection. But we continue to wait for some signal from the administration that it is determined to correct the course taken at Interior during the last two and half years."

DIOXIN IN MISSOURI
The Search Continues for a Cleanup Strategy

JAMES AUCOIN

As Missouri officials work to clean up dioxin-contaminated soil at Times Beach and more than 100 other sites around the state, they are discovering that our society's propensity to foul the environment surpasses our ability to undo the damage we have wrought. Scientists who eagerly helped industry manufacture new chemically based convenience products during the last two decades have been less willing to spend time and money to research safe ways of managing the wastes these new industrial processes have generated. One now-defunct chemical company in Missouri paid scant attention to the proper disposal of its dioxin waste in the early 1970s, and the result has been an environmental disaster for which officials have no ready remedies . . . only assumptions, hypotheses, and theories.

"The state of the art is such that there's just no final solution," says Rowena Michaels of the U.S. Environmental Protection Agency's Kansas City regional office. "Everything is in the experimental-research stage. The old engineering way was to dig something up and put it someplace else. But where are you going to put so many tons of contaminated soil?"

Landfilling the thousands upon thousands of cubic yards of dioxin-contaminated soil lying within its borders has been one option the state of Missouri has not wanted to pursue. However, a proposal favored by the EPA has been that a number of small bunkers be built either above or below ground level to hold soil excavated from some sites. Either type of bunker would require an impermeable liner, of clay or some synthetic material, to prevent contamination of groundwater near its site. Clearing of each site, formation of a buffer zone around it, and long-term monitoring would all be necessary—although, with regard to the latter requirement, EPA officials have claimed that bunkering would be a temporary measure only, designed to remove contaminated soil from areas where people can be exposed to it until a long-term solution is devised.

What might that solution be? Some have suggested that burning the hazardous chemical represents the most likely option. But officials stress that it will be at least four years before incineration is available to Missourians for this purpose, and many more years than that before other, more-sophisticated technologies may be employed. "Everyone agrees we have to do something sooner," says Fred A. Lafser, director of the Missouri Department of Natural Resources (DNR).

In the meantime, state officials and residents of the contaminated areas have responded to the EPA's bunkering plan with fervent opposition. They say they fear the agency views bunkers

Scott Dine Picture Group

Technicians take core samples during the first stages of testing for dioxin contamination in Times Beach, Mo. Mixed with waste oil and sprayed on streets throughout the state to control dust, the toxin has created a cleanup problem of staggering proportions.

as a permanent solution to the problem, and emphasize that they themselves most decidedly do not want hazardous-waste landfills located in residential areas. After the EPA spends several million dollars landfilling the soil at the contaminated sites, concerned Missourians reason, the federal government will be reluctant to go back to those sites once a more permanent solution is found. (EPA officials have denied that their plan is to make the bunkers permanent fixtures.)

Even if landfilling is accepted as the best immediate option, state officials would prefer that all the contaminated soil be taken to only one landfill rather than see the soil dispersed to several small bunkers around the state. The Missouri Dioxin Task Force, a multidisciplinary citizens' panel appointed by Gov. Christopher Bond, recommended on November 1 that the contaminated soil be temporarily stored in one centrally located bunker—possibly in the now-evacuated town of Times Beach. The EPA's consultants agreed with the state task force; on December 8, the agency announced its preference that a 50,000-cubic-foot concrete bunker be constructed at Times Beach to contain Missouri's contaminated soil "for decades" if need be.

State and federal inspectors continue to take samples from sites suspected of dioxin contamination in Missouri, adding methodically to an already formidable cleanup list that includes parking lots, residences, industrial yards, backcountry roads, and one entire town. By November 1983, 33 sites had been confirmed as contaminated, while another 103 awaited final testing.

The worst pollution of a residential area was found near Rosati, a farming and vineyard community on the outskirts of the Mark Twain National Forest. Levels reaching 1,800 parts per billion (ppb) were detected, far surpassing the 1-ppb level acceptable to health officials. Thirty-five families live along the contaminated road—including, ironically, the family of Russell Bliss, the hauler of waste oil who admitted spreading dioxin throughout eastern Missouri during the early 1970s, when he mixed the toxic chemical byproduct with used oil and sprayed it on dirt roads and horse arenas as a means of dust control.

Officials are hampered by a serious lack of information about dioxin's effect on people, although it is known to be fatal to some animal species in doses as minute as a millionth of a gram. Even scientists who have devoted their careers to studying dioxin and other hazardous wastes cannot provide definitive answers about its health effects—particularly after long-term, low-level exposure—or about how to properly and effectively destroy it. Indeed, one of the reasons the Missouri cleanup has taken more than 10

years to get under way is that health officials were operating under the mistaken belief that dioxin has a half-life of one year and would dissolve quickly on its own. A decade later the contamination remains, and scientists are scrambling to revise their previous assumptions about the chemical.

Complicating the situation is the magnitude of the job. Never before has such widespread contamination of soil by dioxin been discovered. Cleanup crews are faced with the enormous task of removing the pollutant from hundreds of tons of soil, brush, trees, and rocks. Because polluted sites are still being uncovered, the full dimension in volume and cost has yet to be outlined. At this point, though, it appears the cleanup will take years and the price tag will exceed $1 billion.

So far, five Missouri dioxin sites have been included on the federal Superfund list for priority cleanup. It has not been determined how many of the state's contaminated sites will require Superfund dollars, which are raised through a tax on generators and transporters of hazardous wastes. It is unlikely, though, that all sites will be brought under the federal Superfund, according to the EPA's Michaels. After intense lobbying by the state's environmental groups, including the Sierra Club's Ozark Chapter, the Missouri legislature created a state "Superfund" in June 1983. The fund, also financed by a tax on waste-generators, will be used to supplement federal cleanup dollars. Sites not selected for federal Superfund dollars will probably be handled by the state, according to James Finch, Jr., chair of the Missouri Dioxin Task Force.

By now the history of the contamination is well-known. The dioxin originated at a germicide plant in the southwestern Missouri town of Verona, near Springfield. In the early 1970s, Northeastern Pharmaceutical and Chemical Company, in a factory leased from Hoffman-Taff Chemical Company and later acquired by Syntex Agribusiness, Inc., produced 2,4,5-TCP (trichlorophenol), a compound often used in herbicides but used here in the manufacture of hexachlorophene, an antiseptic. The waste byproduct from the manufacturing process was 2,3,7,8-tetrachlorodibenzo-p-dioxin—the most toxic form of dioxin.

Northeastern Pharmaceutical and Chemical found various means of ridding itself of sludge and distillates contaminated with dioxin, but rarely—if ever—were the contaminated wastes handled carefully and adequately. Sludge and wastewater were sent to a waste-management school in nearby Neosho, where the toxic chemical was stored haphazardly and never treated. Drums full of the waste were buried on a local farm—a mess that cost Syntex Agribusiness about $2

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million to clean up. And thousands of gallons were carted off by Russell Bliss and his company. Taken to the other side of the state, the dioxin wastes were mixed with oil and sprayed on roads and arenas.

Bliss claims he did not believe the waste was toxic. However, by 1974 more than a dozen horses had died after being exposed to dioxin in the arenas, while persons coming into contact with the contaminated dust reported various health problems, some very severe. Hundreds of people have been evacuated from their homes, and several multimillion-dollar lawsuits have been filed against Bliss and others involved.

"What really gets me is that the company that produced the dioxin [Northeastern] is now bankrupt and untouchable," says Roger Pryor of St. Louis, former chair of the Sierra Club's Ozark Chapter. Pryor attributes the pollution and the delay in cleaning it up to "a lack of scientific and public understanding" about hazardous wastes in general and about dioxin in particular.

State and federal officials are encouraged that incineration will eventually provide an acceptable means of disposal for most of the dioxin in the Missouri soil. However, it is far from the perfect solution. "We know very little about the thermal destruction of chlorinated dioxin," acknowledges Tim Oppelt, head of the EPA's Industrial Environmental Research Laboratory in Cincinnati and overseer of the agency's Combustion Research Facility at Jefferson, Ark., where some of the incineration might take place. "There is even less information on the thermal destruction of hazardous materials contained in soil."

"I think combustion will work," Oppelt told the Missouri Dioxin Task Force in June, "but it costs a pretty penny and is probably not suitable for all soils." An interim report by the task force estimated that an incineration plan for only one of the contaminated sites—the Minker-Stout residences near Imperial, Mo.—would require at least $38 million to cleanse 8,000 cubic yards of dirt. One private firm has suggested it would cost more than $411 million to clean Missouri's 500,000 cubic yards of contaminated soil.

Other drawbacks to incineration include increased exposure to the dioxin during excavation, transportation, and baking of the soil, and the additional problem of disposing of the remaining ash, which would still retain some measure of toxicity. Furthermore, it is likely that a furnace would have to be specially constructed to handle the soil, which would add several years to the cleanup effort.

State and federal officials are considering other alternatives. For Times Beach, the site of the state's most publicized contamination, a proposal to bury the town under the runways of a jetport gained some support. The federal government is buying the town with $33 million of Superfund money. The EPA's Rowena Michaels described the jetport idea as "very creative thinking." However, it now appears likely the townsite will be used, at least temporarily, for a dioxin/hazardous-waste bunker.

Another cleanup option would be a chemical-extraction process currently used to decaffeinate coffee. Critical Fluid Systems, Inc., a subsidiary of Arthur D. Little, Inc., says the dioxin can be forced from the soil by applying liquefied gases under predetermined levels of temperature and pressure. Once extracted and concentrated in small quantities, the dioxin can easily be destroyed by incineration or some other method. However, it has not been proved that extraction can be effective when dealing with low-level contamination, or that it can reduce the contamination to as low a level as the 1 ppb required.

Other cleanup alternatives approach the frontiers of scientific research. All remain untested on the grand scale that will be necessary for the Missouri cleanup. They include using ultraviolet light or chemical or biological agents to degrade the dioxin. While many of these techniques sound promising in theory, their practical application would be a political and environmental gamble.

Missouri's grand environmental-cleansing experiment will have rippling effects throughout the country as other jurisdictions begin their own costly efforts to handle recently discovered dioxin contamination. (On December 15, the EPA announced a multimillion-dollar plan to locate and clean up hundreds of possibly dioxin-contaminated sites throughout the United States.) The nation is now beginning to clean up after decades of neglecting to regulate the disposal of this deadly man-made substance.

James Aucoin is a freelance writer specializing in natural-resource issues.

THE SNAKE RANGE
Alpine Lakes and Bristlecone Pines

JAMES BAKER

THE TERM "GREAT BASIN," to a geologist, would signify the vast area between the Sierra Nevada and the Cascade Range on the west and the Rockies on the east. On a map this great desert expanse looks flat. But that's not the case; it consists of ridge upon ridge of small mountain ranges, some 236 in Nevada alone. Though the Great Basin con-

SIGHTINGS

The executive committee of northern California's Loma Prieta Chapter expresses its opinion of the California Coastal Commission's decisions since Gov. George Deukmejian's election. The three T-shirts indicate the committee's recent course of action: It filed suit against both the commission and the county of San Mateo, accusing them of violating the California Coastal Act of 1976 and other laws in approving a new residential development adjacent to Año Nuevo State Reserve.

tains parts of Utah, Oregon, California, Idaho, and Arizona, its heart is Nevada—high-desert country, sparsely populated, stark and beautiful.

Most of these arid peaks and valleys are publicly owned; various federal agencies administer more than three fourths of the state's territory. Yet, incredibly, within Nevada's borders can be counted exactly one wilderness area (the 64,667-acre Jarbridge Wilderness) and one national monument (the 640 acres of the Lehman Caves unit)—plus parts of Death Valley National Monument and Lake Mead National Recreation Area. Otherwise, Nevada's unspoiled open spaces enjoy virtually no legal protection.

Indeed, the land too often has been deemed worthless and targeted for abuse. When President Carter needed to select an immense wasteland to house the MX missile, he chose the Great Basin, sparking an unprecedented nationwide grassroots movement against the controversial weapon system. Today huge coal-fired power plants are under consideration or construction there; much of the electricity will go to the West Coast while the air pollution will remain behind, to hang in the desert skies. Serious talk abounds that this region would make an ideal national dumping ground for every manner of hazardous waste, from toxics to high-level nuclear residues.

On October 8, 1983, a public conference was held at Lehman Caves National Monument in eastern Nevada, near Baker. In attendance were local citizens, observers from the U.S. Forest Service and the National Park Service, and a group of conservationists that included representatives from the National Parks and Conservation Association, The Wilderness Society, the Utah Wilderness Association, and the Utah and Toiyabe chapters of the Sierra Club. Utah Rep. James Hansen (R), whose district lies just across the state line, sent a staffer to the meeting. More important, so did Nevada Sen. Paul Laxalt (R).

The discussion at the Lehman Caves meeting specifically focused on one remarkable corner of the Great Basin: the southern half of the Snake Mountains. Located in eastern Nevada, smack on the border with Utah, this range in the Humboldt National Forest offers plenty to talk and worry about.

First of all, there is 13,067-foot Wheeler Peak, the highest mountain in the Snake Range—indeed, in the entire Great Basin. Its summit is carved by a glacial cirque, one of 20 along the crest line. Here in the heart of the desert can be found a half-dozen alpine lakes in the cirque bottoms. The Wheeler Cirque even holds a small glacier—the only permanent ice field in the region—as well as an equally unusual rock glacier some 600 feet wide and half a mile long. Thousands of

years ago the lower edge of the Wheeler Glacier dripped into Lake Bonneville before that inland sea began its gradual contraction, leaving in the present era the Great Salt Lake as well as the barren Salt Desert *playas* of western Utah.

There are the Lehman Caves themselves. Protected as a national monument since 1922, this tiny system of caverns boasts a feast of stalactites, stalagmites, and other subterranean decorations. The Lehman Caves are particularly well-adorned with an unusual formation called a "shield," a pancakelike structure that projects horizontally from the cave wall and extends elegant draperies beneath it to the floor.

Then there is Lexington Arch, a rare opening in limestone, 120 feet wide by 75 feet high. There is Osceola, the ghost town whose placer mines once produced the largest gold nugget in Nevada history—a 25-pounder! And there is air so clear that one's vision is limited only by the curvature of the earth.

But above all there are the two stands of ancient bristlecone pines. On the flanks of Wheeler Peak and Mt. Washington in the southern Snake Mountains, these gnarled, hardy trees have mastered the art of survival. Several specimens of *Pinus longaeva* found here exceed 5,000 years in age, making these bristlecone pines the oldest living things in the world.

"These trees are the ultimate in bristlecone pine," Dr. Robert Waite told the Lehman Caves conference, arguing that the southern Snake Range ought to be designated as Great Basin National Park. Waite has crusaded for that idea for 16 years. A professor of geography at the University of Utah in Salt Lake City, he imparts a boundless enthusiasm for his firm belief that the Great Basin—"a region the size of France," he always notes—and the state of Nevada "should be given the honor of a national park."

After looking into other possibilities, such as the better-known Ruby Mountains, Waite chose the Snakes because "this would make one of the most diverse national parks in the world." While this statement is entirely true, in this case it happens that the range's unique assets may add up to a big liability. A 1977 study by the National Park Service that examined four sites for a possible Great Basin National Park found the Snake Range to be the most scenic one, yet perhaps the one *least* characteristic of the region. These mountains are atypically high in elevation, rich in annual precipitation, and lacking in volcanic or geothermal activity.

Nevertheless, Waite recommended to the conference a park designation of 124,500 acres, all in the southern Snake Range,

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starting at the northern tip of current Humboldt National Forest holdings and continuing as far south as feasible inside Forest Service domain. By Waite's estimation a national park would attract upward of half a million visitors annually and inject $10 million each year into the depressed local economy.

That prospect did not persuade Joe Griggs, a local resident and former employee of both the National Park Service and the Forest Service. Griggs stated his objection to national-park designation: "The mountain [Wheeler Peak] cannot withstand more folks than at present" (fewer than 100,000 visitors annually). Though the income from tourism might be welcome, the area's small towns and ranches, which sustain a cherished way of life, seem more valuable to residents there. Griggs spoke eloquently against "putting the land in a glass case," and asked what is really wrong with the status quo.

The Forest Service today maintains a Wheeler Peak Scenic Area of 28,000 acres, established in 1959 to counter then-current proposals for a national park. While better than nothing, the scenic-area designation has many inadequacies. Mining claims dot the west slope of the range. The claims are fostering the proliferation of private inholdings within the Humboldt National Forest as well as the building of access roads, which in turn tempt off-road-vehicle (ORV) users. Uncontrolled and uncontrollable ORV recreation in the Snakes is probably the most exasperating management problem dealt with by the area's Forest Service rangers.

The largest mining claim and private inholding crosses one edge of the bristlecone pine forest on Mt. Washington. During a hike there last spring, Dennis Ghiglieri and Rose Strickland of the Sierra Club's Toiyabe Chapter discovered that bristlecone pines had been cut up for firewood and hauled out in trucks. Although the two culprits responsible were tracked down, convicted, and fined $175 each, the Forest Service cannot guarantee that this crime won't be repeated.

Overgrazing here was stopped some time ago through reductions in lease allotments; yet even controlled livestock grazing can damage sensitive watersheds while often conflicting with other land uses (such as recreation). The U.S. Air Force has proposed expanding the zone of its supersonic jetfighter flights beyond Utah, into Nevada over the Snake Mountains; sonic booms may thus soon replace primeval silence. The huge Intermountain Power Project is under

Jeff Gnass

Wheeler Peak, in Nevada's Snake Range, is the highest mountain in the Great Basin, at 13,067 feet. Conservationists are pressing for national-park or national-monument status as a way to protect the bristlecone pines and alpine lakes of the southern Snake Range.

THE U.S. AND CLARK EXPEDITION

construction near Delta, Utah, on the east, and the White Pine Power Project may soon be under way near Ely, Nev., to the northwest. People and air pollution are going to drift into the region and bring new pressures to bear on the land.

But whether or not a national park would be the proper response to these threats, the whole concept may not be feasible anyway, for one crucial reason: politics. Bills to establish a national park around Wheeler Peak have been introduced twice, first in 1924 and again in 1959. The latter attempt, by Nevada Senators Howard Cannon and Alan Bible, passed the Senate in 1962, but mining and grazing interests managed to kill the bill in the House. Sylvia Baker, a resident of Ely, pointed out that in 1978 the state Republican Party convention adopted a platform plank that officially opposed the establishment of any national park in Nevada. Republicans now dominate the state's congressional delegation.

If neither a national park nor the status quo is viable, what can be done? Russell D. Butcher, who serves as Southwest regional representative for the National Parks and Conservation Association, and who chaired the conference, offered one alternative: a Bristlecone Pine National Monument. The monument would probably take in the current 28,000-acre scenic area (with some minor boundary adjustments). "The tallest and the largest living things are represented in the national park system," Butcher said, referring to Redwood and Sequoia national parks, respectively. "Maybe now is the time to include the oldest living things in the world." Here is an opportunity for President Reagan. Designation of a national monument can be accomplished by presidential proclamation, and does not require an act of Congress.

Dennis Ghiglieri held up wilderness as another alternative. During RARE II the Forest Service put all of the northern Snake Range and 110,000 acres of the southern half into the "further planning" category. The Toiyabe Chapter of the Sierra Club has consistently backed these units for wilder-

ness designation by Congress. Senator Laxalt is reportedly writing a Forest Service wilderness bill for the state. But the prospects are gloomy. "We have strong opponents," Ghiglieri conceded.

The conference adjourned without arriving at any final decisions. None had been expected from "an initial exploratory meeting on possible protection alternatives" for the Wheeler Peak vicinity and its extraordinary bristlecone pines. Rob Smith, assistant Southwest regional representative for the Sierra Club, observed, "Clearly the final decision will be a Nevada one." In other words, the eventual outcome depends upon Sen. Laxalt, who must be regarded these days as the most powerful man in Nevada. His representative followed the conference attentively, asked a lot of perceptive questions, and promised to make a full report. But what Sen. Laxalt may be willing to do for the Snake Mountains, or the Great Basin generally, remains unsaid.

James Baker is a Sierra Club activist in Utah with a special interest in public-lands issues.

RUCKELSHAUS REPORT CARD
A Gentleman's "C"

JUDITH KUNOFSKY

WILLIAM RUCKELSHAUS HAS now been administrator of the Environmental Protection Agency (EPA) for about a third as much time as his predecessor, Anne Gorsuch Burford, served. He has had seven months to put the agency back on the road to protecting the environment. How has he done? Is the agency once again making significant progress in protecting the nation's environment and public health?

The answer is "yes and no." The EPA is recovering from the debacle of the Burford era, but on the issues of greatest concern to the Sierra Club, Mr. Ruckelshaus's performance is not yet adequate.

President Reagan announced when nominating Ruckelshaus that he had selected a man "staunchly committed to protecting the nation's air and water and land. And I have given him the broad, flexible mandate that he deserves." The President later said he was counting on Ruckelshaus "to reaffirm this administration's firm commitment to a sound and safe environment and an EPA that is trusted and respected by all."

Ruckelshaus set out to end the divisions between career civil servants and Burford-era political appointees. His first appearance at the EPA offices prompted a hero's welcome from the staff. He has restored the "open door" cordiality that existed between environmentalists and previous EPA administrators. Virtually all the Burford appointees have left, and Ruckelshaus has appointed a number of competent and committed people to key staff positions.

Yet, in the areas the Sierra Club is most concerned about, Ruckelshaus's proposals have been too weak, his bad decisions too numerous, and his major initiative—acid-rain control—thus far a failure.

Testifying on Ruckelshaus's appointment before the Senate Committee on Environment and Public Works last May, the Sierra Club identified four areas of particular concern: clean air, clean water, the agency's budget, and the Superfund program to clean

up hazardous-waste sites. Let us review what has happened in each of these areas.

Clean Air. Some environmentalists had hoped that, with Ruckelshaus in place, the Reagan administration would finally come up with a plan to protect those parts of the country now suffering the effects of highly acidic rainfall.

The President observed that "many of us —both here and in Canada—are concerned about the harmful effects of acid rain and what it may be doing to our lakes and forests. . . . So, I would like you [Ruckelshaus] to work with others in our administration, with the Congress, and with state and local officials to meet this issue head-on."

The result has been very disappointing. Sulfur dioxide is the main culprit in acid rain; the proposal being considered within the agency would provide as little as one third and no more than two thirds of the reduction in sulfur-dioxide emissions necessary to protect the Adirondacks, and less than half the reduction needed for New England. The Great Smokies, the upper Midwest, and the entire western United States would receive essentially no protection. Even this EPA proposal was rejected by both the Cabinet Council on Natural Resources and Environment and the Office of Management and Budget (OMB) as being too tough to represent the official administration position!

Ruckelshaus at first promised to announce an approved administration plan by September 1983. No such plan has been forthcoming; it is possible the administration either will never agree on a proposal or will approve one so meager that the inadequate EPA drafts will appear tough by comparison.

The Clean Air Act provides for identifying and regulating toxic pollutants—those particularly dangerous substances that, even in tiny amounts, can cause cancer or other serious diseases. The EPA has identified only seven substances as hazardous air pollutants, and has issued regulations for only four of those.

Congress, in debating reauthorization of the Clean Air Act, has been considering measures intended to force the EPA to deal with toxic air pollutants. During the Burford era, environmentalists certainly expected no progress in this section of the act. But even from the Ruckelshaus EPA there has been little good news. No new substances have been formally declared hazardous, despite the fact that the EPA has been studying 37 chemicals for at least six years, 11 of which have been identified as carcinogens by the U.S. Department of Health and Human Services.

So far during the Reagan administration, only one new regulation has been proposed —for arsenic. The proposed standard would

primarily affect Tacoma, Wash., where an Asarco copper smelter burns high-arsenic ore. What has happened in Tacoma is environmental blackmail. Ruckelshaus has framed the issue falsely by asking the residents of Tacoma to select one of only two options: the additional cancer deaths associated with air emissions of arsenic from the plant's operation, or the unemployment that would result from shutting down the plant. The EPA did not even consider several pollution-control techniques that could avoid both bleak alternatives. At a November public hearing, environmentalists, union leaders, and residents strongly supported additional controls on the plant's emissions beyond what the EPA had proposed, with the goal of protecting both jobs and public health.

Ruckelshaus has called for more flexibility in the Clean Air Act's section on hazardous air pollutants, asking for authority to consider "the costs of a particular control strategy and the benefits of the substance against the risk reduced." By contrast, the act currently calls for protecting public health with an "ample margin of safety."

Clean Water. Congress is in the process of reauthorizing the Clean Water Act. The measure is awaiting floor action in the Senate and subcommittee action in the House. Ruckelshaus has received some mixed ratings from environmentalists in this area.

The Sierra Club and other concerned groups have opposed any weakening of the section of the act that requires the pretreatment of industrial wastes. Pretreatment removes toxic substances before the wastes are discharged into public sewage systems. Ruckelshaus is now supporting the current requirements of the Clean Water Act in this area; environmentalists have justly praised him for such support. However, Ruckelshaus has opposed any major strengthening of the Clean Water Act, including in the very important area of nonpoint source pollution.

Ruckelshaus has issued good revisions to regulations on water-quality standards. In so doing, he rejected a series of disastrous changes proposed earlier by the Burford EPA. The new regulations require both that states establish limits on the toxic substances allowed in their waters, and that they take those limits into account when designing the permits that polluters must obtain. The regulations also toughen the criteria under which high-quality water can be degraded.

Ruckelshaus has received praise for issuing these regulations—but does he deserve credit? He was already under pressure to reject Burford's bad proposals. If he had not done so, Congress in all likelihood would have added tough language to the Clean Water Act to make the earlier Burford proposals impossible to enact.

Furthermore, the new water-quality regulations do not require the states to issue *numerical* standards; instead they permit them to meet such vague requirements as keeping waters free "from toxics in toxic amounts." The House draft of the proposed amendments to the Clean Water Act would require numerical standards—which Ruckelshaus was unwilling to propose on his own.

The EPA Budget. Environmentalists urged an EPA operating budget (not counting the separately financed Superfund program) of $1.3 billion for fiscal 1984. This amount is the same as the agency's budget for fiscal 1981, the last budget bearing the stamp of the Carter administration. The request seemed a modest one, given both inflation since 1981 and the agency's need to substantially increase its activities to deal

Continued on page 146

EPA Administrator William Ruckelshaus (right) talks with Sierra Club Executive Director Mike McCloskey prior to a recent meeting with Bay Area environmental leaders at Club headquarters in San Francisco. Participants later described Ruckelshaus as "cordial but noncommittal."

1 • 9 • 8

AT THE BEGINNING OF 1983, despite environmentalists' best intentions and efforts to improve communications, our relationship with the Reagan administration was frozen solid. The President himself remained aloof from the articulation of policy, choosing merely to defend first Anne Burford and then James Watt as doing "a good job." But his chief representatives at the Environmental Protection Agency and the Interior department were frankly hostile to environmental protection, evasive of its legal requirements, and contemptuous of its advocates.

In late 1982, Sierra Club Executive Director Mike McCloskey, looking forward to 1983, had said, "We must either trigger sufficient backlash [against Reagan's environmental policies] in Congress to tie up the administration's programs, or we must match them blow-for-blow in the courts." The Sierra Club did both.

The new Congress was a great help. The 98th was abundantly supplied with environmental advocates, reflecting the Sierra Club's wholehearted involvement in the 1982 elections. Environmental candidates got elected, and did make a difference. When the House convened, 122 of its members from both parties had received the active support of the Club during the elections; these representatives were to prove, over the course of the year, receptive to environmentalists' points of view.

The improvement first became apparent when new committee rosters were announced. Several congressional committees are of prime interest to conservationists because they control much environmental legislation. Among them are the House Committee on Energy and Commerce and the Senate Committee on Environment and Public Works; both are crucial for legislation involving clean air and water, high priorities for the Sierra Club. The House committee has jurisdiction over the Clean Air Act, toxic substances, nuclear waste, and energy conservation. In years past the Sierra Club has struggled repeatedly against this committee's efforts to weaken the Clean Air Act.

Environmentalists were much happier with the makeup of the new committee. Six of the seven new appointees had received the Club's endorsement in the 1982 elections. The Senate committee, too, was much improved. The Sierra Club was instrumental in the reelection of Sen. Robert Stafford (R-Vt.), who, as chair of the committee, has been a staunch advocate of air-pollution and acid-rain controls.

The difference was soon apparent in legislation. In 1981 and 1982 the Reagan administration and certain of its allies had pursued across-the-board weakening of the Clean Air Act. But the 1982 election forced the act's opponents to adopt a strategy of delay. They became fearful of congressional approval of strong clean-air measures, including an acid-rain program and more-stringent controls on toxic air pollutants.

The momentum has now shifted, and the administration and its allies are on the defensive, concerned with restraining Congress from enacting environmental legislation.

The most striking clean-air issue of 1983 was acid rain. During the year, the National Academy of Sciences concluded that substantial reductions in sulfur-dioxide pollution levels would produce nearly equal reductions in acid rain. The White House Office of Science and Technology Policy also recommended substantial reductions in sulfur-dioxide emissions. The EPA issued its assessment of the problem and detailed the widespread damage caused by acid rain. The White House did not, however, release a long-awaited series of EPA recommendations on acid rain.

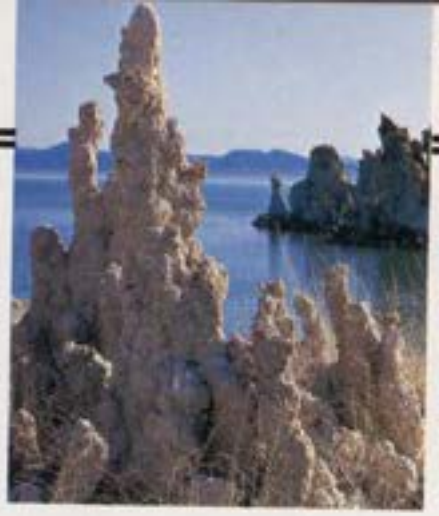
On the local front, citizens at a series of more than 200 town meetings in New Hampshire overwhelmingly passed resolutions calling for a 50-percent reduction in sulfur-dioxide emissions. Yet despite this evidence of the tremendous growth in grassroots pressure for a solution to the acid-rain problem (and despite strong support in Congress for a solution), the administration's delaying tactics worked. But with nearly 100 House cosponsors of strong legislation to control acid rain, a major push will occur in 1984.

The Clean Water Act, also subject to weakening proposals from the Reagan administration, fared better, receiving strong support in Congress. The Senate will vote on a rewritten Clean Water Act early this year. Also awaiting final disposition in Congress at year's end was a highly controversial bill to permit trophy hunting in Alaska's national parks, and to reduce the size of those parks. The Senate Energy and Natural Resources Committee, in considering the bill, reduced the amount of threatened parkland from 12 million to about 5 million acres. And the committee took the unusual step of reporting the bill "without recommendation," an indication that the bill's sponsors were unable to muster a majority in favor of even the stripped-down version.

Other measures that involve issues of great concern to the Sierra Club were also addressed by the 98th Congress. A "sodbuster" bill designed to promote soil conservation made solid headway. The Senate finally managed to kill the Clinch River Breeder Reactor, a controversial and expensive nuclear-power facility, the safety and purpose of which had long been in question.

During 1983 the Reagan administration continued its concerted attack on wilderness. In early February the Forest Service abruptly renounced the wilderness proposals of its entire Roadless Area Review and Evaluation program (RARE II), which had been the principal means of designating new wilderness areas within national forests. A new, decentralized study process is under way, sure to result in far smaller wilderness proposals. Meanwhile, a great number of state-by-state wilderness bills are before Congress. At year's end there were, in fact, more individual state-wilderness bills in the works than at any previous time in history.

The Bureau of Land Management had been conducting its own review of roadless lands since the late 1970s. This review had resulted in designation of some 24 million acres of "wilderness study areas" that would be protected until their eventual disposition



'83 A Look Back at the Year's Most Important Environmental Events

could be decided by Congress. In late 1982, Interior Secretary James Watt deleted some 805,000 acres of wilderness-study areas from further consideration; in 1983 he deleted 735,000 acres more.

Conservationists were outraged; in early January the Sierra Club Legal Defense Fund filed suit against Watt over these withdrawals. As the result of a decision handed down on September 9, a temporary restraining order prevents any change in the protective management of these 1.54 million acres. The final disposition of these wilderness-study areas remains in serious question, however.

The Reagan administration sought in general to transfer as much public land as it could to private control as quickly and cheaply as possible. Fortunately, the public, the courts, and Congress did not often agree with this approach. The Reagan administration's infamous program of "privatization" (the selling off of "excess" federal lands) met with severe practical and political difficulties. Despite congressional opposition, the Interior department, its public avowals to the contrary, has moved ahead secretly with this project and has established a target figure of 200,000 acres for disposal in fiscal 1984.

The administration's proposed program of leasing vast offshore areas for oil and gas development has been repeatedly opposed by states, local governments, congressional delegations, and conservationists. Congress has blocked leasing in several critical coastal areas of New England, Florida, and California by preventing the expenditure of any money for these lease sales.

A leasing program for huge areas containing publicly owned coal was proposed, criticized, and eventually stalled. The Sierra

DAVID GANCHER

Club pointed out, in an influential study entitled *The Great Giveaway*, that the lease sales would cost the nation as much as $94 billion in lost revenues. Eventually, the Senate halted the ongoing leasing—by calling for a moratorium on such sales until May 1984, and by establishing a commission to investigate the economic implications of such sales.

Throughout the year, Congress was often stalemated by administration opposition to sensible environmental policy, and the courts were often called on to resolve situations in which, conservationists felt, the Reagan administration had violated statutes as well as public trust. The Sierra Club filed 38 lawsuits in 1983; the variety of issues involved is both surprising and dismaying. It includes herbicide spraying, clearcutting, air pollution, protection of public lands, and more. The resignation of James Watt ended a record-breaking string of lawsuits filed against an individual on environmental grounds. The Sierra Club Legal Defense Fund alone sued Watt 28 times during his tenure.

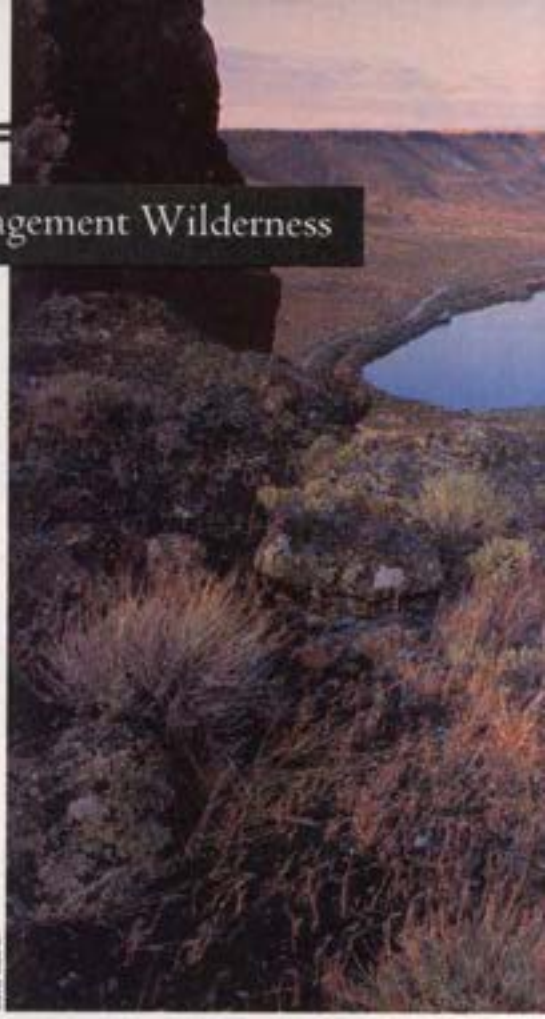
In late spring the Sierra Club Committee on Political Education (SCCOPE) began organizing for the 1984 elections. A series of state-level training workshops was conducted, to prepare activists for the coming elections, the final referendum on Reagan's environmental policies.

How to sum up 1983? Sierra Club President Denny Shaffer said it best:

"1983 was above all a year of intensity. One reason the controversy is so heated is that the stakes are so high. When I look at the Reagan administration's proposals, I'm struck by their grandiosity. Eleven billion tons of coal to be sold in five months. The entire outer continental shelf up for grabs to the highest bidders. Exploiting millions and millions of acres of wilderness. The Sierra Club has faced these kinds of proposals time and time again. But the scale is different now; it's unprecedented in history.

"The Sierra Club is rising to the challenge—in our own organizing, in Congress, in the courts. Our defense of America's heritage has been successful so far, especially considering the opposition's wealth and power.

"It's an odd phenomenon, but Americans have always responded heroically to catastrophes, to floods and earthquakes and sudden military attacks. But in 1983, Americans responded to an ongoing unnatural catastrophe—the Reagan administration's environmental policies. We're seeing the emergence of new environmental heroes in the Congress, among the states' governors, and among ourselves."



© David Muench

Bureau of Land Management Wilderness

One of the year's most significant wilderness struggles involved land under the jurisdiction of the Interior department's Bureau of Land Management (BLM). On December 27, 1982, then-Interior Secretary James Watt signed an order deleting 805,000 acres in wilderness study areas (WSAs) from BLM's review of its holdings for potential wilderness designations. During 1983, Watt's order led to the elimination of an additional 735,000 acres. These actions by the Interior department would have opened roughly 1.5 million acres in 289 WSAs to development—even before Congress had a chance to decide whether or not to protect them.

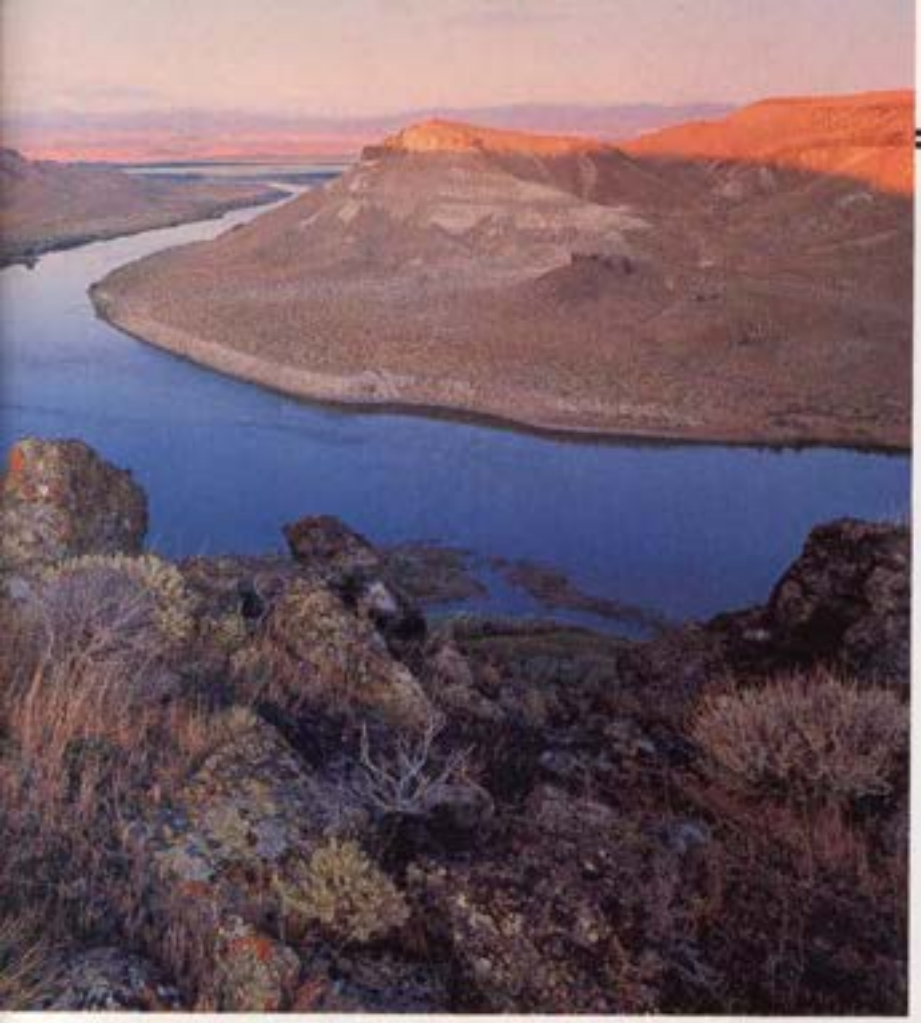
In January the Sierra Club Legal Defense Fund sued Watt over the deletions. In September a federal court ruled that the wilderness characteristics of the WSAs had to be protected until the courts could decide whether Watt's actions were legal.

© Jarrod Gilbuck

Galveston Superport

The Sierra Club Legal Defense Fund took on a difficult case—and won it, against all odds. In a decision held by many to be the most significant National Environmental Policy Act ruling of the decade, a U.S. Court of Appeals held that the environmental impact statement (EIS) prepared for the proposed Galveston superport project was inadequate.

The decision established the important point that an EIS must include a "worst-case" analysis. The EIS for the Galveston superport was 26 volumes long, but avoided any discussion of the one question on everyone's mind—what would happen if a supertanker lost its full load inside Galveston Bay?



Forest Service Cuts RARE II

In what Sierra Club President Denny Shaffer termed "an awesome display of backward logic and hostility to environmental concerns," Assistant Secretary of Agriculture John Crowell, a former timber-industry attorney, withdrew the wilderness proposals of the U.S. Forest Service's Roadless Area Review and Evaluation program (RARE II). Since the program's inception in 1979, Congress had relied upon the results of this process, which had evaluated the roadless lands of America's national forests and recommended each area for wilderness, nonwilderness, or further-planning status.

As a result of Crowell's decision, all RARE II recommendations will be re-reviewed. A new, decentralized study process is under way, one sure to result in fewer and smaller wilderness proposals. Meanwhile, however, development planned for nonwilderness areas will proceed before and during study.

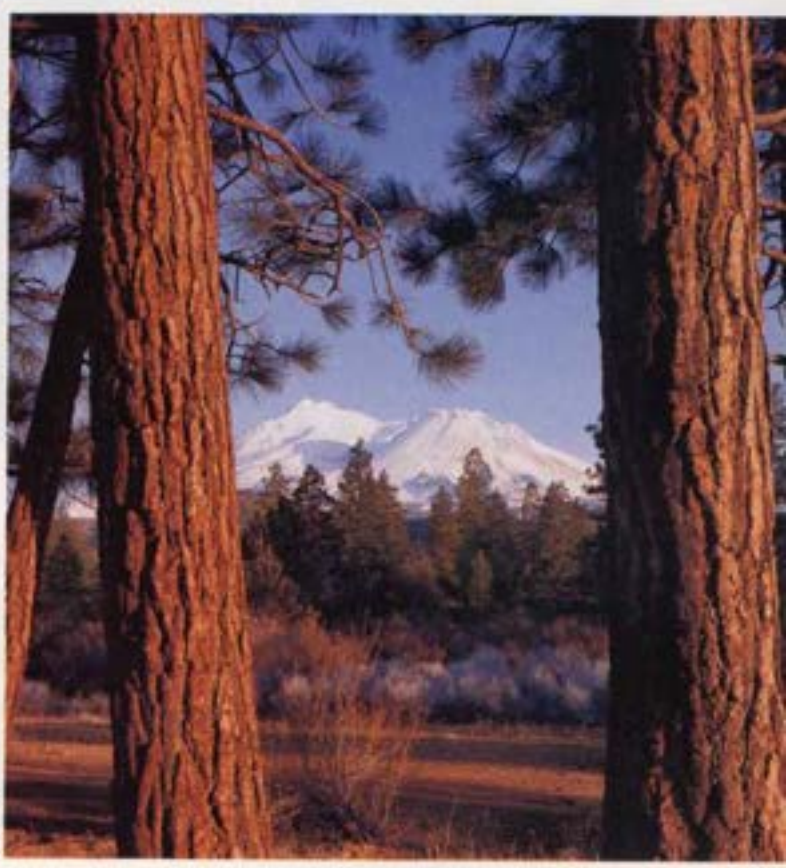
The RARE II cancellation served as the impetus for a number of individual, statewide wilderness bills that are still in the early stages of congressional consideration.

White House Photos

Burford Resigns; Ruckelshaus Appointed

In a major political scandal that rocked the Reagan administration, EPA Administrator Anne Gorsuch Burford was forced to resign. She took with her a group of top agency officials. The most important single issue at stake was the political manipulation of toxic-waste laws and policies. Burford's many critics saw in her behavior an attempt to evade the nation's environmental laws rather than enforce them.

President Reagan tried to rehabilitate his administration's environmental image by nominating William Ruckelshaus as EPA administrator. Ruckelshaus had been the EPA's first chief, in the Nixon administration, and retained his reputation as, in Reagan's phrase, "Mr. Clean." Six months later his management style was receiving guarded approval from environmentalists, but his policy initiatives and defense of the agency's budget have been perceived as far from adequate. (See "Ruckelshaus Report Card: A Gentleman's 'C'," page 30.)



Jeff Gnass

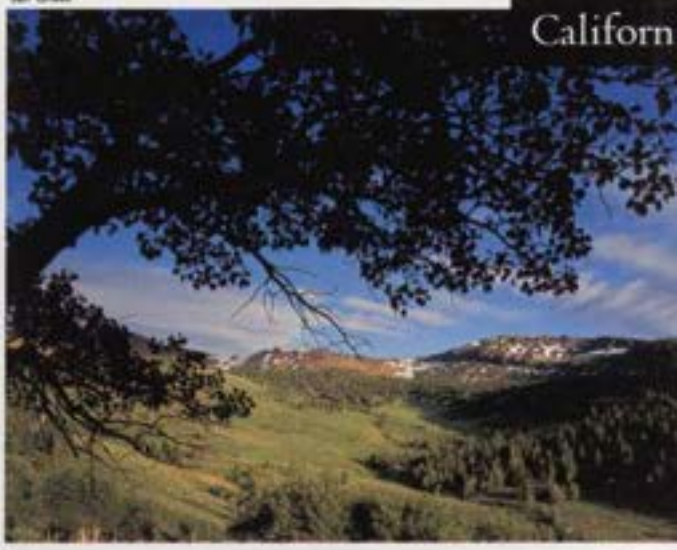
© Mark Kelley AlaskaPhoto

Admiralty Island

Alaska's Admiralty Island is a national monument almost a million acres in size. It is home to the world's greatest concentration of Alaskan brown bears and to more than 2,500 bald eagles. The Tlingit Natives on Admiralty Island pursue a traditional way of life based on hunting and fishing. The Sierra Club Legal Defense Fund, on behalf of the Sierra Club and the villagers of Angoon, has sued to protect this way of life by halting clearcutting on large portions of the island.

In March, the Army Corps of Engineers handed environmentalists a victory when it suspended the permits it had granted to Shee Atika, Inc. —the would-be clearcutters—to build a log-transfer facility at Cube Cove. The permit withdrawal forestalls the clearcutting; what remains at stake, however, is a traditional, subsistence-based way of life threatened by rapid, exploitive economic development.

Jeff Gnass



Californ

The G-O Road Decision

In May the U.S. District Court for Northern California handed down a decision against Forest Service plans to log a 68,000-acre area of old-growth Douglas-fir forest that conservationists believe should be preserved as wilderness. The area is Blue Creek, in the Siskiyou Mountains' Six Rivers National Forest. The court also permanently halted construction of the G-O Road, a seven-mile segment that was to connect two sections of existing road between the towns of Gasquet and Orleans.

The road would have crossed land considered sacred by northern California Indians; the decision to halt the road and the logging was based on the Indians' freedom of religion as well as on the National Environmental Policy Act and various other environmental-protection laws.

Judge Stanley Weigel wrote that the plan to build the road "would seriously impair the Indian plaintiffs' use of the high country for religious practices. . . . The Forest Service's own study concluded that 'intrusions on the sanctity of the Blue Creek high country are potentially destructive of the very core of Northwest Indian religious beliefs and practices.'"

The court also ruled that the Forest Service's harvest plan made little economic or environmental sense. Judge Weigel wrote, "Harvest of timber from the Blue Creek Unit pursuant to the management plan would not serve any compelling public interest."

Siskiyou Mountains Resources Council

Wilderness

Californians have worked for years to pass a comprehensive wilderness bill to protect an adequate part of the state's many different types of wild lands. The very size of such an endeavor creates a legislative challenge. Previous efforts were stalled because of opposition in the Senate, most recently by former California Sen. S. I. Hayakawa (R). California Sen. Alan Cranston (D) is a firm wilderness supporter; his new colleague, Pete Wilson (R), has been wavering.

A compromise bill was first hammered out early in 1980 by the late Rep. Phillip Burton (D). The bill finally passed the House for the third time on April 12, two days after Burton died. It would establish 2.4 million acres of national-forest wilderness in California and additional wilderness for Yosemite and Sequoia national parks.

Most recently, California's senators have tentatively discussed a 1.9-million-acre forest-wilderness package. The timber industry has stated it will not support a bill that establishes that much wilderness, and conservationists feel that less would be a betrayal of public trust. Conservationists are trying to get Sen. Wilson to support an acceptable bill.

© Michele McDonald

Clean Air & Acid Rain

The Clean Air Act, up for reauthorization in 1983, was the subject of controversy and negotiation, but little action.

The most important issue has been acid-rain control. In 1983 the Reagan administration officially acknowledged that acid rain is caused by sulfur-dioxide pollution. The grassroots pressure necessary to catalyze legislative action was evident in early March, at a series of town meetings in New Hampshire. Citizens in 197 out of 200 towns overwhelmingly passed resolutions calling for a 50-percent reduction in sulfur-dioxide emissions.

The EPA promised to come up with a plan for acid rain, but failed to meet its own deadline. Agency Administrator Ruckelshaus's in-house plans, already weak, were turned down by Reagan's advisors as too tough.

Since then, Congress has moved ahead slowly. H.R. 3400, which calls for a 10-million-ton reduction in sulfur-dioxide emissions in the lower 48 states, is a good first step that will, among other things, require the installation of scrubbers on the 50 dirtiest power plants in the Midwest.

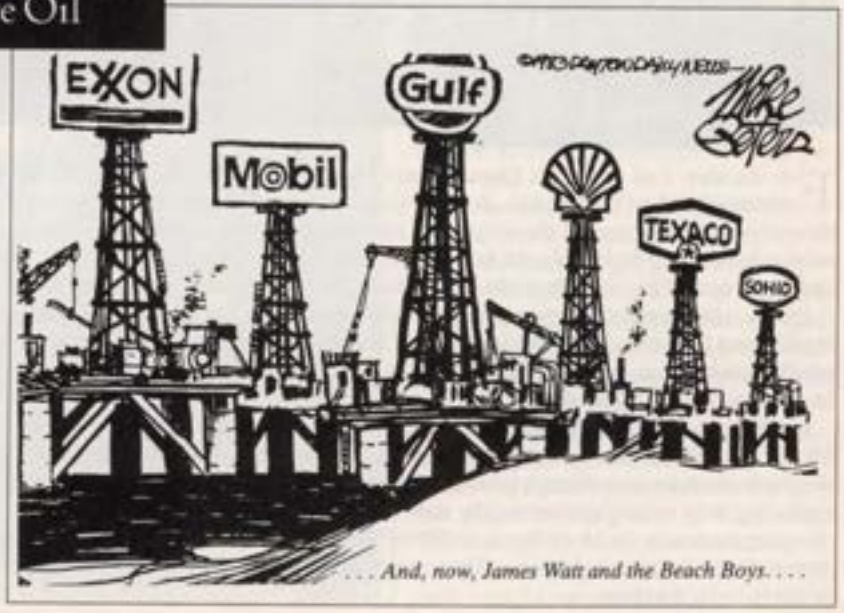
In the Senate, 1982's compromise bill has been reintroduced as S.768. It would clean up only 8 million tons of sulfur dioxide over 12 years, and so must be strengthened.

Offshore Oil

The Reagan administration in 1981 adopted a five-year leasing plan to open nearly 1 billion acres, virtually the entire outer continental shelf, for offshore oil and gas leasing. The controversy has not stopped since. Conservationists, state governments, cities, local businesses, and even some oil-industry people have objected that the leases are too large and don't allow for adequate protection of the coasts. In general, critics charge, the Reagan offshore-leasing program amounts to yet another resource giveaway.

In March a group of representatives and senators introduced legislation—H.R. 3864, now known as the "Weaver bill"—to declare a moratorium on leasing of specific coastal areas off California, Florida, and Massachusetts until the year 2000. Hearings in the House on this legislation will resume in January 1984.

The 1984 Interior-department appropriations bill, signed into law in November, also bans offshore leasing for one year in a number of areas off the coasts of those three states.



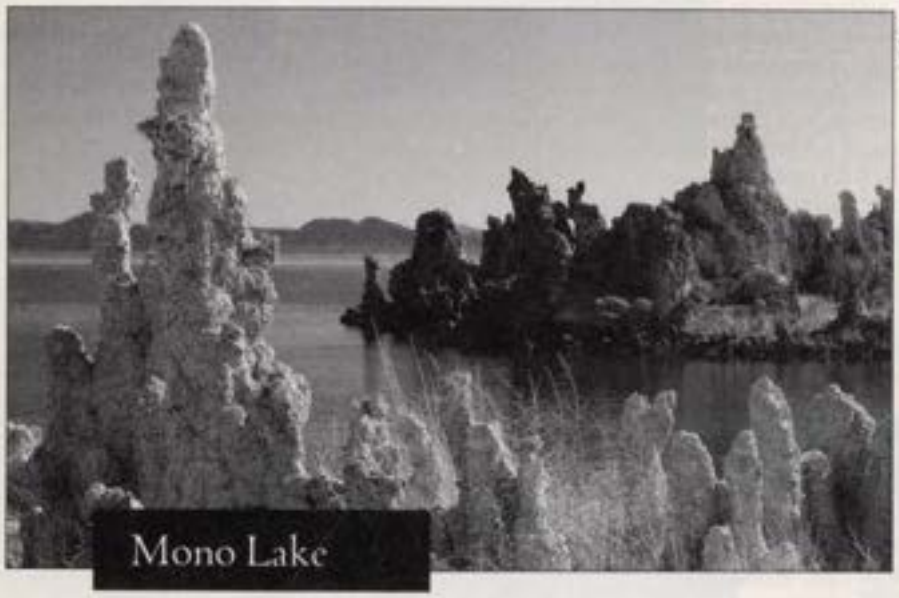
. . . And, now, James Watt and the Beach Boys. . . .

Interior Opens Wildlife Refuges; Congress Closes Them

In July the Interior department announced its intention to accept applications for oil and gas leases on National Wildlife Refuge System lands. By September, hundreds of lease applications had been filed. The leases could affect between 1 million and 4 million acres within wildlife refuges throughout the nation.

Environmentalists called for a quick halt to the leasing-policy shift; refuges had not been open to such leasing since the Eisenhower administration. There is strong congressional opposition to the leasing as well. A congressional resolution defers spending any money on the leasing program until an environmental impact statement is prepared.

© Art Wolfe



Jeff Gnass

Mono Lake

For decades, Los Angeles's Department of Water and Power has been diverting the streams that feed Mono Lake, in the Owens Valley of the eastern Sierra Nevada; these diversions have threatened the ecology of this unique high-desert salt lake. Several wet winters have raised the lake's level, however, and the LADWP, which usually gets between 17 and 20 percent of the water from the Mono Basin, has not been diverting its streams.

In July, after years of lobbying effort by environmentalists, the House finally passed a bill establishing the Mono Basin National Forest Scenic Area. This will halt mining within the area's boundaries and authorize a study by the National Academy of Sciences on the effects on the lake of the LADWP diversions.

In 1982, the California Supreme Court ruled that the doctrine of public trust applies to Mono Lake. This doctrine asserts that the public has the right to protect areas that are part of the public domain even though private interests might have access to the areas or may be exploiting their natural resources. The state could, for instance, prevent Los Angeles from diverting streams in the Mono Basin. In November 1983, the U.S. Supreme Court refused to review the state court's decision. Thus, environmental factors can be considered—and protected—by the state.

Whaling

The 35th meeting of the 40-nation International Whaling Commission took place in July in Brighton, England. Progress was made toward phasing out commercial whaling by 1986 by reducing the quotas for whales that may be killed by commercial whalers. The 1982 quota was 12,500; the 1983 quota, 9,500. Controversy still raged, however, over the killing of whales by subsistence hunters. Japan, the U.S.S.R., and Norway have officially objected to the quotas, and their future actions remain in doubt.

Larry Foster

Minke whale and calf

Stevens's Alaska National Hunting Bill

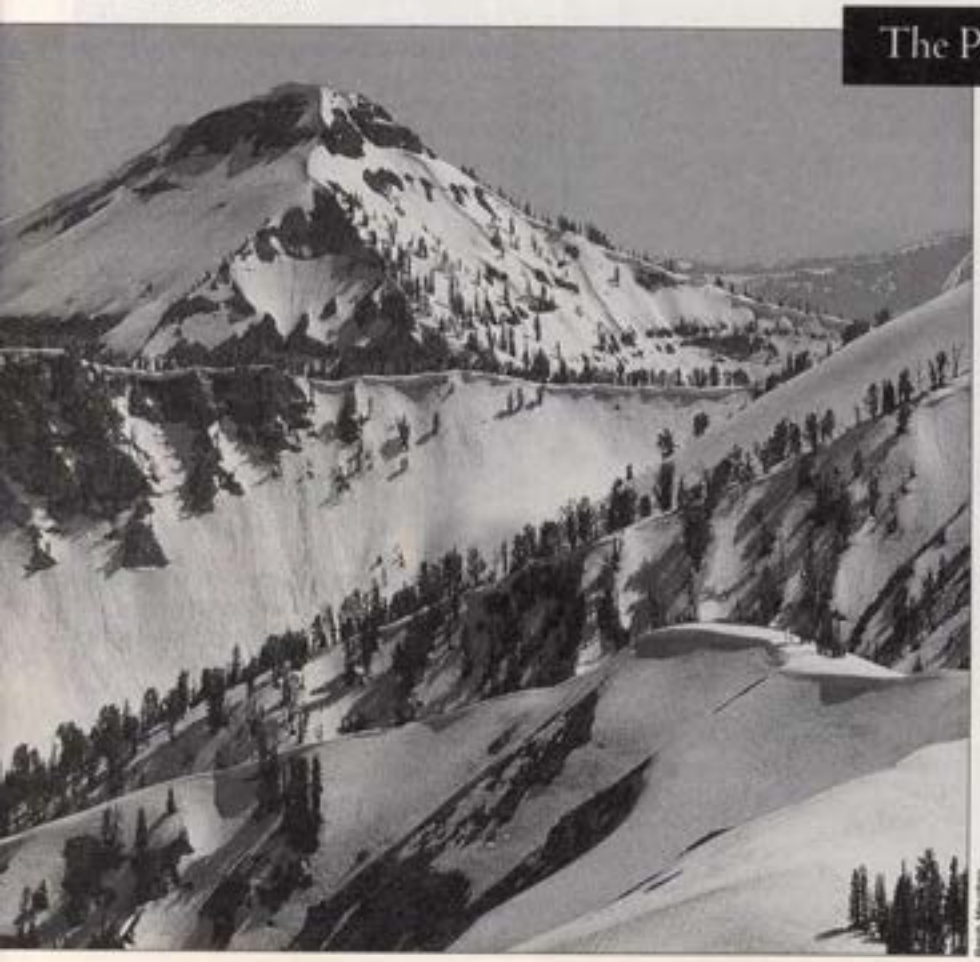
Early in the 98th Congress, Alaska Sen. Ted Stevens (R) introduced S. 49, officially called the Alaska National Hunting Act, but known to conservationists as the "Stevens-Watt Anti-National-Parks Bill." It would redesignate 12 million acres within Alaska's national parks as "preserves," opening them to sport hunting. The bill was supported by hunting interests, but hunting was not the real issue. More than 90 percent of Alaska's total land area of 378 million acres are already open to sport hunting. Even more land is open to subsistence hunting by natives. The issue is the integrity of the national parks and of the hard-fought compromises that were reached with passage of the Alaska National Interest Lands Conservation Act of 1981.

The Senate has demonstrated strong support for national-parks protection. In August the Senate Energy and Natural Resources Committee reduced the acreage at stake from 12 million acres to 4.9 million, and took the unusual step of reporting the bill out of committee "without recommendation." The bill still awaits Senate action.

Peter Dunlap-Shohl Anchorage Daily News

"Senator, some Alaskans have come to discuss safety in the national parks."

The Palisades Decision



Ralph Maughan

The Palisades is a 247,000-acre national-forest area in Idaho and Wyoming, just south of Grand Teton National Park. Under RARE II it was designated for "further planning," to be studied for possible wilderness designation. But before it could be studied, the Forest Service recommended issuing oil and gas leases. The Sierra Club Legal Defense Fund sued.

In a decision that may have extensive ramifications, the U.S. Court of Appeals in Washington, D.C., ruled in September that the Palisades area cannot be leased for energy exploration without guarantees that its wilderness characteristics will be preserved.

The issue is whether leasing itself should require an environmental impact statement, or whether only a proposal to drill—made after leasing—requires an EIS. The court decided that an EIS must be filed before the lease is issued, unless the lease specifies that exploration is contingent on approval after an EIS.

The Palisades decision may invalidate any leases that were issued without an EIS or without protective stipulations for land that might be designated as wilderness. The case could mean that thousands of leases (and millions of acres of leased wild land) must be reconsidered.

Senate Votes Moratorium on Coal Leasing

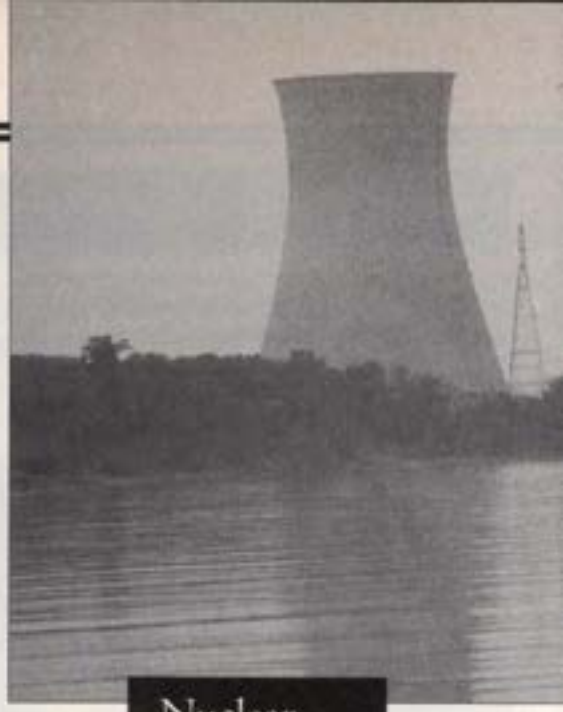
On September 20 the Republican-controlled Senate handed James Watt what was to be his last defeat as Interior secretary when it voted 63-33 to prohibit further coal-lease sales until the spring of 1984. The moratorium was contained in an amendment offered by Sen. Dale Bumpers (D-Ark.) to the FY1984 Interior department appropriations bill. It gives Congress 90 days to examine the recommendations of the new Commission on Fair Market Value before leasing can be resumed.

The Reagan administration's coal-leasing policy was described by Sen. Bumpers as "trying to give away our national heritage to whoever shows up." According to a Sierra Club analysis, the coal-leasing program could cost the nation $2.5 billion by the end of Reagan's first term.

Watt Resigns; Clark Confirmed

On October 9, 1983, James Watt announced his resignation as Interior secretary. President Reagan's nomination of William Clark as Watt's successor raised eyebrows, then ire. It became apparent in confirmation hearings that Clark has no intention of altering Watt's outrageous policies. (See "Clark's Interior: Another Fox in the Henhouse?", page 18.) Despite acute dissatisfaction with Clark, however, the Senate confirmed his appointment on November 18. But a major precedent was set when the Republican-controlled Senate took up and only narrowly defeated (48 to 42) a Sierra Club-initiated "sense of the Senate" resolution calling for a change in Interior-department policies.

Wide World Photos



Nuclear News

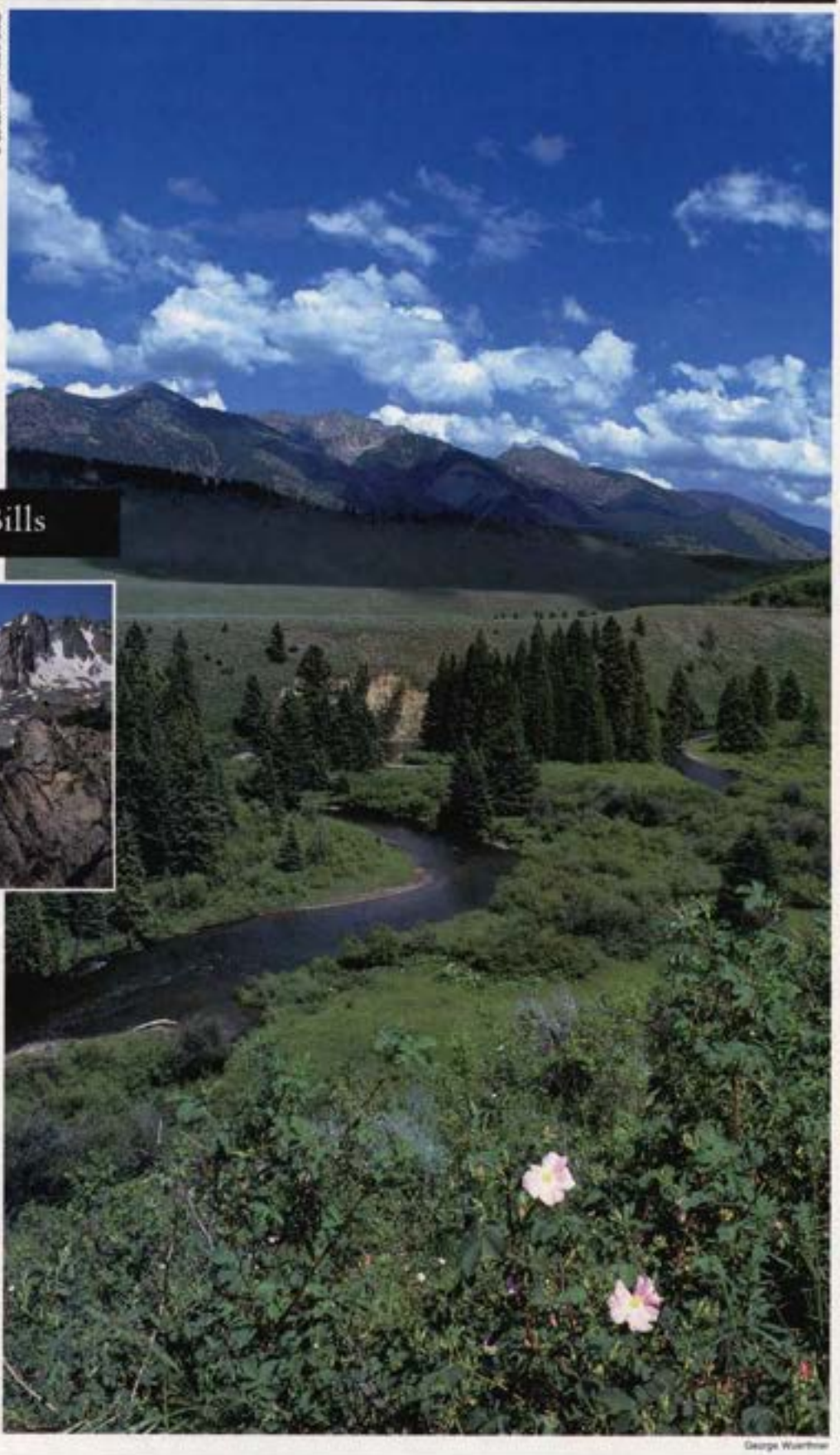
Economically, the collapse of the Washington Public Power Supply System (WPPSS) underscored the disadvantages of investment in nuclear power. In October the Senate finally killed the Clinch River Breeder Reactor by rejecting a last-ditch financing plan. The vote capped a long struggle by environmentalists and fiscal conservatives to kill the project.

The Barnwell Nuclear Fuel Plant in South Carolina, once slated to be the world's largest commercial fuel-reprocessing facility, is also dead. California's Humboldt Bay nuclear plant, mothballed since 1976 because it could not meet seismic standards, will be decommissioned by Pacific Gas & Electric, the plant's owners.

An Ohio utility announced plans to cancel final stages of construction of its Zimmer nuclear plant; instead, the facility may be converted to burn natural gas. The operators of Three Mile Island, site of the nation's worst nuclear accident, have been indicted for criminal wrongdoing. No individuals will go to jail as a result, however, and the $80,000 fine is a pittance compared to the billions the accident has already cost.

California's controversial Diablo Canyon nuclear-power plant has begun fuel-loading, preparatory to starting low-power testing. The Energy department is reactivating its PUREX (plutonium and uranium extraction) plant at Hanford, Wash., which separates weapons-grade plutonium from irradiated fuel pellets.

The Energy department's attempts to accelerate site selection for the nation's first nuclear-waste repository has been stymied by states, Indian tribes, and environmental groups concerned that safety is being sacrificed. The department has pushed back the startup date for the repository from 1998 to after the end of the century.



© Gordon Bean / Picture Group

George Wuerthner

New Wilderness Bills

Wayne Sohon

In October the first wilderness bill of the 98th Congress, establishing a 259,000-acre Lee Metcalf Wilderness in Montana, was signed into law.

In November the House passed four major wilderness bills: North Carolina (70,000 acres), Vermont (41,000), New Hampshire (77,000), and Wisconsin (24,000).

Also at various stages of congressional consideration are bills for wilderness areas in Missouri, Texas, Arkansas, Alabama, Arizona, Florida, Oregon, Washington, Wyoming, California, and New Mexico.

Conservationists are pushing to establish new wilderness areas in other states, including Georgia, Pennsylvania, Virginia, and Tennessee. □

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Complete this simple questionnaire, and befriend a needy child through Save the Children. For only fifty-two cents a day, your money, combined with that of other sponsors, can breathe new life into an impoverished village... help hardworking people in their fight for dignity... turn despair into hope for a child who has known only disaster. Fifty-two cents may not buy much where you live. But for the poorest of the poor where the need is so desperate, it can work miracles. SCB 1/4

My Name Is _____
(please print)

Address _____

City _____ State _____ Zip _____

Tell us how you want to help, by answering these questions:

1. What kind of child would you like to help?

☐ Boy ☐ Girl ☐ No preference

2. What geographical area are you interested in?

Urgent need exists in all the areas listed below, especially overseas. If you have a strong preference for a particular location, check the area of your choice. If not, won't you please let us assign a child where the need is greatest?

☐ **Certainly. Choose a child for me in an area of greatest need.**

I strongly prefer:

☐ Africa	☐ Dominican Republic	☐ Lebanon
☐ American Indian	☐ El Salvador*	☐ Mexico
☐ Appalachia (U.S.)	☐ Honduras	☐ Nepal
☐ Bangladesh	☐ Indonesia	☐ Philippines
☐ Chicano (U.S.)	☐ Inner Cities (U.S.)	☐ Southern States (U.S.)
☐ Colombia	☐ Israel	☐ Sri Lanka (Ceylon)

*LIFELINE Sponsorship – $14 monthly

3. Would you like a picture of your sponsored child?

Shortly after we select a child for you, we can send you a photograph and brief personal history, if you desire.

☐ Yes ☐ No

4. Would you like to exchange correspondence?

If desired, correspondence can build a meaningful one-to-one relationship and provide a unique educational experience for the sponsored child. In areas where illiteracy is high, a village representative will keep you informed of the progress your child is making. Translations, where necessary, are supplied by Save the Children.

☐ Yes ☐ No

5. Would you like information about the child's community?

When you become a sponsor, your funds are used to help children in the most effective way possible—by helping the entire community with projects and services. For health care, education, food production, and nutrition. Several times a year you can receive detailed reports on these community activities which provide permanent improvements to the child's environment. Would you like to receive such information?

☐ Yes ☐ No

6. How do you wish to send your sponsorship contribution?

Enclosed is my check for $_____.

☐ Monthly, $16 ☐ Semi-annually, $96

☐ Quarterly, $48 ☐ Annually, $192

7. Do you wish verification of Save the Children credentials?

Save the Children is indeed proud of the handling of its funds. Based on last year's audit, an exceptionally large percentage (82.1%) of each dollar spent was used for program services and direct aid to children and their communities. Due to volunteered labor and materials, your donation provides your sponsored child with benefits worth many times your total gift. Would you like to receive an informative Annual Report (including a summary financial statement)?

☐ Yes ☐ No

(A complete audit statement is available upon request.)

8. Would you rather make a contribution than become a sponsor of an individual child at this time?

☐ Yes, enclosed is my contribution of $_____.

☐ Check here for general information about our unique programs for aiding impoverished children.

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SOLITARY SNOW TRAVEL

JUNE FLEMING

ON THE FAR SIDE of the frozen lake, the coyotes are celebrating dawn. Now their barks and howls are joined by the cry of a sleepy nuthatch who sounds like he should have waited a while: an uncharacteristically weak and pokey *yank . . ., yank . . . yank*. A little later, as soft, barely audible breezes flow through lodgepole pines, a woodpecker warms up gradually to a sturdy *RAT-tat-tat-tat-tat*, and the climbing sun warms my cloth house. Unless I rustle my sleeping bag, all the fascinating morning sounds enveloping my snow camp come at me clean and clear, because there's no one but me to mask them with human noise. Alone in the snow—there's much to commend it.

I've heard and weighed the arguments against traveling alone in the wilderness in any season, let alone the harshest one. And I've decided that several times each year I'll go alone anyway—responsibly and safely—because there are pleasures, challenges, and rewards that can be had no other way. Good things happen to my powers of observation, sense of time, ordering of priorities, and self-confidence. Total freedom of thought and action lets me indulge my curiosities about the natural world to the saturation point. (No one says, "Are you going to watch that crazy bird all day?") No imperative destination demands travel when some more tempting alternative—a warm sun, a gold mine of tracks—urges me to slow down or stay awhile.

Two potent forces combine to put these solo snow trips among each year's most intense and thrilling experiences: the sheer joy of being in my favorite of all possible environments, and the exhilaration of putting aside almost all the constraints that can limit my paying attention to it. Of course, one has to like being alone; I always have, taking that pleasure in fairly sizable doses. Trips with family and friends have their own special rewards, and I need those too. But once I tasted the winter wilderness unfiltered by companionship, its particular pleasures became another real need, and now I harken to their call regularly for periods of five to nine days.

I respect the arguments against solitary snow travel. Each point made speaks some truth:

- It's risky to rely on only one mind, body, and set of gear to solve all the problems that could arise;
- There are no judgments you can match against your own—an especially important factor when it comes to weather-reading, route-finding, and monitoring your physical condition;
- In case of sickness or injury, there's no one to fix you up or take you out;
- In adverse circumstances it's easier to become depressed and anxious if you're alone.

Yes, there are more risks, and the consequences of trouble are potentially more serious, just as winter travel is riskier than summer travel in any environment. You can't rule out every risk. But if you want the experience badly enough, you can do a great deal to minimize the risks. Then, having done all you can, move on to enjoy!

To go alone responsibly means that you don't put undue stress on the folks back home. They should feel assured that you have the capabilities, judgment, and equipment to handle what you set out to do. They need both a clear understanding of where you'll be and a *written* itinerary (with accompanying map), so someone can find you if you're long overdue or if some emergency at home calls for your early return. On solo trips I carry a small waterproofed card with emergency information that would be useful if I sprained an ankle or otherwise met with bad circumstances. It includes pertinent medical and insurance data as well as a list of people to contact at home. And of course a medical first-aid kit for myself and a repair kit for my skis, poles, bindings, pack, and stove are both must-take items on any solo trip. (See "A Ski-Tourer's Repair Kit," page 119.)

When I'm alone, I'm much more conservative about the kind of trip I plan. I avoid wild terrain that makes high demands on my energy and skiing skills or that makes injury more likely. (The soloist's pack is *heavy*.) No 15-mile days. No brand-new territory, unless it's gentle and easy to figure out. I go rather gently (there's still plenty of challenge), make camp early, and am satisfied with a total mileage only half what I'd cover on skis with friends. It's a small price to pay—in

Illustrations by Carlos Marchiori

truth, none at all—for the wonders I gain by being alone and moving at a slower pace.

Assuming you are in good physical condition and have the necessary skills to make this form of travel a pleasure, there's still the psychological aspect to consider. How confident are you? How do you react to isolation? Will you be anxious and fearful?

The aloneness itself can be a problem to deal with, especially if your jaunt lasts longer than two days. Many people rarely, if ever, choose to be alone for more than a few hours. (If you never seek solitude as a pleasurable state, however, you probably haven't read this far.) The only way to discover how you'll react to isolation is to try it, with the attitude that you'll welcome and learn from the experience however it turns out. Anticipate that being alone probably won't feel consistently pleasant and that your adaptation will move through several stages. I'd urge you to start small—say, two nights out alone. One night really isn't enough time for you to get the feel of things, to move your head out of its usual space, or to test your skills in keeping equipment functional. Knowing you'll be out at least two nights takes the experience out of the "temporary" category and eases the temptation to rely on bailing out if you should feel discouraged.

I've found that when I head out for a long stretch of nine days I need the first two to get caught up in the spirit of the adventure. Then I'm fine, free to live each day fully. When I'm out for five to seven days, that uncomfortable first stage is absent, possibly because I know I'm out for a shorter time and can't afford to adapt slowly. Having experienced the joy of relying on myself during several days of unfiltered wondering, a two-night jaunt now seems far too brief. But that's a good way to start, and certainly more feasible for most people.

What if the weather turns bad and you're forced to hole up for long hours with only your own company? *That's* a real challenge to handle resourcefully. If you're a brooding person with a wild imagination, you can psych yourself into a black depression over being alone in such a situation, cursing the fact that you can't be outside doing what you came to do. So how about using the time for other things? Compose some music or a poem; write a letter; study a mammal book; list all the plants or birds you'd know on sight; invent a game; daydream; solve a problem; fantasize about future trips; examine your map for places to poke around when the weather lifts. Or just listen.

Am I ever afraid when I'm out alone? Only rarely, when something mysterious and eerie happens, something I can't explain. Camped one spring night by a huge frozen lake, I was startled awake by a sharp report, like a gunshot. Another one, closer by, came a few minutes later. I knew that no other people were within miles, and if they were, they wouldn't be shooting. Later came more sounds—thunderish rumblings (on a windless, clear night), and cracking sounds of varying pitch. The cacophony went on long enough to unnerve me. Eventually I hypothesized that all these sounds resulted from the ice moving and settling on the lake. Warm, sunny days were melting and softening the ice pack; then, when it refroze at night, things no longer fit together. Mystery solved (to my satisfaction), anxiety gone.

I have no people-related fears in the winter-wilderness setting. Usually I go for days without seeing anyone, and the folks who *are* out there are healthy in the total sense and often very interesting. And there is certainly no cause to fear any of the wildlife. I consider any sign or glimpse of a permanent resident a privilege. I'll always hold in memory the night two coyotes responded to the insistent barking of a separated companion—and my tent was directly in their line of communication. The loner was trotting back and forth along the riverbank, and apparently found something worth sharing (perhaps an elusive burrowing mouse?). He barked excitedly; immediately at least two friends answered with barks and howls. Their conversation lasted several minutes. In the morning I found the loner's patrolling tracks, but no sign of any prey.

Meeting the physical demands of solitary travel is a continuing effort. I haven't figured out a way to keep packweight as low as I'd like if I go for more than five days. A friend suggests copying a few pages instead of carrying the *whole* animal-track guide, but that sacrifices too much good study material. And if I were to leave the telephoto lens home, there'd surely be an eagle. So I resign myself to carrying around 50 pounds to start, and plan my route accordingly.

To keep my trailhead packweight down to 50 pounds, I take a number of steps on top of all the usual paring procedures:

- I take a lighter tent with a little less living space;
- I pack only one pan, with double foil in place of its lid;

• I splurge on lightweight mini-binoculars;
• I cut down on food and add multivitamins. (I *know* my appetite drops off when meals lack the social element. I used to consume only half of what I carried);
• I settle for few extra clothes . . . a combination of garments that can adapt, mix-and-match style, to any weather (plenty of socks, and a clean shirt for coming out after several rank days);
• I take a *very* light daypack on trips out from base camp. (The weight is the same as the hardware that would make my sleeping bag stuffsack double as a daypack);
• I check my first-aid and repair kits to make sure I have everything I might need, but that I'm not toting a single superfluous bandage or screw;
• I take film out of cannisters and bury it safely in my clothes bag.

There's no getting around the necessity for carrying certain basic gear in winter: tent, stove, adequate sleeping bag (and a warm foam pad to go underneath it), enough food and fuel, clothes that will protect me in any foreseeable turn of weather, and the means to deal with any problem I can imagine. And because as a lone traveler I am the whole group, I carry more than what would be my share of gear on a group trip. So the pack has to be a bit heavier.

Then comes the weight of toys and tools I take just because the trip is of a different nature. There's plenty of time for doing just what I want, for as long as I want. That means hours spent trucking around with camera, binoculars, hand lens, tree book, star finder. It means time for writing journal entries, poems, impressions, letters (with a short pen on onionskin paper). Time for reading and studying. On some trips it means concentrating on the altimeter and weather forecaster, or paying particular attention to identifying *all* the trees. For others the freedom of a solo journey could lead to

packing drawing materials, musical instruments, or the means to make track casts (a slow, patient process in the snow; definitely not a group activity). Of course, this freedom could call for *nothing* extra in the way of tangible tools—just a deeper employment of one's senses and imagination.

Packing both the necessities and those items that facilitate having a good time is an art, and it presents a dilemma I've never quite resolved. There's a point beyond which packweight becomes an oppressive distraction that fuzzes my receptivity and my powers of observation. I reached that point on a recent trip, and was glad that the first couple of days involved mostly level or downhill terrain. Because it was a lot of work to take the pack off and put it back on, for the first two days I took only a handful of pictures and made just a few investigative stops. On the third day out I hit on a happy solution—one that wouldn't work on every trip, but that often could. Heading south on a side trip, and intending to return to the same spot three days later, I pared down 10 pounds of packweight by caching food supplies, some clothing, and two of my four books.

On some trips an extra-heavy pack has made for sore feet (for which I carry lots of moleskin) as well as body aches in places that don't usually bother me. I haven't arrived at a final solution to those problems yet, although I find it helps to travel only moderate distances and to allow for plenty of renewing rest at night. For these reasons, on some days I may ski only until early afternoon.

The sheer bulk of gear can also be a problem for the lone winter traveler. It's most helpful to have some arrangement—such as compression straps—that allows for lashing tent and parka to the outside of your pack. A top pouch—or some other easily accessible outside pocket that holds dozens of things—is invaluable. I carry several trail-use items in pockets or around my neck; these include compass and map, sun screen, a snack, binoculars, and (if I'm expecting a coyote or eagle) a camera.

Making things as easy and foolproof as possible will help you avoid trouble while saving most of your energy and time for the good stuff. Here are a few more tips to keep in mind:

• Be thoroughly friendly with your equipment. A trip by yourself isn't the time to test

a new stove, or to learn to use a compass or put up a tent. (Of course, chances are that if you're still in the basic learning stage, you haven't yet begun to ponder how it might feel to be out alone);

- Remember that it's colder sleeping alone than with a warm friend, so be sure your bag is adequate for the occasion;
- Food and cooking are things I simplify to some degree on all winter trips; when I go alone, I carry that simplification one step further. Most of the foods I carry either are no-cook or else require the addition of cold or boiling water.

Finally, whatever you select in the way of shelter should be something you can put up in a few minutes in a storm if need be. On my first solo trips I used a two-person dome tent. It was sturdily roomy, but a bit heavy, and sometimes a teeth-gritter to erect in very cold, blowy weather. Later I decided to give up a little living space for a tent that is lighter but still adequate, and much easier to put up alone. I don't recommend ultralight shelters. Most of them provide little headroom, and seem even tinier under a dump of new snow.

AS I MOVE THROUGH a solo venture, my intention is to perceive (and record in memory) as much as I possibly can. Because there's no human chatter to scare off the wildlife, and because I'm not distracted by conversation, it seems there's more to see and hear. Capturing one special scene with my camera may engross me for perhaps an hour—but who knows how long it's really been? A sense of timelessness comes over me frequently on solo trips, and being able to yield to it is pure joy. I don't wear a watch in the wild, preferring to live in tune with natural sun time, which I estimate with my compass. Timelessness is especially appealing to those who delight in photography, wildlife study, or writing, and who have twinges of guilt on group hikes about "taking time" for these pleasures. It's fun fiddling around with self-timed pictures, figuring out whose tracks crossed yours, and patiently waiting for the coming evening's wildlife activity.

Sometimes a rest stop stretches into an hour of sitting very still in the sun, eyes closed, drinking in the song a creek makes against its banks. Or of writing words that try to capture the amazing range of colors and textures in one special place. When, in city crowds, can you watch two ravens swooping in play for long minutes? And with human companions, my attention is usually focused more on us than on the sometimes tiny and quiet miracles at our feet. Especially in winter, when meeting other wanderers is unlikely, being alone in the wild forges for me a strong bond with the places I visit.

Another reward peculiar to solitary rambling is the satisfaction of being genuinely self-sufficient. After countless trips I still get a distinct gratification from setting up or taking down a camp on my own. Perfecting the routines, making things work well and efficiently, inventing luxurious little refinements . . . these are skills I'm proud to have. They answer that bedrock need to provide for my own wants, a need that "civilized" life virtually ignores. It's truly satisfying to feel I can (literally) pull my own weight, handle problematic situations resourcefully, and—above all—truly enjoy this unique kind of adventuring.

How do you choose where to go alone? As when you first start snow camping, it's a good idea to select a familiar place, one not terribly isolated but still quiet and untraveled enough to remind you that you're alone. Road skiing may feel reassuring under an especially heavy pack, the contents of which may provide you with the amenities you'll need to enjoy a snowed-in summer campground. Sometimes a little digging will free the outhouse, and frequently these camps are in lovely places with easily accessible water. For my first few solo ventures I picked certain places I'd skied to before with friends, where the potential for exploring was so great that it demanded a return.

Frequently my route calls for an easy ski to a base camp from which I can make daily probes in several directions. One pleasant variation was a nine-day trip that featured long stops in two different areas and direct travel in between. That sort of structure allows for getting to know a place in depth. Also, it simply feels good not to need to break camp and move under full pack each day. Those slower-paced days are the ones for a luxurious bath (if you've found a hot spring) and the delights of a sunset ski around the lake, because you still have plenty of energy. They also invite early-morning excursions to watch things waking up in the dawn light. (If you like to take pictures, early and late in the day are often the best times for snow photography anyway.)

One of my favorite parts of lone days in the snow is the evening. After dinner I like to go for a ski in the fading light and lovely sunset colors, observing what happens as the hills, clearings, and streams are painted by the subtle brush of twilight. Birds make new sounds as they begin settling down for the night. A full moon is a bonus that keeps me up later with its own special magic, while a moonless night makes for fine stargazing.

When I'm toasty warm from exercise, it's time to crawl in for the night. Many times I prefer not to read or write by flashlight or candle lantern; instead I simply *listen* as receptively as I can, for as long as new sounds keep coming; a few sleepy bird noises, the babble of a nearby stream, perhaps an enterprising gray jay cleaning up the kitchen a few feet away, or a symphony of snowflakes falling on the tent roof. And, if I'm lucky, the songdogs are joining in their magnificient howling chorus again! □

June Fleming's books include The Well-Fed Backpacker *and* Staying Found: The Complete Map and Compass Handbook. *Her "Backcountry Kitchen" segments will be seen in 1984 on the PBS television series* The Great Outdoors.

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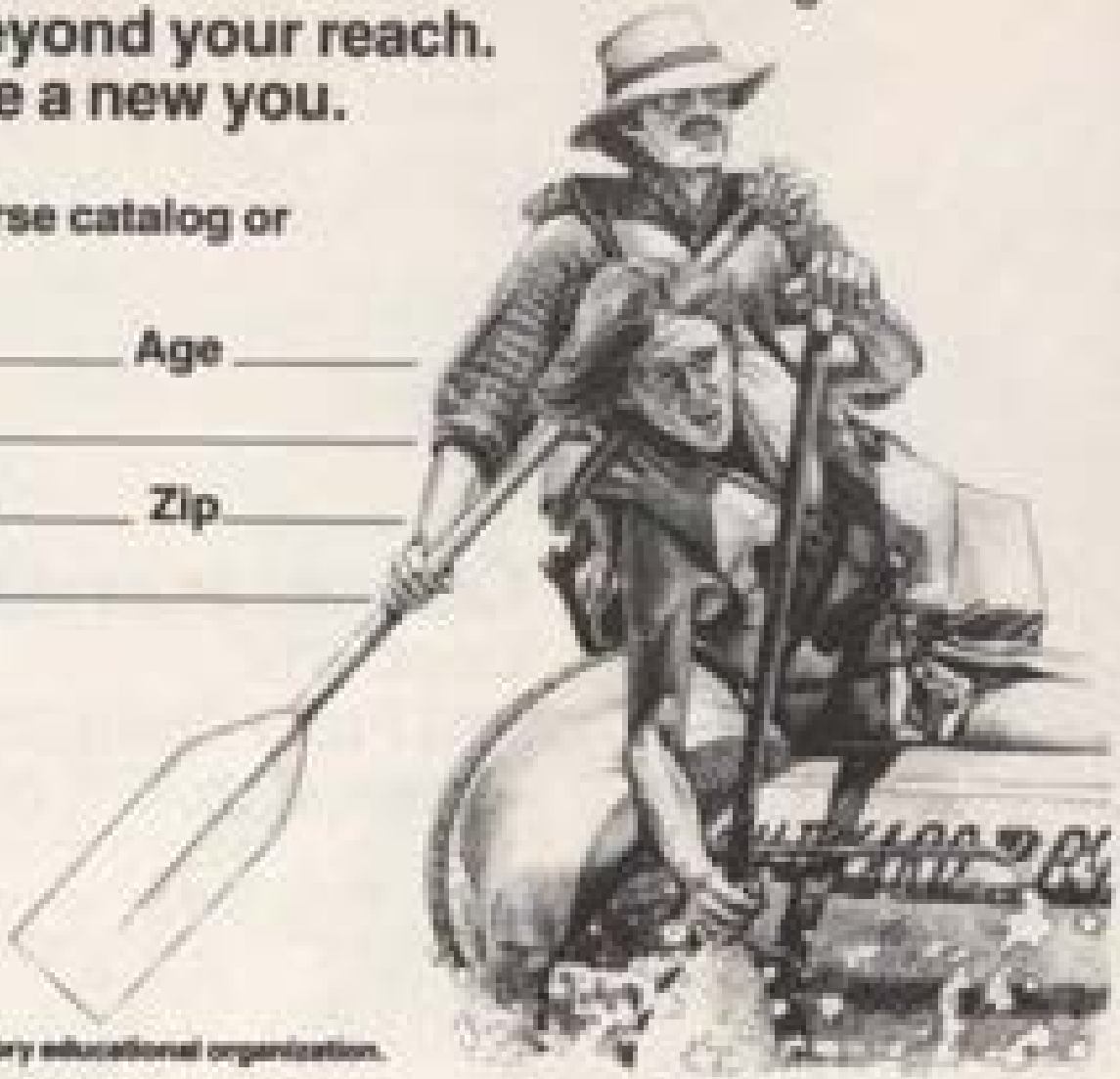

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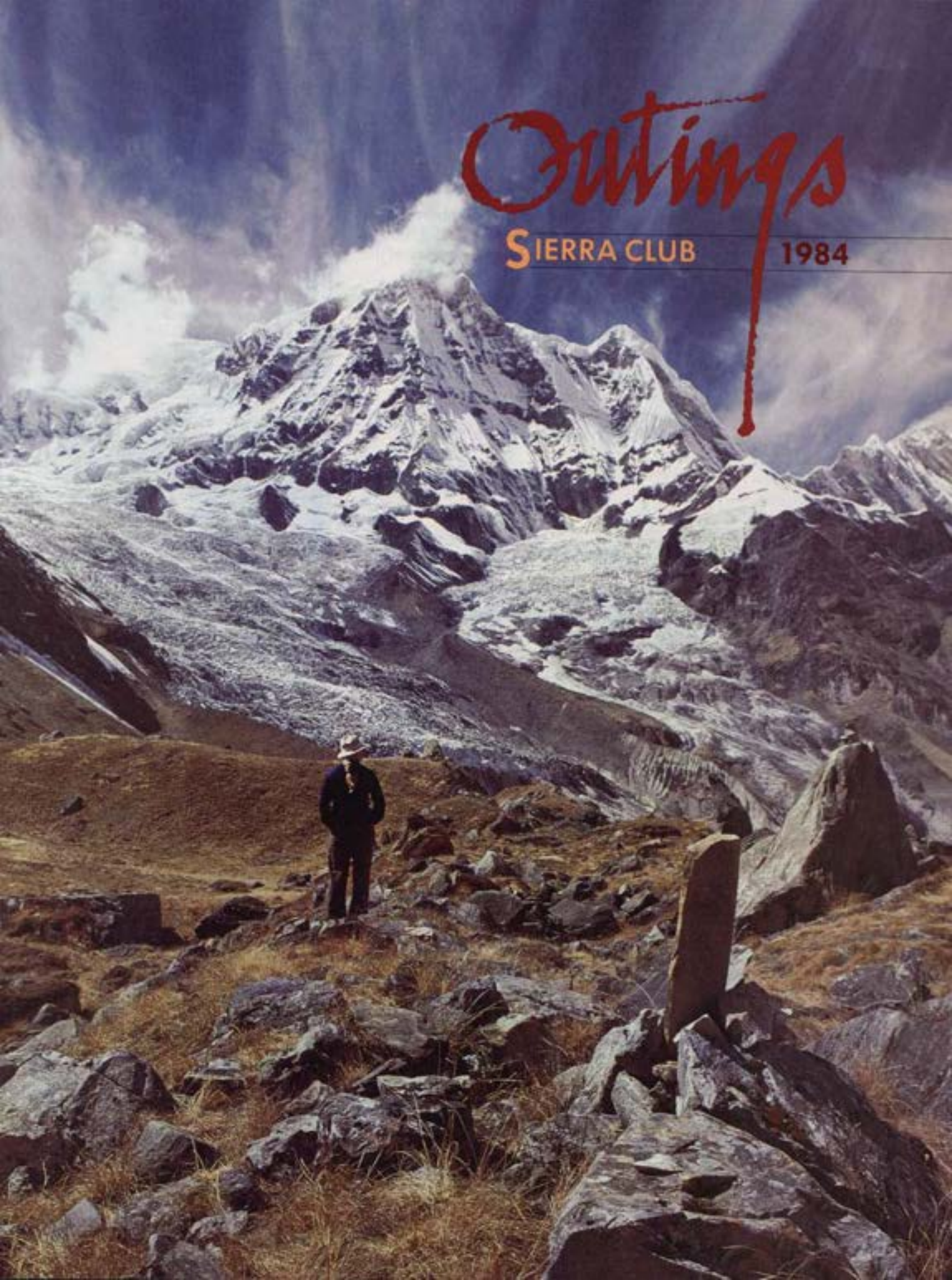

Outings
SIERRA CLUB
1984

Introduction

HOW SIERRA CLUB MEMBERS BECOME LEADERS

Every year we receive hundreds of inquiries from members who want to know how to become a Sierra Club outing leader. For those members interested in outing leadership, a summary of the process by which one becomes a leader is outlined here.

Sierra Club members who wish to become trip leaders usually qualify because of experience on outings run by the Outing Committee. Normally, they go through a three step process: first, going on an outing as a participant; second, going on an outing as an assistant leader or in another staff position; and third, obtaining permission from the appropriate subcommittee chairman and leading a trip.

In the first two steps the potential leader is gaining experience. At the same time he or she is observed by an experienced leader and can be evaluated later on.

To help potential leaders meet the second requirement, most subcommittees run leader training trips. A number of trips take aspiring leaders as "trainees" at a reduced price.

Nearly every year there is a Nature Knowledge Workshop and a Wilderness Medicine Seminar, held in the Sierra, at which leaders new and old gain outdoor knowledge.

Since the third step involves an evaluation by the subcommittee chairman, would-be leaders are encouraged to attend subcommittee meetings. There they can make friends, and get to be known by subcommittee officers and other leaders.

While this is the usual way of gaining the requisite experience, the subcommittee chairman may approve leaders who have gained their experience in other ways, based on information about the particular qualifications of that person.

In addition to field experience, leaders are required to have first-aid qualifications, and knowledge of conservation issues in the trip area.

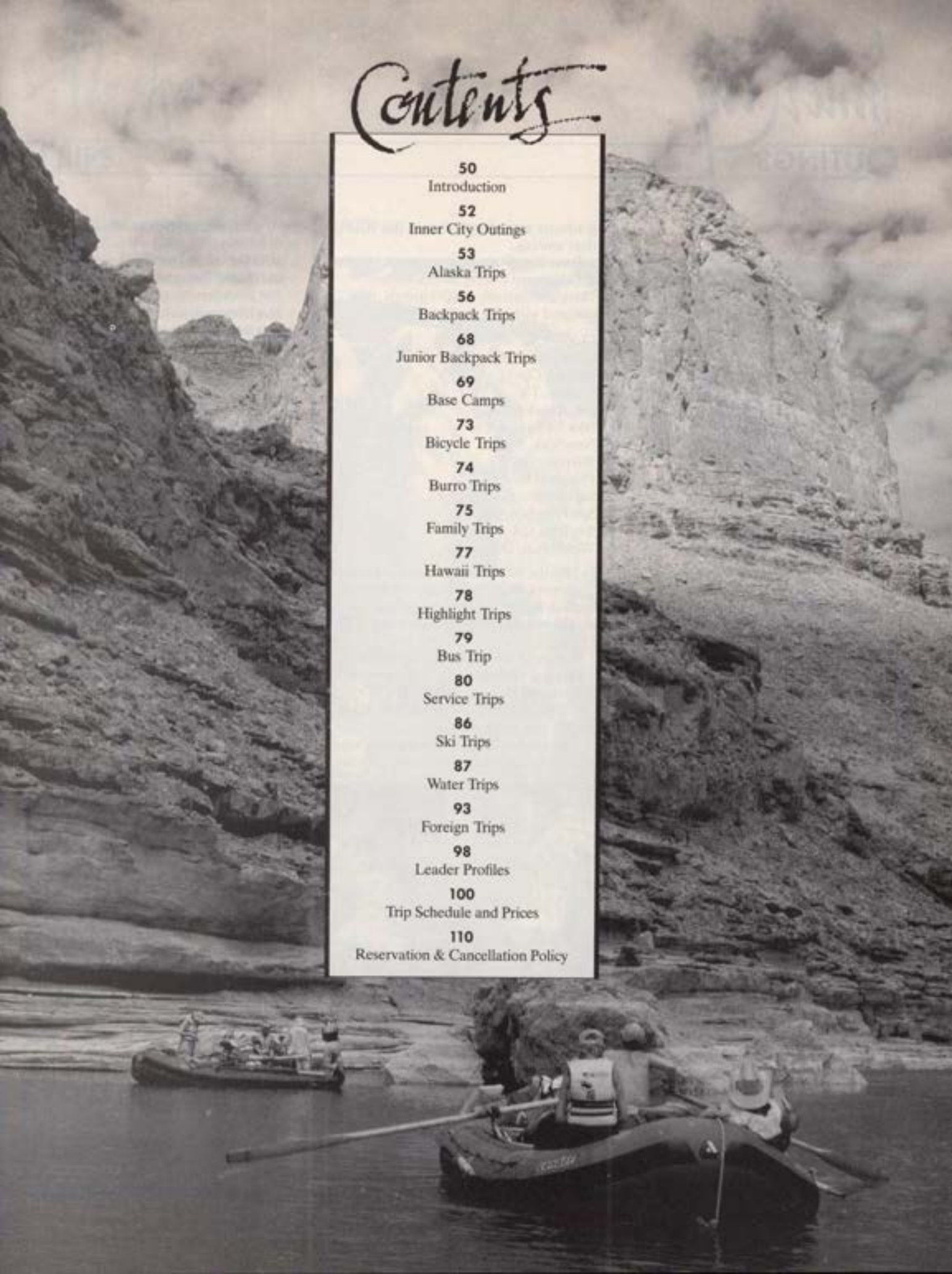
The Outing Committee does not assign trips to leaders. Just the reverse takes place. Each trip leader plans and leads his own trip. The trip leader selects the place; determines the trip size (within agency limits) and length; picks the route; and chooses the trip format. Often, however, subcommittees will solicit leaders for trips into areas of particular conservation concern.

The Outing Committee welcomes new leaders. Anyone who wishes to become a leader, or who wishes more information, is invited to write to the Outing Department listing the kind of trips you are interested in leading and your letter will be forwarded to the appropriate subcommittee.

Paul Sjoberg

Outing Department Staff (L to R): Marla Riley, George Winsley, Karen Short, John DeCock, Suzanne Raftery, Lynne Wick, Steve Griffiths Not pictured: Jane King, Helen Jordan

Front cover photo of Annapurna, Nepal by Gordon Wiltsie. Back cover photo of Bald Rock Canyon, Plumas National Forest by Jeff Gnass.



Contents

Inner City Outings

Inner City Outings is the Sierra Club's community outreach program. Our volunteers offer outdoor leadership and wilderness training to youths of diverse cultural and ethnic backgrounds, to the hearing and visually impaired, and to the elderly. We provide whatever it takes to get a trip out: equipment, training, transportation, or a small stipend.

Every weekend, ICO groups conduct a number of outings thoughout the country. Trips include dayhikes, backpacking, whitewater rafting, cross-country skiing, snowshoeing, adventure ropes courses, rock climbing, and bicycling. Last year, leaders provided more than 200 outings for more than 1,600 participants.

Many ICO youths train to become assistant leaders, and in 1983 youths from the San Francisco Bay ICO provided leadership for an ICO National Outing—a two-day whitewater rafting trip on California's Carson River. None of the youths had experienced the wilderness until they came into contact with ICO; all of them were graduates of the San Francisco Bay ICO's river training.

American Indian Center Group Raft Trip, Klamath River, California

Inner City Outings is coordinated by the ICO National Outing Subcommittee. There are currently 13 ICO groups, each affiliated with a Sierra Club Chapter:

Chicago, IL
Cleveland, OH
Denver, CO
El Paso, TX
Los Angeles, CA
New Orleans, LA
New York, NY
Norman, OK
Philadelphia, PA
Sacramento, CA
San Francisco, CA
San Jose, CA
Washington, D.C.

In 1984 the Subcommittee plans to complete work on the ICO Leaders' Manual, sponsor one or two regional conferences, and encourage the formation of new ICO groups.

A donation from you will help ICO meet these objectives. Contributions to ICO should be made to INNER CITY OUTINGS, SIERRA CLUB FOUNDATION, and are tax-deductible.

Many Sierra Club members find rewarding experiences as ICO volunteers. Donations and information requests should be sent to:

ICO Subcommittee
c/o Outing Department/Sierra Club
530 Bush Street
San Francisco, CA 94108

The Subcommittee thanks all of you who contributed to Inner City Outings in 1983, in particular those who made contributions in memory of Tom Fleuret, Dave Hogan, Scott Ramsey, and Charles Richards. The Subcommittee also thanks the following clubs, corporations, and foundations for their support:

Alfred and Mary Douty Foundation
Alpine Winters Foundation
ARA Services, Inc. (Philadelphia)
The Bothin Helping Fund
Bread and Roses Community Fund
California Alpine Club
Celestial Seasonings, Inc. (Boulder)
The Colorado Mountain Club Foundation
Dave Cook Sporting Goods (Denver)
The David and Lucile Packard Foundation
The Dean Witter Foundation
Edwin Gould Foundation for Children
The Hunt Alternatives Fund
James Starr Memorial Foundation
Leo Lindly Fund of The Sierra Club Foundation
The San Francisco Foundation

Hulleah Tsinhnahjinnie

Alaska

TRIPS

ALASKA is about one fifth the size of *all* the lower 48 states! Yet it has a population less than that of San Francisco, with nearly half living in and around Anchorage. Of the 365 million acres of land stretching from the Arctic Ocean to the glaciated bays and rain forests of southeast Alaska, most is essentially uninhabited.

The Alaskan wilderness is almost beyond comprehension. The permafrost of the arctic slope, the magnificent grandeur of the Brooks Range, the Taiga (winter territory of the caribou), the immense river drainage systems of the Yukon, Porcupine, and literally thousands of other rivers and streams—all are a part of this magnificent land which, in a sense, culminates at Mount McKinley, the highest point on the North American continent.

Mirroring the country, Sierra Club trips offer a wide range of terrain and possibilities for studying a fascinating diversity of wildlife and flora—an opportunity to encounter wilderness of such magnitude and power that the experience is both humbling and uplifting at the same time.

Conservation issues are still a critical concern in Alaska. These trips involve areas where important decisions affecting the future of Alaskan land are being made. Beyond the pure wilderness experience, our trips provide a chance for active conservationists to study the area firsthand and to use that knowledge to help determine its future.

Nothing you have done before can quite prepare you for your first encounter with Alaska. Nothing you do afterward will let you forget it.

[66] Lake Clark Backpack, Alaska—June 14–28. *Leader, c/o Gus Benner, 155 Tamalpais Rd., Berkeley, CA 94708.* Lake Clark National Park is located 200 miles southwest of Anchorage, where the Alaska and Aleutian ranges meet. Rugged mountains, abundant wildlife (caribou, Dall sheep, moose), and several beautiful lakes provide a perfect setting for this Alaskan wilderness experience. Flying by bush plane from Anchorage to Turquoise Lake, we join an expert local guide and backpack south through several watersheds to Lake Clark. The distance is not far (about 50 miles), but the terrain is difficult and cross-country. An airdrop midway

Glacier Bay Kayak Trip, Alaska

Carol Dienger

Carol Dienger

Glacier Bay Kayak Trip, Alaska

will lighten our loads. Trip price doesn't include bush plane costs, estimated at $350. Leader approval required.

[67] Franklin Mountains, Arctic Wildlife Range, Alaska—June 24–July 7. *Leaders, Sharon and Bob Hartman, 1988 Noble St., Lemon Grove, CA 92045.* This cross-country backpacking trip will cover 70 miles in a remote and seldom-visited region of the northeastern Brooks Range. From Cache Creek on the Canning River we will hike through broad valleys, surrounded by glacier-covered peaks, to Lake Schrader at the edge of the North Slope. With 24 hours of daylight there will be plenty of time to explore, climb, and fish, and to photograph this magnificent wilderness and its wildlife. Trip members need to be experienced backpackers in top physical condition for this trek. Bush plane cost not included in trip price.

Brown Bear, Katmai National Park, Alaska

Jordan Dienger

[68] Chitistone Canyon/Goat Trail Backpack, Wrangell-St. Elias Park, Alaska—July 2–14. *Leaders, Kathy and Robin Brooks, 920 Kennedy Dr., Capitola, CA 95010.* We begin this trip from a wilderness airstrip in one of the world's newest and grandest parks. From there we'll follow a primitive historic route over a 5,800-foot pass, along the narrow, steep Goat Trail, and down through Chitistone Canyon's tricky river crossings. The rewards for experienced backpackers include vistas of the mighty St. Elias and Wrangell ranges, glaciers, Dall sheep, and the waterfalls, gorge, and brightly colored 4,000-foot walls of Chitistone Canyon. The short (35-mile) trail will allow several layover days to explore the area with the aid of a local naturalist-guide. Ground and airfare from Anchorage to the roadhead are not included in trip price. Leader approval required.

[69] Southern Kenai/Kachemak Exploratory—July 7–16. *Leaders, Mary and Jerry Lobel, 2216 E. Sahuaro Dr., Phoenix, AZ 85028.* This trip will originate in Homer, Alaska. We'll fly by bush plane to the south shore of the Kenai Peninsula and, after camping near the coast, climb 2,500 feet onto the Wosnesenski Glacier. After two days on the glacier we will float down a river back to Kachemak Bay. This will be an outstanding adventure of experiences unique to Alaska. The trip will be paced to allow for side hikes, observing wildlife, peak-climbing, and fishing. Bush plane airfare included in trip fee.

[70] Glacier Bay Kayak Adventure, Alaska—July 12–21. *Leader, Blaine LeChemi-nant, 1857 Via Barrett, San Lorenzo, CA 94580.* Our two-person Klepper kayaks allow us to explore the most remote beaches and inlets of Glacier Bay. This area of active glaciers was covered by thousands of feet of ice less than 100 years ago. Newly exposed land provides examples of life-reclaiming plant succession in addition to some of the most beautiful scenery in North America. Eagles, brown and black bear, coyotes, wolves, and mountain goats inhabit the stark landscape. Seals, whales, and porpoises frequent these waters. Birds such as puffins, murrelets, quillemots, and kittiwakes are often seen. A scenic floatplane flight is included in the trip fee. Previous kayak experience not required. Minimum age 14.

[71] Stikine River/Misty Fjords Raft Trip, British Columbia/Alaska—July 18–August 1. *Leader, John Ricker, 2610 N. Third St., Phoenix, AZ 85004.* We will meet in Prince Rupert and travel by bus and bush plane to Telegraph Creek. We will be arriving there for a half-day whitewater run in the Grand Canyon of the Stikine River. Our raft trip starts the following day down the fast-moving but relatively smooth Stikine River, to Wrangell, passing through the glaciers and jagged peaks of the Coast Range with a stop at Chief Shake's Hot Springs. From Wrangell a ferry takes us to Ketchikan, and then a plane takes us to tidewater in Misty Fjords. We

will spend two nights in a cabin, and then fly to an alpine lake near Timberline for fishing and exploring. The return to Ketchikan is by motor launch. No rafting experience is necessary.

[72] Gates of the Arctic Backpack—July 21–August 3. *Leader, Molly McCammon, Box 470, Juneau, AK 99802.* Some of the most spectacular scenery in the Brooks Range lies between Takahula and Walker Lakes. Although only 40 miles long, this hike is strenuous, passing through boreal forests and across rugged alpine passes into the headwaters of the Kobuk River. There we'll camp surrounded by sheer granite walls. Fishing should be excellent. Price does not include air transportation from Fairbanks. For experienced hikers only; leader approval required.

[73] Valley of 10,000 Smokes, Katmai Park, Alaska—July 23–August 5. *Leaders, Carol and Howard Dienger, 3145 Bandera Dr., Palo Alto, CA 94304.* Katmai was the site of one of the greatest volcanic eruptions in recorded history. Created by the 1912 eruption, the Valley of 10,000 Smokes has few fumeroles still smoking today. We will backpack for ten days in this desolate but beautiful geological wonderland, which is surrounded by still-active volcanoes and many glacier-clad mountains. Terrain is gentle, and distances will not be long, but Katmai's weather has an unforgiving reputation. Katmai hosts abundant wildlife, particularly the Alaska grizzly and brown bear. Several days will be devoted to observing bear and enjoying the superb salmon fishing near Brooks Camp.

[74] Alaska Range, East of Denali, Alaska—July 28–August 10. *Leader, Harry Reeves, P.O. Box 1571, Quincy, CA 95971.* Landing near Gillam Glacier, we will explore enchanting valleys and ridges between the base of Mt. Deborah (12,339) and the Little Delta River. This is steep tundra country; trailless, uneven, ever-changing. At a moderate pace over challenging terrain we will have opportunities to climb among Dall rams and to see caribou, birds of prey, and other animals. Flights in and out by bush plane from the Tanana River are spectacular. Coping with the uncertainties of the northern environment requires backpacking experience. Cost of bush plane is not included in trip price. Leader approval required.

[75] Kenai Wildlife Refuge, Highlight—July 29–August 8. *Leader, Dolph Amster, P.O. Box 1106, Ridgecrest, CA 93555.* We enter Kenai Refuge, home of bear, moose, and wolves, by boat across glacier-fed Tustemena Lake. Accompanied by an Alaskan guide, we proceed on a circuit hike in leisurely fashion, with occasional layover days. Our journey takes us to the Tustemena Glacier as well as to areas specially chosen to reveal the wildlife in magnificent natural settings. Our dunnage will be moved by pack animals, freeing us for fishing, photography, or loafing. Participants should be well prepared for wet weather and should have some outdoor experience. Leader approval required.

Glacier Bay Kayak Trip, Alaska

Carol Dienger

Minarets Wilderness, Sierra Nevada, California Harry Mayer

Backpack TRIPS

BACKPACKING TRIPS are an adventurous and rewarding way to experience the wilderness. Packing everything you need for the trip adds an extra dimension of freedom and satisfaction to your outing. There is another benefit of backpacking: It is the least expensive way to go.

Our trips are really small expeditions, each individually planned by its leader, who seeks challenging routes and attempts, wherever possible, to get off the trails and set up camps in untrampled, out-of-the-way places. Almost always, the trips provide one or more layover days for relaxing or exploring on your own.

Every trip is run cooperatively, with a central commissary in which all members share cooking and cleanup chores. All are expected to carry a fair share of food and commissary gear, in addition to their own personal belongings . . . clothing, sleeping bags, etc.

Your trip leader serves as a teacher as well as guide. He or she will demonstrate the ways of traveling best-suited to protecting the natural land and making participants more aware of good wilderness manners themselves. For example, just one step we have taken is that, with rare exceptions, we cook using stoves instead of fires.

There are more than 80 trips this year throughout the United States. They vary greatly in length and difficulty. To help you make your selection in terms of your own fitness and experience, we have rated the trips in five categories: LEISURE (L) is a trip whose daily mileages are fairly easy, up to 25–35 miles in a week of four to five travel days, the remainder being layovers. MODERATE (M) means a longer trip, nearer 35–55 miles in a week, and it may include rougher climbing and more cross-country route-finding. STRENUOUS (S) refers to trips having as many as 60–70 miles per week, greater ups and downs, and continual high-elevation travel. LEISURE-MODERATE (L-M) and MODERATE-STRENUOUS (M-S) are interim categories. Individual trip supplements explain in more detail each trip's degree of difficulty.

Leaders are required to approve each applicant before final acceptance, and will ask you to write in response to questions in the general supplement. These responses help the leader judge your backpacking experience and physical condition. Unless specified otherwise, the minimum age for trips, excluding the Junior Backpack Trips, is 16.

Brooks Range Backpack Trip, Alaska
Bob Hartman

Francis Tehsuda

Hiking in the White Cloud Peaks, Idaho

[32] Superstition Wilderness, Arizona—March 4–10. *Leader, John Ricker, 2610 N. 3rd St., Phoenix, AZ 85004.* This backpack trip will make a 60-mile loop through an area of rugged and magnificent volcanic mountains and canyons, where elevations range from 2,400 to 6,000 feet. We will climb peaks, visit Indian ruins, and enjoy some of the best scenery in the Sonoran Desert. (Rated M-S)

[33] Galiuro Wilderness, Galiuro Mountains, Arizona—April 8–14. *Leader, Sid Hirsh, 4322 E. 7th St., Tucson, AZ 85711.* Wild, very rugged, and little affected by modern man, the Galiuros in southeastern Arizona are wilderness at its finest. We will travel over brushy, waterless ridges, up and down steep slopes with brightly colored soils and oddly shaped rocks, and through heavily forested canyons with, perhaps, running water. Moving days will range from 5 to 14 miles over good trails, bad trails, and no trails. There will be two layover days to give us an opportunity to explore each of the main inner canyons, and to visit the remains of an historic gold mine. (Rated M-S)

[34] Painted Rocks Leisure Loop, Santa Ynez Mountains, California—April 8–14. *Leader, Len Lewis, 2106-A Clinton Ave., Alameda, CA 94501.* The Santa Ynez Mountains lie northeast of Santa Barbara, and feature high meadows and deep, rugged canyons. This seven-day on-trail trip will take us from the desert, across the high Potrero and to explore the Sisquoc River. Novice backpackers in good shape will be welcome. (Rated L-M)

[35] Ventana Desert to Redwood Forest, Coast Range, California—April 14–21. *Leader, Bob Berges, 974 Post St., Alameda, CA 94501.* Spring is the time to get your boots moving on the pleasant trails of the upper Big Sur drainage. Camps will be on 1,000-meter ridges and in river canyons. Our layover day will be spent at Redwood Creek. A short walk from there will let us enjoy a soak in a hot spring. On a short side trip we will walk to the top of South Ventana Cone (4,965), the highest summit in the wilderness. Wildflowers will be blooming, and all required hiking is on trails. (Rated L-M)

[36] Pacific Crest Trail—Mojave to Sierra, California—April 14–22. *Leader, Bill Allen, Rt. 1A, Box 34, Red Bluff, CA 96080.* A challenging portion of this National Scenic Trail heads north from Mojave (2,782) 60 miles through topography shaped by the same forces that created the Sierra Nevada. This trip will require members to use desert travel skills for full enjoyment of a desert experience. Spring flowers and encounters with many species of wildlife, especially nocturnal, are anticipated. Our central commissary features a modified natural-food menu and loads proportional to your body weight. (Rated M)

[37] Crest of the Black Range, Death Valley Monument, California—April 14–22. *Leader, Laurie Williams, Box 124, Canyon, CA 94516.* Extended backpacking in the convoluted mountains of Death Valley requires water caches and much scouting. This is a rare opportunity to see the great canyons, distant vistas, sites of mining camps, and charming hidden springs of the rugged mountains that rise directly above the lowest point in the Western Hemisphere. (Rated M-S)

[38] Hurricane Deck, San Rafael Wilderness, California—April 15–21. *Leader, John Ingvoldstad, 1180 Adams Ct., San Jose, CA 95132.* Located in the Coast Range, the San Rafael Wilderness is a land of ridges and stream-bottomed canyons. We will visit the unique rock formations of Hurricane Deck, hike along the boundary of the Sisquoc Condor Sanctuary, and enjoy the waterfalls of the Sisquoc River. On our layover day there will be a climb of Big Pine Mountain (6,828), the highest summit in the wilderness. (Rated L-M)

[39] Kanab Canyon/Thunder River, Grand Canyon, Arizona—April 28–May 5. *Leader, Peter Curia, 1334 W. Willetta, Phoenix, AZ 85007.* The sights and scenery in this area are among the best that the Grand Canyon offers to the off-trail adventurer. There are the expanse of the Esplanade, the redwall narrows of Jumpup, the usually muddy and always sinuous Kanab Creek, the sculptured floor in Scotty's Hollow, the murmur of Whispering Falls, the torrent of Deer Creek Falls, and finally the explosive headwaters of Thunder River. The terrain is difficult and there are no layover days, but the memories that go with you are forever. (Rated S)

[40] Navajo Mountain/Rainbow Bridge, Arizona—May 6–13. *Leader, Nancy Wahl, 325 Oro Valley Dr., Tucson, AZ 85704.* On the Navajo Indian Reservation in northern Arizona, Navajo Mountain rises 10,388 feet, dominating the landscape. Rainbow Bridge, magnificent sandstone canyons, slickrock vistas, spring wildflowers, and sparkling creeks await, making this trip a hiker's and photographer's delight. Time is allotted in the eight-day hike for exploration. (Rated M)

[76] Grand Gulch Wilderness Area, Utah—May 12–19. *Leader, Bob Audretsch, 1308 129 Rd. #2A, Glenwood Springs, CO 81601.* We begin this trip by entering Grand Gulch at the Kane Gulch Trailhead, and finish by exiting at Collins Canyon. We will go as far south as the natural arch, about six miles from the junction of Grand Gulch and the San Juan River. Along the way we will admire the 600-foot-high canyon walls above us, as well as the countless ancient Indian cliff dwellings and pictographs. A major emphasis of the trip will be to explore the various side canyons of Grand Gulch, something few hikers are able to do. Our side trips will include Todie,

Coyote, Bullet, Green, Step, Dripping, and Deer canyons. (Rated M-S)

[41] Secret Backpack, Coconino Forest, Arizona—May 13–19. *Leader, Jim Ricker, 525 S. Elden, Flagstaff, AZ 86001.* Journey to the beautiful and secret places of Sycamore Canyon and Secret Canyon. We will average eight miles a day on rough trails and rocky creek bottoms. There will be one layover day and one 2,000-foot climb. The views from Secret Mountain (6,400) are spectacular, and the seldom-visited side canyons offer excellent opportunities for exploration. Wildlife is abundant, and the wildflowers should be at their peak. Expect warm, dry days and mild, cool nights. (Rated M)

[42] Tuckup Trail, Grand Canyon Park, Arizona—May 19–26. *Leader, Bob Marley, 4245 N. 26th St., Phoenix, AZ 85016.* The Tuckup Trail follows the Esplanade 2,500 feet above the Colorado River within the seldom-visited western Grand Canyon. A wet spring will ensure desert wildflowers in this arid region. Midway through the trip we descend Tuckup Canyon and return following the Colorado River. A camp at Lava Falls the last evening should allow time for photographing rafters at Grand Canyon's largest rapid. We will exit the canyon using the Lava Falls Trail for departure views from Toroweap Overlook. Much of the trip will be off-trail, and there will be one rappel. (Rated S)

[43] Canyonlands Park, Salt Creek and Needles, Utah—May 19–27. *Leaders, Linda and Barry Morenz, 1209 N. Stewart, Tucson, AZ 85716.* We will hike up Salt Creek Canyon with its red sandstone walls, desert wildflowers, and waterfalls. Time will be taken to inspect the many Anasazi ruins and pictographs, arches, and side canyons. After three days we will hike out of the canyon and be driven by four-wheel-drive vehicles to The Needles (named for the many spires in the area). Our slickrock hike will wind through a labyrinth of dry canyons, taking us to Chesler Park and Druid Arch. The hiking will be at 5,000 to 6,000 feet, with time for dayhiking. (Rated L-M)

[77] Slickrock Wilderness, Nantahala and Cherokee Forests, North Carolina/Tennessee—May 20–26. *Leader, Ray Abercrombie, 5409 Crossrail Dr., Burke, VA 22015.* Slickrock Creek forms the border between North Carolina and Tennessee, south of the Smoky Mountains. Our hike will take us along and across this fast-flowing stream for two days, before ascending surrounding peaks that rise to more than 5,000 feet. The azalea and laurel bushes should be in bloom. With two layover days and short distances between campsites, this trip is suitable for novices as well as experienced backpackers desiring a leisurely outing. (Rated L-M)

[48] Dark Canyon, Utah—May 26–June 2. *Leader, Pete Nelson, 5906 Dirac St., San Diego, CA 92122.* Dark Canyon is a proposed wilderness south of Canyonlands National Park and north of Natural Bridges National Monument. From Manti-LaSal National Forest (8,000+) we descend 40 miles through pine to juniper, then to cottonwood at the Colorado River. The lower canyon has flowing water, plunge pools below waterfalls, and canyon walls of varied hues. The last day we climb out on the Sundance Trail. (Rated M)

[78] Mt. Rogers Scenic Backpack, Jefferson Forest, Virginia—June 2–9. *Leaders, Marilyn and Cliff Ham, 3729 Parkview Ave., Pittsburgh, PA 15213.* Mt. Rogers, Whitetop, and Pine Mountain, the three highest peaks in Virginia, are along the Appalachian Trail. Our section offers hikers the opportunity to climb mountain ridges, wander along streams and gorges,

Carol Crews

Cup Tree, Goodale Pass, Sierra Nevada, California

and roam through a variety of forest habitats. Wildflowers, redbud, and sourwood will bloom during our trek. Views from the high mountain meadows, many above 5,000 feet, can be spectacular. This trip will total 30 miles, with two layover days and several climbs or descents over 1,000 feet. (Rated L-M)

[79] Skyline Trail, Pecos Wilderness, New Mexico—June 3–9. *Leader, Joanne Sprenger, 2805 Eighth St., Las Vegas, NM 87701.* The first five miles along Beaver Creek in Porvenir Canyon (8,000) will include numerous stream crossings with spectacular views of towering cliffs. The third day we will reach Skyline Trail and turn north (11,000). From here the trail is fairly level, with views of the plains to the east and several 12,000- to 13,000-foot peaks to the west. The area is near the south end of the Sangre de Cristo Mountains. There may be snow. (Rated L-M)

[80] Raven Fork Backpack, Tennessee/North Carolina—June 7–14. *Leader, Jim Absher, 2902 Alton Dr., Champaign, IL 61821.* This is the third annual late-spring "romp" through the Smokies. We will hike the secondary or unmaintained trails along the ridgetops, camping mostly alongside streams, perhaps seeing the rhododendrons and azaleas in full bloom. Our basic goal will be to visit some of the more-spectacular but less-visited areas of the park. There will be one layover day, plus a chance for afternoon swims if weather permits. International cuisine will be featured. Trip size is limited to eight, so we will be a small, congenial group. Total trip mileage will be 40–45 miles. (Rated M)

[81] Roan Highlands, Tennessee/North Carolina—June 17–23. *Leader, Harriet Klinger, 637 S. Highland Ave., Oak Park, IL 60304.* The beautiful and ecologically diverse Roan Highlands exemplify southern Appalachian scenery at its finest. Our 32-mile trek on an uncrowded part of the Appalachian Trail takes us over rugged mountains, past flowering rhododendron, flame azalea, and mountain laurel, with splendid views from atop the many balds along the way. The pace will be moderate to allow time for nature photograhy and relaxation. A food drop will lighten our loads, and gourmet dinners will enhance our evenings. (Rated M)

[82] Loyalsock Trail, Pennsylvania—June 23–30. *Leader, Len Frank, 205 Moore St., Hackettstown, NJ 07840.* The Loyalsock Trail, 50 miles west of Scranton, traverses Tiadaghton and Lycoming state forests. We start at the western end near Barbours

and hike 42 miles to World's End State Park. There are numerous waterfalls and mountain vistas along the route, and the rhododendrons should be at their best. Elevations range from 600 to 2,000 feet. Trails are rocky and steep and may be muddy in parts. There will be one long day (11 miles) and one layover. For the rest, expect relaxed walking in the luxuriant green of early summer. (Rated L-M)

[83] Vermont's Green Mountains—June 24–30. *Leader, Robert Bingham, 660 B Sand Hill Rd., Peterborough, NH 03458.* The Green Mountains of Vermont run lengthwise from Massachusetts to the Canadian border. This backpack will be in one of the most-remote sections during one of the least-traveled periods. Our route begins at Lincoln Gap, near the town of Warren, and travels northward on the Long Trail over many high peaks, including Camel's Hump, the second-highest summit in Vermont. The mileage each day is moderate, compensating for the often rugged terrain. Abundant wildflowers and views of the countryside are only part of the beauty this trail has to offer. A food cache should make the weight of community gear a bit lighter. (Rated M-S)

[84] West Rim, Pecos Wilderness, Sangre de Cristo Mountains, New Mexico—June 24–30. *Leader, Gail Bryant, General Delivery, Glorieta, NM 87535.* This loop following the rim of the mountains is a

Bill Allen

Golden Trout Wilderness, Sierra

challenging delight. A 2,600-foot climb amid rushing brooks and alpine flora unveils a panorama of the Pecos River Valley below. It's a natural high for man as well as bighorn sheep. A layover day allows fishing, relaxing, or peaking. We will descend to the river via serious switchbacks and leave through aspen groves and mountain meadows. (Rated M-S)

[85] High Uintas Primitive Area, Northern Utah—July 7–14. *Leaders, Harris Heller and Brian Roberts, P.O. Box 162, Boulder, CO 80306.* This is the only east-west mountain range in the United States. It is also the highest in Utah, with more than 25 peaks above 13,000 feet, including Kings Peak (13,528), the highest in the state. This 150-mile range offers deep red rock, unusual geology, 500 lakes, fishing, and wildlife. We will see a lot of great wilderness on this trip, and have time to relax and enjoy ourselves while doing it. (Rated M)

[87] Cranberry Backcountry, West Virginia—July 8–14. *Leader, Bob Goldberg, 19610 Brassie Pl., Gaithersburg, MD 20879.* The Cranberry Backcountry is located in the southern section of the Monongahela National Forest and is one of the few officially designated wilderness areas in the eastern United States. The area is known for its treeless, marshy areas as well as an abundance of wildlife and such lush vegetation as rhododendron and mountain laurel. Our trip will cover a circuit of 30 miles with four moving days. Three layover days will allow time for dayhiking, swimming, and relaxation. (Rated L-M)

[88] Ruby Mountains Crest, Humboldt Forest, Nevada—July 8–14. *Leader, Pete Nelson, 5906 Dirac St., San Diego, CA 92122.* The Ruby Crest Trail runs 43 miles from Lamoille Canyon to Harrison Pass, near the crest of the Ruby Mountains. The roadhead for this long, thin Great Basin Range and scenic area is 32 miles southeast of Elko. The trail runs by alpine meadows, through limber and bristlecone pine forests, past lakes with brook trout, and occasionally looks down steep-walled valleys to Ruby Valley far below. The trail begins at 8,850 feet, climbs to 10,893 feet at Wine Peak, and ends at 7,247 feet. (Rated M-S)

[89] Kid Lakes, Kings Canyon Park, Sierra—July 13–22. *Leader, Cal French, 1690 N. 2nd Ave., Upland, CA 91786.* We'll spend seven days backpacking on and off the trail, negotiating cross-country routes and observing the panorama of the central Sierra. Three more days will allow leisurely observation, resting, fishing, or

Appalachian Trail, Georgia

climbing. Starting and finishing in Cedar Grove (4,600), we'll trek through the many glacial lake basins along the Monarch Divide and Cirque Crest on our 45-mile route. To cut weight, a packer will bring in half our food on the fifth day. (Rated M-S)

[90] Collegiate Peaks, San Isabel Forest, Colorado—July 14–23. *Leader, Al Ossinger, 12284 W. Exposition Dr., Lakewood, CO 80228.* In the heart of the Colorado Rockies, near Buena Vista, trails from Clear Creek lead to the Collegiate Peaks of the Central Sawatch. Camps on Frenchman Creek and Pine Creek will be bases for climbs of Mt. Columbia (14,073), Mt. Harvard (14,420), Iowa Peak (13,831), Missouri Mountain (14,067), and Mt. Belford (14,197). There will be opportunities for trout fishing in the streams and beaver ponds along the route. The trip will culminate at the Mt. Princeton Hot Springs pool. (Rated M-S)

[91] Weminuche Wilderness, Colorado—July 15–21. *Leader, Don Lyngholm, Box 103, Flagstaff, AZ 86002.* This large wilderness straddles the high peaks of the San Juan Range. We will hike up Vallecito Creek and then proceed to the Flint Lakes. From there we cross a high ridge (12,480) to Emerald Lake and return down the Pine River. Trail distances range from four to nine miles, with one-and-a-half layover

George Hermach

days. There will be time for trout fishing, wildlife observation, and relaxing. Photographic opportunities are many, and wildflowers will be in their prime. (Rated M-S)

[92] Trinity Alps Mines and Lakes, Salmon-Trinity Alps Primitive Area, California—July 15–21. *Leader, Jean Ridone, 272 Coventry Rd., Kensington, CA 94707.* The Trinity Alps, tucked away in northwestern California, was the scene of a not-so-well-known gold rush. Waterfalls, lakes, meadows, craggy granite mountains, glacial cirques, and forests are the setting in which we will travel, as we retrace the steps of last century's gold miners. There will be time for fun and further exploration on our layover day. Elevations range between 3,500 and 8,000 feet—mostly on-trail. (Rated L-M)

[93] North Cascades—Stehekin Valley, Washington—July 15–22. *Leader, Rodger Faulkner, 645 Cedarberry Ln., San Rafael, CA 94903.* Views of waterfalls, wildflowers, and snow-covered peaks will highlight this trip, which will feature nutritious gourmet backpacking food. We travel by Lake Chelan ferryboat to the trailhead. Entering Glacier Peak Wilderness, we will explore the Lyman Lake Drainage, with a layover day to enjoy the view of Image Lake and Glacier Peak. We then travel down the Agnes Valley to the Stehekin River, with time allowed for a camp baking class. Moving north to North Cascades National Park, we can enjoy the roar of Maple Creek gorge and the fishing at Rainbow Lake, with views of Lake Chelan and surrounding peaks. (Rated M-S)

[94] Venable Peak, Sangre de Cristo Range, Colorado—July 19–28. *Leader, Bob Berges, 974 Post St., Alameda, CA 94501.* Join us in one of the lesser-known areas of Colorado. This range of towering peaks and expansive views is not yet included on a list of Colorado wilderness areas; come see what a serious omission this is. Although the mileage is rather short, backcountry camps will be above 11,000 feet, and we will cross seven passes over 12,000 feet—some on-trail and others not. Included will be opportunities to climb several peaks over 13,000 feet and to see the astonishing view from Phantom Terrace. (Rated M-S)

[95] Minarets West Peakbagging, Minarets Wilderness, Sierra—July 20–28. *Leader, Vicky Hoover, P.O. Box 723, Livermore, CA 94550.* Just southeast of Yosemite National Park, a little-traveled section of the Minarets Wilderness stretches over many miles of gentle granite-clad slopes, dotted with hidden lakes and culminating in the long sweep of the Merced-San Joaquin Divide. From Sing Peak northward to Electra, we'll enjoy views north into Yosemite, as far south as Kings Canyon, and east over the Ritter Range. Total distance covered will be 45 miles, but a large proportion of this will be cross-country hiking. (Rated M-S)

[96] Wire Lakes Leisure, Emigrant Basin, Sierra—July 21–29. *Leaders, Helen and Ed Bodington, 697 Fawn Dr., San Anselmo, CA 94960.* From our roadhead at Crabtree Camp, we will travel east to the Wire Lakes, then north to Upper Relief Valley, looping back via Chewing Gum Lake. Layover days will allow time for a climb of Granite Dome, just looking at wildflowers, or fishing. Travel days will average seven miles with 1,000-feet of climb. A leisurely trip for well-prepared newcomers and veterans alike. We will use a llama to carry some equipment on this trip. (Rated L)

[97] Pacific Crest Trail, Toiyabe Forest, Sierra—July 21–29. *Leader, Jim Carson, 706 Wildcat Canyon Rd., Berkeley, CA 94708.* We follow in the footsteps of famous frontiersmen as this historic 60-mile stretch of Pacific Crest Trail takes us from Sonora to Carson Pass. The trail traverses through glaciated granite basins that subsequently have been filled by volcanic flows. Averaging an elevation of 8,500 feet, we will see alpine lakes nestled within thick woods, shadowed by massive pinnacle formations. There will be one layover day for fishing, dayhiking, and climbing. A modified natural-food diet will be emphasized. (Rated M-S)

[98] John Muir Wilderness, Sierra—July 21–29. *Leader, Gary Swanson, P.O. Box 8551, Emeryville, CA 94662.* Our 47-mile loop begins at Courtright Reservoir and will take us into the remote, subalpine country of Red Mountain and Blackcap basins. Off-trail hiking on the western slope of the LeConte Divide will be true wilderness travel. We will cross two challenging passes, which will reward us with excellent views, especially of Kings Canyon to the east. Campsite elevations will range from 8,200 to 11,000 feet. Two layover days are planned where rugged peaks stand guard over summer wildflowers and trout-filled lakes. (Rated M)

[99] Berry, Owl, and Moose Creeks Loop, Grand Teton Park, Wyoming—July 22–28. *Leaders, Sharon and Rick McEwan, 375 Jensen Ln., Windsor, CA 95492.* The lightly traveled northern end of the Teton Range offers an opportunity for hiking in a unique setting while avoiding the crowds. From our trailhead (6,950) near Jackson Lake, our 35-mile loop will lead us through meadows of wildflowers and past grazing moose. Our trail passes beaver ponds in gently rising canyons, before climbing over Moose Basin Divide (9,760), where wide vistas will greet us. We will find delight in a waterfall, and perhaps see an elusive elk or mountain sheep. Moves of five to nine miles a day will provide us with two layover days in which to explore the Divide, fish, or relax. (Rated L-M)

[100] Bridger Lake Leisure Loop, Wyoming—July 22–29. *Leader, Bill Bell, 2431 N. 86th St., Kansas City, KS 66109.* The seldom-visited mountains, lakes, and meadows of the Bridger-Teton Wilderness Area will provide a panoramic setting for this leisurely seven-day trek. Our route will take us to Yellowstone Meadow and back, providing a wealth of opportunity along the way to pursue individual interests. Layover days at Enos and Bridger lakes will be of particular interest to the photographer, angler, and rock climber. We will cover approximately 44 miles in five hiking days. (Rated L-M)

[101] Volunteer Peak, Yosemite Park, Sierra—July 23–31. *Leader, Jim Watters, 600 Caldwell Rd., Oakland, CA 94611.* If hiking is your pleasure, this trip invites you to northern Yosemite, where green glacial

canyons and polished, stark white ridges and peaks blend in a sublimity unique among mountain ranges. Our nine-day, on-trail trek begins at Twin Lakes, enters the Emigrant Wilderness, and crosses into Yosemite at Dorothy Lake Pass. Points of travel in the Park backcountry include Tilden Lake, Seavey Pass, Benson Pass, and glorious Matterhorn Canyon. The trip covers 75 miles—in scenery of colossal proportions. While several 12-mile days are projected, shorter moves will complement. Camps will be typically at 9,200-foot elevation. (Rated M-S)

[102] To Gardiner Lakes, Kings Canyon Park, Sierra—July 25–August 2. *Leader, Ellen Howard, 535 Morey Dr., Menlo Park, CA 94025.* Gardiner Lakes lie in a secluded basin, amidst the high mountain scenery of the southern Sierra. We'll approach from Kearsarge Pass out of Onion Valley, the first two days climbing 2,500 feet in 10 miles to camp near Charlotte Lake (10,400). A spot cache is planned for the first day. Two layovers will provide opportunities for exploring, or for leisure activities such as photography, fishing, and sketching. This trip is rated moderate, but a heavy-snow winter could bring it up a notch. We will car-shuttle to Oak Creek for our return via Baxter Pass. (Rated M)

[103] Mount Cedric Wright, Kings Canyon Park, Sierra—July 26–August 4. *Leader, Dwight Taylor, 2 Marston Rd., Orinda, CA 94563.* We begin on the famous Indian trade route over Kearsarge Pass, after acclimating ourselves by camping overnight at the Onion Valley Trailhead. We then cross Glen Pass to visit the Rae Lakes, a lake near Window Peak, and Bench Lake below Arrow Peak. We exit on the Taboose Pass Trail. Most of the hiking will be on well-maintained trails, and the rest is cross-country travel. There will be two layover days to provide opportunities to fish and explore. (Rated M)

John Gerig

Zion National Park, Utah

[104] Kaweah Peaks, Sequoia Park, Sierra—July 28–August 5. *Leaders, Marilyn and Dan Smith, 817 Lexington Ave., El Cerrito, CA 94530.* The spectacular Kaweah Peaks are cut from older rock atop the southern Sierra granite. Between the Kaweahs and the Great Western Divide lies our objective, scenic Nine Lake Basin. Our mostly on-trail route will take us through northern Sequoia Park and down the Middle Fork of the Kaweah River. This nine-day trip will include a layover day in Nine Lake Basin and nearby Valhalla, providing time for fishing or peak-climbing. (Rated M)

[105] Amphitheater and Window Lakes, Kings Canyon Park, Sierra—July 30–August 9. *Leader, Cal French, 1690 N. 2nd Ave., Upland, CA 91786.* Vigorous backpackers with a trip or two of cross-country travel under their waistbands should find this 63-mile loop into the upper reaches of Kings Canyon to their liking. From the Owens Valley on the east we'll circle through the Amphitheater Lake area in the north and the Arrow Peak area in the south. A packer will bring a large share of our food on the fourth day. Special features include good fishing if lakes are open, and ample roaming above timberline away from other groups. There will be three layover days. (Rated S)

[106] Sky-Blue Lake Country, Sequoia Park, Sierra—August 2–10. *Leader, Wes Reynolds, 4317 Santa Monica Ave., San Diego, CA 92107.* Join us on a 41-mile circuit in the Golden Trout Wilderness and Sequoia National Park, south of Mt. Whitney. We will visit a chain of lakes and streams encircling a cluster of 13,000-foot peaks. From Cottonwood Basin to Crabtree Meadow and Miter Basin, we hike over established trails and less-frequented cross-country routes. Short moving days and a layover day will permit fishing, photography, and dayhikes. We will see areas both below and above timberline with campsites above 10,000 feet. (Rated M)

[107] Lake Italy, John Muir Wilderness, Sierra—August 2–11. *Leader, Mac Downing, 2416 Grandview St., San Diego, CA 92110.* This is a loop through high lake country near Bishop. We cross Pine Creek Pass, visit Merriam Lake, move cross-country to Lake Italy, and exit over Italy Pass. Three layover days allow time for peakbagging, fishing, or relaxing. We will enjoy a comfortably paced, 34-mile excursion along the Sierra Crest. (Rated L-M)

[108] McGee Lakes, Kings Canyon Park, Sierra—August 3–12. *Leader, Ken Maas, 22 Charlotte Rd., Swampscott, MA 01907.* Bishop Pass is our entry into this rugged portion of the High Sierra. After enjoying a day in Dusy Basin we will travel north and eventually exit the high country at Lamarck Col. Enroute we will visit LeConte Canyon, Muir Pass, Evolution Basin, McGee Canyon, and Darwin Canyon. We will travel five to seven miles daily, with two layover days planned for climbing, exploring, or relaxing. Most of our camps will be in the 10,000- to 11,000-foot range, and about one third of our 45 miles will be cross-country travel. (Rated M-S)

[109] Hunter-Fryingpan Wilderness, White River Forest, Colorado—August 5–11. *Leader, Daryl Carter Schmitt, 0230 Auburn Ridge Ln. #F104, Glenwood Springs, CO 81601.* Close to Independence Pass but far from its crowds, the Hunter-Fryingpan Wilderness offers the chance to explore one of Colorado's least-known and most recently designated wilderness areas. In this high country we will be hiking at 11,000 feet or above for the entire trip, with selected camps above 12,000 feet. A number of days will feature off-trail travel with an excellent chance of seeing elk. Be among a very few to visit this spectacular area. (Rated M)

[110] Eagle Cap Wilderness, Wallowa-Whitman Forest, Oregon—August 5–13. *Leader, Connie Spangler, 2430 Jackson St., Eugene, OR 97405.* We will head north from Kettle Creek campground up to the Lakes Basin and back down again on a 30-mile loop trail, passing near Eagle Cap (9,595), the Matterhorn (9,845), and Red Mountain (9,555), all scramble climbs. This area contains numerous lakes and streams for swimming and fishing. Three passes at about 8,400 feet are enroute. Five days are allotted for travel and three for layovers to swim, fish, look at flowers and birds, climb peaks, and enjoy the views. (Rated M)

[112] Around the Palisades, Sierra—August 6–13. *Leader, Jim Absher, 2902 Alton Dr., Champaign, IL 61821.* Experience the High Sierra, true wilderness that awed the first explorers and mountaineers. This trip, focusing on alpine, cross-country travel, will make a tight loop around the Palisades. Distances are not far, but we will be off-trail most of the time and will cross four backpack cols. There will be opportunities on our two layover days to climb three

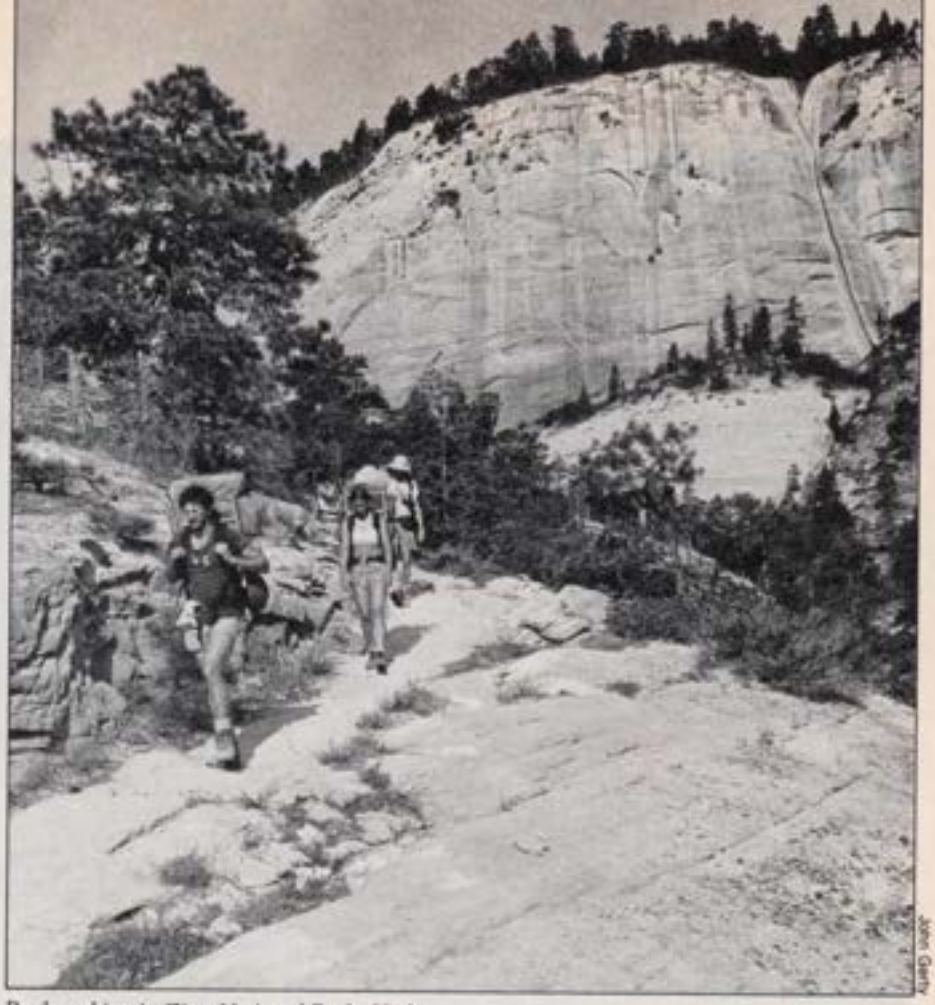
14,000-foot peaks, explore alpine basins, or just loaf. You should be energetic and in good physical condition. (Rated M-S)

[113] Emigrant Basin Backpack, Sierra—August 6–14. *Leaders, Frances and Patrick Colgan, P.O. Box 325, La Honda, CA 94020.* North of Yosemite National Park, the Emigrant Basin is a mountainous, lake-studded wilderness area well-suited for this fun-filled, spirited trail and cross-country romp. Young and old backpackers are welcome! Starting at Gianelli Cabin (5,650), we climb through remote meadows and high pine forests, to the headwaters of Cherry Creek and the region of dramatic peaks above Emigrant Meadow. There will be layover days for peak-climbing, fishing, and, if necessary, washing. Our trip ends at Leavitt Meadows, east of Sonora Pass. (Rated M-S)

[114-E] Tetons West Photography Backpack, Wyoming—August 7–13. *Leader, Jim Gilbreath, 7266 Courtney Dr., San Diego, CA 92111. Photographer, Jim Clark.* This popular education theme repeats the successful trip of last year. The area, the western slope of the Tetons on the Idaho-Wyoming border, is rich with high green lakes and acres of flowers. A highlight will be the great views of the main Teton Peaks. Jim Clark will integrate basic and advanced nature photography with all our activity, which will include some cross-country travel and at least three layover days. Our roadhead will be near Driggs, Idaho. (Rated L-M)

[115] The Secret of Tincup Lake, Sawtooth Recreation Area, Idaho—August 7–18. *Leader, Chuck Shinn, 7885 Vue Rd., Meridian, ID 83642.* Located 50 miles northwest of Sun Valley, the White Cloud Mountains are Idaho's most scenic backpacking area. Two layover days and short cross-country travel days temper the high elevations and rugged terrain, and allow us time to enjoy the wildlife, fish, climb, and to discover "The Secret of Tincup Lake." Our route starts at Slate Creek on the north and crosses three backpack passes in this 10-day loop trip. (Rated M)

[116] In the Shadow of the LeConte Divide, John Muir Wilderness, Sierra—August 9–18. *Leader, Diane Cook, 631 Elverta Rd., Elverta, CA 95626.* We will enter the John Muir Wilderness at Wishon Reservoir on the west side of the Sierra. On this high-altitude trip most camps will be above 10,000 feet, with panoramic views of the rocky spine of the LeConte Divide. Two layover days will offer opportunities to climb Mt. Reinstein and explore the hidden, fish-filled lakes of Bench Valley and Blackcap Basin. (Rated L-M)



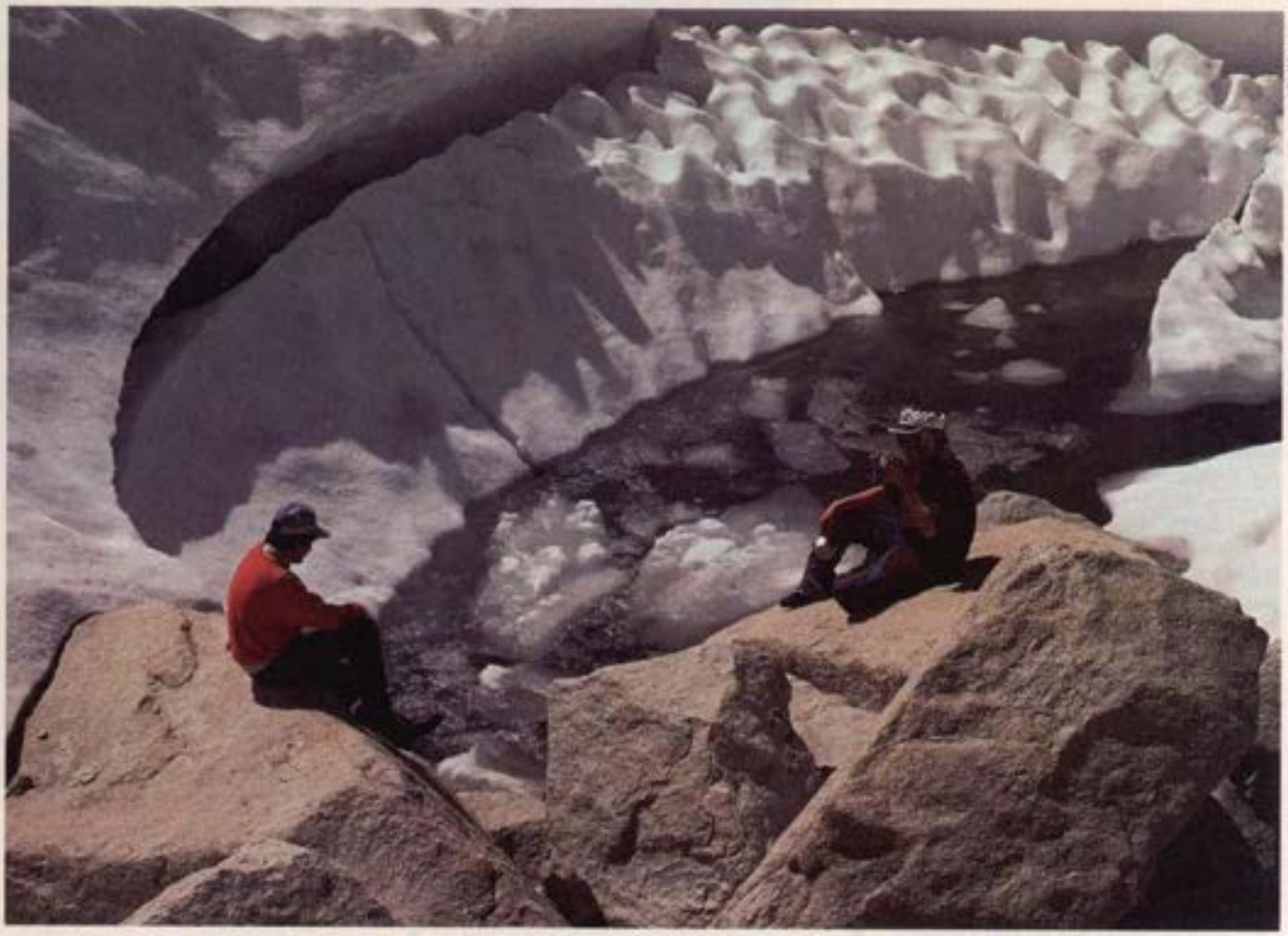
Backpacking in Zion National Park, Utah

[117] Ritter Range Roundabout, Sierra Forest, Sierra—August 9–18. *Leader, Ann Peterson, 1280 Carlisle Ave., Morgantown, WV 26505.* South of Yosemite, the dark and massive Ritter Range rises precipitously to the west. Our route encircles the two sentinels, Ritter and Banner, and the cluster of needles, the Minarets, that forms this spectacular range of mountains. A combination of low- and high-elevation campsites will provide us with a variety of terrain, from forests of pine and fir to open talus and meadows. One layover day will allow time for relaxation or peakbagging. (Rated M)

[118] Spiller Creek/Matterhorn Canyon, Yosemite Park, Sierra—August 9–18. *Leader, David Peterson, 5257 Boyd Ave., Oakland, CA 94618.* A combination of cross-country and trail hiking will take us through three parallel canyons in the northern section of Yosemite National Park. Our group size is limited to eight persons, giving us an unusual opportunity to explore the Spiller Creek and Slide Canyon areas with relative intimacy. There will be dayhikes, fishing, and a climb of Matterhorn Peak (12,264) to highlight the trip. (Rated M)

[119] Cloud Peak Primitive Area, Bighorn Mountains, Wyoming—August 10–17. *Leader, Faye Sitzman, 903 Mercer Blvd., Omaha, NE 68131.* Through this gentle alpine wilderness in north-central Wyoming, we will move five to eight miles a day on a route that is often above 10,000 feet. One or two layover days will provide time for fishing, hiking, photography, and relaxing. Spectacular views of Cloud Peak (13,165) will grace this lake-studded, uncrowded region. We can expect excellent food, good weather, and fine group camaraderie. Well-conditioned beginners will be considered. (Rated L-M)

[120] Arrow Pass, Kings Canyon Park, Sierra—August 10–19. *Leader, David Reneau, P.O. Box 9180, Mammoth Lakes, CA 93546.* On this 10-day loop we will explore the alpine lake basins and multihued peaks in the Mt. Pinchot region of the Sierra Crest. From Oak Creek on the east side we cross Baxter Pass (12,800) to the Baxter Lakes, and then travel north to the hidden lake basins below Arrow Peak. Total hiking distance will be 55 miles, including 15 miles of cross-country travel. One-and-a-



Rick McEwen

Relaxing at Lake Italy, John Muir Wilderness, Sierra Nevada, California

half layover days will allow time for nature study, fishing, relaxation, or a climb of Arrow Peak (12,958). (Rated M-S)

[121] Yale Harvard Loop, San Isabel Forest, Colorado—August 19–26. *Leader, Bob Madsen, 3950 Fernwood Way, Pleasanton, CA 94566.* This eight-day loop out of Buena Vista, Colorado, will circle most of the 14,000-foot Collegiate Peaks with climbs of Columbia, Yale, and Harvard on layover or short hiking days. We will be hiking four to ten miles each hiking day at elevations ranging from 9,500 to 13,000 feet, with most campsites at 11,500. This scenic and spectacular route will cover 45 miles, mostly on-trail. (Rated M-S)

[122] Mountain of the Holy Cross, White River Forest, Colorado—August 12–19. *Leader, Bob Audretsch, 1308 129 Rd., #2A, Glenwood Springs, CO 81601.* This trip in the newly designated wilderness area in the Sawatch Range of the Rockies will offer the opportunity to view some of Colorado's beautiful high country, explore a deserted mining town, and participate in nontechnical climbs of Mountain of the Holy Cross (14,005), Notch Mountain (13,224), Whitney Peak (13,271), and Mt. Jackson (13,670). Expect spectacular views and numerous wildflowers. All travel will be above 10,000 feet. The proposed Homestake II Water Division Project is in the trip area. (Rated M-S)

[123] Journey to the Jewel Lakes, Trinity Alps, California—August 11-19. *Leader, Roderick Barr, 7081 Pindell School Rd., Fulton, MD 20759.* This leisurely eight-day loop in northern California's Trinity Alps features layovers at two alpine lake basins. Emerald and Sapphire Lakes, in one basin, lie just below glaciated Thompson Peak, the highest point in the Alps. Our route includes lush meadows, waterfalls, high passes, alpine gardens, and gold-mining artifacts. (Rated L)

[124] Strawberry Mountain Wilderness, Oregon—August 12–19. *Leader, Bill Gifford, 3512 NE Davis, Portland, OR 97232.* Rising from the plains of eastern Oregon, the Strawberry Range is a geologically complex area of spectacular cliffs, flower-studded meadows, and lakes set in alpine cirques, with a great variety of plants and animals. We will hike from High Lake Rim, past High Lake, the Slide Lakes, and Strawberry Mountain (9,038). We then go out along Canyon Creek through groves of vanilla-scented Jeffrey pines for a total of 40 miles. One or two layover days are planned. (Rated M)

[134] Beartooth-Absaroka Wilderness, Granite Peak Area, Montana—August 12-21. *Leaders, Bill Evans and Harris Heller, 2433 Bartel St., San Diego, CA 92123.* This is one of the most pristinely beautiful areas in the United States. The Beartooth has numerous uniquely shaped high lakes, providing excellent fishing opportunities. This 2-million-acre area—with its rock gardens, lakes, wildflowers, timberline trees, glaciers, and craggy summits—is a photographer's delight. Open vistas, and views of Granite Peak (12,799), the

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highest point in Montana, await us on this relaxed trip. (Rated M)

[135] Yosemite Beginners' Backpack, Sierra—July 16-21. *Leader, Louise French, 1690 N. Second Ave., Upland, CA 91786.* If you're a woman eager to learn all about backpacking, join us on this trip. We will start with the basics of packing a backpack, and progress to an exhilarating climb of Half Dome. If you have slight experience, you will learn the skills necessary for wilderness independence: map reading, route and campsite selection, stream crossing, care and maintenance of gear, cooking, rope handling, and living lightly on the land. Elevations will be about 7,000 to 9,000 feet and distances short around the meadows of Yosemite, as we enjoy this beautiful area of the "The Range of Light." (Rated L)

[136] Cottonwood Pass Trans-Sierra, Golden Trout Wilderness/Sequoia Park, Sierra—August 13–24. *Leader, Daniel Reed, 412 W. Benita Blvd., Vestal, NY 13850.* From Horseshoe Meadows to Mineral King via Cottonwood Pass, the Kern River trench, and Black Rock Pass, our 69-mile trip will give us a chance to see the diversity of the sourthern Sierra. Alpine lakes, cinder cones, a natural bridge, lava flows, and waterfalls are but a few of the many offerings of this area. We will stop at photogenic Rocky Basin Lake, Little Five Lakes, and Kern Hot Springs, as well as cross the Great Western Divide. We will meet with trip #137 in Bakersfield to shuttle cars to the ending roadheads. (Rated L-M)

[137] Mineral King Trans-Sierra, Sequoia Park/Golden Trout Wilderness, Sierra—August 13–24. *Leader, Bruce C. Straits, 3039 Lucinda Ln., Santa Barbara, CA 93105.* Our 71-mile crossing from Mineral King to Cottonwood Basin (near Lone Pine) samples the variety of landscapes in the southern Sierra: glacial cirques, alpine lakes, cinder cones, lava flows, a natural bridge, waterfalls, and fault canyons. Highlights include the Great Western Divide, Kern Hot Springs, lush Sky Parlor Meadow, the panoramic rims of Kern River and Big Arroyo trenches, stark Siberian Outpost, and Little Five and Rocky Basin Lakes. We will meet with trip #136 in Bakersfield to shuttle cars to the ending roadheads. (Rated M)

[138] Mt. Hood Circumnavigation, Cascade Range, Oregon—August 15–23. *Leader, Bill Bankston, 524 N. 16th St., Springfield, OR 97477.* Our circle of Mt. Hood (11,745) on the Timberline Trail will cover 40 miles in five to six days, allowing us two to three days to layover and enjoy the scenery. The periphery of Mt. Hood passes through alpine meadows, glacial streams, and over several dramatic ridges. Spectacular views of Oregon's highest peak from all angles and wildflowers in bloom will highlight this trip. Our trip will meet at the scenic and historic Timberline Lodge, of beautiful stone and wood construction. (Rated M)

[139] Katahdin, Maine—August 18–25. *Leader, Hank Scudder, 2 Troy Pl., Schenectady, NY 12309.* "Rising as an isolated, massive, gray granite monolith from the central Maine forest, broken only by the silver sheen of countless lakes, Katahdin is indeed the monarch of an illimitable wilderness." Myron Avery's description,

John Gerty

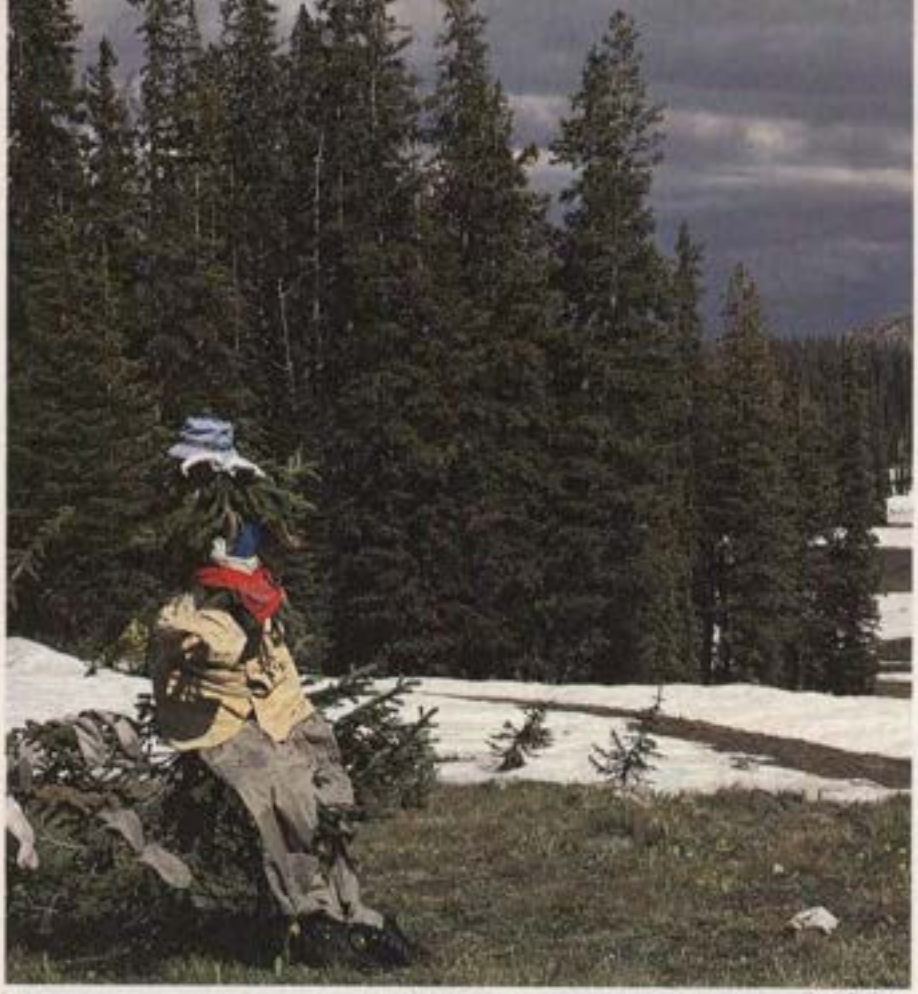
Backpack trip in the Weminuche Wilderness, San Juan Mountains, Colorado

made early in this century, is no less true today. Katahdin is not one, but many mountains within Baxter State Park, a wilderness area of more than 200,000 acres. This seven-day adventure over rugged country of unpredictable weather will demand good physical condition and proper equipment, but not necessarily extensive experience. (Rated M-S)

[140] Pacific Crest Trail, Kings Canyon Park, Sierra—August 18–26. *Leader, Bill Allen, Rt. 1A, Box 34, Red Bluff, CA 96080.* This tour from the base of Kearsarge Pinnacles leads north through High Sierra solitude over Glenn Pass (11,980) and Pinchot Pass (12,130). Access to this 42-mile portion of the 2,600-mile National Scenic Trail are the east side laterals through Kearsarge Pass and Bishop Pass. The commissary will feature our popular modified natural-food menu and loads proportional to body weight. One layover day is planned for fishing and off-trail exploring. (Rated M-S)

[141] West Side of Thunder, Kings Canyon Park, Sierra—August 18–26. *Leader, Don Donaldson, 19 Tarabrook, Orinda, CA 94563.* The Great Western Divide ranges from Mt. Brewer to the southern sentinel, Black Kaweah. We will focus on the Divide's spectacular central line of Thunder, Table, Midway, and Milestone mountains (13,500). Our unusual western approach allows us to explore the little-known streams and lakes on the high, remote side of the Divide. With two layover days we can climb monumental Milestone, attempt Thunder from the west, or just enjoy the magnificent surroundings of our timberline campsites. (Rated M)

[142] North Fork Entiat, Glacier Peak Wilderness, Wenatchee Forest, Washington—August 18–26. *Leader, Mary Sutliff, 11326 2nd NW, Seattle, WA 98177.* The North Fork Entiat River's high ridges



Clothes-drying man on a spruce tree, Mt. Zirkel Wilderness, Colorado Kenneth Karen

and rugged peaks are included in the proposed additions to the Glacier Peak Wilderness. We'll hike the Pyramid Mountain Trail, crossing several high passes, taking us into a wild, seldom-visited portion of the Glacier Peak Wilderness. We'll cover 55 to 60 miles, including several side trips. There will be two layover days to explore and visit some very special spots. A climb of Mt. Maude, one of the Cascades' highest nonvolcanic peaks, is a possibility. (Rated M-S)

[143] Lake Reflection, Kings Canyon Park, Sierra—August 19–26. *Leader, Andy Johnson, 415 Monticello, San Francisco, CA 94127.* This eight-day trip will take enthusiastic hikers into the alpine backcountry of Kings Canyon Park. This area has some of the most beautiful scenery in the range. Starting from Cedar Grove, we travel along Bubb's Creek to aptly named Lake Reflection for a layover day. Easily climbed peaks abound in this area, giving spectacular views of the Whitney group to the south. Some cross-country travel will get us to Sphinx Lakes for another layover. The trip covers 30 miles in six hiking days one third of that distance cross-country above 10,000 feet. (Rated M)

[144] Yosemite Panorama, Yosemite Park, Sierra—August 19–26. *Leader, Jean Ridone, 272 Coventry Rd., Kensington, CA 94707.* From Glacier Point (7,200), our trail travels to the headwaters of Illilouette Creek. We cross the Clark Range at Red Peak Pass (11,200) and descend gradually along the Merced River. Our first layover day, spent nestled among three prominent mountain peaks, will allow time to explore at subalpine altitudes. On our second layover day we will climb Half Dome for unsurpassed vistas. Our final descent to Yosemite Valley (4,000) closely follows Nevada and Vernal falls. (Rated L-M)

[145] Wind River Range, Leisure Lake Loop, Bridger Wilderness, Wyoming—August 19–27. *Leader, Jon Nichols and Sherri Serna, 2025 S. Craycroft, #151, Tucson, AZ 85711.* Special attention will be given to the flora and geology of the area as we enter Bridger Wilderness at Scab Creek. We will then climb to one of the largest alpine plateaus of the Rockies for very special views of the Continental Divide around Mt. Bonneville and Raid Peak. Our route will take us past many lakes including, Toboggan, Crescent, Raid, South Fork, Rainbow, Middle Fork, Dream, and Sandpoint. A layover day at Middle Fork Lake will permit a beautiful climb to the Continental Divide. A second layover day will allow ample time to enjoy wildflowers, fishing, and the natural beauty of this alpine plateau.(Rated L)

[149] Three Sisters Loop, Cascade Range, Oregon—August 20–27. *Leader, Bruce Clary, 821 N. Maple, Green Bay, WI 54303.* The Three Sisters—Faith, Hope, and Charity—are the crown of the Cascades in central Oregon. The three snow-capped mountains are set in a beautiful area of volcanic peaks, lava flows, alpine lakes, and flowery meadows. We will make a 50-mile loop around the Sisters, with one layover day and an optional nontechnical climb of South Sister (10,358), the tallest of the group. This will be a good trip for amateur geologists or botanists, with plenty of photo opportunities. (Rated M)

[150] Lake Wit-so-nah-pah, John Muir Wilderness, Sierra—August 23–September 1. *Leader, Gordon Peterson, 222 Royal Saint Ct., Danville, CA 94526.* The odd place name attracts attention to this trip that will travel south along the Sierra Crest without making contact with the crowded Muir Trail. Our route will take us by Red Slate Mountain, Mt. Crocker, Mt. Abbot, Royce Peak, and Mt. Humphreys. Along the way we will make two cross-country and two trail crossings of the Sierra Crest. While cross-country travel is challenging as well as rewarding, our trip is rated moderate because of effort and distance traveled. (Rated M)

[151] Kern Hot Springs, Sequoia Park, Sierra—August 25–September 2. *Leader, Don Lackowski, 2483 Caminito Venido, San Diego, CA 92107.* A comprehensive tour of scenic Sequoia National Park backcountry includes visits to the refreshing Kern Hot Springs, deep in the spectacular Kern Canyon, and several scenic lake basins. We can expect excellent fishing and photography, with dominant views of the Great Western Divide, the Kaweah Peaks, and the Whitney Crest. Our comfortable campsites will be at or below timberline, with ample layover time for personal interests. (Rated M)

[152] Big Five Lakes Leisure Backpack, Sequoia Park, Sierra—August 29–September 7. *Leader, Len Lewis, 2106-A Clinton Ave., Alameda, CA 94501.* From fabled Mineral King our route takes us over the Great Western Divide to the beautiful Five Lakes Basin. Fabulous vistas from the high passes will open for us as we progress. Several short walking days and three layover days will provide time for us

to fish, climb the adjacent peaks, or just loaf, enjoying the solitude and beauty of the Sierra. This trip will be a fine introduction to the Sierra for the novice, and is interesting enough for the experienced trekker. (Rated L-M)

[153] Tahoe Rim Trail, Toiyabe Forest, Sierra—September 5–9. *Leader, Serge Puchert, 1020 Koontz Ln., Carson City, NV 89701.* We start from Spooner Junction, Highway 50, and our ending roadhead will be at Highway 267 near Truckee. This minibackpack will follow the proposed Tahoe Rim Trail on the Nevada side of Tahoe. This 35-mile trip will be on the more remote and less populous side of the lake, and is ideal for photo buffs and beginners who are in shape. (Rated L-M)

[154] Seven Gables, John Muir Wilderness, Sierra—September 8–16. *Leader, Ed Shearin, 7745 25th Ave. NE, Seattle, WA 98115.* For thousands of years, men and women have searched for inner peace and fulfillment on difficult pilgrimages into the mountains. This High Sierra trek varies in that we will have three leisurely days at our goal, the Bear Lakes under Seven Gables. This time is available for contemplating the mountains or climbing them, inner exploration, or just being there. Our cross-country exit over Bear Creek Spire Col will provide a peak mountaineering experience to round out this journey. (Rated L-M)

[155] Catskill Mountains Backpack, New York—September 9–15. *Leader, John Kolp, 453 Warren St., Brooklyn, NY 11217.* The Catskill Mountains, only 100 miles north of New York City, offer some of the best hiking trails in the northeast. Our trip tackles two of the most famous: the Escarpment Trail with its spectacular views of the Hudson River Valley, and the challenging Devil's Path. A layover day is planned in the North and South Lakes/Klatterskill Clove area. This beautiful spot was the site of some of the great hotels of the Victorian era. Trip mileage will total 40 miles, averaging eight miles per day with moderate elevation gains. (Rated M)

[156] Palisades Basin Exploration, Kings Canyon Park, Sierra—September 15–23. *Leader, Paul Cavagnolo, 19170 Old Vineyard Rd., Los Gatos, CA 95030.* This trip is scheduled so we can enjoy the warm days and the cool nights of the Indian summer. From our trailhead at South Lake, the route crosses Bishop Pass into Dusy Basin. Here it follows a well-established cross-country route through the Palisade Basin, intersecting the Muir Trail at Deer Meadows, and returning to Dusy Basin by way of LeConte Canyon. Two layover days are planned for peakbagging, fishing, exploring, or relaxing. (Rated M)

[157] North Bass Trail, Grand Canyon, Arizona—September 22–29. *Leader, Bob Marley, 4245 N. 26th St., Phoenix, AZ 85016.* W.W. Bass developed this historic trail in the early 1900s to access the North Rim from his mining claims and winter camp. The Shinumo Amphitheater has plentiful water in White and Shinumo creeks. Sparkling pools and lush streambed vegetation complement the surrounding harsh desert terrain. Two days will be taken to enter Shinumo Amphitheater, explore Powell Plateau, and exit, all on trail. Three days will be spent off-trail in the Abyss region. One day will be spent hiking on trail to the Colorado, where there will be opportunities to enjoy the scenery, watch river-rafters, and swim in Shinumo Pool. (Rated S)

nis Look, P.O. Box 571, Placerville, CA 95667. By October most backpackers have retired their equipment, calling it a year. The challenge of the Sierra in October is surpassed by its rewards: brilliantly colored aspens, crisp mornings, and warm afternoons. Buckeye Canyon is a little-known entrance into the northeast portion of Yosemite National Park. Walking high on the ridgecrest of the Sierra, we will exit at Green Lakes. We will be covering 50 miles in seven days. Layover days and side trips will be taken. (Rated M-S)

[352] Cumberland Island Seashore and Wilderness, Georgia—October 6–13. *Leader, Mark Rottschafer, 2636 Hill Ct., Duluth, GA 30136.* Cumberland Island lies off Georgia's Atlantic coast at the Florida border, and is the largest of Georgia's barrier islands. Salt and freshwater marshes, maritime forest, an extensive dune system, and 15 miles of undeveloped white-sand beach make the island one of the most outstanding undeveloped seashore areas along the Atlantic and Gulf coasts. More than 300 species of birds have been identified on the island, and other wildlife abounds. Raptors and water birds will be especially common during this fall migration season. The entire length of the 40-square-mile island will be explored, including numerous dayhikes to visit examples of its many ecosystems and their inhabitants. (Rated L-M)

Carol Crews

Goodale Pass, Sierra Nevada, California

[350] North Rim Grand Canyon, Arizona—September 29–October 6. *Leader, Jim Ricker, 525 S. Elden, Flagstaff, AZ 86001.* The most legendary places in the world are found in the Grand Canyon—King Arthur Castle, Cheops Pyramid, Parissawampitts Point. Experience the legend for yourself. The trip will be difficult with heavy packs, rugged cross-country travel, and of course the hike out. The memories, however, will last a lifetime. Our journey will be in the Thunder River/Tapeats Amphitheater area. Expect warm days at the bottom with a chance of snow on top. (Rated S)

[351] Buckeye Canyon, Hoover Wilderness, Sierra—October 6–13. *Leader, Den-*

[353] The High Chisos and the Outer Mountain Loop, Big Bend Park, Texas—October 7–13. *Leader, John E. Fine, P.O. Box 338, Austin, TX 78767.* Rising out of the Chihuahuan Desert to 7,835 feet, the

Chisos Mountains are the main feature of one of our largest national parks. This "classic" loop takes us from cool juniper and pine forests at 5,400 feet, down to the arid grasslands of the Sierra Quemada. We then climb 3,400 feet to the South Rim (7,200) for the most spectacular views in the park. Two water caches and two layover days will give us a chance to explore both the desert and mountain areas as well as experience the great ecological diversity of the area. (Rated M)

[354] Bandelier and San Pedro Parks Sampler, Santa Fe Forest, New Mexico—October 7–13. *Leader, Steve Hanson, 909 Cedar Glen, Austin, TX 78745.* Several thousands years ago, a large volcano in north-central New Mexico destroyed itself. Today, evidence of that volcanism can still be seen in rock layers and several thermal features. We will visit the backcountry of Bandelier with its rhyolite layers and Anasazi ruins, see the caldera of the old volcano, explore the soda dam and a hot spring, and spend several days hiking in San Pedro Park's gentle wilderness while the aspen leaves turn. (Rated L)

[355] New England Fall Foliage—October 7–13. *Leaders, Susan Tippett and Fred Anders, 47 Butterhill Rd., Pelham, MA 01002.* Our trip begins at the foot of Mt. Grace in Warwick, Massachusetts. From the fire tower atop this mountain our final destination of Mt. Monadnock, New Hampshire (3,100), will be visible in the distance. We will hike between four and seven miles each day along the woodland trails, old logging roads, and country lanes that make up the Metacomet-Monadnock Trail. The weight of the extra clothing necessary for the crisp New England nights will be offset by several food caches. If our timing is right, the fall colors should be at their peak. (Rated L-M)

[356] Appalachian Trail Colors, Nantahala Forest, North Carolina—October 13–20. *Leader, Dave Bennie, 2405 Churchill Dr., Wilmington, NC 28403.* This trip will involve hiking off-season in a remote, lesser-known section from Deep Gap to Tellico Gap, south of the Great Smoky Mountains. We will follow ridgelines over 5,000-foot peaks and through 4,000-foot gaps on 43 miles of well-maintained trail. Balmy days, cool nights, and coloring leaves make ideal hiking weather on perhaps the best section of Appalachian Trail in the south. Elementary backpacking experience is acceptable; under 18 must have experience. (Rated M)

Wind River Range, Wyoming

Jr. Backpack Trips

SHARE THE WILDERNESS with other young backpackers guided by competent and experienced leaders who enjoy young people. On these outings, participants hike the backcountry, climb peaks, travel off-trail, and learn wilderness camping skills. There is also time for fishing, swimming, snow-sliding, or just watching the clouds drift by. Everyone is expected to help with cooking and cleanup chores and to carry his or her fair share of community gear and food. Parents are requested to assist with transportation to the roadhead. These trips vary in difficulty, and some specify younger or older teens. See the individual trip write-ups for this information.

[160] Minarets Wilderness, Inyo Forest, Sierra—July 8–16. *Leaders, Sharon and Rick McEwan, 375 Jensen Lane, Windsor, CA 95492.* The dark, serrated Ritter Range, rising abruptly above rugged alpine heights, displays some of the most impressive scenery in the Sierra. Designed for experienced backpackers or capable beginners from 14 to 17 years of age, this trip will cover 35 miles of varied terrain at 9,000- to 11,000-foot elevations. In general, daily mileages will be short, leaving ample time for fishing, swimming, or relaxation. Two layover days provide opportunities for climbing Banner Peak and the Volcanic Ridge for unforgettable views. Our ending trailhead at Devils Postpile National Monument offers an exciting geological study. (Rated M)

[161] Brewer Circuit, Sequoia/Kings Canyon, Sierra—July 14–22. *Leader, Mark Gordon, 3397 La Caminita, Lafayette, CA 94549.* This trip is for 14- to 16-year-olds with some backpacking experience. We will start at Cedar Grove, climb to Milly's Foot Pass on the east side of the divide, cross the divide at Colby Pass, and return to Cedar Grove by way of Big Brewer Lake. Some short days and a layover day are planned to give time for peakbagging, fishing, and swimming, but the high elevations and cross-country travel make this a moderate-strenuous trip. (Rated M-S)

John Carter

[162] Isle Royale Park, Michigan—August 4–10. *Leader, Paul Regnier, Rt. 1, Indianola, IA 50125.* A wilderness island, Isle Royale is 22 miles east of Minnesota's north shore in Lake Superior. It contains a wide diversity of plant and animal life, and serves as a natural environmental laboratory. Scientists have studied the environmental balance between moose and wolf populations on the island. Layover days are planned for dayhikes, fishing, swimming, and wildlife observation. Ages 15–18. (Rated L-M)

[163] Columbine/Cyclamen Lakes, Sequoia Park, Sierra—August 5–12. *Leader, Andy Johnson, 415 Monticello, San Francisco, CA 94127.* Join other young people (ages 14–17) on this trip into the spectacular southern Sierra. On this eight-day trip we will cross the Great Western Divide, hike through Big Arroyo, Nine Lake Basin and Kaweah Basin, and walk by the 2,000-foot cliffs of the Kern Canyon. We will cover 35 miles in seven days with an extra day for fun with our packs off. Highlights include a climb of Mt. Stewart for a view into Valhalla, and several off-trail passes. (Rated M)

[164] Post Peak Pass Loop, Sierra Forest, Sierra—August 12–19. *Leader, Jenny Dienger, 1410 Anderson Rd., Davis, CA 95616.* We will be traveling through the Sierra to an area southeast of Yosemite National Park. Leaving from Clover Meadows Ranger Station, we will climb toward Post Peak Pass, and then loop back to Granite Creek campground; this involves a two-mile car shuttle. Fishing is good in the many lakes and streams, and natural water slides and pools are frequent along Granite Creek. This trip, for 13- to 17-year-olds, will combine both trail and cross-country hiking as well as provide a layover day to climb a peak or to relax. (Rated L-M)

Base Camp Trips

View of Dingleberry Lake, Sierra Nevada, California Bill Davies

Base Camps offer a wide range of wilderness activities in an exciting variety of natural settings. Common to all trips is a camp that is the base of operations for overnight backpacking, mountain climbing, fishing, or simple nature walks in the surrounding wilderness. Some activities are organized, but the choice of whether or not to participate is up to each individual.

Trips usually begin with dinner at the roadhead. The following day up to 25–30 pounds of dunnage per person will be transported from roadhead to camp while the trip members hike in. Camp will be set up in advance of your arrival, and—except at the beginning and end of each trip—neither stock nor packers are in camp. Members take turns performing camp chores including meal preparation, with instruction and aid from the camp staff.

Base Camps vary with the locality of the trip. For example, in the southeast, Base Camps never use mules, but set up after a short hike into the wilderness. Some trips use lodges or cabins instead of camping. Below are general descriptions of the main types of base camps.

Alpine Camps: Located in more remote spots and at higher elevations, these camps are for those who wish a rigorous program of wilderness activities in comparative isolation. Cross-country hiking, overnight backpacking, and mountain climbing are popular.

Base Camps: Especially suited for newcomers and family groups, the hike in is usually easier and the activities less strenuous than Alpine Camps.

Backcountry Camps: Our most remote location, reached by a two-day hike, is primarily an adult trip, although teenagers are welcome. It is more a do-it-yourself camp where members are encouraged to conduct their own ventures. Staff leadership is available when needed.

Desert Camps: Spring, fall, and winter are the times for desert camping. Members' automobiles are used for side-trip transportation. Activities are mainly dayhikes to points of scenic and historic interest.

Lodge Trips: Lodge trips stay in small inns, cabins, or lodges, reached usually by a hike or boat ride in. These trips combine the advantages of a wilderness setting with comfortable accommodations and meals.

[26-E] Natural History of the Anza-Borrego Desert, California—March 24-31. *Leader, Bob Miller, 11713 NE 150th P., Bothell, WA 98011.* Join us on this week-long desert adventure in an area rich in scenery and in Indian and early Spanish history. Enjoy the flexibility of a base camp from which to explore the backcountry of California's largest state park, and to observe the flora and fauna of the living desert in the springtime.

[30] Rogue River Trail Wilderness Lodges, Oregon—May 13–18. *Leader, Mark Minnis, 14900 Galice Rd., Merlin, OR 97532.* Hike the historic Rogue River Trail through the Wild Rogue Wilderness, carrying only a daypack. Other gear will be carried by raft, which will follow the trail along the river. We will stay in rustic wilderness lodges each night, with clean beds, hot showers, and fabulous home-cooked meals. Two layover days will be spent at Half Moon Bar, where we can enjoy the beauties of spring and the abundant wild-

High Uintas Service Trip, Utah

Craig Ullery

life of the Rogue River canyon. Bring your cameras; spring birds and flowers will highlight this trip.

[165] Everglades Park, Florida—April 16–21. *Leaders, Vivian and Otto Spielbichler, 9004 Sudbury Rd., Silver Spring, MD 20901.* Our base camp at Flamingo at the southern tip of the park is a unique subtropical wilderness, home of rare birds and animals. We will take daily canoe trips and walks to explore mangrove and buttonwood environments as well as freshwater ponds, brackish water, open coastal prairies, and saltwater marshes. This leisurely trip is for people of all ages who enjoy bird and animal watching, photography, and relaxation.

[166] Rogue River Wilderness Lodges, Oregon—June 17–22. *Leader, Mark Minnis, 14900 Galice Rd., Merlin, OR 97532.*

[171] Rogue River Wilderness Lodges, Oregon—July 22–27. *Leader, Mark Minnis, 14900 Galice Rd., Merlin, OR 97532.*

[176] Rogue River Wilderness Lodges, Oregon—August 26–31. *Leader, Mark Minnis, 14900 Galice Rd., Merlin, OR 97532.*

From Gold Beach, on the Oregon coast, we will ride the Mail Boat about 50 miles up the Rogue River into the heart of the Wild Rogue Wilderness. We will spend three nights at Half Moon Bar Lodge, where we can dayhike, soak up the sun and peace of the wilderness, and enjoy fabulous home-cooked, garden-fresh food. We will hike back along the Rogue River Trail in easy stages, spending one night each at Clay Hill and Illahe lodges, with a raft to carry gear, before taking the boat back to Gold Beach. During the August trip there should be excellent fishing, as the steelhead begin running up the river in mid-August.

[167-E] Natural History of Mono Basin, California—June 23–30. *Leader, Serge Puchert, 1020 Koontz Ln., Carson City, NV 89701.* Mono Basin extends from the crest of the Sierra Nevada to the sagebrush belt. Mono Lake is its most prominent feature. From an old Basque camp in a cottonwood grove at meadow's edge overlooking Mono Lake, we will travel into the Sierra as well as into the desert, visiting mines, hot springs, ghost towns, and the Mono Craters. Most of the activities will be under the guidance of a professional naturalist, who will interpret and explain the natural and historical aspects of the area. All hikes are easy to moderate.

[168] McGee Creek Alpine Camp, John Muir Wilderness, Inyo Forest, Sierra—July 12–21. *Leaders, Julie Davies and Tom Busch, 2314 Bancroft Ave., Los Angeles, CA 90039.* Our roadhead is situated 30 miles north of Bishop on the eastern slope of the Sierra. Our trail climbs 2,100 feet in eight miles up the canyon of McGee Creek to our base camp north of Big McGee Lake (10,400). Nearby, Little McGee and Crocker lakes offer fishing, photography, and relaxation beneath the rugged heights of the Sierra Crest. The crest itself may be crossed at McGee Pass and Hopkins Pass. There are many opportunities for climbs and dayhikes. Activities will be geared to the desires of the group.

[169-E] Malheur Wildlife Refuge Base Camp, Oregon—July 15–21. *Leader, Marshall Gifford, 2 Icarus Loop, Lake Oswego, OR 97034. Naturalists, Marilyn Couture and Lucille Housley.* The Malheur Wildlife Refuge consists of 184,000 acres of vast marshland lakes, waterways, and uplands; 227 bird species and 57 species of mammal have been sighted here. Traveling by bus and on foot, with a program of informal discussions, lectures, slide shows, and field trips, we will explore the mystery of life in the high desert of southeast Oregon. We will learn about prehistoric and present Native American culture, the historic cattle country, birds, and the geology of the area as we visit the refuge, Alvord Desert, ghost towns, and the great escarpment of Steens Mountain. Meals and lodging will be at the Malheur Field Station.

[170] Stehekin Valley Base Camp, North Cascades, Washington—July 22–28. *Leaders, Marilyn and Bill Gifford, 3512 NE Davis, Portland, OR 97232.* Stehekin, the "Enchanted Valley," is reached by a 50-mile ferry ride up the inland fjord of Lake Chelan, a 6,000-foot-deep rift in the North Cascades. We will stay in rustic cabins on the Courtney Ranch, which is at the base of McGregor Mountain in the isolated Stehekin Valley. Each day we will have a choice of dayhikes, both easy and strenuous, from the hypnotically beautiful Agnes Gorge to spectacular Cascade Pass. Meals will be delicious, homemade, and family-style. Optional activities include horseback trail-rides and raft trips. This trip is suitable for all ages, families, couples, and singles.

[172] Rangeley Lakes, Maine—August 5–11. *Leader, Kevin Walter, 7 Winding Brook Dr., Apt. 2G, Guilderland, NY 12084.* The Rangeley Lakes region, consisting of several large lakes, lies in a mountainous area near the New Hampshire border. Our camp will be located in a state park on the south shore of Rangeley Lake, only a few miles from the Appalachian Trail. We will hike several parts of the trail. Optional canoe trips, swimming, and other activities will round out our stay in this wild and beautiful section of the state. Children welcome, minimum age 4.

[173] Dorothy Lake, John Muir Wilderness, Sierra—August 6–14. *Leader, Bob Ruff, 3371 Longview Dr., San Bruno, CA 94066.* Our camp near Dorothy Lake is just four miles and 700 feet above the Rock Creek Lake roadhead. We will have many opportunities for inspiring dayhikes on the east fork of Rock Creek and on the north slope of magnificent Mt. Morgan (13,748). There are lakes for swimming and fishing, meadows and streams for pure enjoyment, and the presence of Round Valley Peak and Mt. Morgan for climbing. This trip is well-suited for families of all ages.

[178] Blackcap Basin Backcountry Camp, Sierra Forest—August 8–22. *Leader, Ray Des Camp, 510 Tyndall St., Los Altos, CA 94022.* From Courtright Dam we'll have an easy 24-mile hike to our campsite in this alpine basin. We'll travel on an easy trail through open pine forest and meadows, camping overnight at Big Maxon Meadows, only slightly higher in elevation than when we started. Then, following the North Fork of the Kings River, we climb a rather gradual grade to our campsite near Pearl Lake at about 10,800 feet. We'll be beneath Mt. Reinstein (12,604) and Blackcap Mountain (11,569), and near many alpine lakes. Day or overnight trips may take us to any of these lakes, or to Bench Valley to the north or Crown Basin to the south.

[174] Evolution Region/Goddard Divide, Kings Canyon, Sierra—August 18–28. *Leader, Rick McEwan, 375 Jensen Ln., Windsor, CA 95492.* Our two-day, packer-assisted hike to camp will take us over gently climbing terrain 14 miles, through meadows and aspen groves, and past blue, turbulent streams. The Evolution Region's emerald meadows and towering crags are the setting for this 9,800-foot Sierra camp, near the base of The Hermit. There will be opportunities for exploration of the region's less-visited alpine lake basins, peak-climbing, fishing, relaxation, and guided

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Whitewater Baldy, Gila Wilderness, New Mexico

Richard Cachor Taylor

nature walks. An optional three-day trek provides further exploration into remote Ionian Basin.

[175] Middle Fork Bishop Creek, Inyo Forest, Sierra—August 19–28. *Leader, Bill Davies, 2261 Hidalgo Ave., Los Angeles, CA 90039.* The middle fork of Bishop Creek originates in the Sabrina Basin, which lies in the shadow of Mt. Darwin (13,830) and Mt. Thompson (13,323). Our roadhead is at Camp Sabrina, located approximately 20 miles west of Bishop. The trail winds around the lake and then climbs a leisurely 1,600 feet over six miles. Our probable campsite is Dingleberry Lake (10,500). The Sabrina Basin offers numerous fishing spots, and there are several peaks in the area well-suited to nontechnical day climbs. The emphasis of this base camp will be to see as much of the surrounding countryside as possible.

[177] Rogue River Wilderness Lodges, Oregon—September 16–20. *Leader, Mark Minnis, 14900 Galice Rd., Merlin, OR 97532.* We will ride the Mail Boat about 50 miles up the Rogue River from Gold Beach, on the Oregon coast into the heart of the Wild Rogue Wilderness. We will spend three nights at Half Moon Bar Lodge, where we can dayhike, soak up the sun and peace of the wilderness, and enjoy fabulous home-cooked, garden-fresh food. We will hike back along the Rogue River Trail in easy stages, spending one night at Clay Hill Lodge, with a raft to carry gear, before taking the boat back to Gold Beach. There should be excellent fishing, as the steelhead are usually at their best in September.

[357] Wilderness Habitats of the Black Range, Gila Forest, New Mexico—October 7–13. *Leader, Don Lyngholm, Box 103, Flagstaff, AZ 86002.* Following in some of Aldo Leopold's footsteps, we will analyze plant and animal communities in meadows, oak-juniper woodland, and ponderosa pine forests. Our camp will be near the forks of the Mimbres River at 7,000 feet in southwest New Mexico. There will be time for dayhikes along the streams or along the Continental Divide, which rises to 10,000 feet. Trout fishing is normally good. Gourmet southwestern foods will be prepared by our packer.

Breakfast, Missouri River, Missouri

Faye & Tom Sitzman

Carol Crews

Putting up rain tarps, Goodale Pass, Sierra Nevada, California

[358] Death Valley at Christmas, California—December 19–27. *Leaders, Ellen and Jim Absher, 2902 Alton Dr., Champaign, IL 61821.* Warm days, blue skies, and holiday cheer await us in this fascinating, varied, desert environment. Day trips to explore deep canyons, sand dunes, ghost towns, and snowcapped peaks, and to see flora and fauna are all possible. The daily excursions will be tailored to the wishes of the group, and we will use participants' cars to get to trailheads. The hikes will be leisurely to moderate, allowing time for photography, nature study, or relaxing in the sun.

[359] Everglades Park, Florida—December 26–31. *Leader, Herb Schwartz, 2203 St. James Pl., Philadelphia, PA 19103.* Our base camp at Flamingo, at the southern tip of the park, is a unique subtropical wilderness, home of rare birds and animals. We will take daily canoe trips and walks to explore mangrove and buttonwood environments as well as freshwater ponds, brackish water, open coastal prairies, and saltwater marshes. This leisurely trip is for people of all ages who enjoy bird and animal watching, photography, and relaxation.

Bicycle TRIPS

BICYCLING does no more harm to the environment than walking, yet covers much more country in a way that puts you closely in touch with your natural surroundings. Some trips intersperse travel days with layover days, but all include ample time for activities such as swimming, hiking, and sightseeing. Terrain and distance variations require different levels of skill and physical conditioning. Most trips are "self-contained" (no sag wagons), so trip members carry all their gear on their bikes and buy groceries daily. Leader approval of each participant is required; there will usually be questions about experience and equipment. Helmets are either strongly recommended or required. Domestic bike trips camp along the way. See Foreign Trips section for additional bicycle trips.

[180] Chesapeake Bay Bicycle Tour, Eastern Shore, Maryland—June 3–9. *Leader, Alice Van Deburg, 441 Virginia Tr., Madison, WI 53705.* Set between the nation's largest estuary and the ocean, the Shore is an ideal area for bicycle touring. The maritime culture and cuisine made famous by historians and novelists is ours to sample as we pedal along bays, inlets, and barrier islands. We will average 55 miles per day, camping and carrying our own gear. Highlights will include a layover day at Chincoteague National Wildlife Refuge, where the wild ponies roam, and a night at an historic inn near St. Michaels.

[181] Oregon Mountains to the Coast Bike Tour, Oregon—June 9–16. *Leader, Doris Allen, 1975 Tigertail Rd., Eugene, OR 97405.* In seven days of pedaling, this trip will cover approximately 400 of the most scenic miles in Oregon. The circular route begins at a hostel in Eugene, then heads north along country roads, crossing the Coast Range to the ocean. Traveling south along the coast, we will explore tidepools, sea-lion caves, lighthouses, fishing ports, and endless sandy beaches. The return route will take us through the historic Bohemia mining territory and along scenic rivers with waterfalls and hot springs. We will camp in state parks with hot showers, and will share in the cooking, purchasing fresh produce and seafood in local markets along the way.

[182] Bicycling to Vermont's Country Inns—June 10–15. *Leader, Ana Rosal, 140 E. 92nd St., New York, NY 10128.* We will spend six days bicycle-touring central and southern Vermont, stopping each evening at a unique country inn. Using sparsely traveled roads, we will cycle through rolling countryside and open farmland with the Green Mountains in the distance. Along the way we will pass small villages, historic sites and museums, numerous lakes, and covered bridges. The inns will provide excellent country-style meals and lodging. A sag wagon will transport gear from inn to inn. Moderate mileages most days should allow time to swim, picnic, relax, or go antiquing.

[183] California Big Sur Coastline—June 16–24. *Leader, Boyd Moore, 834 Temple St., San Diego, CA 92106.* From the Golden Gate to San Luis Obispo, 263 miles down the California coast, this is a leisurely, self-contained trip on one of the most scenic coastlines in the country. We will camp among giant redwoods, saunter along Steinbeck's Cannery Row, and visit the outstanding treasures of Hearst Castle. Moderate difficulty.

[184] Finger Lakes Bike Tour, New York—June 17–23. *Leader, John Kolp, 453 Warren St., Brooklyn, NY 11217.* The Finger Lakes region of western New York is justly famous for its gorges, waterfalls, historic towns, vineyards, and numerous large lakes. This self-contained bicycle tour will average 40 miles per day. Highlights include a rest day at Keuka Lake and a trip to a nearby winery. We camp at state parks and will tour scenic Watkins Glen and the village of Hammondsport.

[185] Cycling Wisconsin's Coast and Mountains—June 17–26. *Leader, Betsy Sanders, 1108 E. Johnson St., Madison, WI 53703.* This self-contained bicycle tour in eastern Wisconsin will start in Milwaukee and tour the Lake Michigan coast northward to the tip of the Door County peninsula. After a layover day on Washington Island, we will return through the mountains of the North and South Kettle Moraines. We will be camping all along the route. Rated extraordinary–marvelous.

[186] Northern California Coast Bike Trip—June 26–July 5. *Leader, Bill Bankston, 524 N. 16th St., Springfield, OR 97477.* Our ride from Crescent City to San Francisco covers 400 miles. We will carry all of our own gear, buy food at markets en route, and sleep mainly at state parks. Highlights of the route include: Redwood National Park, Point Reyes National Seashore, and the Golden Gate Bridge. The trip fee does not include transportation of the rider and bike to Crescent City or back to Crescent City at trip's end. Greyhound services this route.

[187] Acadia Park/Mt. Desert Island Bike and Hike, Maine—July 8–14. *Leader, Margaret L. O'Neil, 116 The Riverway, #20, Boston, MA 02215.* Acadia, the only national park in the northeast, is coastal Maine at its very best, combining mountains, cliffs, and beaches. From our base camp we will bike through villages, past inlets and bays studded with lobster buoys, and along carriage paths. When we reach the trailhead we will hike to the summits of the mountains of Acadia, which offer views of Frenchman's Bay, numerous islands, and Somes Sound, the only true fjord on the east coast of North America. There will be time for flora and fauna identification and swimming. The combination of hiking and hilly biking makes this a moderate trip. Minimum age 18.

[188] Canadian Rockies Bike and Hike, Canada—July 22–29. *Leaders, JoAnn and Paul Von Normann, 732 S. Juniper St., Escondido, CA 92025.* Along the Icefields Parkway, our 250-mile self-contained bicycle tour will provide us with some of the most spectacular scenery in North America, including numerous hanging glaciers and silhouetted hanging valleys. Two layover days and several short cycling days will allow us ample time to dayhike and explore the heart of this magnificent park system. We'll hike around Lake Louise and take a park naturalist-assisted six-mile walk over the Athabesca Glacier on the Columbia Icefields. Commissary-only sag wagon provided.

[360] Autumn Leaves—Bicycling in Vermont—September 30–October 5. *Leader, Richard Weiss, 448 Wellesley St., E., Toronto, Ontario, Canada M4X 1H7.* We have picked for this trip the perfect week for viewing Vermont's foliage. The 210-mile itinerary covers a variety of New England topography from Lake Champlain to the fringe of the Green Mountains. There will be time for picnics, swimming, and exploring the historical sites this area has to offer. Lodging, breakfasts, and dinners will be in local inns where we will benefit from the seasonal harvest. All gear is carried by sag wagon.

Burro Trips

Irwin Zim

McGee Creek Burro Trip, Sierra Nevada, California

Sierra Club Burro Trips are hiking trips where burros, handled by the trip participants, carry most of the load. These outings are suitable even for people who have little or no experience with burros or camping, and also for experienced campers who want to explore without a backpack. Experienced trip leaders will teach you to pack, unpack, and handle these amiable animals, an experience often as memorable as the wilderness trip itself. Normally, two people share the handling of each burro.

Most of these trips cover a lot of ground at relatively high elevations (8,000 to 11,000 feet above sea level), and at times the terrain can be fairly rugged. Applicants should be in good physical condition, and children must be seven years or older.

[190] Mt. Whitney Country, Sierra—July 28–August 4. *Leader, Robin Spencer, 11 Cresta Blanca, Orinda, CA 94563.* Our trek begins at Cottonwood Sawmill (9,720) and climbs over Cottonwood Pass (11,200) into the rugged, glacier-carved Miter Basin. We then move through stark Siberian Outpost to the tranquil Rocky Basin Lakes (10,745). Within easy dayhike range is Funston Lake, perched on the brink of the great faulted Kern River Canyon. This moderate trip consists of two layover days and four-and-a-half moving days, and covers approximately 34 miles.

[191] Cottonwood Pass, Sierra—August 4–11. *Leader, Linda Furtado 129 Lake Ave., Piedmont, CA 94611.* From Cottonwood Sawmill we ascend to Cottonwood Pass (11,200) and Chicken Spring Lake. Taking the Pacific Crest Trail we will go north to the incomparable Miter Basin, which has been described as "Yosemite rimmed by Tetons." We then go cross-country across the stark Siberian Outpost and drop down to Rocky Basin Lakes, through Big Whitney Meadow, and back over Cottonwood Pass. There will be two layover days on this moderate trip of 34 miles.

[192] Rocky Basin Lakes and Kern Canyon Overlook, Inyo Forest, Sierra—August 11–18. *Leader, Jack McClure, 75 Castlewood Dr., Pleasanton, CA 94566.* This will be a moderate trip to view the Kern Canyon and the grand southern crest of the Sierra Nevada, and to get in some golden-trout fishing. We will take time to explore the peaks and lakes of the Boreal Plateau, ranging from 10,000 to 12,000 feet in elevation.

[193] Cottonwood Sawmill to Miter Basin, Sequoia Park, Sierra—August 18–25. *Leader, Ted Bradfield, 5540 Circle Dr., El Sobrante, CA 94803.* This trip will highlight the spectacular Miter Basin. We will not take the burros into the basin, but will camp at the base, with ample time to dayhike into the basin. About 25 miles and 3,000 feet of climb make this a moderate trip. Although not designated as a family trip, it is suitable for families with children.

[194] Lakes and Peaks South of Whitney, Sequoia Park, Sierra—August 25–September 1. *Leader, Jack Holmes, 1711 Cork Pl., Davis, CA 95616.* This trip offers a chance to explore the canyons and peaks in and around the alpine Miter Basin. There will be time to fish the lakes of this golden-trout region. Canyon and peak climbing and flower photography will be a large part of the "organized" layover days' activities, with emphasis on the aesthetic rather than the technical. Warning: Ardent peakbaggers will find this trip slow, due to the longer-than-normal picture stops and no Class V rock work.

Family Trips

Two children enjoy the beauty of Buck Creek Campground near Glacier Peak in Washington. John Warth

FAMILY TRIPS have one specific goal in mind—to make it easy for families to enjoy the wilderness together. They range from Wilderness Threshold camps for parents with young children to Canoe Trips designed especially for families with teenagers. Most trips are planned with the limits of the least-hardy member of the family in mind.

All family trips involve learning to cope with the challenges of outdoor living. With the help of leader families who offer expert advice, encouragement, and entertainment, families whose only previous outdoor experience has been a visit to a city park quickly learn to enjoy all that wilderness offers. Along with this goes the pleasure of an all-family trip. Ideas are shared, everyone has similar problems solved and obstacles conquered, and the children have the fun of outdoor living shared with others their own age.

Menus are designed to appeal to both adults and children. Exertion is generally mild, but some physical conditioning is advisable. Families going into the high-country should try to spend a couple of days before the trip at high altitude for acclimatization.

WILDERNESS THRESHOLD TRIPS

THE WILDERNESS THRESHOLD PROGRAM is designed to take entire families with little or no wilderness experience and teach them the techniques of backcountry camping. In addition to teaching the basic skills (camp selection, cooking with lightweight foods, proper use of equipment), the program also tries to increase awareness of the area's ecology and the importance of minimizing human impact upon it.

To do this, an experienced and highly motivated family leads each Wilderness Threshold trip. These leadership skills, coming as they do from an entire family, are unique to Sierra Club family outings.

Threshold camps are usually located far enough from the road to give a taste of real wilderness, yet close enough so even very young children can hike in comfortably on their own. Two- to four-year-olds may need help getting to camp, but they have a lot of fun once there. Packstock is usually used to transport food, dunnage, and equipment from roadhead to camp.

The area surrounding each campsite offers opportunities for varied activities—nature study, dayhikes, fishing, swimming, peak-climbing, or rock scrambling. Each participant family (adults and teenagers) shares commissary duties and other camp chores. The group meets for breakfast and dinner, with lunch packed at breakfast. Most activities are informal and unstructured. Evenings center around group activities.

Those with musical interests are urged to bring instruments. (They will not count as part of the dunnage limit, but no pianos, please.)

Before you choose a trip, be sure to read each description carefully. There are camps for families with teenagers, and others with varying age limits; some are more remote and therefore harder to reach. If you have any questions regarding the diffi-

culty or age format of the trip, please contact the trip leaders before submitting your application.

General good health is required; otherwise, no special training or skills are necessary for these trips.

[49] Easter in Aravaipa Wilderness, Arizona—April 19–24. *Leaders, Beth and Bob Flores, 2112 W. Portobello, Mesa, AZ 85202.* Aravaipa Canyon is rich in natural beauty and western lore. An unusual, perennial phenomenon in the Arizona desert, the canyon nurtures sycamore, ash, cottonwood, and willow trees. Aravaipa Canyon, home of the Whittal Wildlife Preserve, hosts desert bighorn sheep, deer, coati-mundi, javelina, and more than 150 species of birds. Historic and prehistoric ruins—plus the Arizona desert in full bloom—make this area even more intriguing. Easy access by air brings you to nearby Phoenix or Tucson. This trip is suitable for children of any age.

[195] Blue Heaven Wilderness Threshold, John Muir Wilderness, Sierra—July 21–28. *Leaders, Ellen and Jim Absher, 2902 Alton Dr., Champaign, IL 61821.* Our camp at 11,000 feet will be just below Blue Heaven Lake. From there we will be able to explore numerous alpine lake basins. With the 13,000-foot Evolution Peaks on the skyline and lush meadows at our feet, this is a perfect setting for nature study, mountain climbing, fishing, photography, and relaxation. The walk-in rises about 2,000 feet in six miles, but the trip is especially suitable for families with young children from 5–12 years of age.

[196] Golden Lake, John Muir Wilderness, Sierra—August 3–10. *Leaders, Beth and Bob Flores, 2112 W. Portobello, Mesa, AZ 85202.* From the roadhead at Pine Creek we will hike about six miles, with an elevation gain of 3,000 feet. Our base camp at Golden Lake (10,900) offers access to trails and other alpine lakes containing rainbow and brook trout. Set in a forest of lodgepole and whitebark pine, Golden Lake provides an ideal location for fishing, photography, exploration, relaxation, and family enjoyment of the High Sierra backcountry.

[197] Navajo Cultural Experience, Canyon De Chelly Monument, Arizona—August 3–10. *Leaders, Wanda and Tom Roy, 9 Sunset Trail, Rockwall, TX 75087.* Brilliant cathedral cliffs define canyons replete with Anasazi ruins and rock art. Explore this corner of Indian country as we hike in leisurely fashion accompanied by an Indian guide, and camp within sight of hogans. An excellent first family outing. Children must be eight years or older. Leader approval required.

Family Trip, Allegheny National Forest, Pennsylvania

Fred Felt

Roger Baccigalupi

Sabrina Basin, Inyo Forest, Sierra

[198] Santa Barbara Channel Islands, California—August 18–24. *Leaders, Ann and Tom Carlyle, P.O. Box 1313, Goleta, CA 93116.* A unique opportunity to experience and explore two of California's island sanctuaries. We begin with a channel crossing to tiny Anacapa Island for two days of camping, hiking, snorkeling, and exploring. We will then sail for the largest and most diverse of the Channel Islands, Santa Cruz. From our base camp we will take day trips by foot and skiff to secluded coves and tidal pools, fertile inland valleys, and swimming holes. We are sure to see seals, sea lions, brown pelicans, gulls, oyster-catchers, and perhaps the rare island fox or a school of porpoises. All trip members must be able to swim. Children must be nine years or older. A limited number of couples or individuals will also be accepted.

FAMILY CANOE TRIPS

Family Canoe trips are designed for families with at least one teenager. They introduce families to the thrill of running easy rivers, exploring side canyons and ridges, enjoying swimming and other water sports. Some instruction in canoeing and water safety will be provided by the leader. Everyone shares in meal preparation under the supervision of the commissary chief. On most trips canoes and paddles are provided. Partial families and an occasional teenage friend are welcome. Final approval of applicants will be determined by the leader.

All applicants must be competent swimmers to qualify for canoe trips; the Red Cross course in basic canoeing, although not required, would be helpful.

[201] Family Voyageur Canoeing, Missouri River, Missouri—June 10–16. *Leaders, Faye and Tom Sitzman, 903 Mercer Blvd., Omaha, NE 68131.* This trip is ideal for families who appreciate history and the outdoors. We will relive the days of the French Fur Trade as we paddle in 26-foot, 10-person "birchbark" canoes that are stable and easy to paddle. Optional side trips will explore old towns, mansions, and wineries on the banks of the "river that won the West." Tales and songs of the Voyageurs will highlight our evening campfire activities. All will paddle and share in camp chores; no paddling experience necessary. Canoes are provided.

[202] Main Eel River, California—June 17–23. *Leaders, Sallee and Kurt Menning, 997 Lakeshire Ct., San Jose, CA 95126.* This trip from Alderpoint to South Fork will be an exciting family river adventure, and should create an awareness of our natural heritage and the need to preserve it. The water will be warm, the swimming great, the beaches and scenery spectacular. No previous experience is necessary; basic river techniques will be taught. All river equipment is provided. Each family group must include one teenager.

FAMILY BACKPACK TRIPS

THE ONLY THING better than backpacking on your own is backpacking with your family. Here is an opportunity for you and your family to hike with the experienced family backpackers who enjoy sharing their wilderness-travel skills. All youngsters must be able to walk the distance and carry part of the family's personal and community gear.

[203] West Walker Family Backpack, Toiyabe Forest, Sierra—August 19–25. *Leaders, Ann and Larry Hildebrand, 1615 Lincoln Rd., Stockton, CA 95207.* On this loop trip, which originates at Leavitt Meadows on the Sierra's east side, we will be hiking in an area recently designated for future inclusion in the Hoover Wilderness. After moving for two days through the scenic West Walker watershed, we will cross into Yosemite Park and layover at lovely Dorothy Lake (9,400). Because some cross-country hiking will be involved, families should have some backpacking experience, and children should be at least eight years of age. (Rated L-M)

Hawaii

TRIPS

THE HAWAIIAN ARCHIPELAGO offers a unique mid-Pacific setting for a number of interesting Sierra Club trips. Hawaiian trips are designed to let participants enjoy the natural splendor of the islands as few other tourist groups do. Campsites are usually in county, state, national, or private parks, often within sight and sound of the Pacific. On most trips travel from camp to camp is by car.

Dayhikes are scheduled on Hawaii outings, and there will be overnight hikes on some, but none are mandatory. Whether you join a hiking trip, spend a day on the beach, or read a book in camp is up to you.

To lessen the impact on natural surroundings, the trips are limited to 30 or fewer participants.

[28] Hawaiian Islands Spring Trip: Oahu, Lanai, Maui—April 12–20. *Leader, Mia Monroe, 428 10th Ave., San Francisco, CA 94118.* Discover the "other Hawaii"! We will see and experience Oahu as no Waikiki-bound tourist ever has, and we'll also have the rare treat of enjoying one of Hawaii's least-visited islands, Lanai. From our first camp in a botanical garden beneath the pali (steep cliffs), we will delve into Hawaii's indigenous culture; visits to archaeological sites and native gardens, spectacular hikes, and such crafts as lei-making await us. On Lanai we will camp at beautiful Hulopoe Bay. Our days will be spent leisurely discovering ancient petroglyphs and the finest swimming and snorkeling on the Pineapple Island. A sailing cruise takes us to Maui at the trip's end.

[29] Maui-Tropical Paradise—April 13–21. *Leaders, Lynne and Ray Simpson, 1300 Carter Rd., Sacramento, CA 95825.* Join us on the friendly island of Maui, legendary home of the sun. Here we will celebrate the transition from winter to spring, camping in a variety of beach locations, and traveling between sites by rental vehicles. Day and overnight hikes will explore the diverse geographical areas available on this spectacular island. Menus feature Pacific Basin fare, cooperatively prepared by trip staff and participants.

[205] Bicycle Tour of Hawaii—June 30–July 14. *Leader, John Ruzek, 5416 Broadway, Oakland, CA 94618.* Our 300-mile cycling tour will completely circle this "continent in miniature." There will be seven travel days, interspersed with seven layover days, with time for hiking, swimming, and snorkeling. We will see white-sand beaches, the verdant Hamakua coast, and the Ka'u Desert. The highlight of the trip will be the 4,077-foot Volcanoes National Park. There will be a central commissary, with one sag vehicle transporting our food and tents. This tour is ideal for the hearty, adventuresome cyclist. Leader approval required.

[206] Backpack Kauai, Hawaii—September 9–22. *Leaders, George Winsley and Mia Monroe, 60 Fairfax St., Apt. 12, San Rafael, CA 94901.* This 14-day trip will highlight the mountains and remote beaches of Kauai. We will hike from the Kokee Park area, across a corner of the Alakai Swamp, near Mt. Waialeale (the wettest spot on earth), and through Waimea Canyon, Hawaii's "Little Grand Canyon." We move to the north side of the island, hiking along the Na Pali coast to Kalalau Valley, home of ancient Hawaiians. Layover days will give us time to explore the special places along the route. This trip will be moderate to strenuous.

[361] Island of Lanai, Hawaii—December 24, 1984–January 1, 1985. *Leader, Pete Nelson, 5906 Dirac St., San Diego, CA 92122.* Camp will be on Hulopoe Bay, on a white-sand beach facing an underwater park. Our beach hikes will include Shipwreck Beach, which is littered with old hulks, shells, and Pacific flotsam. We will explore ancient villages, heiaus, petroglyphs, caves, and high sea cliffs. A walk in the forests on Lanaihale (3,370) will reward us with views of the other islands. Lanai's serenity and beauty is protected by a master plan and the absence of tourist resorts. At trip's end we will sail from Lanai to Maui to spend New Year's Eve in Lahaina.

Highlight Trips

HIGHLIGHT TRIPS are designed for people who want to hike in the wilderness without carrying a full pack. Packstock or jeeps carry each person's 20-pound duffel bag plus all the food and commissary equipment from camp to camp. On moving days trip members are free to hike at their own pace to the next camp, provided the travel is by trail.

Highlight trips are usually within the ability of the average person who has done a reasonable amount of pretrip conditioning and acclimatization. Families (children nine or older) are welcome.

Group size varies from 12 to 25 trip members plus a small staff. Routes are chosen that promise maximum enjoyment with minimum wilderness impact. Moves between camps range from 5 to 15 miles and are often followed by one or more layover days. With camp duties only once or twice a week, the layover days provide opportunities to fish, climb, or pursue other individual activities.

Leaders emphasize conservation issues and interpret the natural history of the area visited.

[27] Big Bend Potpourri, Texas—April 11–17. *Leader, John Colburn, P.O. Box 37199, Sta. D, Albuquerque, NM 87176.* Whitewater rafting through Santa Elena Canyon on the Rio Grande; backpacking in the Chisos Mountains; dayhiking in the varied ecosystems of the Chihuahuan Desert—these things and more will fill our week on the Mexican border. Early spring means desert wildflowers for our enjoyment and moderate weather for our comfort. We will use our personal vehicles to travel to the campsites and trailheads within the park.

[210] Kalmiopsis Wilderness Llama Trek, Siskiyou Forest, Oregon—June 3–8. *Leaders, Toni and Tom Landis, 29212 Lone Pine Rd., Brownsville, OR 97327.* The Illinois River carves its deep gorge through the little-known Kalmiopsis Wilderness in southern Oregon. Rugged, heavily forested mountains are offset by the deep green pools and rushing whitewater of the river. Diligent, alert llamas will carry our burdens for 26 miles over a good trail. Our relaxed itinerary will allow ample time for swimming, fishing, and loafing, as well as for observing the unique botanical and geological qualities that this area offers.

[211] Sawtooth Wilderness, Sawtooth Forest, Idaho—July 29–August 7. *Leader, Jerry Clegg, 9910 Mills College, Oakland, CA 94613.* Our trailhead is five miles south of Stanley, Idaho, at the inlet to Redfish Lake. The trip will wind through the headwaters of the Salmon and Payette rivers on the crest of the Idaho batholith, requiring moderate hiking of up to nine-and-a-half miles a day, with elevation gains and losses of 1,700 feet. Strenuous but optional hikes and climbs on four layover days are planned. Fishing prospects are good, animals abound, and the wildflowers should be spectacular.

[212] Evolution Valley, Dusy Basin, Inyo Forest, Sierra—July 29–August 10. *Leader, Serge Puchert, 1020 Koontz Ln., Carson City, NV 89701.* Starting at North Lake and ending at South Lake on the east side of the Sierra, we will hike over three spectacular passes: Piute Pass (11,400), Muir Pass (11,955), and Bishop Pass (12,000). This 13-day moderate trip will cover 55 miles in seven moving days, with elevation gains on some days of more than 2,000 feet. We will have five layover days to rest, fish, and explore, and to climb areas around Humphrey Basin, Darwin Canyon, and Dusy Basin. Varied terrain, ranging from above-timberline country dotted with lakes to wooded valleys and lush meadows, makes this trip ideal for photo buffs.

[213] Western Slope of the Tetons, Targhee Forest, Idaho—August 1–10. *Leader, Len Lewis, 2106-A Clinton Ave., Alameda, CA 94501.* Our trailhead is a 45-minute drive from Jackson Hole, Wyoming. Our route lies immediately west of Grand Teton National Park and takes us through a system of limestone plateaus and granite basins. This trip involves moderate hiking of six to nine miles per day. On layover days, optional hikes to lakes and places of interest may be more strenuous, but are not required. Beginners with joie-de-vivre will be warmly welcomed.

[214-E] Llama Trek/Photography Seminar, Three Sisters Wilderness, Oregon—August 5–10. *Leaders, Toni and Tom Landis, 29212 Lone Pine Rd., Brownsville, OR 97327. Instructor: Daniel Schoenthal.* Dependable and unflappable, llamas are the ideal pack animal, enabling us to carry delicate equipment across almost any terrain. On this trip we travel to the photogenic western flank of the Three Sisters Range. This volcanic wonderland offers a great diversity of sites, including deep forests, stark lava flows, glacier-clad slopes, and streams that spring forth from solid rock slopes. A leisurely itinerary of less than 25 miles will allow plenty of time for exploiting the many photographic opportunities of the area.

[215] Kings Peak/Painters Basin, Uinta Mountains, Utah—August 6–16. *Leader, Bill Huntley, P.O. Box 3164, San Leandro, CA 94578.* This trip is to the seldom-visited Uinta Mountains Wilderness, where flower-filled alpine meadows contrast sharply with the rugged mountain scenery. We will see a great variety of animal and plant life. Layover days provide the chance to conquer Kings Peak (13,512), to explore remote areas, or to just relax and enjoy the beauty of wide vistas. Two layover days will be spent in Painters Basin, which is surrounded by 14 peaks, each about 13,000 feet. Fishing prospects abound, and the Uintas' spectacular geological formations provide perfect photo settings. This is a trip for well-conditioned hikers who are ready for the challenge of high altitudes.

[216] Agnew to Dana Meadows, Yosemite, Sierra—August 13–22. *Leader, Bert Gibbs, P.O. Box 1076, Jackson, CA 95642.* No superlatives can describe the views of the Minarets as we start from Agnew Meadows. On six moderately difficult hiking days we will cover distances of from six to ten miles, at elevations ranging from 9,000 to 12,000 feet. Avoiding the Muir Trail, we will explore the high-country on four layover days by taking dayhikes, climbing peaks, swimming, and fishing. Our crossing of Gem and Parker passes will bring us to the road and the trip's end at Dana Meadows near Tioga Pass.

[217] San Juan Mountains, Weminuche Wilderness, Colorado—August 13–23. *Leader, David Horsley, 4285 Gilbert, Oakland, CA 94611.* The San Juan Mountains are in southwestern Colorado. This scenic

Packer with horses, Minarets Wilderness Highlight Trip, Sierra Nevada, California Henry Mayer

trip will include 11,000-foot basin areas and numerous 14,000-foot peaks. Four layover days will be spent peakbagging, fishing, and observing wildlife. The scenery is spectacular. The wildlife in this area includes elk, bear, mountain sheep, and deer. Excellent physical conditioning is required. The trip covers 60 miles in 11 moving days.

[218] Navajoland Cultural Experience, Canyon de Chelly, Arizona—August 17–24. *Co-leader, Patty Boyle, 90 Ranch Rd., Woodside, CA 94062.* Join our leisurely walk through time as we explore prehistoric Indian cliff dwellings amidst the beauty of Canyon de Chelly. We will be guided by Navajos, and will learn about the Navajo way of life by sharing experiences such as cooking, games, art, and ceremonies. Minimum age is 10 years, but this trip is ideal for teenagers as well as adults.

[219] Three Sisters Llama Trek, Cascade Range, Oregon—September 9–14. *Leaders, Toni and Tom Landis, 29212 Lone Pine Rd., Brownsville, OR 97327.* Recent lava flows, glacier-clad peaks, streams springing from solid rock, deep forests, and wide, green meadows all contribute to the great diversity found on the west flank of Oregon's Three Sisters Range. Hike at your own pace or lead one of the llamas that assist in carrying our burdens; you'll discover that they are ideal pack animals. Our leisurely itinerary will cover 25 miles, allowing ample time for relaxing and exploration.

Bus TRIPS

Bus Outings have been a very successful enterprise in several Sierra Club chapters for many years. We think they're a trend of the future, particularly as fuel becomes scarcer and more expensive. Aside from the obvious advantages of saving fuel and decreasing smog and traffic congestion, they allow us to visit a number of areas beginning from a single location, skipping the time and trouble of searching for a ride or driving yourself to a remote trailhead. There is no need to waste time setting up sometimes lengthy car shuttles. You travel in relaxed air-conditioned comfort, with plenty of opportunity to get acquainted with your fellow trip members.

[221] Mountain Majesty Bus Trip, Arizona, New Mexico, Colorado—August 19–September 2. *Leader, Margaret Malin, 1716 Maple St., Santa Monica, CA 90405.* Sangre de Cristo, San Juan, Neversummer, Rocky Mountains—the names invite exploration! From Arizona's Oak Creek Canyon and the ancient civilizations of the Santa Fe/Taos area of New Mexico, to Rocky Mountain National Park in Colorado, we'll explore from the canyon depths to the mountain grandeur of 14,110-foot Pike's Peak by bus, narrow-gauge railroad, cog railroad, and of course by foot. Climax will be four days of dayhikes, fishing, or loafing in the incomparable scenery of the Bear Lake area of Rocky Mountain National Park.

Service Trips

SERVICE TRIPS combine the pure fun of a wilderness outing with the satisfaction that comes from doing something positive—on behalf of yourself and all others who enjoy wilderness—to preserve and protect its unique qualities. Whether the job is rerouting a trail around a fragile meadow, or removing unnecessary fire rings or an abandoned cabin, service trips mix the hard work of wilderness conservation with the pleasures of backpacking. These trips are noted for being fun, energetic outings with lots of enthusiasm and spontaneity.

Now in their 25th year, service trips have evolved into three general types:
CLEANUP TRIPS range all the way from routine collection of trail litter to the removal of an airplane wreck.
TRAIL MAINTENANCE PROJECTS make trails safer or minimize their environemntal impact on surrounding terrain. The work crews may backfill washouts, place waterbars for proper drainage, eliminate switchback cuts, or remove dangerous rocks from the trail. Occasionally the project is the construction of a brand-new trail.
WILDERNESS RESTORATION PROJECTS eliminate the signs of human impact, and replant native vegetation. Their purpose is to assist the natural healing process of an ecosystem.

Many trips combine all three types of activities in a varied work schedule.

Most service trips are in areas of the National Wilderness Preservation System, or proposed wild areas or national parks.

Although the work is hard, there is also opportunity for enjoying the wilderness. About half the days are free time, so plenty of leisure time can be spent with fellow trip members. As is the case with most outings, participants share in communal chores and cooking.

Service trips are subsidized in part by the Outing Committee, which means fees charged to participants are comparatively low. Tax-deductible donations from corporations and individuals provide additional support for these outings. The 1984 Service Trip Program has been funded in part by a generous grant from the Atlantic Richfield Foundation. Gifts such as these make possible a lower trip fee, and more projects. Trip size will usually vary from 12 to 25, including staff and a volunteer physician. Members younger than age 16 must contact the leader for approval.

Applicants are generally considered on a first-come, first-served basis, except for trips involving unique objectives or difficult work projects. On these, acceptance will be based on the applicant's special skills and experience, exceptional physical ability, or other factors demanded by the project. Applicants should have a recent medical examination (within a year).

If you have been looking for a chance to contribute something to the wilderness, one of these trips is surely the answer.

TRAIL MAINTENANCE PROJECTS

[50] Kanab Creek Trail Maintenance Project, Kaibab Forest, Arizona—March 23–April 2. *Leader, Tim Wernette, 10 N. Bella Vista, Tucson, AZ 85745.* Kanab Creek is one of the major drainages on the North Rim of the Grand Canyon, with spectacular sandstone cliffs, side canyons, cottonwood and oak thickets, and wide sandy benches. The first four work days will consist of building trail tread, making large rock cairns to mark the trail, and moving rocks and light brushing. The latter half of the trip will be a long hike down into the Grand Canyon to the Colorado River. The trip will be moderately strenuous.

[51] Mazatzal Wilderness, Tonto Forest, Arizona—April 15–22. *Leader, Rodney Ricker, P.O. Box 807, Cottonwood, AZ 86326.* Especially beautiful in the spring, the little-used Mazatzal Wilderness is part of one of the largest roadless wilderness areas in the state. This backpack trail-maintenance trip is in rugged and picturesque mountain country, cut by steep-sided canyons. Pine and Douglas fir in the higher elevations yield to the upper Sonoran Desert.

[52] Red Rock Trail Maintenance, Coconino Forest, Arizona—April 22–28. *Leader, Jim Ricker, 525 S. Elden, Flagstaff, AZ 86001.* The Red Rock country of central Arizona is a beautiful land of sandstone canyons and pine-covered mountains. The Forest Service is upgrading its trail system here, as most trails suffer from erosion, rocky terrain, and thick brush. We expect to work the Taylor Cabin Trail (4,600-6,600) in Sycamore Wilderness. We will work every other day, and there will be plenty of time to explore the canyons, photograph the views, or just soak up the wilderness atmosphere. Ex-

Goodale Pass, Sierra Nevada, California

Carol Crews

pect warm days in the lower elevations and a chance of snow in the higher elevations.

[225] Joyce Kilmer, Slickrock Wilderness North Carolina—June 16-23. *Leader, Larry Roberts, 6686 Styers Ferry Rd., Clemmons, NC 27102.* The Slickrock Wilderness area has a wide variety of fauna, with stands of virgin timber. The first day will be very leisurely, with a two-mile walk in from the roadhead. We will be working along Slickrock Creek, doing trail maintenance and construction of water bars, steps, and bridges. After a day's work you may wish to go swimming or fishing in the cool streams. This is a moderate trip.

[226] Laurel Fork Wilderness, Monongahela Forest, West Virginia—June 17–29. *Leader, Dick Williams, 603 S. Walter Reed Dr. #662-B, Arlington, VA 22204.* The eastern edge of West Virginia consists largely of heavily wooded, low but rugged mountains, and contains several wilderness areas. The work project will consist of cleanup, trail maintenance, and relocation in a recently established wilderness on the Laurel Fork of the Cheat River. We'll camp at about 3,000 feet in an area that offers much to occupy free days. There is hiking on numerous trails, trout fishing, wildlife, and beautiful, rugged country with forest, meadow, beaver ponds, and wildflowers.

[227] Kalmiopsis Wilderness/Illinois River Trail Maintenance, Siskiyou Forest, Oregon—June 19–27. *Leader, Conrad Smith, 838 Eddystone Ave. Columbus, OH 43224.* The little-used Kalmiopsis Wilderness in southern Oregon is an area of great botanical and geologic interest, with a population of rare and unusual plants, pre-Ice Age relics. Our work will consist of trail maintenance and repair; we may also replace some washed-out bridges. On our leisure days we will have opportunities for dayhikes to explore this remote and little-known area.

[228] Oregon Coast Trail Construction, Boardman Park, Oregon—July 1–11. *Leader, Jim Bock, 1859 23rd St., Boulder, CO 80302.* Oregon's Coast Trail, when completed, will cover the distance from the California border to the Washington border, making the length of the coast accessible to hikers. Offshore rock formations, coastal creeks, and lush rain-forest vegetation will be the backdrop as we construct new trail to connect other recently completed segments along the magnificent southern Oregon coastline. Rest days will allow time to explore small beach areas, tidepools, sand dunes, and the nearby Kalmiopsis Wilderness.

[229] Preston Peak Trail Construction, Klamath Forest, California—July 5–15. *Leader, Ira Golub, 332 Franklin Ave. #6, Sea Cliff, NY 11579.* Our trip will attempt to complete the last mile of a 45-mile loop of trail in the proposed Siskiyou Wilderness. We will be constructing new trail in this remote region, which derives its character from the Klamath River, 5,000-foot peaks, heavy forests, lush meadows, and plentiful wildlife. The hike to our base camp will be a moderate six miles into the heart of this remote, little-traveled region.

[230] Pecos Wilderness, Sangre de Cristo Mountains, New Mexico—July 8–14. *Leader, Gail Bryant, General Delivery, Glorieta, NM 87535.* Fire, water, mud, snow, and sand over millions of years have made the Pecos Wilderness an area of great diversity. Because of geologic variations and proximity to Santa Fe, the area attracts many visitors. Trail maintenance, rerouting, and stream crossings are ongoing projects. Climbing, fishing, and lazy times are also scheduled.

[231] One-Mile Lake Trail Maintenance, Marble Mountain Wilderness, Sierra—July 10–20. *Leader, Roy Bergstrom, P.O. Box 224, Summit City, CA 96089.* One-Mile Lake, nestled in a deep forest in the Marble Mountains, was once the favorite fishing spot of President Hoover. We will make a moderately strenuous 10-mile hike to establish a base camp that will be home while we reroute the trail from Sandy Ridge to One-Mile Lake. A lot of soil will be shoveled and a lot of boulders will be rolled as we build a gently sloping trail to replace the existing steep plunge to the lake. Excellent fishing and swimming are available for free time enjoyment.

[232] The Sierra Club's Own Trail Maintenance Project, John Muir Wilderness, Sierra—July 12–22. *Leader, Dave Bachman, 857 Sonora Ave., # 15, Santa Rosa, CA 95404.* The Goodale Pass Trail on the west side of the Sierra near Edison Lake has been "adopted" by the Sierra Club, and we are responsible for the opening and maintenance of the trail for the coming season of hikers. About half of the time will be spent on these chores, while the other half could be spent on Mt. Izaak Walton (12,099) or Graveyard Peak

The Arco Foundation's generosity will allow the Service Trips Program to offer financial assistance to a limited number of trip members who otherwise could not participate in Service Trips. Request application information from the Outing Department.

Cloud Peak Primitive Area Service Trip, Wyoming Conrad Smith

(11,494). Lounging in the meadows or fishing in Graveyard Lakes will also be possible. Come and be a part of this worthwhile project in the early-summer Sierra.

[233] Hamilton Camp Trail Maintenance, Marble Mountain Wilderness, Klamath Forest, California—July 14–28. *Leader, Warren Olson, 521 S. 8th, San Jose, CA 95112.* Hamilton Camp is located at the headwaters of the North Fork of the Salmon River, one of the major drainages in the Marble Mountains, and the gateway to one of the most historically significant and majestic areas in the wilderness. Our work project will be the first in a two- to three-year service trip project, replacing and rerouting roughly three miles of badly eroded and, in some parts, unidentifiable trail. Off-days will be spent fishing and swimming at any of the 12 lakes within a two-mile radius of our base camp, or hiking up to English Peak Lookout for a spectacular view of the wilderness.

[220] Lost Creek Wilderness Trail Maintenance, Pike Forest, Colorado—July 18–28. *Leader, Jim Bock, 1859 23rd St., Boulder, CO 80302.* Lost Creek does indeed get lost! We will be looking for (and making) the trail across this fish-filled creek. Both trail conditions and the remoteness of the Kenosha Mountains have kept the crowds away, although we'll be only 65 miles southwest of Denver. An eight-mile hike with a steady, 2,500-foot gain will bring us to base camp in Refrigerator Gulch at 9,400 feet. We will do both tread and brushing work on existing trails through the area's aspen groves and unique granite cliffs and spires. Those exploring the 12,000-foot peaks may see bighorn sheep.

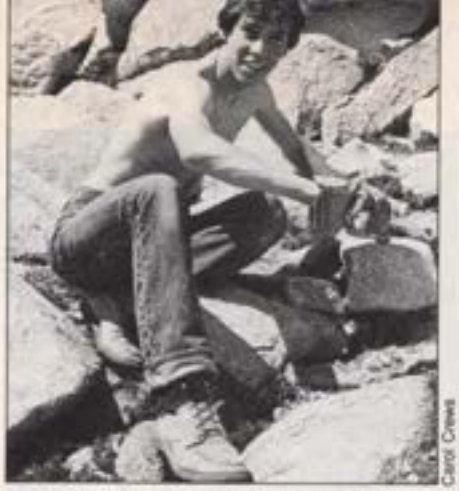
[235] Targhee Tetons Trail Maintenance, Targhee Forest, Idaho—July 18–28. *Larry Moore, 14701 Pamlico Rd., Apple Valley, CA 92307.* This trail-maintenance trip is located in western Wyoming along the Idaho border. Work will be on the western slope of the Tetons backcountry management area at about 9,000-foot elevation in the Green Lakes area. The trail, which we will repair or reroute, leads to the crest of the range, with the Grand Tetons less than 10 miles away. Lush vegetation is characteristic of the western slope of the Tetons. There will be opportunities for dayhikes with fishing, bird and animal watching, and photography.

[236] Beginning Campers' Trail Maintenance, John Muir Wilderness, Sierra—July 28–August 5. *Leaders, David Simon and Susan Liddle, 4017 Villa Vera, Palo Alto, CA 94306.* This trip up the Mono Pass Trail on the Sierra's spectacular east side is the second service trip geared toward inexperienced backpackers. Some degree of physical fitness and a little preparation are the only prerequisites for this relatively short and easy service trip. We'll spend our time enjoying the scenery, climbing the local peaks, and, of course, helping the local U.S. Forest Service put the trails back onto the mountainside. Please sign up early so you'll have time to get ready. Experienced campers are welcome too.

[237] Mt. Hood Timberline Trail, Cascade Range, Oregon—July 28–August 5. *Leader, Rick Zenn, 1208 SW Montgomery, Portland, OR 97201.* Our base camp will be at a former Forest Service guard station built in the 1930s. From the cabin, located in the wilderness area, we will do trail maintenance work on nearby trails and some revegetation at spectacular Ramona Falls. We will work the first half of the trip, freeing the second half to backpack the Timberline Trail, which circles Mt. Hood (11,245). This is one of the premier hikes in Oregon, passing through alpine meadows, glacial streams, and dramatic ridges. The wildflowers should be at their peak this time of year.

[238] Two Mouth Lakes Trail Maintenance, Panhandle Forest, Idaho—July 31–August 10. *Leader, Bruce Kingsley, 2509 N. Campbell Ave., Ste. 242, Tucson, AZ 85719.* Two high-mountain lakes couched in transitional meadows in the Murdle Creek drainage will be the site of our below-timberline camp. We will build natural bridges and other structures to minimize erosion to the trail. We may see eagles, moose, and other wildlife. The trip features good fishing, basic mountaineering instruction, and an easy hike in. An excellent trip for the inexperienced as well as the seasoned individual.

[239] White Mountain Trail Work Collaboration, New Hampshire—August 5–12. *Leader, Sally Daly, 11 Birch Dr., RD #1, Albany, NY 12203.* We will be cooperating with the Appalachian Mountain Club in this week of mixed trail work in the Pemigewasset Valley. This area of conifer forests, rocky summits, and clear, cold streams is pending wilderness designation. We will ditch and build water bars, clear brush and winter blowdowns, and possibly construct a bog bridge. This trip will include backpacking and base camping. Nonwork time can include swimming, fishing, exploring the Great Gulf Wilderness, and climbing in the Presidentials. All over 18 are welcome on this moderately strenuous trip.



Carol Crews

Goodale Pass, Sierra Nevada, California

[240] Hannegan Pass Trail Construction, Mt. Baker-Snoqualmie Forest, Washington—August 6–16. *Leader, Todd Rubin, 6120 Castle Dr., Oakland, CA 94611.* Hannegan Pass is a prime entryway to the Chilliwack and Picket section of the North Cascades National Park. Our hike in will take us through a parkland of heather benches and alpine trees, to our camp below the pass. We will relocate a section of trail to an easier grade, install water bars, and block off the old trail. Above the pass is Hannegan Peak, with a magnificent panorama of mountains—Baker, Shuksan, Triumph, Challenger, Redoubt, and dozens of others. Nearby are trails leading to the peaks, meadows, and valleys of Copper Mountain, Chilliwack River, and Easy Ridge.

[241] Teton Wilderness Trail Maintenance, Bridger-Teton Forest, Wyoming—August 7–17. *Leader, Muki Daniel, 2209 Observatory Pl. NW, Washington, DC 20007.* The Teton Wilderness offers a sharp contrast to the sheerness of the adjacent Teton Range. The wilderness consists primarily of gentle, rolling mountains with large, green meadows. We will be doing trail maintenance; brushing and cutting of downfall, which may require relocation of camp as we proceed. The area is well-known for its abundant wildlife and wildflowers.

[242] The Sierra Club's Own Trail Construction Project I, John Muir Wilderness, Sierra—August 9-19. *Leader, Susan Liddle, 595 Oakfield Ln., Menlo Park, CA 94025.* This will be the fourth year in our effort to reconstruct the nine-mile trail from Edison Lake to Goodale Pass. We started at the top of the pass, and this year we will make it to Upper Graveyard Meadow. The work is challenging, but everyone in reasonable condition will find it rewarding. Your free time may be spent viewing the Minarets from Graveyard Peak (11,494), wildflowers from the meadows, or fishing from the nearby lakes. Join us and be a part of this great way to spend a vacation.

[243] Maroon Bells-Snowmass Wilderness Trail Maintenance, White River Forest, Colorado—August 10–20. *Leader, Bruce Horn, P.O. Box 9907, Stanford, CA 94305.* Plenty of work awaits us on this trail-maintenance trip in the Snowmass Wilderness just outside of Aspen, Colorado. Six 14,000-foot peaks in the area provide excellent possibilities for dayhikes, and our camp and work sites are within view of Pyramid Peak and the North and South Maroon Bells. Our work will be mostly above timberline, at 11,000 to 12,000 feet, and will consist of revegetation of multiple trails, installation of water bars and check dams to correct inadequate drainage, as well as other general trail maintenance.

[244] Baxter Park Bridge and Trail Project, Maine—August 18–25. *Leader, Phil Titus, 54 Allenhurst Rd., Buffalo, NY 14214.* These 200,000 forested acres adorned with lakes and clean streams surround the Katahdin Massif, with Baxter Peak the highest in New England. We will be rebuilding a bridge and doing general maintenance on the Tracy Horse Trail near Russell Pond. Expect to work hard, see moose, swim, eat blueberries, and, weather permitting, climb the peaks and traverse the famous Knife Edge. This moderately strenuous trip will be a combination backpack and base camp. Minimum age 18.

[245] Hilton Lakes Basin Trail Maintenance, John Muir Wilderness, Sierra—August 20-30. *Leader, Shawn Benner, Box 15 Slocum, Colorado College, Colorado Springs, CO 80903.* Hilton Lakes Basin—does it conjure up images of hard work, beautiful country, and great people? It will after you spend 10 days working and playing at 10,000 feet on the east side of the Sierra. With the "Railroad Peaks" (named after the railroad tycoons—Huntington, Stanford, and Crocker) watching over us, we will be constructing causeways to help prevent further damage to this delicate area. On our off-days, hikes into Pioneer Basin or to the top of nearby 13,000-foot peaks will provide a workout for the energetic, while fishing, photography, botanizing, and relaxation will supply others with that much-needed escape from the outside world.

Craig Ullery

Airplane wreck removal, High Uintas, Utah

[246] Washakie Wilderness, Shoshone Forest, Wyoming—August 20–30. *Leaders, Conrad Smith and Linda Terry, 838 Eddystone Ave., Columbus, OH 43224.* This wilderness, near Yellowstone Park, is part of the largest roadless area in the 48 contiguous states. Its 12,000-foot ridges and deep, forested canyons contain glaciers and grizzly bears. We will work five strenuous days improving a pack trail in a major drainage, after a possibly difficult hike to our first campsite. We will then reward ourselves by backpacking into wild country that few hikers ever see. For experienced hikers who are in good physical shape.

[247] The Sierra Club's Own Trail Construction Project II, John Muir Wilderness, Sierra—August 23–September 2. *Leader, Keith Proctor, 848 Peach St., Riverside, CA 92507.* When you come to Goodale Pass for your vacation, you are contributing in a tangible way to a worthwhile conservation project—the reconstruction of the Sierra Club's adopted trail. We will continue the work started last trip (#242) as well as climb surrounding peaks such as Mt. Izaak Walton (12,099), fish in the Indian Lakes north of the pass, and watch animals and flowers in Upper Graveyard Meadow. Join us for a demanding and rewarding backpack, suitable for backpackers of all abilities and experience levels.

[248] Baxter Park Trail and Bridge Work, Maine—August 26–September 2. *Leader, Craig Caldwell, 12028 Gaylord Dr., Cincinnati, OH 45240.* Baxter Park's northern and remote Freezeout Trail is the site for this trip. Our project will be to remove old logging litter (rusted cans, old wire, bedsprings) to the edge of Webster Lake for later pickup by boat, and to take out an old bridge. Swimming, fishing, birding, and moose-watching highlight our time off. Our last two days will involve climbing in the Traveler Peaks. This moderately strenuous, combination backpack/base-camp trip is open to members over 18 years of age.

[249] Cloud Peak Primitive Area Trail Maintenance, Bighorn Forest, Wyoming—August 27–September 7. *Leader, Ann Diamond, 91 Walker St., Jordan J, Harvard, Cambridge, MA 02138.* Both our base camp and work project will be above 9,000 feet, and will therefore require good physical conditioning and preparation. For the days off there will be hikes to the surrounding peaks, excellent fishing, and natural-history excursons for those interested in the geology and botany of the area.

[363] Ozark Trail, Missouri—October 7–13. *Leader, Rick Rice, 1100 N. Sycamore, Creston, IA 50801.* Enjoy the fall colors of the Ozarks while building a section of the newly developed Ozark Trail. We will be working in southern Missouri at a location that is yet to be determined. This is hilly, rugged country that is heavily forested with hardwoods. We will work from a base camp, with time for dayhikes and exploration. The trail-building will be done on private land, because no government agency can take responsibility for the development of these sections.

SERVICE TRIP DOCTORS WANTED

SERVICE TRIPS attempt to include a trip doctor as a staff member. These are individuals who basically donate their time and skill for a waiver of the trip price. They are not required to work on the trip project, but many do so out of the same concern for the wilderness that trip participants share.

All trip leaders have an Advanced Red Cross First Aid Card, and the Club provides a First Aid kit. Although our accident rate around projects requiring the use of tools has been extremely minimal, we try to provide a staff doctor just in case.

What better way to spend 10 days of your summer vacation than in the great outdoors, sharing companionship with environmentally concerned citizens and putting back into the wilderness some work in exchange for the joys received from it?

If you feel you might be interested in such a rewarding experience, please contact:

Dr. Bob Majors
3508 Williamsborough Ct.
Raleigh, NC 27609

CLEANUP PROJECTS

[250] High Uintas Plane Wreck Removal, Wasatch Forest, Utah—August 1–11. *Leader, Jon Nichols, 2025 S. Craycroft #151, Tucson, AZ 85711.* In northeastern Utah's isolated High Uintas Primitive Area, just north of Kings Peak (13,528), lies the wreckage of a small twin-engine aircraft. The work group will dismantle the wreck and pack it to the trailhead to be recycled. Elevations will be between 9,600 and 11,400 feet. We will base camp in the Henry Fork Basin, with opportunities on our free days for fishing, hiking, peakbagging, and loafing. No special experience is necessary to participate in this unusual project, and all ages are welcome.

[251] Mt. Hood Plane Wreck Cleanup, Mt. Hood Forest, Oregon—August 19–29. *Leader, Kelly Runyon, 475 Crofton Ave., Oakland, CA 94610.* We will remove the wreckage of a private plane from the slopes below Eliot Glacier, on the north side of Mt. Hood. This challenging project is ideal for those with proper equipment and frame of mind to enjoy difficult cross-country hiking up and down slopes of loose rock, and possibly wet, cold, and windy weather. On the last half of the trip we will backpack around Mt. Hood, enjoying the

scenery and doing occasional trail maintenance chores.

[252] Yosemite Park Roving Cleanup, Sierra—August 20–30. *Leader, Mary Mason, 833 Embarcadero Del Mar #23, Goleta, CA 93117.* Due south of Buena Vista Peak—and a 12-mile hike from Glacier Point—lies Johnson Lake (8,600). From here we will base our campaign to purge the Yosemite Wilderness of trash and extraneous fire rings. There should be fine hiking to several surrounding lakes: Minno, Royal Arches, Crescent, and Buena Vista. Five of the ten days will be spent working, with the rest left to each person for rest, dayhiking, peak-climbing, or fishing. This trip will provide a rare opportunity to enjoy "Muir's Country" while bettering the environment.

Carol Crews

Goodale Pass, Sierra Nevada, California

WILDERNESS RESTORATION PROJECTS

[53] Guadalupe Mountains Wilderness Restoration, Texas—May 1–10. *Leader, John Colburn, P.O. Box 37199, Sta. D, Albuquerque, NM 87176.* Old range improvements in the high country of the 46,850-acre Guadalupe Mountains Wilderness will be removed to restore this "Island in the Desert Sky" to its wild state. A hike to the highest point in Texas, a visit to undeveloped New Cave in nearby Carlsbad Caverns National Park, and exploration of McKittrick Canyon and the Capitan Reef will offer respite from the hard but rewarding work.

[253] Denali Park Restoration Project, Alaska—August 6–16. *Leaders, Carol and John Stansfield, 3113 Marion Dr., Colorado Springs, CO 80909.* Denali Park contains some of the most pristine and spectacular wilderness on earth. Our project will help reduce human impact in a portion of this magnificent park. The Park Service will fly trip members to the work site, where we will be eradicating a road. The trip will end with a moderately strenuous, cross-country backpack over 25 miles of tundra, including crossing the McKinley River. All this takes place in the presence of caribou, grizzly bear, and majestic Mt. McKinley.

[254] Eagle Cap Wilderness Restoration Project, Wallowa-Whitman Forest, Oregon—August 20–30. *Leader, Todd Rubin, 6120 Castle Dr., Oakland, CA 94611.* The little-known Eagle Cap Wilderness is in the Wallowa Mountains of northeast Oregon, west of Hells Canyon and the Snake River. With a base camp just over a mile from Eagle Cap Mountain (9,595), we will reestablish native-plant colonies in sections of the eroded trail to Upper Mirror Lake at the head of East Lostine Canyon. Free-time activities may include a climb of Eagle Cap, hikes in the nearby Lakes Basin, glissading, swimming, birdwatching, or observing wildlife.

[255] Yosemite Valley Restoration Project, Sierra—September 7–17. *Leader, C.E. Vollum, Rt. 5, Box 66A, Albert Lea, MN 56007.* This trip will be decidedly different from most service trips—participants will be staying at the Camp Six Housing Area in the Valley, instead of in the backcountry. Our major project will consist of clearing trees from meadows. Man has altered the natural water table of the valley's meadows, causing encroachment of trees. To prevent the eventual elimination of meadows in the valley, the Park Service is removing the encroachers. A cleanup of climbing gear below routes on Half Dome is also planned for one day. Work on the Sierra Club's LeConte Lodge is another possibility.

RIVER PROJECTS

[256] Salmon River Work and Raft, Klamath Forest, California—June 4–14. *Leader, Bill Weinberg, 1465 Hayes St., San Francisco, CA 94117.* In a remote region of northern California flows the Salmon River. It has only recently been discovered by whitewater enthusiasts, but already is recognized as one of the most challenging river runs in the country. The canyon walls are vertical, with few access points for rescues and only one good portage out of several Class IV and V sections. We will be repeating last year's successful trip, maintaining the portage we put in and building a new access trail. Free days will be spent rafting with commercial guides and exploring the surrounding countryside. Applicants must have some river-rafting experience and must be able to swim.

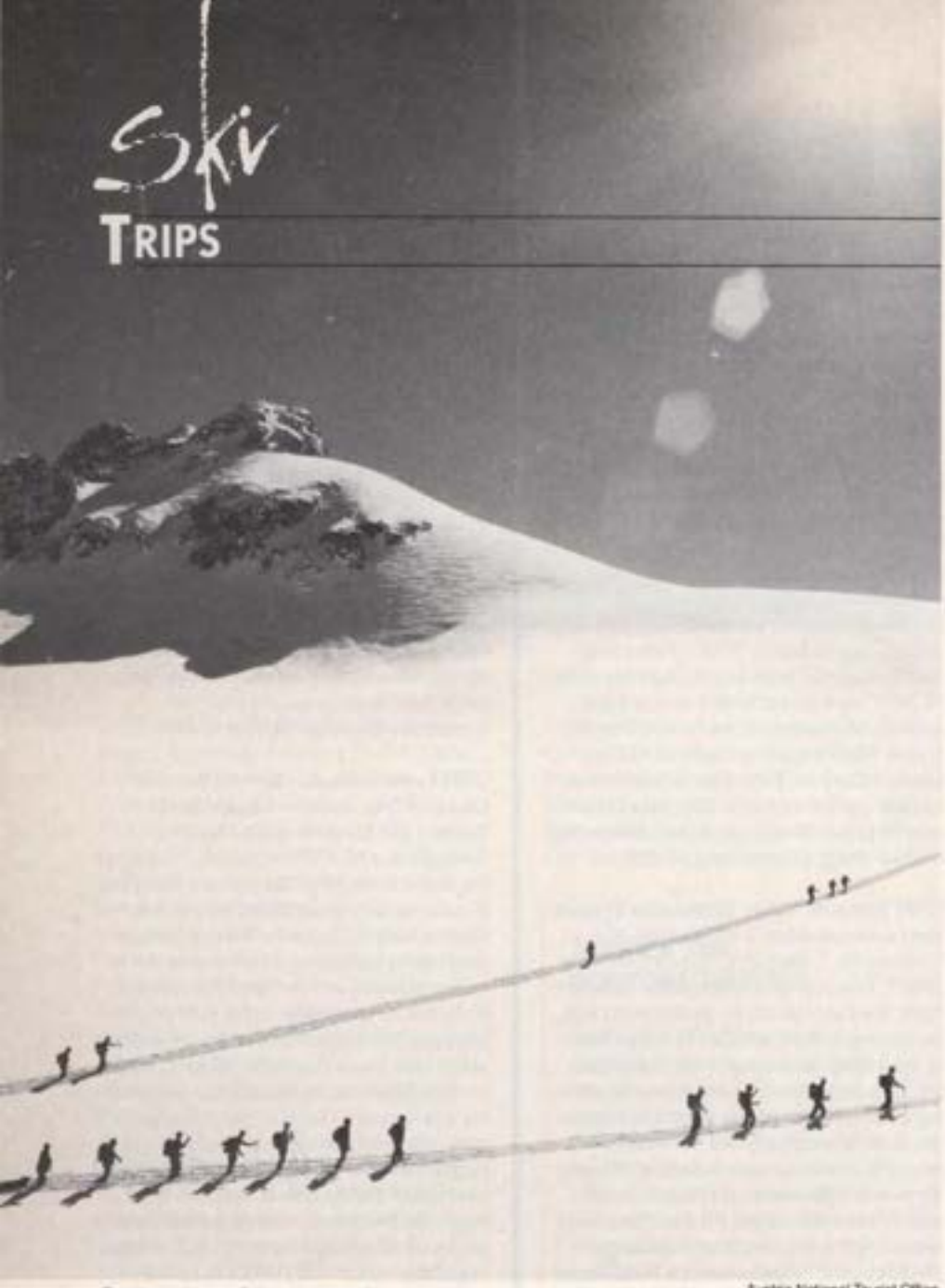
Carol Crews

Goodale Pass, Sierra Nevada, California

[257] Lower Salmon "Row-It-Yourself" Cleanup Trip, Idaho—August 26–30. *Leader, Bill Bankston, 524 N. 16th St., Springfield, OR 97477.* Our float will cover the lower 50 miles of the Salmon River and 15 miles of the Snake River below its confluence with the Salmon. We will be running late in the season at low water levels, so more debris and trash will be exposed. Removal of tires, other large debris, and any trash left behind by the season's rafters will be our goal. The lower Salmon offers both spectacular canyon scenery and exciting whitewater. This is a "participatory" trip—our outfitter provides smaller two-person to three-person rafts, offering those who desire the opportunity to row their own raft. Participation with the full work project and with commissary chores is also required.

[362] Rogue River "Row-It-Yourself" Cleanup Trip, Oregon—October 3–7. *Leader, Kelly Runyon, 475 Crofton Ave., Oakland, CA 94610.* The Rogue alternates quiet stretches of peaceful floating with fast-moving whitewater rapids. We will be running late in the season at low water levels, so more debris and trash will be exposed. Removal of any trash left behind by the season's rafters will be our goal. Wildlife and wilderness scenery are abundant in this section of Zane Grey country, located in the Siskiyou Mountains. This is a "participatory" trip—our outfitter provides smaller two-person to three-person rafts, offering those who desire the opportunity to row their own raft. Participation with the full work project and with commissary chores is also required.

Ski Trips



Cross-country skiing in Austria Austria National Tourist Office

Sierra Club Ski Trips offer unique opportunities to experience winter wilderness in places even backpackers can't go.

Our trips usually follow one of two formats. Participants may stay in a central camp and take day or overnight trips from that location, or the trip may be a series of moves from camp to camp. Some trips combine both formats.

Trips vary in difficulty from those suitable for beginners to those requiring some ski touring experience.

[54] Yellowstone Backcountry Ski Tour, Wyoming—March 4-9. *Leader, Randy Klein, 2301 Monarch, Park City, UT 84060.* We will take a snow coach into Old Faithful and ski two tours of three days each, spending the layover night in cabins. The topography is not extreme, but Wyoming weather dictates that all participants must be intermediate skiers with some previous winter-camping experience. The trip will be moderate to strenuous. Leader approval is required.

[55] Oregon Cascades Cross-Country Skiing, Deschutes Forest, Oregon—March 18–24. *Leaders, Marriner Orum and Bill Bankston, 2389 Floral Hill Dr., Eugene, OR 97403.* This trip will consist of three nights of winter-camping, two nights in a backcountry lodge, and one night in a city motel. There will be approximately 11 miles of skiing with full pack; all other skiing will be with daypack only. Expect varied skiing, from forest trails to open hillsides, with superb views of Bachelor Butte and the Three Sisters. The area is on the fringe of the Three Sisters Wilderness Area, near the Bachelor Butte Ski Area just west of Bend. Oregon spring weather is unpredictable—sometimes sunny, often stormy.

[56] Zealand Valley Cross-Country Ski Tour, White Mountain Forest, New Hampshire—March 24–28. *Leaders, Phil Titus and Jeanne Blauner, c/o 54 Allenhurst Rd., Buffalo, NY 14214.* Located between the Franconia Range and Crawford Notch, the Zealand Valley offers opportunity for several excellent day trips from the AMC hut where we will be lodged. Day tours include Zealand Notch to the Ethan Pond shelter and along the Thoreau Falls Trail to the Pemigewasset Wilderness and River. Spectacular winter views of the White Mountains are nearby. We will ski all food into the hut via seven miles of old railroad bed. Group chores will include meal preparation and wood gathering. This is a perfect trip for intermediate-level skiers, provided they can ski that first day, carrying gear and food.

[57] Crater Lake Cross-Country Ski Tour, Oregon—April 8–14. *Leader, Tim Odell, 750 W. Broadway, Eugene, OR 97402.* Crater Lake National Park offers outstanding ski touring, with magnificent views of the lake, the caldera, and the mountains of southern Oregon. The first three days will be spent day touring from a base camp, a short ski in from the road. We will come out for a night in a lodge, and then spend four days on the 38-mile circumnavigation of the lake. The trip will be moderate to strenuous, depending on snow conditions. Skiers should have intermediate skills and snow-camping experience.

[58] Markagunt Plateau Alpine Ski Tour, Fishlake and Dixie Forests, Utah—April 14–21. *Leader, Bob Paul, 13017 Caminito Mar Villa, Del Mar, CA 92014.* Our cross-country tour will explore the snowy wilderness of the mountain plateaus of southern Utah. We will ski the powdered slopes, frozen lakes, ridgelines, and high valleys at elevations of 7,500–10,500 feet, ending our trip at Brianhead Ski Resort. All equipment and supplies will be carried except for a midtrip food cache. This 45-mile tour is rated moderate to strenuous and is for strong, intermediate skiers with snow-camping experience. Leader approval is required.

Water Trips

Water Trips are a very special way of getting into wilderness physically and mentally. To become part of a river, going where it flows on a moving pathway through time and space, is an unforgettable experience. Whether it's a whitewater run where the adrenalin sometimes rushes, or a slack-water canoe trip offering a much slower pace, the closeness to nature is a constant.

Some of the rivers we run are in the Wild Rivers System; others are threatened by dams, and the battles for their preservation continue. A trip down any of them will show you how important it is to save the free-flowing waters that remain.

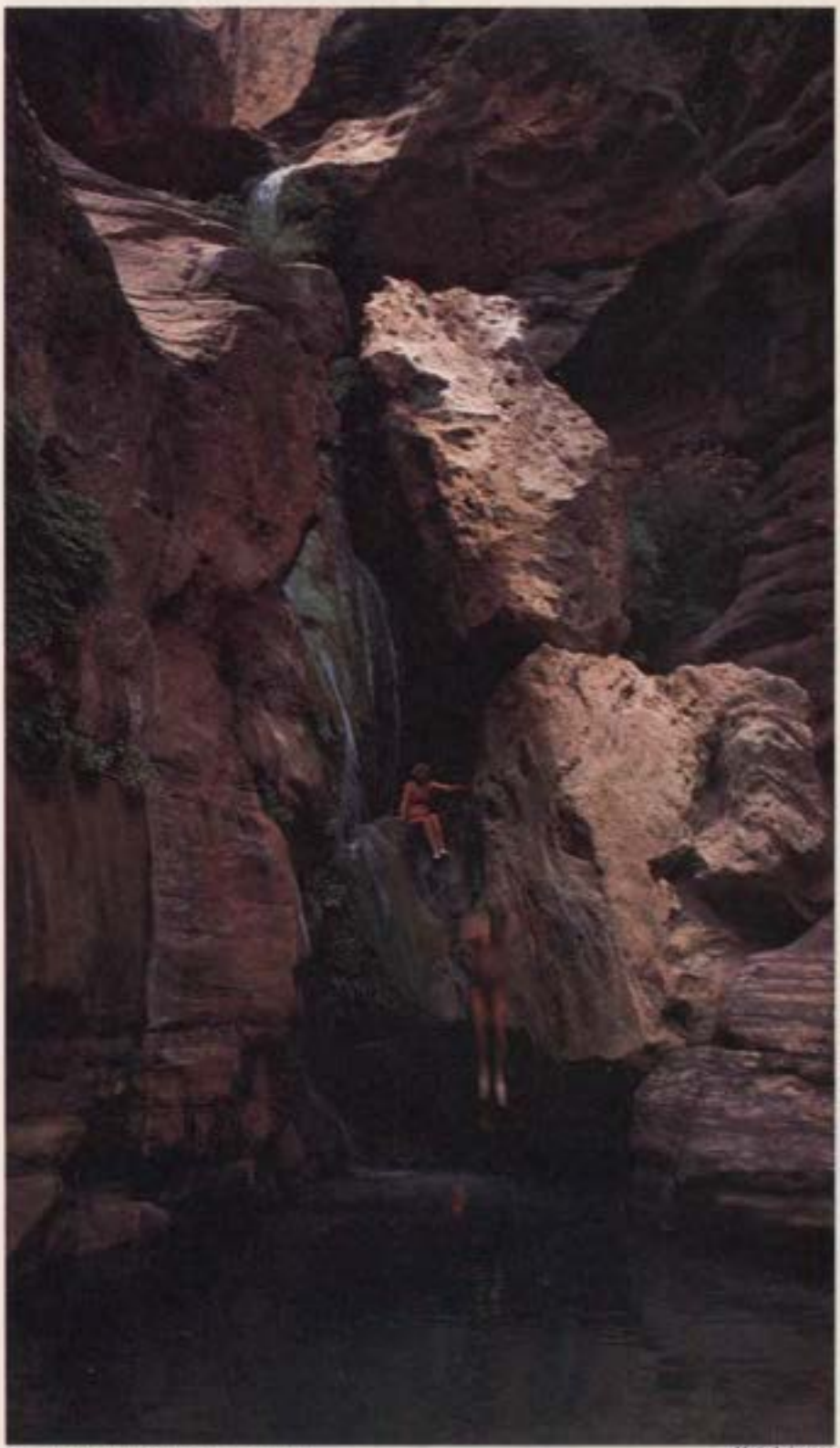
Involved volunteer trip leaders and coordinators, trained within the Sierra Club, add meaningful dimensions to the special experience of a water trip, dimensions that are often different from the commercial experience.

RAFT TRIPS

Raft Trips combine the excitement of whitewater rapids with the enjoyment of the natural wonders of wild-river areas. Our outfitters are carefully selected to provide safe equipment and good food. Boatmen are experienced and are happy to pass on some of their knowledge of the river and the area through which it passes. Sierra Club trips are oar-powered with relatively small rafts—no motor fumes, no noise.

Also offered are paddle-raft trips where participants themselves power the raft under the guidance of an experienced boatman. This is an exhilarating experience, where participants quickly learn to read the river and maneuver their raft through whitewater, thus experiencing for themselves the power and the serenity of the river. Trip members also have the opportunity to participate fully in the chores of a river camp, and to experience the camaraderie and sense of teamwork that comes from playing and working together.

All Sierra Club raft trips include a Club trip coordinator who, because of background, training, and interests, brings to the job a knowledge of conservation problems and a better understanding and appreciation of the wilderness than is found on most commerical trips.



Grand Canyon Oar Trip, Arizona

Mark A. Larson

[46] River of Ruins Raft Trip, Mexico—February 8–19. *Trip Coordinator, John Garcia, 124 Romero Circle, Alamo, CA 94507.* The River of Ruins, Rio Usamacinta, forms the boundary between northern Guatemala and Mexico. We will visit ruins of great Mayan city-states. The river is quick and deep with some rapids, and the surrounding area is tropical jungle. We will see many varieties of animals and birds, among them monkeys, iguanas, and caymans, as well as parakeets, parrots, macaws, toucans, and more. Cost includes roundtrip transportation from Villahermosa, Mexico.

[61] Gila River Float Trip, New Mexico—April 29–May 5. *Leader, John Ricker, 2610 N. 3rd St., Phoenix, AZ 85004.* We will take advantage of the spring runoff to experience the whitewater of the Gila River. This trip is suitable for beginners who have previously rowed or paddled a boat. We start at the forks of the Gila, run through Gila River Canyon in the wilderness area, and end at Turkey Creek. There will be time for one or two side trips. Rubber rafts will be provided, as well as some inflatable kayaks. In case of low water, trip will be changed to the Salt River of Arizona or to a backpack in the Gila Wilderness.

[63] Owyhee River "Row-It-Yourself" Raft Trip, Oregon—May 13–17. *Leader, Bill Bankston, 524 N. 16th St., Springfield, OR 97477.* Flowing through a series of dramatic high-desert canyons in southeast Oregon, the Owyhee offers superb whitewater and continually changing geography, reminiscent of the Grand Canyon. This is true wilderness, perhaps the most remote river trip in Oregon. The river is on the Pacific flyway and is a birdwatcher's paradise. No rafting experience is necessary; this trip is ideal for the beginner or intermediate rafter. Instruction in rowing and all river gear are provided. A geologist who has studied the area will accompany us.

[64] Rogue River Raft and Lodges, Oregon—May 23–27. *Leader, Mark Minnis, 14900 Galice Rd., Merlin, OR 97532.* Raft the wild-and-scenic Rogue River while staying in wilderness lodges with all the comforts of home. We will spend five days on the Rogue in oar boats led by experienced river guides. Each night we will be staying in a wilderness lodge with home-cooked family-style meals, clean beds, and hot showers. We will layover at Half Moon Bar and enjoy the awakening of spring. A naturalist will lead field trips to discuss the flora and fauna of the canyon. We hope to have a chance to hear the drumming of the ruffled grouse in the splendor of the Wild Rogue Wilderness.

[65] Grand Canyon Oar, Arizona—May 25-June 5. *Trip Coordinator, Ruth Dyche, 2747 Kring Dr., San Jose, CA 95125.*

[264] Grand Canyon Oar, Arizona—June 21–July 2. *Trip Coordinator, Wheaton Smith, 243 Ely Pl., Palo Alto, CA 94306.*

[270] Grand Canyon Oar, Arizona—July 16–27. *Trip coordinator, Lynn Dyche, 2747 Kring Dr., San Jose, CA 95125.*

[272] Grand Canyon Oar, Arizona—August 11–22. *Trip Coordinator, Chuck Fisk, Box 67, Blairsden, CA 96103.*

[278] Grand Canyon Oar, Arizona—September 6–17. *Trip Coordinator, Jeanne Watkins, 26 Miramonte Dr., Moraga, CA 94556.*

The Colorado River, one of the greatest whitewater rivers in the world, provides an unforgettable experience for those who travel its 225 miles by oar-powered raft. Each of our rafts will carry three or four passengers and a professional oarsman. The quiet and natural flow of the rafts will allow us to fully appreciate the character and solitude of the canyon. We will stop frequently to study and explore features and creatures often missed on commercial trips. Minimum age 15 (18 solo). Cost includes roundtrip transportation from Flagstaff, Arizona.

[260] Rogue River Raft Trip, Oregon—June 18–22. *Trip Coordinator, Lynn Dyche, 2747 Kring Dr., San Jose, CA 95125.*

[268] Rogue River Raft Trip, Oregon—July 9–13. *Trip Coordinator, Harry Neal, 25015 Mt. Charlie Rd., Los Gatos, CA 95030.*

[271] Rogue River Raft Trip, Oregon—July 30–August 3. *Trip Coordinator, Ruth Dyche, 2747 Kring Dr., San Jose, CA 95125.*

[275] Rogue River Raft Trip, Oregon—August 13–17. *Trip Coordinator, Linda MacPherson, 4443 Montecito Ave., Santa Rosa CA 95404.*

The Rogue River alternates quiet stretches with whitewater excitement, providing a sampling of the joys of river-rafting. We pass through a steep-sided, densely forested canyon filled with wildlife. Relics of Indian fur traders and miners dot the countryside. There is time for swimming, hiking, and exploring. A paddle raft will be available for those who want to do their own rowing. This is a great family trip and has been specially priced to be affordable for families. An outstanding introduction to river-running! Minimum age is eight (18 solo).

Colorado River, Grand Canyon, Arizona

[262] Canyonlands Rafting-Hiking-Jeeping Trip, Utah—June 15–25. *Trip Coordinator, Bruce MacPherson, 4443 Montecito Ave., Santa Rosa, CA 95404.* This trip is an extraordinary, unusual, and varied introduction to the magnificent and colorful canyonlands country of southern Utah. Ride the rapids through Westwater Canyon and Cataract Canyon of the Colorado River in oar-powered rafts; float through colorful labyrinth and Stillwater Canyons of the Green River; jeep and hike through remote sections of Arches and Canyonlands National Parks. Explore remote Anasazi cliff dwellings, examine ancient petroglyphs and pictographs, camp along the rivers and high in the subalpine en-

Mark A. Larson

vironment of the La Sal Mountains. Our rafting, hiking, and jeeping are uniquely intertwined to introduce variety and activity into this rafting trip. The trip begins and ends in Green River, Utah. Minimum age 12 (18 solo).

[263-E] John Day River "Row-It-Yourself" Raft Trip, Oregon—June 17–21. *Leader, John Griffiths, 5623 SE 39th Ave., Portland, OR 97202. Geologist, Dr. William Orr.* We will float 70 miles of isolated wilderness on the beautiful and peaceful John Day, exploring the fossil beds and formations with Dr. Orr. The river is a haven for birds and wildlife, with ample swimming and gorgeous backcountry to hike. Rapids are mild (Class II), current smooth and even, the weather should be hot and sunny. This will be a relaxed trip suitable for beginners, families, and children eight and older. Instruction in rowing and all river gear are provided.

[265] Grande Ronde River Rafting and Horseback Trip, Oregon—June 25–30. *Trip Coordinator, Gary Larsen, 188 Mary Alice Dr., Los Gatos, CA 95030.* What could be more fortunate for the enthusiastic river-rafter and the dedicated horseman than a combination of both sports in one glorious six-day trip! We will enjoy the clear, cold waters of the Grande Ronde for three days, then cross into the Wenaha River canyon for three days in the saddle. There will be plenty of time for leisurely side-canyon and ridge hikes, excellent trout fishing, photography, painting the rugged landscape, or just relaxing. This is an excellent family trip; the river flows swiftly, but there are no difficult rapids.

[266] Hells Canyon Paddle Trip, Snake River, Idaho—June 26–July 1. *Trip Coordinator, Chuck Fisk, Box 67, Blairsden, CA 96103.* Towering walls of basalt mark the setting for this timeless journey through Hells Canyon. The area is a delightful mix of steep, narrow canyons, broad, open expanses of landscape, and gentle, drifting currents broken by billowing waves of exhilarating whitewater. Rafting, fishing, birding, swimming, kayaking, and photography will all be available. A journey down the Snake is an unfolding story of past civilizations: petroglyphs, stone shelters, caves, abandoned mines, and weathered cabins. Cost includes roundtrip transportation from Lewiston, Idaho.

[267] Trinity River Paddle Trip, California—July 2–5. *Trip Coordinator, Mark Larson, 1265 Grant Ave., Arcata, CA 95521.*

[276] Trinity River Paddle Trip, California—August 21–24. *Trip Coordinator, Victor Monke, 414 N. Camden Dr., #602, Beverly Hills, CA 90210.*

This paddle trip puts-in at Douglas City, in view of the Trinity, for 40 miles of participatory paddling and fun. The area is rich with evidence of early human habitation and placer gold mining. The Trinity River is clear and fresh, and the rapids provide many thrills, yet are fairly safe. Participants will be trained to paddle effectively, and by trip's end will all be accomplished rafters. Minimum age is 12.

[269] Lower Salmon "Paddle Yourself" Trip, Idaho—July 9–14. *Trip Coordinator, Jon Kangas, 10141 Bon Vista Ct., San Jose, CA 95127.* This trip is carefully designed for those who enjoy real involvement in river-running. You will paddle your own inflatable craft, and expert guides will always be available to instruct and support you. Learning to paddle a river in one of these delightful little boats is within reach of the average person. In fact, the best paddler on the last trip was a woman on the river for the first time. The Salmon is a true wilderness river, with abundant wildlife, forests, meadows, and relics of pioneer days. This trip begins and ends in Boise, Idaho.

[273] Klamath River Paddle Trip, California—August 12–17. *Trip Coordinator, Tony Strano, 168 Collins St., Richmond, CA 94801.* The Klamath River is for those who wish to paddle rafts with a group. Some of the best summer rafting is found here. The scenery is beautiful, the water warm and inviting, and the rapids thrilling yet not overly dangerous. Participants will quickly learn to maneuver the rapids. Trip members will share everything from paddling to cooking and other camp chores. A moderate amount of strength and endurance is necessary; leader approval required. Minimum age is 14 (18 solo).

[274] Tatshenshini/Alsek River Expedition, Alaska—August 13–23. *Trip Coordinator, Tris Coffin, 2010 Yampa Dr., Prescott, AZ 86301.* This raft trip in southwestern Alaska takes us through some of the most spectacular wilderness in the world. Surrounded by the 15,000-foot peaks of the St. Elias Range, we will drift past pristine glaciers, walking on some, watch the many species of wildlife, and camp under the wonder of the Aurora Borealis. After passing the huge Alsek Glacier, we will float among the abstract sculptures of ice floes similar to those in nearby Glacier Bay. The trip begins and ends in Juneau.

[277] Chilcotin River Raft Trip, British Columbia, Canada—August 24–29. *Trip Coordinator, Kurt Menning, 997 Lakeshire Ct., San Jose, CA 95126.* We run the entire

Rafting down the Colorado River, Grand Canyon, Arizona

Dick Schmidt

sparkling, glacier-fed Chilcotin River on its 100-mile journey to join the powerful Frazer River. Mighty rapids, deep canyons, heavy forests, high waterfalls, bighorn sheep, and bear habitats are part of this wilderness experience. Old homesteads and abandoned gold mines invite exploration. Our guides are experts with raft and pan. Gourmet dinners include salmon, steak, and other delicacies, plus select Canadian wines. Music of the rapids will lull us to sleep at wide, sandy beach camps. Minimum age is 16 (18 solo).

SAILING TRIPS

SAILING TRIPS add a new dimension to the Outing Program. There is nothing to compare with the thrill of traveling under sail in a fresh breeze, the contentment of drifting in light winds with the sun on your face, the discovery of new anchorages, and fresh opportunities for activity and leisure. Emphasis will be placed on the natural history of the marine environment and conservation issues.

[45] The Grey Whales of Magdalena Bay, Baja—January 28-February 4. *Trip Coordinator, Mary O'Connor, 2504 Webster St., Palo Alto, CA 94301.* Magdalena Bay is one of the largest grey-whale mating grounds in Baja, covering 80 square miles of quiet, deep water, small canals, inlets, and islands. We will observe the breaching, fluking, and skyhopping of these magnificient animals from our floating home, the *Don Jose*, a comfortable 80-foot boat. Also of interest are mangrove swamps that support a variety of sea and shore birds, plus rolling dunes and shell-filled stretches of beach. Cost includes roundtrip transportation from La Paz, Mexico.

[47] Blue Whale Expedition, Sea of Cortez, Mexico—March 18–24. *Trip Coordinator, Jeanne Watkins, 26 Miramonte Dr., Moraga, CA 94556.* The special goal of this expedition will be to observe the magnificent blue whale, the largest living creature on earth. We will drift along with the whales—listening to their sounds and observing their behavior. We'll also have the opportunity to observe finbacks, Bryde's, minke, sperm, grey and killer whales, plus several species of dolphin. We will cruise north from La Paz aboard the 80-foot *Don Jose*, visiting islands and fishing villages. Cost includes roundtrip transportation from La Paz, Mexico.

Camping along the Colorado River, Grand Canyon, Arizona

Mark A. Larson

[284-E] Inside Passage Sailing Trip, British Columbia, Canada—June 24-July 2. *Trip Coordinator, Frankie Strathairn, 147 La Mancha, Sonoma, CA 95476.* We cruise the inside passage off the coast of British Columbia in two beautiful sailing vessels. A multitude of islands offers secluded anchorages, sandy beaches, and lush green forests. We will sail down fjordlike sounds and may spot whales, seals, otter, eagles, heron, and other coastal wildlife. There will be opportunities for fishing, sampling oysters and clams, sailing the dinghy, wind-surfing, exploring ashore, or simply relaxing in the sun. Emphasis will be on the natural history of the marine environment; a marine biologist will accompany us. The trip will begin and end in Vancouver, British Columbia.

[285] Sails, Whales, and Indians, British Columbia, Canada—July 17–26. *Trip Coordinator, Gary Dillon, 1188 Hampton Ct., San Jose, CA 95120.* Motor-sail from Campbell River to Robson Bight, mouth of the Tsitka River on the northeast tip of Vancouver Island. Recently designated a Marine Ecological Reserve, this area is unique for its concentration of orca whales. An oceanographer will accompany us. This trip offers comfortable accommodations, excellent food, optional hiking, fishing, swimming, helping sail the 55-foot yacht, a dinghy, and wind-surfing.

[286] Maritimes Sailing Adventure I, Newfoundland Coast—August 9–18. *Leader, Maggie Seeger, 54 Waldo Rd., Arlington, MA 02174.* We will live on the 73-foot *Windigo* as she carries us from Terra Nova National Park to St. John's, via the coasts and coves of Trinity and Conception bays. We will have the chance to help sail the *Windigo*, enjoy the rich bird life, watch for humpback, finback, and killer whales, swim, take photographs, explore the shore, or just relax. All participants must be able to swim.

[287] Maritimes Sailing Adventure II, Southeast Nova Scotia—September 2–8. *Leader, Jeanne Blauner, 282 S. Compo Rd., Westport, CT 06880.* We'll cruise on the *Windigo* from Halifax to Yarmouth, exploring the fishing villages, coves, and inlets of this beautiful coast. Learn about mizzens, sheets, and navigation while helping to sail the 73-foot yawl. Bring your camera and binoculars for bird and whale watching; we may see humpback, finback, blue, and wright whales. Time will be available to swim and relax, or to go ashore for hiking or a taste of provincial history. All participants must be able to swim.

Dick Williams

Kipawa Reserve, Quebec, Canada

CANOE TRIPS

CANOE TRIPS give members a chance to be a direct part of the action. The leader offers advice and instruction in paddling and water safety as needed. On moving trips your craft carries your own gear, part of the commissary gear, and some food. Some trips operate from a base camp, with daily forays to interesting places. Others combine a backpacking or hiking trip with a canoe outing. You are expected to share in cooking at the beach campsites. Paddling skills needed vary with the trip, but swimming ability is required for all. Leaders will screen applicants.

[59] Scenic Suwannee River Canoe, Florida—March 24–31. *Leader, Rick Egedi, 117 Hawkins Ave., Somerset, KY 42501.* Warm days and cool nights are anticipated on this Suwannee River trip. By late March the flowers will be booming and the birds will be chirping. Your trip will cover 75 miles of scenic river, with a layover day at Big Shoals, the only Class II rapid on the Suwannee. Starting at Fargo, Georgia, we will travel at a relaxing pace to Suwannee Springs, Florida. A special trip for beginning through advanced canoeists.

[60] Dismal Swamp Canoe Base Camp, Virginia/North Carolina—April 15–21. *Leader, Connie Thomas, 128 Muriel St., Ithaca, NY 14850.* Extending south from Norfolk, Virginia, into North Carolina, the Dismal Swamp comprises an area of lowlands, lakes, and the Northwest River, fed by tributaries of swamp origin. The swamp isn't really "dismal," and we should observe spring warblers and other birds, frogs, snakes, and budding flora, while hopefully visiting before mosquito season.

Faye & Tom Stizman

Voyageur Family Canoe, Missouri River, Missouri

Our base camp will be on the Northwest River, where exploratory trips on tributaries and backwaters are planned, along with trips to Lake Drummond, Merchants Millpond State Park (with stands of moss-draped cypress), and the Outer Banks. Canoeing will be on flat water, but possible high winds on open expanses require prior canoe experience.

[62] Pine Barrens Canoe and Backpack, Pinelands Reserve, Southern New Jersey —May 6–12. *Leader, Herb Schwartz, 2203 St. James Pl., Philadelphia, PA 19103.* Located surprisingly near New York and Philadelphia, this 2,000-square-mile wilderness remains a sand-bedded forest with cedar swamps and canoeable rivers. Once a colonial industrial area, its bog-iron furnaces supplied Washington with cannonballs. This vanished society is recreated in the restored town of Batsto, where our trip begins. We'll circle the heart of the Pine Barrens, hiking through ghost towns, cedar swamps, and dwarf-pine forests, then canoeing on winding dark cedar-water rivers.

[292] John Day River, Oregon—June 4–9. *Leader, Molly and Bill Bricca, P.O. Box 159, Ross, CA 94957.* We will canoe about 45 miles from Service Creek to Clarno Bridge. The river flows through deep canyons in high, semiarid eastern Oregon. The flow is fast and strong, with many Class III rapids. This trip is different and exciting, but not too difficult. Some whitewater experience is necessary. Basic river gear will be provided.

[293] Main Eel River, California—June 11–16. *Leader, Charlie Doyle, P.O. Box 998, Ross, CA 94957.* Introduce yourself to canoeing on moving water. The 30 miles from Alderpoint to South Fork flow through surprisingly remote and remarkably beautiful country. The water is clear, warm, and easy to navigate, yet exciting. No previous experience is required. Basic river skills will be taught and river gear provided. Time is allowed for hiking, swimming, fishing, and just relaxing. Enjoy a great river and a terrific outdoor experience.

[294] Vancouver Island Ocean Canoe, British Columbia, Canada—June 26–July 6. *Leaders, Connie and Mari Calhoun, 3638 Washington, San Francisco, CA 94118.* We will explore the coastal wilderness of Nootka Sound and Esperanza Inlet on Vancouver Island's west coast. Steep mountains rise above glacier-carved inlets; an intricate maze of offshore islands and reefs breaks the force of the open Pacific, providing protected canoe passages for exploration and discovery. Traveling in double-cockpit canoes, we will camp on uninhabited islands and beaches, with time for tide-pooling, birdwatching, beachcombing, and wildlife observation. No prior canoe experience is necessary; instruction will be provided for beginners. Canoes and all water gear provided.

[295] Trinity River, California—July 9–14. *Leader, Sharon Cupp, 4771 Granada Dr., Santa Rosa, CA 95405.* From Hawkins Bar to Weitchpec we run a truly beautiful stretch of the river to its confluence with the Klamath. The river will be fast-moving but not too difficult. This is a great trip for river canoers who want a fun outdoor experience while improving their whitewater skills. The weather should be superb.

[296] Rogue River, Oregon—July 16–21. *Leader, Paul Barth, 3038 Montgomery Way, Sacramento, CA 95817.* Starting from Gold Beach, we will go upriver by jet boat about 35 miles. After a practice session on the crystal-clear Illinois River, we make a leisurely descent of the Rogue back to Gold Beach. This wilderness area is rich in tradition, has an abundance of wildlife, and enjoys superb weather. The river is big but friendly. No previous experience is necessary. Add hiking, swimming, and relaxing—the result is a wonderful outdoor and river experience.

[297] The Wide Missouri, Montana—July 20–27. *Leader, Iila and Chuck Wild, 3862 Rosetta Ct., San Diego, CA 92111.* The Missouri River flows with the history of the Blackfoot, the trappers and traders. Rediscover the Lewis and Clark Trail and the steamboat era that opened up the northwest. This 150-mile paddle from Fort Benton along the national wild and scenic river allows time for exploring, swimming, and relaxing. River gear and return shuttle provided. Beginners of good spirit—welcome!

[298] Trinity/Klamath Whitewater, California—August 20–25. *Leader, Molly and Bill Bricca, P.O. Box 159, Ross, CA 94957.* This is a base camp trip, so we can run the best whitewater of both rivers—with good flotation and without carrying all our gear. Rapids up to Class III will be run. Some whitewater experience is necessary, and some instruction will be available. Basic river gear will be provided.

[299] Green/Colorado Rivers, Southeastern Utah—September 20-29. *Leaders, Iila and Chuck Wild, 3862 Rosetta Ct., San Diego, CA 92111.* We will leisurely canoe the Green River through the gentle, pristine wilderness into Canyonlands National Park from the town of Green River to the confluence of the Colorado River. The twisting river wends its way between sheer, colorful sandstone walls hundreds of feet high. Swimming, exploring remote canyons, and viewing ruins are possible on layover days. After a 120-mile canoeing adventure we will rendezvous at the confluence with jet boats for a refreshing 50-mile cruise up the Colorado River to Moab. Canoeing taught: no previous experience required. River gear provided.

Foreign Trips

Lantang Valley Trek, Nepal

Catherine E. Perrodin

Sierra Club Foreign Trips take you to some of the most beautiful and interesting places in the world. And unlike ordinary tour groups, we want our trip members to have the same kind of outdoor experience in other countries that we have found so rewarding in our own.

To do this, we try to live as close to the land and its people as possible—camping out where we can, or staying in hostels, huts, or villagers' homes—making as little impact as possible. We try to learn about the country and study its conservation problems and policies by talking with local conservationists or mountaineers who share our environmental concerns. We try to adopt the way of life of the country we are visiting, living by its sense of time and giving up many of the conveniences and amenities we usually regard as essential. All this requires fortitude and a sense of humor.

Trips are planned and led by experienced Sierra Club leaders who are dedicated to helping trip members enjoy, explore, and learn how to protect the natural environment. Many leaders have specialized skills and knowledge, but not all of them can be highly trained specialists on each country visited or complete sources of information.

To enjoy the trip fully, you should be in good physical condition, be willing to share your experience and knowledge, and bring a spirit of adventure.

[767] Barranca and Jungle: Mexican Birds—February 25–March 9. *Leader, Richard Taylor, Box 122, Portal, AZ 85632.* Explore the natural history of the Sierra Madres and the jungle surrounding historic San Blas. While the accent will be on birds—some 400 species—we will also see a myriad of flowers and habitats, and take a riverboat ride where four-foot iguanas are common. Accommodations will be in picturesque hotels.

[768] Ski Touring in Norway—March 11-24. *Leaders, Madeleine and Jim W. Watters, 50 El Gavilan, Orinda, CA 94563.* Through the forested hills of Nordmarka, we will be light-touring on set trails, while staying in remote full-service huts. We

travel north touring hut-to-hut in the Jotunheimen Mountains, carrying only light packs. Our local guide will show us clever Norewegian ways of mountain travel. Skiers should be of at least intermediate ability.

[770] Tramping and Camping in New Zealand—March 12–April 2. *Leader, Vicky Hoover, P.O. Box 723, Livermore, CA 94550.* Sampling mountains and fjordlike lakes of the south islands, and the volcanoes and semitropical forests of the north island, we will hike between huts on two of the south islands' famed tracks. While car-camping, we will take dayhikes and scenic drives from Steward Islands Bird Refuge far south, to northern thermal areas. Leader approval required.

[780] Exploring Mountains and Islands in Northern Japan—April 22–May 12. *Leaders, Mildred and Tony Look, 411 Los Ninos Way, Los Altos, CA 94022.* Visit the Hirosaki Castle site, where 3,000 cherry trees will be in bloom; view the old temple on the island of Kinkazan and the Japanese Alps. There will be day walks in the rural areas, walking trips to the shrine and temple compounds, and dayhikes in the mountains. Travel by train and bus to Japanese inns, hot-spring lodgings, and a monastery.

Kyoto Extension—May 12–18. Imposing shrines, temples, and palaces, with elaborately designed gardens, attest to the glory and splendor of Kyoto, the ancient capital of Japan. We will visit places where outstanding traditional crafts are displayed and manufactured. Two days are spent in the foothills at the village of Ohara, nestled in the forests.

[785] Sherpa Country Trek, Nepal—April 30–May 26. *Leader, Patrick Colgan, P.O. Box 325, La Honda, CA 94020.* The Mani Rimdu Festival of the May full moon and the dramatic views of the Everest peaks will highlight this 23-day, moderately paced trek into the heart of the Khumbu Himal. From Lamidanda we will follow the Dudh Kosi, and trek to the high, glaciated Gokyo Lakes. Leader approval required.

[790] England's West Country and South Wales—June 1–13. *Leaders, Terry Seligman and Lori Loosley, 1212 W. California Ave., Mill Valley, CA 94941.* Hiking in Exmoor and Dartmoor National Parks, sampling inland moors and scenic coastal paths, we will pause at prehistoric stone circles, medieval Dunster Castle, and Tintagel, legendary birthplace of King Arthur. In South Wales the bleak tops of the Brecon Beacons National Park tower over green, peaceful valleys. We will stay in small inns and farmhouses.

[795] Peru and Bolivia—June 18–July 9. *Leader, Charles Schultz, 1024-C Los Gamos Rd., San Rafael, CA 94903.* Peru and Bolivia, with their high Andes, valleys, and altiplanos, are the heart of the Inca Empire. In Peru we will raft the sacred Urubamba, explore Machu Picchu, and experience the lowland jungle before going on to Lake Titicaca. In Bolivia we'll visit Isla del Sol and the ruins of Tiahuanaco, and spend a few days trekking the Bolivian highlands.

[800] Annapurna Circle Trek, Nepal—June 11–July 7. *Leader, Peter Owens, 117 E. Santa Inez, San Mateo, CA 94401.* This 25-day moderate trek will circle the Annapurna Massif by a route that takes us up the Manang Valley and over 17,650-foot Thorong La Pass. We then descend to Muktinath, a sacred shrine for both Hindus and Buddhists, and proceed down the awesome Kali Gandaki gorge between Annapurna and Dhauligiri. This monsoon-season trek will have some showers during the first and last week (when we stay in local "tea houses"), but the middle two weeks will be in the "rain shadow" of the Himalaya where arid conditions prevail. This is the time to see Nepal with few other trekkers and when wildflowers are at their best. Leader approval required.

[805] West Wales and Southern Ireland—June 15–27. *Leaders, Lori and Chris Loosley, 15000 Venetian Way, Morgan Hill, CA 95037.* Hiking in the quiet hills of West Wales, we will explore ruined castles and abbeys,visit a working farm, and stop for tea at a restored flour mill. We will visit many places in Pembrokeshire Coast National Park. A ferry passage to Ireland will take us to County Kerry with its green and misty mountains. Evenings will be for relaxing at country inns or farmhouses.

[810] The French Alpine Spine—July 1–15. *Leader, Lynne Simpson, 1300 Carter Rd., Sacramento, CA 95825.* Rural, alpine France, with its hospitable people, will be the focus of this two week trip as we follow the Alps north from Nice to Chamonix. The French treatment of conservation issues and sensitive areas will be emphasized and observed in our visits to both highly used and remote areas. Hikes, including some overnights, will be moderate, and a daypack will be adequate for personal gear. We will drive rented minibuses from one location to another; accommodations will be in rural hotels and mountain hostels. Simple French country cuisine will be our daily fare.

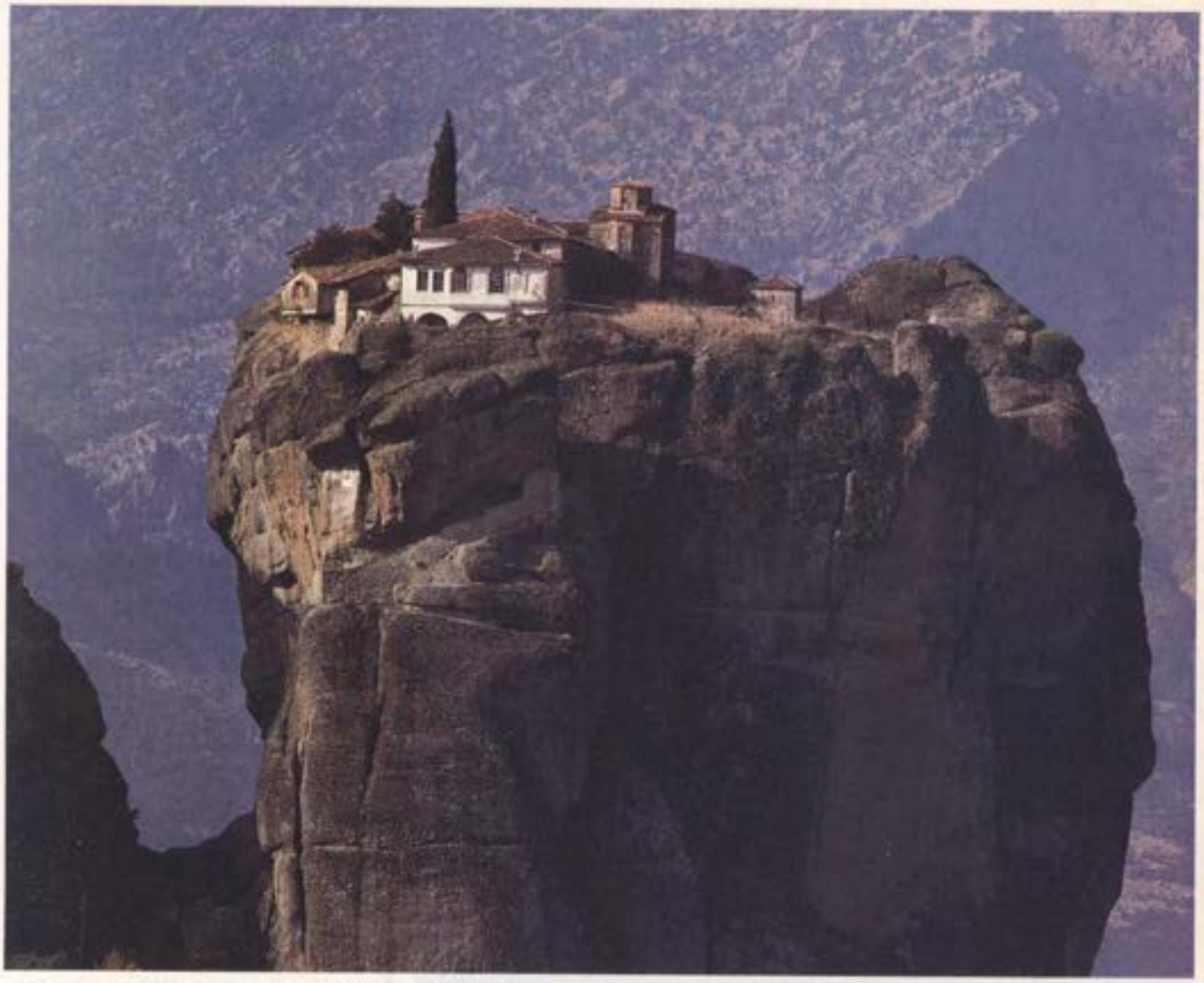
[815] Kenya Expedition—By Horseback, On Foot, By Landrover—July 9–August 1. *Leader, Ross Miles, P.O. Box 866, Ashland, OR 97520.* Ride into the Loldaiga Hills, through the Anandanguru Forest, and down the Mukogoda Escarpment. Go down the Uaso Nyiro River to the boundary of the Samburu Game Reserve with its tropical birds and game. At Lake Baringo, see thousands of flamingos. Spend two days exploring in the Cherangani Hills, home of the Pokot tribes, and visiting the villages. We will be in the Masai Mara at the time of the migration before our return to Nairobi.

[820] Basque-land Trek, Spain/France—July 18–31. *Leader, John Doering, 6435 Freedom Blvd., Aptos, CA 95003.* We explore the intriguing valleys on the Spanish side of the Pyrenees, the beautiful beech forest of Irati, and follow an historic Basque trail in France. On this moderately strenuous hike we will see the canyons of Kakonetta, cascades of water, and 12th century Romanesque churches, perhaps joining in local festivals. Primitive accommodations in mountain *refugios* and *gites* or remote country inns.

[825] Hiking in the Pyrenees, July 18–31. *Leader, Rosemary Stevens, 3700 Fairfax Way, South San Francisco, CA 94080.* From the modern, bustling city of Barcelona we will travel to the most rugged and picturesque area of the Spanish Pyrenees. On moderate dayhikes we will be within sight and sound of rushing water, snowfields, snowcapped peaks, mountain flowers, and green meadows. At night we will relax in mountain *refugios* or simple inns in ancient slate-and-stone villages.

[830] Sunnyside of the Alps, Switzerland—August 5-18. *Leader, John Doering, 6435 Freedom Blvd., Aptos, CA 95003.* A moderately strenuous hike through isolated valleys where the local traditions and colorful costumes are still preserved. Quaint villages, exquisite meadows, charming houses, and manicured forests alternate with gray scree and spectacular views. We walk from the French Valais through Verbier, Les Haudieres, Grimentz to the German Grachen, and Saas-Fee.

[832] Inner Mongolia Bike Trek—August 6–30. *Leader, Frances Colgan, P.O. Box 325, La Honda, CA 94020.* The grasslands of the exotic Mongolian Plateau provide the setting for this moderate to leisurely



A 4th-century monastery built on a rock formation at Meteora in the plain of Thessaly, northern Greece. Betty J. Pollock

bicycle tour of one of China's fabled autonomous regions. Following a week of sightseeing in such exciting and colorful cities as Beijing, Datong, and Hohhot, we spend two weeks bicycling on the grasslands, living in communal yurts and enjoying local cuisine. We will visit places of cultural, religious, and historical significance and see magnificant displays of traditional Mongolian horsemanship. Leader approval required.

[835] Kenya Adventure—By River, On Foot, By Landrover—August 9–September 1. *Leader, Ross Miles, P.O. Box 866, Ashland, OR 97520.* Beginning with a drive through the lower slopes of Mt. Kenya to the Tana River, we will camp at Grand Falls and take a three-day float trip to the Meru National Park. We will circle Mt. Kenya and take spectacular hikes. We'll visit Samburu Game Reserve and Lake Turkana, camp on El Molo Bay, and visit the Njemps and Pokot tribes. We end in the Masai Mara for the incredible migration.

[840] Mountain Hiking in Norway—August 12–25. *Leader, Bob Paul, 13017 Caminito Mar Villa, Del Mar, CA 92014.* We will hike the mountain trails of Norway's Jotunheim Mountains, experiencing the grandeur of lofty peaks, vast glaciers, mountain valleys and lakes, winding rivers, exuberant waterfalls, and majestic fjords. By bus and boat we will visit small villages and mountain huts, and savor hearty Norwegian cooking. Leader approval required.

[845] From Lake Constance to the Rhine—August 20–26. *Leader, Lynne McClellan-Loots, 88 Ridge Rd., Fairfax, CA 94930.*

[847]From Lake Constance to the Rhine—August 28–September 3. *Leader, Lynne McClellan-Loots, 88 Ridge Rd., Fairfax, CA 94930.*

Walk through the beautiful Black Forest countryside, photogenic at every turn, arriving at comfortable lodgings for a delicious meal, shower, and soft bed. This trip offers the premier way to see southwestern Germany's villages and forests and to enjoy its vistas and *gemutlichkeit.*

[850] Zanskar—The Hidden Kingdom, India—August 25–September 26. *Leader, Phil Gowing, 2730 Mabury Square, San Jose, CA 95133.* High in the Indian Himalaya on the Tibetan Plateau lie Zanskar and Ladakh—remote, mysterious, and

fascinating. This trip starts in the Hindu Kulu-Manali area, features a moderate 22-day trek in Buddhist Zanskar/Ladakh, and finishes in Moslem Kashmir. We will spend two days visiting the monasteries in Leh, and two days in Srinigar on the houseboats at picturesque Dal Lake. Leader approval required.

[855] Glories of Ancient Greece—August 29–September 18. *Leader, Kern Hildebrand, 550 Coventry Rd., Berkeley, CA 94707.* After a short cruise to some of the Greek islands, we will explore the Peloponnesus and parts of northern Greece. From Epidaurus and Olympia to Delphi, to Meteora and Mount Olympus, we will travel by bus to classical and Byzantine sites. Taking moderate dayhikes, we will stay at small village hotels or in the homes of villagers.

[860] Bike Southern France—September 8–30. *Leader, Bob Stout, 10 Barker Ave., Fairfax, CA 94930.* Follow autumn colors as we ride from Paris to Nice. Through the heart of the French vineyards, we pedal to Dijon and Geneva. Visit the old towns of Annecy and Chambéry as we wander the foothills of the Alps to the Côte d'Azur. There will be time to relax and enjoy art, history, and the countryside.

[900] Mediterranean Sailing Adventure—September 20–October 2. *Leader, Kern Hildebrand, 550 Coventry Rd., Berkeley, CA 94707.* Discover the unspoiled "Turquoise Coast" of Turkey. Sail from Rhodes along its shores with wooded inlets and islands, making daily excursions to explore villages and archeological sites such as ancient Lycaean, Graeco-Roman, Crusader, and Byzantine. Nights and meals will be aboard a comfortable 65-foot motor-sailing ketch.

[905] Jugal Himal Trek, Nepal—October 8–November 1. *Leader, Serge Puchert, 1020 Koontz Ln., Carson City, NV 89701.* This moderate trip features a 22-day trek through the part of the great Himalayan Range closest to Kathmandu. We will visit the holy lakes of Gosaikunda and the Sherpa settlements in Helembu. We will explore the Jugal Himal, nestled on the Tibet border and dominated by magnificent Dorje Lahkpa (23,000). We will not go higher than 15,000 feet. Leader approval required.

[906] Central China Bicycle Tour—October 13–November 3. *Leader, Patrick Colgan, P.O. Box 325, La Honda, CA 94020.* Foreign visitors are still a rarity in the rich, rural farmlands of central China's Henan and Shaanxi provinces, and westerners on 10-speeds cause quite a stir. Highlights of this moderate bicycle tour will be visits to the Zen Buddhist Monastery at Shoalin and the famous terracotta dig near Lintong. Permission has been requested to hike in the Song Mountains and to climb Huaxian, the holy mountain. At night we stay in local hotels and guest houses, some more comfortable than others. Leader approval required.

[907] Kangchenjunga Trek, Nepal—November 9–December 8. *Leader, Peter Overmire, 293 Union St., San Francisco, CA 94133.* Explore an area of eastern Nepal just opened for trekking. Our moderate trek starts with a short flight from Kathmandu, and ends in Darjeeling, India. We will travel up the Tamur Khola Valley to the remote Yalung Glacier on the flanks of Kangchenjunga, the crown of the Nepal-Sikkim border. Leader approval required.

[910] Sherpa Christmas Trek, Nepal—December 22, 1984–January 12, 1985. *Leader, Peter Owens, 117 E. Santa Inez, San Mateo, CA 94401.* Spend the holiday season on a moderate 19-day trek into the Rowaling Valley. This is a Buddhist area on the Tibetan border dominated by Gaurishankar Peak (23,440). This trip stresses interaction with our Sherpa and Tamag staff, and a visit to Bigu Gompa, the largest Sherpa Buddhist nunnery in Nepal. Maximum elevation will be about 13,000 feet. Leader approval required.

[500] Cross-Counry Skiing in the Austrian Tyrol—January 13–27, 1985. *Leader, Anneliese Lass-Roth, 712 Taylor Ave., Alameda, CA 94501.* We will spend 15 days cross-country skiing in the heart of Europe—Tyrol, Austria. This trip is especially designed for beginners; previous ski experience is not necessary. Our trip will be spent in the picturesque Tyrolean villages of St. Johann in Tyrol, Kitzbuhl, Pertisau

Betty J. Pollock

Some local inhabitants spotted between the cities of Lillenhammer and Vinstra in Norway.

CHINA PLANS FOR 1984

Besides the two bicycle trips to China being offered in 1984, we are presently planning a hiking trip in the fall from October 1-31 to Mt. Amyemaquen. The cost will be approximately $3,000. For further information contact Mike Brandt, 10229 Variel, Unit 22, Chatsworth, CA 91311.

YOUR NAME		HAVE YOU RECEIVED TRIP SUPPLEMENT? ☐ YES ☐ NO	TRIP NO.:	TRIP LEADER:
STREET ADDRESS			TRIP NAME:	
			DEPARTURE DATE:	
CITY	STATE	ZIP	YOUR HOME PHONE:	
			YOUR WORK PHONE:	

PLEASE PRINT YOUR NAME AND THE NAMES OF OTHER FAMILY MEMBERS GOING ON THE TRIP	AGE	RELATIONSHIP	MEMBERSHIP NO.	HOW MANY OUTINGS HAVE YOU BEEN ON? Chapter	National
		SELF			

PER PERSON COST OF OUTING	TOTAL COST THIS APPLICATION	DEPOSIT ENCLOSED	FOR OFFICE USE ONLY:

MAIL TO: SIERRA CLUB OUTING DEPT., P.O. BOX 3961, RINCON ANNEX, SAN FRANCISCO, CA 94120

YOUR NAME		HAVE YOU RECEIVED TRIP SUPPLEMENT? ☐ YES ☐ NO	TRIP NO.:	TRIP LEADER:
STREET ADDRESS			TRIP NAME:	
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IMPORTANT INFORMATION

1. Refer to the Reservation/Cancellation policy page for important payment information and instructions for filling out this application.
2. Deposits are nonrefundable, from a confirmed trip space.
3. All participants age 12 and over must be Sierra Club members to attend an outing.
4. Your address may be released to other trip participants for purposes of ride-sharing or other trip-related purposes.
5. Not all trips can accommodate special dietary needs or preferences. Contact the leader for this information before applying.
6. Applications for trip space will be accepted in the order that they are received at the following address:

   Sierra Club Outings
   P.O. Box 3961
   Rincon Annex
   San Francisco, CA 94120

   Please note that this is a new address.

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   Rincon Annex
   San Francisco, CA 94120

   Please note that this is a new address.

Becky Evans

Falkenhütte, Austrian Alps, Austria

am Achensee, Seefeld, and Innsbruck. Accommodations will be in comfortable hotels. Trip price also includes equipment rental and cross-country ski instruction by a certified Nordic-skiing instructor.

[505] Cradle Mountain and Frenchman's Cap, Tasmania—January 31–February 13, 1985. *Leader, Jerry Clegg, 9910 Mills College, Oakland, CA 94613.* This trip is for the seasoned walker. Our routes lie within two of Australia's most remote national parks. The terrain does not require mountaineering skills, but cirques, chalk ledges, scarps, peat beds, and airy crests must be negotiated. A highlight format will be used; only daypacks need be carried. The rewards offered include some of the southern hemisphere's finest alpine scenery, exotic wildlife, unfamiliar stars and floral displays of continental scope.

[510] In Quest of the Quetzal: Mexican Birds—February 15–March 1, 1985. *Leader, Richard Taylor, Box 122, Portal, AZ 85632.* The search for a Resplendent Quetzal, three feet of shimmering iridescence and the sacred bird of the Mayan and Aztec empires, will climax this natural-history excursion to Veracruz and Chiapas. While the accent will be on birds—more than 400 species are found here—we will also swim in the ocean, hike through cloud forests, look for monkeys and iguanas, and explore the spectacular, classic period ruins at Palenque. Accommodations will be in picturesque hotels.

[515] Serengeti Wildlife Walking Safari, Tanzania—February 16–March 2, 1985. *Leader, Pete Nelson, 5906 Dirac St., San Diego, CA 92122.* In February, vast herds of wildebeeste, zebra, and gazelle, followed by predators, migrate to the Tanzania Serengeti to bear their young. With a naturalist we will hike alpine moorland to a camp in Embakai Crater, walk along the shore of Lake Eyasi, and visit local villages. By vehicle we will visit the plains, Ngorongoro Crater, and archaelogical sites at Olduvai Gorge. The Rift Valley, active and extinct volcanoes, lakes, varied vegetation, and the people will rival the wildlife for the attention of trip members.

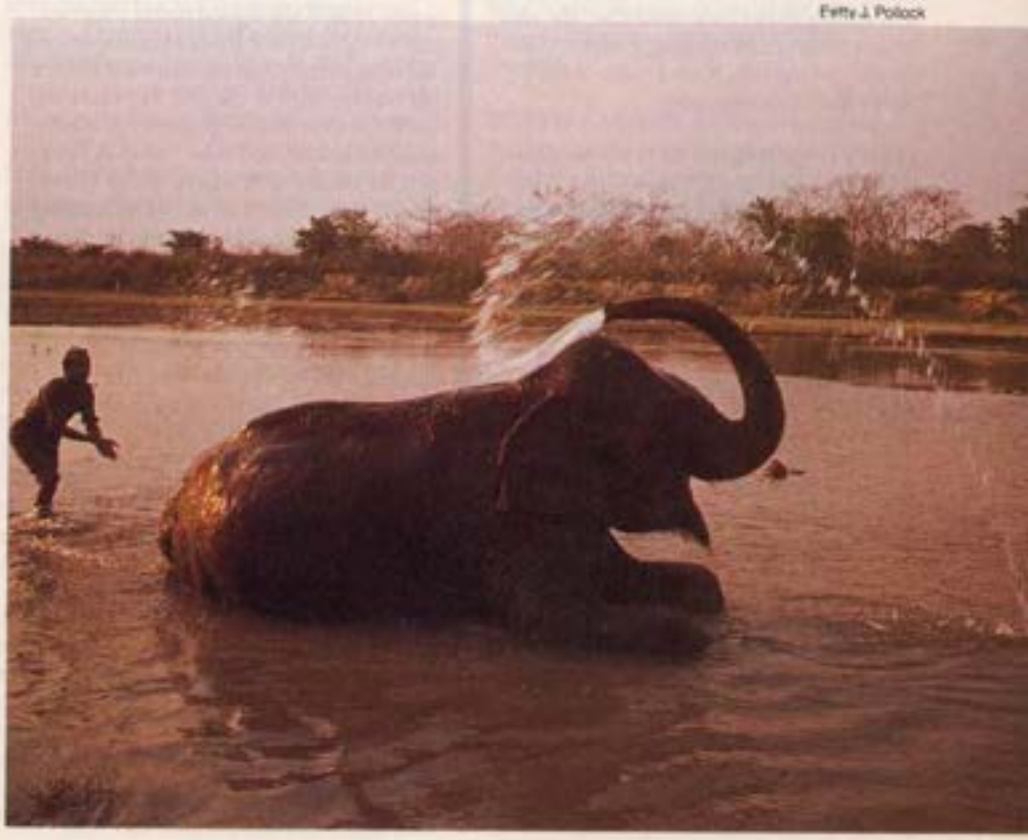
[520] Egypt: Sailing the Nile, Trekking the High Sinai—February/March, 1985. *Leader, Ray Des Camp, 510 Tyndall St., Los Altos, CA 94022.* After Cairo and Giza we'll board a first-class train to Aswan. From there a four-day cruise down the Nile in a traditional *felucca* will take us to Luxor. After Luxor we'll return to Cairo to prepare for our seven-day trek in the Sinai. On the trek we'll be supported by Bedouin guides, and our dunnage will be carried by camels. We'll see the pyramids, the Sphinx, the High Dam, Luxor, Thebes, Karnak, the Valley of the Kings, and other famous sites. In the Sinai we'll see mountains, streams, oases, and visit the Monastery of Santa Katarina.

[525] Kali Gandaki Trek, Nepal—March 23–April 13, 1985. *Leader, Kern Hildebrand, 550 Coventry Rd., Berkeley, CA 94707.* Starting in Pokhara, this 19-day moderate trek follows the mighty Kali Gandaki River through the deepest canyon in the world, with Annapurna (26,500) and Dhaulagiri (26,800) rising sharply on either side. Highest elevation reached will be at the sacred shrine of Muktinath (12,500). The return route, via the Gorapani Ridge, is noted for its beautiful rhododendron forests. Leader approval required.

[530] Ganesh Himal Trek, Nepal—April 20–May 11, 1985. *Leader, Mike Brandt, 10229 Variel, Unit 22, Chatsworth, CA 91311.* See the rhododendrons at their best on this 19-day moderate trek into an area rarely visited by other trekkers. Ascending the Mailung Khola from Trisuli Bazaar, we will traverse many ridges jutting out from the peaks of the Ganesh Himal, the highest of which is 24,100 feet. This circle trip will descend via the Buri Gaundaki River, and our highest camp will be at about 13,000 feet. Leader approval required.

Nepal

Patty J. Pollock



Leader PROFILES

TRIS COFFIN (#274). Like many Sierra Club leaders, Tris Coffin first joined the club in 1965, to join the club's efforts against dams in the Grand Canyon. Since then he has led numerous rafting, canoeing, sailing, highlight, and foreign trips. Tris has also participated in small-party explorations of the southwest canyons. Besides leading trips in the United States, Mexico, Canada, and the Himalaya, his travel experience includes Europe, Asia, South America, and Central America. Tris worked as a pilot and flight instructor for 35 years and is now retired.

FRANKIE STRATHAIRN (#284), the daughter of a river pioneer, has been leading river trips since 1967. She works as a special education consultant, and in 1982 she led a trip for the handicapped along the Rogue River. Frankie has traveled to Scotland, England, and India and has kayaked the Colorado River. Frankie is a member of the California Native Plant Society and spends her free time polishing and adding to her rock collection; she also enjoys birding and reading. Frankie is the co-chair along with Ruth Dyche of the River-Raft Subcommittee.

MARY O'CONNOR (#45) has been participating in the Sierra Club Outing Program since 1965, on highlight, base camp, backpack, and bicycle trips as well as river-rafting. She has been leading river trips and sailing trips in Baja California for four years. She is an active member of Friends of the River and has a special affection and concern for the preservation of wild and free rivers. Winter months find her teaching elementary school, but her summers are spent in the western wilderness areas.

BILL DAVIES (#175) was raised as a Sierra Club member, and has been participating on outings since the age of six. Since 1975 he has worked as a staff member on trips, mainly serving as commissary manager on base camp trips, but he has also participated as an assistant leader. Bill spent the last year in Alaska. Besides Alaska, Bill can also add Colorado, Wyoming, Montana, and Europe to his hiking credits. Bill works as an attorney, and is interested in California mining history.

RICK RICE (#363) joined the Sierra Club for a common reason—he was interested in outdoor and conservation issues. In nine years with the Club, Rick has led five service trips and one local service trip. Canoeing, camping, and rock climbing in many areas of the United States and Canada make up his outdoor experience. Rick finds pleasure in photography, woodworking, and reading.

RICHARD (DICK) WILLIAMS (#226) joined the Club in 1969 and has been leading outings for nearly 10 years. His love of outdoor activities dates back to his teenage years. He enjoys camping, hiking, and has done some caving. In the course of conducting business and seeking fun, Dick has traveled to nearly every state and several foreign countries. Dick likes to cook, paint, and build furniture, and to design and construct outdoor equipment.

MARY MASON (#252) has been involved with the Sierra Club since her teens. In 1978 she signed up for a service trip and also took a Basic Mountaineering Training course. She has been a staff member on nine trips in the past five years and has filled such diverse positions as leader, assistant leader, and cook. Mary is a competitive runner with an eye on the Olympics. If she is not on an outing or running, she can be found at U.C. Santa Barbara, where she is a Spanish major.

DON LYNGHOLM (#91 & #357) first joined the Club to help in the effort to fight dams in the Grand Canyon. In the course of 18 years Don has led or assisted on trips in the Canyon de Chelly Navajo Reservation, southern Utah, and Weminuche. Don, who is retired, worked as a range ecologist, range conservationist, and forester. He spent 30 years working on a Navajo reservation, which brought him in contact with many wilderness areas.

AL OSSINGER (#90) is a chemist for the EPA in the Denver area. He has been leading trips for the Sierra Club since 1980, but his experience as an outdoorsman and trip leader for other organizations goes back much further. He has led trips for the Boy Scouts of America, the University of

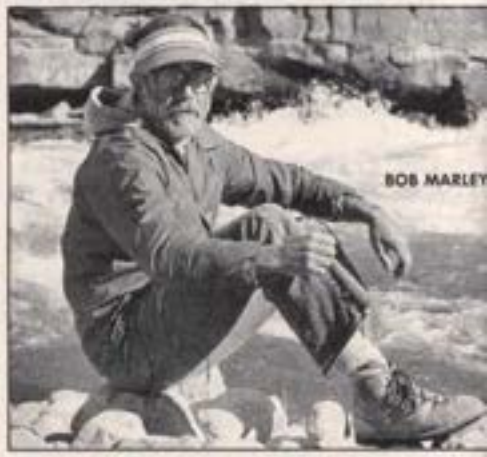

DICK WILLIAMS


BILL DAVIES


FRANKIE STRATHAIRN


CLIFF HAM


BOB GOLDBERG


BOB MARLEY


DOLPH AMSTER

Colorado Mountain Recreation program, and the Colorado Mountain Club. Al has hiked and climbed extensively in Colorado, including no less than three climbs each on Colorado's 54 peaks all over 14,000 feet. Al describes himself as an amateur birdwatcher, and he likes French, German, and Russian songs.

JOHN INGVOLDSTAD'S (#38) interest in canoeing led to his first Sierra Club outing in 1974. Since then, his involvement has grown to assisting on trips in 1981 and 1982, and leading trips in 1983 and 1984. John also leads outings for the Loma Prieta Chapter of the Club. He has traveled through all the western states, and spent the summer of 1980 in Alaska. His hobbies include gardening, cooking, running, and racquetball. He also plays piano and banjo, though not necessarily at the same time.

BRUCE STRAITS (#137), a sociology professor, has been backpacking since he was a Boy Scout. He first became involved with the Sierra Club through chapter outings, but he can now list among his credits participating in, assisting with, and leading several national outings. This involvement has brought him to the Sierra, the Tetons, Zion, New Mexico, Ohio, and Anza Borrego. Bruce enjoys running (a slow marathoner), photography, and computers.

CLIFF HAM (#78) was asked to lead a Sierra Club outing in 1970, and has been leading trips ever since. Cliff has led backpack trips in Virginia, West Virginia, California, North Carolina, Tennessee, and Nova Scotia. He has also led bicycling trips to Scotland, Ireland, the Rockies, Canada, Florida, and New England as well as canoe trips along the Yukon River. Cliff has written and edited several trail guides, and has run leader-training workshops for our eastern subcommittees.

JOHN RUZEK's Hawaii Bike Trip (#205) is an opportunity to combine several of his favorite interests: biking, Oriental wok cooking, Hawaii, and photography. An electrical engineer, John has been a Club member since 1977. He is the chair of the San Francisco Bay Chapter's Bicycle section, and is well-known on Hawaii trips for his gourmet, yet simple to prepare, menus.

BOB GOLDBERG (#87) is an avid hiker who, in addition to his five years of involvement with the Sierra Club, is an active member of the Potomac Appalachian Trail Club. He has personally hiked about 40 percent of the Appalachian Trail. He has also hiked extensively throughout the United States, Europe, and Canada. He is a chemist by profession and enjoys computers, cooking, snowshoeing, and cross-country skiing.

BOB MARLEY (#42 & #157) became involved with the Outing Program in the early 1970s. After an absence of several years, Bob reestablished himself with Sierra Club Outings, co-leading the 1982 Grand Canyon Christmas trip. He has hiked more than 400 days in the Grand Canyon, guiding others as well as going solo. Bob has a great love for the southwestern United States and the Colorado Plateau, where he spends much of his time. Bob's work as a consultant allows plenty of time to pursue his outdoor interests.

DOLPH AMSTER (#75). A longtime member of the Outing Committee, Dolph Amster will be the new Outing Committee Chair beginning this year. Dolph's leader experience includes wilderness threshold, canoe, knapsack, and foreign outings, and he has held several offices on the Outing Committee. Although he is a chemist in real life, Dolph's favorite activity is photography, and he has attended workshops with Ansel Adams and Morley Baer.

HELEN BODINGTON's (#96) parents met on a Sierra Club outing, and Helen herself attended her first Club outing at the tender age of three months! Now she and her husband Ed, also a longtime Club member, continue the family tradition by leading their own trips. They started in the Wilderness Threshold Program when those trips were new, and for the past 12 years have been leading backpack trips. They enjoy a combined wide variety of activities, including sailing, woodworking, gardening, animal-behavior studies, genealogy, and of course hiking.

TRIP schedule

Trip Number	E = Educational Outing • = Leader approval required	Date	Rating	Trip Fee (including Deposit)	Deposit	Leader
ALASKA (See Service and Water Trips for other Alaska outings.)						
66	•Lake Clark Backpack, Alaska	June 14-28		500	70	c/o Gus Benner
67	•Franklin Mountains, Arctic Wildlife Range, Alaska	June 24-July 7		680	70	Sharon & Bob Hartman
68	•Chitistone Canyon/Goat Trail Backpack, Wrangell-St. Elias Park	July 2-14		630	70	Kathy & Robin Brooks
69	•Southern Kenai/Kachemak Exploratory	July 7-16		1025	70	Mary & Jerry Lobel
70	•Glacier Bay Kayak Adventure, Alaska	July 12-21		1150	70	Blaine LeCheminant
71	Stikine River/Misty Fjords Raft Trip, British Columbia/Alaska	July 18-Aug. 1		1580	70	John Ricker
72	•Gates of the Arctic Backpack	July 21-Aug. 3		585	70	Molly McCammon
73	Valley of 10,000 Smokes, Katmai Park, Alaska	July 23-Aug. 5		835	70	Carol & Howard Dienger
74	•Alaska Range, East of Denali, Alaska	July 28-Aug. 10		605	70	Harry Reeves
75	•Kenai Wildlife Refuge, Highlight	July 29-Aug. 8		865	70	Dolph Amster
BACKPACK (See Alaska, Base Camp, Canoe, Foreign, and Highlight Trips for other Backpack outings.)						
32	•Superstition Wilderness, Arizona	March 4-10	M-S	170	35	John Ricker
33	•Galiuro Wilderness, Galiuro Mountains, Arizona	April 8-14	M-S	160	35	Sid Hirsh
34	•Painted Rocks Leisure Loop, Santa Ynez Mountains, California	April 8-14	L-M	150	35	Len Lewis
35	•Ventana Desert to Redwood Forest, Coast Range, California	April 14-21	L-M	155	35	Bob Berges
36	•Pacific Crest Trail, Mojave to Sierra, California	April 14-22	M	190	35	Bill Allen
37	•Crest of the Black Range, Death Valley Monument, California	April 14-22	M-S	190	35	Laurie Williams
38	•Hurricane Deck, San Rafael Wilderness, California	April 15-21	L-M	160	35	John Ingvoldstad

FOR MORE DETAILS ON OUTINGS

Outings are described more fully in trip supplements that are available from the Outing Department. For more detailed information on a trip, request the specific supplement for that outing. Trips vary in size and cost, and in the physical stamina and experience required. New members may have difficulty judging which trip is best suited to their own abilities or interests. Don't be lured onto the wrong one! Ask for the trip supplement before you make your reservations, saving yourself the cost and inconvenience of changing or cancelling a reservation. The first five supplements are free. Please enclose 50 cents apiece for the extras. Write or phone the trip leader if any further questions remain.

Clip coupon and mail to:

SIERRA CLUB OUTING DEPARTMENT

530 Bush Street, San Francisco, CA 94108

Sierra Club Member ☐ Yes ☐ No

Send supplements: #_____ #_____ #_____ #_____ #_____

(by trip number)

NAME

ADDRESS

CITY STATE ZIP

Enclosed is $_____ for each supplement requested over 5, at 50 cents apiece. Allow 2 to 4 weeks for delivery.

Trip Number	E = Educational Outing • = Leader approval required	Date	Rating	Trip Fee (including Deposit)	Deposit	Leader
39	•Kanab Canyon/Thunder River, Grand Canyon, Arizona	April 28-May 5	S	185	35	Peter Curia
40	•Navajo Mountain/Rainbow Bridge, Arizona	May 6-13	M	190	35	Nancy Wahl
76	•Grand Gulch Wilderness Area, Utah	May 12-19	M-S	235	35	Bob Audretsch
41	•Secret Backpack, Coconino Forest, Arizona	May 13-19	M	175	35	Jim Ricker
42	•Tuckup Trail, Grand Canyon Park, Arizona	May 19-26	S	220	35	Bob Marley
43	•Canyonlands Park, Salt Creek and Needles, Utah	May 19-27	L-M	350	35	Linda & Barry Morenz
77	•Slickrock Wilderness, Nantahala and Cherokee Forests, North Carolina/Tennessee	May 20-26	L-M	205	35	Ray Abercrombie
48	•Dark Canyon, Utah	May 26-June 2	M	235	35	Pete Nelson
78	•Mt. Rogers Scenic Backpack, Jefferson Forest, Virginia	June 2-9	L-M	195	35	Marilyn & Cliff Ham
79	•Skyline Trail, Pecos Wilderness, New Mexico	June 3-9	L-M	185	35	Joanne Sprenger
80	•Raven Fork Backpack, Tennessee/North Carolina	June 7-14	M	185	35	Jim Absher
81	•Roan Highlands, Tennessee/North Carolina	June 17-23	M	200	35	Harriet Klinger
82	•Loyalsock Trail, Pennsylvania	June 23-30	L-M	210	35	Len Frank
83	•Vermont's Green Mountains	June 24-30	M-S	220	35	Robert Bingham
84	•West Rim, Pecos Wilderness, Sangre de Cristo Mountains, New Mexico	June 24-30	M-S	190	35	Gail Bryant
85	•High Uintas Primitive Area, Northern Utah	July 7-14	M	205	35	Harris Heller & Brian Roberts
87	•Cranberry Backcountry, West Virginia	July 8-14	L-M	190	35	Bob Goldberg
88	•Ruby Mountains Crest, Humboldt Forest, Nevada	July 8-14	M-S	180	35	Pete Nelson
89	•Kid Lakes, Kings Canyon Park, Sierra	July 13-22	M-S	215	35	Cal French
90	•Collegiate Peaks, San Isabel Forest, Colorado	July 14-23	M-S	235	35	Al Ossinger
91	•Weminuche Wilderness, Colorado	July 15-21	M-S	160	35	Don Lyngholm
92	•Trinity Alps Mines and Lakes, Salmon-Trinity Alps Primitive Area, California	July 15-21	L-M	150	35	Jean Ridone
93	•North Cascades—Stehekin Valley, Washington	July 15-22	M-S	215	35	Rodger Faulkner
94	•Venable Peak, Sangre de Cristo Range, Colorado	July 19-28	M-S	230	35	Bob Berges
95	•Minarets West Peakbagging, Minarets Wilderness, Sierra	July 20-28	M-S	170	35	Vicky Hoover
96	•Wire Lakes Leisure, Emigrant Basin, Sierra	July 21-29	L	180	35	Helen & Ed Bodington
97	•Pacific Crest Trail, Toiyabe Forest, Sierra	July 21-29	M-S	170	35	Jim Carson
98	•John Muir Wilderness, Sierra	July 21-29	M	170	35	Gary Swanson
99	•Berry, Owl, and Moose Creeks Loop, Grand Teton Park, Wyoming	July 22-28	L-M	265	35	Sharon & Rick McEwan
100	•Bridger Lake Leisure Loop, Wyoming	July 22-29	L-M	240	35	Bill Bell
101	•Volunteer Peak, Yosemite Park, Sierra	July 23-31	M-S	185	35	Jim Watters
102	•To Gardiner Lakes, Kings Canyon Park, Sierra	July 25-Aug. 2	M	185	35	Ellen Howard
103	•Mount Cedric Wright, Kings Canyon Park, Sierra	July 26-Aug. 4	M	185	35	Dwight Taylor
104	•Kaweah Peaks, Sequoia Park, Sierra	July 28-Aug. 5	M	170	35	Marilyn & Dan Smith
105	•Amphitheater and Window Lakes, Kings Canyon Park, Sierra	July 30-Aug. 9	S	215	35	Cal French
106	•Sky-Blue Lake Country, Sequoia Park, Sierra	Aug. 2-10	M	185	35	Wes Reynolds
107	•Lake Italy, John Muir Wilderness, Sierra	Aug. 2-11	L-M	205	35	Mac Downing
108	•McGee Lakes, Kings Canyon Park, Sierra	Aug. 3-12	M-S	200	35	Ken Maas
109	•Hunter-Fryingpan Wilderness, White River Forest, Colorado	Aug. 5-11	M	240	35	Daryl Carter Schmitt

Trip Number	E = Educational Outing • = Leader approval required	Date	Rating	Trip Fee (including Deposit)	Deposit	Leader
110	•Eagle Cap Wilderness, Wallowa-Whitman Forest, Oregon	Aug. 5-13	M	190	35	Connie Spangler
112	•Around the Palisades, Sierra	Aug. 6-13	M-S	155	35	Jim Absher
113	•Emigrant Basin Backpack, Sierra	Aug. 6-14	M-S	185	35	Frances & Patrick Colgan
114-E	•Tetons West Photography Backpack, Wyoming	Aug. 7-13	L-M	245	35	Jim Gilbreath
115	•The Secret of Tincup Lake, Sawtooth Recreation Area, Idaho	Aug. 7-18	M	255	35	Chuck Shinn
116	•In the Shadow of the LeConte Divide, John Muir Wilderness, Sierra	Aug. 9-18	L-M	185	35	Diane Cook
117	•Ritter Range Roundabout, Sierra Forest, Sierra	Aug. 9-18	M	195	35	Ann Peterson
118	•Spiller Creek/Matterhorn Canyon, Yosemite Park, Sierra	Aug. 9-18	M	190	35	David Peterson
119	•Cloud Peak Primitive Area, Bighorn Mountains, Wyoming	Aug. 10-17	L-M	240	35	Faye Sitzman
120	•Arrow Pass, Kings Canyon Park, Sierra	Aug. 10-19	M-S	205	35	David Reneau
121	•Yale Harvard Loop, San Isabel Forest, Colorado	Aug. 19-26	M-S	200	35	Bob Madsen
122	•Mountain of the Holy Cross, White River Forest, Colorado	Aug. 12-19	M-S	240	35	Bob Audretsch
123	•Journey to the Jewel Lakes, Trinity Alps, California	Aug 11-19	L	185	35	Roderick Barr
124	•Strawberry Mountain Wilderness, Oregon	Aug. 12-19	M	160	35	Bill Gifford
134	•Beartooth-Absaroka Wilderness, Granite Peak Area, Montana	Aug. 12-21	M	285	35	Bill Evans & Harris Heller
135	•Yosemite Beginners' Backpack, Sierra	July 16-21	L	155	35	Louise French
136	•Cottonwood Pass Trans-Sierra, Golden Trout Wilderness/Sequoia Park, Sierra	Aug. 13-24	L-M	235	35	Daniel Reed
137	•Mineral King Trans-Sierra, Sequoia Park/Golden Trout Wilderness, Sierra	Aug. 13-24	M	235	35	Bruce C. Straits
138	•Mt. Hood Circumnavigation, Cascade Range, Oregon	Aug. 15-23	M	175	35	Bill Bankston
139	•Katahdin, Maine	Aug. 18-25	M-S	260	35	Hank Scudder
140	•Pacific Crest Trail, Kings Canyon Park, Sierra	Aug. 18-26	M-S	170	35	Bill Allen
141	•West Side of Thunder, Kings Canyon Park, Sierra	Aug. 18-26	M	190	35	Don Donaldson
142	•North Fork Entiat, Glacier Peak Wilderness, Wenatchee Forest, Washington	Aug. 18-26	M-S	190	35	Mary Sutliff
143	•Lake Reflection, Kings Canyon Park, Sierra	Aug. 19-26	M	165	35	Andy Johnson
144	•Yosemite Panorama, Yosemite Park, Sierra	Aug. 19-26	L-M	170	35	Jean Ridone
145	•Wind River Range, Leisure Lake Loop, Bridger Wilderness, Wyoming	Aug. 19-27	L	245	35	Jon Nichols & Sherri Serna
149	•Three Sisters Loop, Cascade Range, Oregon	Aug. 20-27	M	190	35	Bruce Clary
150	•Lake Wit-so-nah-pah, John Muir Wilderness, Sierra	Aug. 23-Sept. 1	M	200	35	Gordon Peterson
151	•Kern Hot Springs, Sequoia Park, Sierra	Aug. 25-Sept. 2	M	170	35	Don Lackowski
152	•Big Five Lakes Leisure Backpack, Sequoia Park, Sierra	Aug. 29-Sept. 7	L-M	205	35	Len Lewis
153	•Tahoe Rim Trail, Toiyabe Forest, Sierra	Sept. 5-9	L-M	125	35	Serge Puchert
154	•Seven Gables, John Muir Wilderness, Sierra	Sept. 8-16	L-M	170	35	Ed Shearin
155	•Catskill Mountains Backpack, New York	Sept. 9-15	M	200	35	John Kolp
156	•Palisades Basin Exploration, Kings Canyon Park, Sierra	Sept. 15-23	M	175	35	Paul Cavagnolo
157	•North Bass Trail, Grand Canyon, Arizona	Sept. 22-29	S	225	35	Bob Marley
350	•North Rim Grand Canyon, Arizona	Sept. 29-Oct. 6	S	175	35	Jim Ricker
351	•Buckeye Canyon, Hoover Wilderness, Sierra	Oct. 6-13	M-S	140	35	Dennis Look
352	•Cumberland Island Seashore and Wilderness, Georgia	Oct. 6-13	L-M	240	35	Mark Rottschafer
353	•The High Chisos and the Outer Mountain Loop, Big Bend Park, Texas	Oct. 7-13	M	275	35	John E. Fine

Trip Number	E = Educational Outing • = Leader approval required	Date	Rating	Trip Fee (including Deposit)	Deposit	Leader
354	•Bandelier and San Pedro Parks Sampler, Santa Fe Forest, New Mexico	Oct. 7-13	L	190	35	Steve Hanson
355	•New England Fall Foliage	Oct. 7-13	L-M	235	35	Susan Tippett & Fred Anders
356	•Appalachian Trail Colors, Nantahala Forest, North Carolina	Oct. 13-20	M	220	35	Dave Bennie

JUNIOR BACKPACK

160	•Minarets Wilderness, Inyo Forest, Sierra	July 8-16	M	190	35	Sharon & Rick McEwan
161	•Brewer Circuit, Sequoia/Kings Canyon, Sierra	July 14-22	M-S	190	35	Mark Gordon
162	•Isle Royal Park, Michigan	Aug. 4-10	L-M	220	35	Paul Regnier
163	•Columbine/Cyclamen Lakes, Sequoia Park, Sierra	Aug. 5-12	M	165	35	Andy Johnson
164	•Post Peak Pass Loop, Sierra Forest, Sierra	Aug. 12-19	L-M	165	35	Jenny Dienger

BASE CAMPS TRIPS (See Canoe and Hawaii Trips for other Base Camp outings.)

26-E	Natural History of the Anza-Borrego Desert, California	March 24-31		255	35	Bob Miller
30	Rogue River Trail Wilderness Lodges, Oregon	May 13-18		460	35	Mark Minnis
165	Everglades Park, Florida	April 16-21		225	35	Vivian & Otto Spielbichler
166	Rogue River Wilderness Lodges, Oregon	June 17-22		455	35	Mark Minnis
167-E	Natural History of Mono Basin, California	June 23-30		225	35	Serge Puchert
168	McGee Creek Alpine Camp, John Muir Wilderness, Inyo Forest, Sierra	July 12-21		250	35	Julie Davies & Tom Busch
169-E	Malheur Wildlife Refuge Base Camp, Oregon	July 15-21		235	35	Marshall Gifford
170	Stehekin Valley Base Camp, North Cascades, Washington	July 22-28		290*	35	Marilyn & Bill Gifford
171	Rogue River Wilderness Lodges, Oregon	July 22-27		455	35	Mark Minnis
172	Rangeley Lakes, Maine	Aug. 5-11		210	35	Kevin Walter
173	Dorothy Lake, John Muir Wilderness, Sierra	Aug. 6-14		245	35	Bob Ruff
178	Blackcap Basin Backcountry Camp, Sierra	Aug. 8-22		495	35	Ray Des Camp
174	Evolution Region/Goddard Divide, Kings Canyon, Sierra	Aug. 18-28		405	35	Rick McEwan
175	Middle Fork Bishop Creek, Inyo Forest, Sierra	Aug. 19-28		250	35	Bill Davies
176	Rogue River Wilderness Lodges, Oregon	Aug. 26-31		455	35	Mark Minnis
177	Rogue River Wilderness Lodges, Oregon	Sept. 16-20		395	35	Mark Minnis
357	Wilderness Habitats of the Black Range, Gila Forest, New Mexico	Oct. 7-13		315	35	Don Lyngholm
358	Death Valley at Christmas, California	Dec. 19-27		250	35	Ellen & Jim Absher
359	Everglades Park, Florida	Dec. 26-31		220	35	Herb Schwartz

* = Children under 12, $230

BICYCLE TRIPS (See Foreign and Hawaii Trips for other Bicycle Trips.)

180	•Chesapeake Bay Bicycle Tour, Eastern Shore, Maryland	June 3-9		265	35	Alice Van DeBurg
181	•Oregon Mountains to the Coast Bike Tour, Oregon	June 9-16		160	35	Doris Allen
182	•Bicycling to Vermont's Country Inns	June 10-15		445	35	Ana Rosal

Trip Number	E = Educational Outing • = Leader approval required	Date	Trip Fee (including Deposit)	Deposit	Leader
183	•California Big Sur Coastline	June 16-24	175	35	Boyd Moore
184	•Finger Lakes Bike Tour, New York	June 17-23	235	35	John Kolp
185	•Cycling Wisconsin's Coast and Mountains	June 17-26	290	35	Betsy Sanders
186	•Northern California Coast Bike Trip	June 26-July 5	190	35	Bill Bankston
187	•Acadia Park/Mt. Desert Island Bike and Hike, Maine	July 8-14	215	35	Margaret L. O'Neil
188	•Canadian Rockies Bike and Hike, Canada	July 22-29	290	35	JoAnn & Paul Von Normann
360	•Autumn Leaves—Bicycling in Vermont	Sept. 30-Oct. 5	485	35	Richard Weiss

BURRO TRIPS

190	•Mt. Whitney Country, Sierra	July 28-Aug. 4	400	35	Robin Spencer
191	•Cottonwood Pass, Sierra	Aug. 4-11	400	35	Linda Furtado
192	•Rocky Basin Lakes and Kern Canyon Overlook, Inyo Forest, Sierra	Aug. 11-18	400	35	Jack McClure
193	•Cottonwood Sawmill to Miter Basin, Sequoia Park, Sierra	Aug. 18-25	400	35	Ted Bradfield
194	•Lakes and Peaks South of Whitney, Sequoia Park, Sierra	Aug. 25-Sept. 1	400	35	Jack Holmes

BUS TRIP

221	Mountain Majesty Bus Trip, Arizona/New Mexico/ Colorado	Aug. 19-Sept. 2	725	70	Margaret Malm

Rainbow at Kit Carson Pass, Sierra Nevada, California

Paul Sjoberg

Trip Number	E = Educational Outing • = Leader approval required	Date	Trip Fee (including Deposit)	Deposit	Leader

FAMILY TRIPS (See Base Camp and Water Trips for other suitable family outings.)

			Parents and one child	Each Add. child		
	WILDERNESS THRESHOLD					
49	•Easter in Aravaipa Wilderness, Arizona	April 19-24	540	135	35	Beth & Bob Flores
195	•Blue Heaven Wilderness Threshold, John Muir Wilderness, Sierra	July 21-28	840	220	35	Ellen & Jim Absher
196	•Golden Lake, John Muir Wilderness, Sierra	Aug. 3-10	880	230	35	Beth & Bob Flores
197	•Navajo Cultural Experience, Arizona	Aug. 3-10	1000	280	35	Wanda & Tom Roy
198	•Santa Barbara Channel Islands, California	Aug. 18-24	1280	315*	35	Ann & Tom Carlyle
	FAMILY CANOE TRIPS					
201	•Family Voyageur Canoeing, Missouri River, Missouri	June 10-16	1150	290	35	Faye & Tom Sitzman
202	•Main Eel River, California	June 17-23	565	140	35	Sallee & Kurt Menning
	FAMILY BACKPACK TRIP					
203	•West Walker Family Backpack, Toiyabe Forest, Sierra	Aug. 19-25	500	140	35	Ann & Larry Hildebrand

* = Individual, $455

HAWAII TRIPS (Trip prices do not include airfare)

28	Hawaiian Islands Spring Trip: Oahu, Lanai, Maui	April 12-20	510	70	Mia Monroe
29	Maui-Tropical Paradise	April 13-21	390	35	Lynne & Ray Simpson
205	•Bicycle Tour of Hawaii	June 30-July 14	520	70	John Ruzek
206	•Backpack Kauai, Hawaii	Sept. 9-22	470	35	George Winsley & Mia Monroe
361	Island of Lanai, Hawaii	Dec. 24, 1984-Jan. 1, 1985	600	70	Pete Nelson

Cedric Wright Mountain, Kings Canyon National Park, Sierra Nevada, California

Jim Watters

Trip Number	E = Educational Outing • = Leader approval required	Date	Trip Fee (including Deposit)	Deposit	Leader

HIGHLIGHT TRIPS (See Base Camp and Alaska Trips for other Highlight-type outings.)

27	Big Bend Potpourri, Texas	April 11-17	395	35	John Colburn
210	Kalmiopsis Wilderness Llama Trek, Siskiyou Forest, Oregon	June 3-8	450	35	Toni & Tom Landis
211	Sawtooth Wilderness, Sawtooth Forest, Idaho	July 29-Aug. 7	710	70	Jerry Clegg
212	Evolution Valley, Dusy Basin, Inyo Forest, Sierra	July 29-Aug. 10	610	70	Serge Puchert
213	Western Slope of the Tetons, Targhee Forest, Idaho	Aug. 1-10	615	70	Len Lewis
214-E	Llama Trek/Photography Seminar, Three Sisters Wilderness, Oregon	Aug. 5-10	455	35	Toni & Tom Landis
215	Kings Peak/Painters Basin, Uinta Mountains, Utah	Aug. 6-16	725	70	Bill Huntley
216	Agnew to Dana Meadows, Yosemite, Sierra	Aug. 13-22	600	70	Bert Gibbs
217	San Juan Mountains, Weminuche Wilderness, Colorado	Aug. 13-23	740	70	David Horsley
218	Navajoland Cultural Experience, Canyon de Chelly, Arizona	Aug. 17-24	380*	35	c/o Patty Boyle
219	Three Sisters Llama Trek, Cascade Range, Oregon	Sept. 9-14	450	35	Toni & Tom Landis

* = Two parents and one child, $1100
Each additional child, $280

SERVICE TRIPS

	TRAIL MAINTENANCE PROJECTS				
50	•Kanab Creek Trail Maintenance Project, Kaibab Forest, Arizona	March 23-April 2	85	35	Tim Wernette
51	•Mazatzal Wilderness, Tonto Forest, Arizona	April 15-22	75	35	Rodney Ricker
52	•Red Rock Trail Maintenance, Coconino Forest, Arizona	April 22-28	75	35	Jim Ricker
225	•Joyce Kilmer, Slickrock Wilderness, North Carolina	June 16-23	70	35	Larry Roberts
226	•Laurel Fork Wilderness, Monongahela Forest, West Virginia	June 17-29	70	35	Dick Williams
227	•Kalmiopsis Wilderness—Illinois River Trail Maintenance, Siskiyou Forest, Oregon	June 19-27	70	35	Conrad Smith
228	•Oregon Coast Trail Construction, Boardman Park, Oregon	July 1-11	70	35	Jim Bock
229	•Preston Peak Trail Construction, Klamath Forest, California	July 5-15	70	35	Ira Golub
230	•Pecos Wilderness, Sangre de Cristo Mountains, New Mexico	July 8-14	70	35	Gail Bryant
231	•One-Mile Lake Trail Maintenance, Marble Mountain Wilderness, Sierra	July 10-20	70	35	Roy Bergstrom
232	•The Sierra Club's Own Trail Maintenance Project, John Muir Wilderness, Sierra	July 12-22	70	35	Dave Bachman
233	•Hamilton Camp Trail Maintenance, Marble Mountain Wilderness, Klamath Forest, California	July 14-28	85	35	Warren Olson
220	•Lost Creek Wilderness Trail Maintenance, Pike Forest, Colorado	July 18-28	70	35	Jim Bock
235	•Targhee Tetons Trail Maintenance, Targhee Forest, Idaho	July 18-28	70	35	Larry Moore
236	•Beginning Campers' Trail Maintenance, John Muir Wilderness, Sierra	July 28-Aug. 5	70	35	David Simon & Susan Liddle
237	•Mt. Hood Timberline Trail, Cascade Range, Oregon	July 28-Aug. 5	70	35	Rick Zenn

Trip Number	E = Educational Outing • = Leader approval required	Date	Trip Fee (including Deposit)	Deposit	Leader
238	•Two Mouth Lakes Trail Maintenance, Panhandle Forest, Idaho	July 31-Aug. 10	70	35	Bruce Kingsley
239	•White Mountain Trail Work Collaboration, New Hampshire	Aug. 5-12	70	35	Sally Daly
240	•Hannegan Pass Trail Construction, Mt. Baker-Snoqualmie Forest, Washington	Aug. 6-16	70	35	Todd Rubin
241	•Teton Wilderness Trail Maintenance, Bridger-Teton Forest, Wyoming	Aug. 7-17	70	35	Muki Daniel
242	•The Sierra Club's Own Trail Construction Project I, John Muir Wilderness, Sierra	Aug. 9-19	70	35	Susan Liddle
243	•Maroon Bells-Snowmass Wilderness Trail Maintenance, White River Forest, Colorado	Aug. 10-20	70	35	Bruce Horn
244	•Baxter Park Bridge and Trail Project, Maine	Aug. 18-25	70	35	Phil Titus
245	•Hilton Lakes Basin Trail Maintenance, John Muir Wilderness, Sierra	Aug. 20-30	70	35	Shawn Benner
246	•Washakie Wilderness, Shoshone Forest, Wyoming	Aug. 20-30	70	35	Conrad Smith & Linda Terry
247	•The Sierra Club's Own Trail Construction Project II, John Muir Wilderness, Sierra	Aug. 23-Sept. 2	70	35	Keith Proctor
248	•Baxter Park Trail and Bridge Work, Maine	Aug. 26-Sept. 2	70	35	Craig Caldwell
249	•Cloud Peak Primitive Area Trail Maintenance, Bighorn Forest, Wyoming	Aug. 27-Sept. 7	70	35	Ann Diamond
363	•Ozark Trail, Missouri	Oct. 7-13	70	35	Rick Rice
	CLEANUP PROJECTS				
250	•High Uintas Plane Wreck Removal, Wasatch Forest, Utah	Aug. 1-11	70	35	Jon Nichols
251	•Mt. Hood Plane Wreck Cleanup, Mt. Hood Forest, Oregon	Aug. 19-29	70	35	Kelly Runyon
252	•Yosemite Park Roving Cleanup, Sierra	Aug. 20-30	70	35	Mary Mason
	WILDERNESS RESTORATION PROJECTS				
53	•Guadalupe Mountains Wilderness Restoration, Texas	May 1-10	75	35	John Colburn
253	•Denali Park Restoration Project, Alaska	Aug. 6-16	220	35	Carol & John Stansfield
254	•Eagle Cap Wilderness Restoration Project, Wallowa-Whitman Forest, Oregon	Aug. 20-30	70	35	Todd Rubin
255	•Yosemite Valley Restoration Project, Sierra	Sept. 7-17	70	35	C. E. Vollum
	RIVER PROJECTS				
256	•Salmon River Work and Raft, Klamath Forest, California	June 4-14	150	35	Bill Weinberg
257	•Lower Salmon "Row-It-Yourself" Cleanup Trip, Idaho	Aug. 26-30	200	35	Bill Bankston
362	•Rogue River "Row-It-Yourself" Cleanup Trip, Oregon	Oct. 3-7	200	35	Kelly Runyon

SKI TRIPS

54	•Yellowstone Backcountry Ski Tour, Wyoming	March 4-9	315	35	Randy Klein
55	•Oregon Cascades Cross-Country Skiing, Deschutes Forest, Oregon	March 18-24	245	35	Marriner Orum & Bill Bankston
56	•Zealand Valley Cross-Country Ski Tour, White Mountain Forest, New Hampshire	March 24-28	235	35	Jeanne Blauner & Phil Titus
57	•Crater Lake Cross-Country Ski Tour, Oregon	April 8-14	200	35	Tim Odell
58	•Markagunt Plateau Alpine Ski Tour, Fishlake and Dixie Forests, Utah	April 14-21	220	35	Bob Paul

Trip Number	E = Educational Outing • = Leader approval required	Date	Trip Fee (including Deposit)	Deposit	Leader

WATER TRIPS (See Alaska and Service Trips for other Water Trips.)

RAFT TRIPS

46	River of Ruins Raft Trip, Mexico	Feb. 8-19	995	70	John Garcia
61	Gila River Float Trip, New Mexico	April 29-May 5	215	35	John Ricker
63	Owyhee River "Row-It-Yourself" Raft Trip, Oregon	May 13-17	385	35	Bill Bankston
64	Rogue River Rafts and Lodges, Oregon	May 23-27	515	70	Mark Minnis
65	Grand Canyon Oar, Arizona	May 25-June 5	1240	70	Ruth Dyche
260	Rogue River Raft Trip, Oregon	June 18-22	365	35	Lynn Dyche
262	Canyonlands Rafting-Hiking-Jeeping Trip, Utah	June 15-25	1040	70	Bruce MacPherson
263-E	John Day River "Row-It-Yourself" Raft Trip, Oregon	June 17-21	380	35	John Griffiths
264	Grand Canyon Oar, Arizona	June 21-July 2	1220	70	Wheaton Smith
265	Grande Ronde River Rafting and Horseback Trip, Oregon	June 25-30	725	70	Gary Larsen
266	Hells Canyon Paddle Trip, Snake River, Idaho	June 26-July 1	635	70	Chuck Fisk
267	Trinity River Paddle Trip, California	July 2-5	240	35	Mark Larson
268	Rogue River Raft Trip, Oregon	July 9-13	365	35	Harry Neal
269	Lower Salmon "Paddle Yourself" Trip, Idaho	July 9-14	635	70	Jon Kangas
270	Grand Canyon Oar, Arizona	July 16-27	1220	70	Lynn Dyche
271	Rogue River Raft Trip, Oregon	July 30-Aug. 3	365	35	Ruth Dyche
272	Grand Canyon Oar, Arizona	Aug. 11-22	1220	70	Chuck Fisk
273	•Klamath River Paddle Trip, California	Aug. 12-17	345	35	Tony Strano
274	Tatshenshini/Alsek River Expedition, Alaska	Aug. 13-23	1580	70	Tris Coffin
275	Rogue River Raft Trip, Oregon	Aug. 13-17	365	35	Linda MacPherson
276	Trinity River Paddle Trip, California	Aug. 21-24	240	35	Victor Monke
277	Chilcotin River Raft Trip, British Columbia, Canada	Aug. 24-29	605	70	Kurt Menning
278	Grand Canyon Oar, Arizona	Sept. 6-17	1220	70	Jeanne Watkins

SAILING TRIPS (See Foreign Trips for other Sailing Trips.)

45	The Grey Whales of Magdalena Bay, Baja	Jan. 28-Feb. 4	995	70	Mary O'Connor
47	Blue Whale Expedition, Sea of Cortez, Mexico	March 18-24	995	70	Jeanne Watkins
284-E	Inside Passage Sailing Trip, British Columbia, Canada	June 24-July 2	1020	70	Frankie Strathairn
285	Sails, Whales, and Indians, British Columbia, Canada	July 17-26	1225	70	Gary Dillon
286	Maritimes Sailing Adventure I, Newfoundland Coast	Aug. 9-18	1110	70	Maggie Seeger
287	Maritimes Sailing Adventure II, Southeast Nova Scotia	Sept. 2-8	800	70	Jeanne Blauner

CANOE TRIPS (See Alaska and Family Trips for other Canoe outings.)

59	•Scenic Suwanee River Canoe, Florida	March 24-31	320	35	Rick Egedi
60	•Dismal Swamp Canoe Base Camp, Virginia/North Carolina	April 15-21	165	35	Connie Thomas
62	•Pine Barrens Canoe and Backpack, Pinelands Reserve, Southern New Jersey	May 6-12	220	35	Herb Schwartz
292	•John Day River, Oregon	June 4-9	275	35	Molly & Bill Bricca
293	•Main Eel River, California	June 11-16	235	35	Charlie Doyle
294	•Vancouver Island Ocean Canoe, British Columbia, Canada	June 26-July 6	745	70	Connie & Mari Calhoun
295	•Trinity River, California	July 9-14	290	35	Sharon Cupp

Trip Number	E = Educational Outing • = Leader approval required	Date	Trip Fee (including Deposit)	Deposit	Leader
296	•Rogue River, Oregon	July 16-21	270	35	Paul Barth
297	•The Wide Missouri, Montana	July 20-27	395	35	Iila & Chuck Wild
298	•Trinity/Klamath Whitewater, California	Aug. 20-25	290	35	Molly & Bill Bricca
299	•Green/Colorado Rivers Southeastern Utah	Sept. 20-29	495	35	Iila & Chuck Wild

FOREIGN TRIPS (Prices do not include airfare.)

767	Barranca and Jungle: Mexican Birds	Feb. 25-March 9	985	100	Richard Taylor
768	Ski Touring in Norway	March 11-24	1095	100	Madeleine & Jim W. Watters
770	•Tramping and Camping in New Zealand	March 12-April 2	1630	100	Vicky Hoover
780	Exploring Mountains and Islands in Northern Japan	April 22-May 12	1950	100	Mildred & Tony Look
	Kyoto Extension	May 12-18	TBA		Mildred & Tony Look
785	•Sherpa Country Trek, Nepal	April 30-May 26	1285	100	Patrick Colgan
790	England's West Country and South Wales	June 1-13	1290	100	Terry Seligman & Lori Loosley
795	Peru and Bolivia	June 18-July 9	1690	100	Charles Schultz
800	•Annapurna Circle Trek, Nepal	June 11-July 7	885	100	Peter Owens
805	West Wales and Southern Ireland	June 15-27	1175	100	Lori & Chris Loosley
810	The French Alpine Spine	July 1-15	945	100	Lynne Simpson
815	Kenya Expedition—By Horseback, On Foot, By Landrover	July 9-Aug. 1	2250	100	Ross Miles
820	Basque-land Trek, Spain/France	July 18-31	1270	100	John Doering
825	Hiking in the Pyrenees	July 18-31	1110	100	Rosemary Stevens
830	Sunnyside of the Alps, Switzerland	Aug. 5-18	1145	100	John Doering
832	•Inner Mongolia Bike Trek	Aug. 6-30	2640	100	Frances Colgan
835	Kenya Adventure—By River, On Foot, By Landrover	Aug. 9-Sept. 1	2335	100	Ross Miles
840	•Mountain Hiking in Norway	Aug. 12-25	1350	100	Bob Paul
845	From Lake Constance to the Rhine	Aug. 20-26	705	100	Lynne McClellan-Loots
847	From Lake Constance to the Rhine	Aug. 28-Sept. 3	705	100	Lynne McClellan-Loots
850	•Zanskar—The Hidden Kingdom, India	Aug. 25-Sept. 26	1315	100	Phil Gowing
855	Glories of Ancient Greece	Aug. 29-Sept 18	1540	100	Kern Hildebrand
860	Bike Southern France	Sept. 8-30	1600	100	Bob Stout
900	Mediterranean Sailing Adventure	Sept. 20-Oct. 2	1510	100	Kern Hildebrand
905	•Jugal Himal Trek, Nepal	Oct. 8-Nov. 1	940	100	Serge Puchert
906	•Central China Bicycle Tour	Oct. 13-Nov. 3	TBA	100	Patrick Colgan
907	•Kangchenjunga Trek, Nepal	Nov. 9-Dec. 8	1430	100	Peter Overmire
910	•Sherpa Christmas Trek, Nepal	Dec. 22, 1984-Jan. 12, 1985	745	100	Peter Owens
500	Cross-Country Skiing in the Austrian Tyrol	Jan. 13-27, 1985	910	100	Anneliese Lass-Roth
505	Cradle Mountain and Frenchman's Cap, Tasmania	Jan. 31-Feb. 13, 1985	TBA	100	Jerry Clegg
510	In Quest of the Quetzal: Mexican Birds	Feb. 15-March 1, 1985	TBA	100	Richard Taylor
515	Serengeti Wildlife Walking Safari, Tanzania	Feb. 16-March 2, 1985	1920	100	Pete Nelson
520	Egypt—Sailing the Nile, Trekking the High Sinai	Feb./March, 1985	TBA	100	Ray Des Camp
525	•Kali Gandaki Trek, Nepal	March 23-April 13, 1985	805	100	Kern Hildebrand
530	•Ganesh Himal Trek, Nepal	April 20-May 11, 1985	TBA	100	Mike Brandt

RESERVATION & CANCELLATION Policy

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

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

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

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

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

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

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

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

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

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

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

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

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

The trip price does not include travel to and from the roadhead nor specialized transportation on some trips. Hawaii, Alaska, foreign and sailing trip prices are all exclusive of airfare.

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

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

RIVER-RAFT, SAILING & WHALEWATCHING CANCELLATION POLICY

Trips listed on pages 87 to 91 (Except canoe) have the following refund policy

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

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

*If the trip place can be filled, then the cancellation policy penalty shall amount to the nonrefundable deposit or 10% of the total trip cost, whichever is greater.

not be contacted prior to this automatic reservation confirmation, except in the three days before trip departure.

Refunds: You must notify the Outing Department directly during working hours (weekdays: 9-5) of cancellation from either the trip or the waitlist. The amount of the refund is determined as of the date that the notice of cancellation by a trip applicant is received at the Outing Department.

A cancellation from a leader-approval trip, when the Outing Department has confirmed the reservation subject to leader approval, is treated exactly as a cancellation from any other type of trip, whether the leader has notified the applicant of approval or not.

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

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

The Outing Committee regrets that it cannot make exceptions to the Cancellation Policy for any reason including personal emergencies. Cancellations for medical reasons are often covered by traveler's insurance, and trip applicants will receive a brochure describing this type of coverage. You can also obtain information from your local travel or insurance agent.

Trip leaders have no authority to grant or promise refunds.

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

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

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

Emergency Care: In case of accident, illness, or a missing trip member, the Sierra Club, through its leaders, will attempt to provide aid and arrange search and evacuation assistance when the leader determines it is necessary or desirable. Cost of specialized means of evacuation or search (helicopter, etc.) and of medical care beyond first-aid are the financial responsibility of the ill or injured person. Medical and evacuation insurance is advised, as the Club does not provide this coverage. Professional medical assistance is not ordinarily available on trips.

The Leader Is In Charge: At the leader's discretion, a member may be asked to leave the trip if the leader feels the person's further participation may be detrimental to the trip or to the individual.

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

Mail Checks and Applications to:
Sierra Club Outing Department
P.O. Box 3961, Rincon Annex
San Francisco, CA 94120

Mail All Other Correspondence to:
Sierra Club Outing Department
530 Bush Street
San Francisco, CA 94108
(415) 981-8634

Time or Event of Cancellation	Amount forfeited per person	Amount refunded per person
1) disapproval by leader on leader-approval trips	None	All amounts paid toward the trip price
2) cancellation from waitlist, or the person has not been confirmed three days prior to trip departure	None	All amounts paid toward trip price
3) trip cancelled by Sierra Club	None	All amounts paid toward trip price
4) cancellation from confirmed position or confirmed position subject to leader approval		
a) 60 days or more prior to departure date	$35	All amounts paid toward trip price exceeding forfeited amount
b) 14–59 days prior to the trip departure date	10% of trip fee, but not less than $35	As above
c) 4–13 days prior to trip departure date if replacement can be obtained from waitlist	10% of trip fee, plus $35 processing fee, but in no event more than 50% of total trip fee	As above
d) 4–13 days prior to trip departure date if replacement *cannot* be obtained from waitlist (or if there is no waitlist at the time of cancellation processing)	40% of trip fee, plus $35 processing fee, but in no event more than 50% of total trip fee	As above
e) 0–3 days prior to trip departure date	Trip fee	No refund
f) "No-show" at the roadhead, or if participant leaves during trip	Trip fee	No refund

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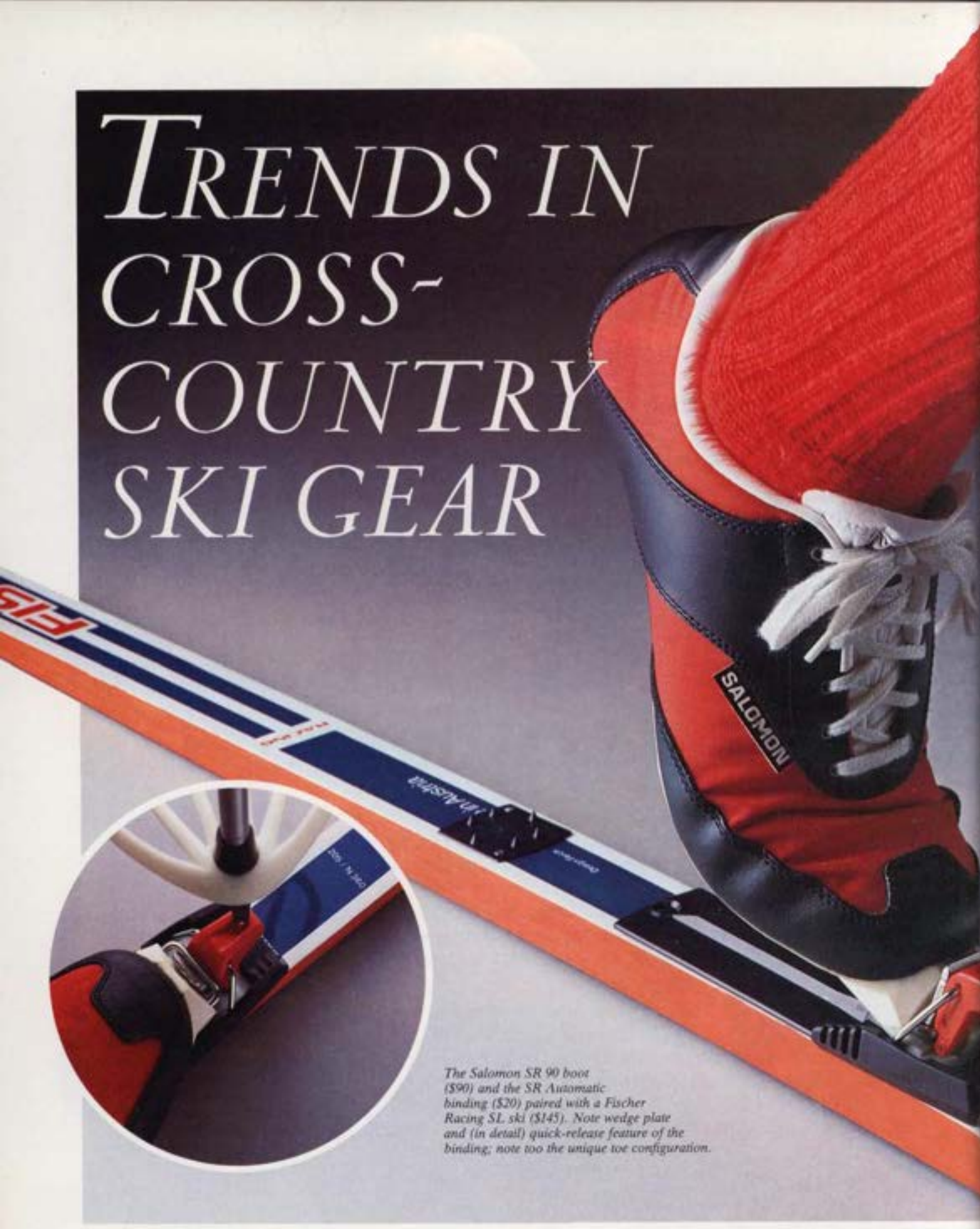
TRENDS IN CROSS-COUNTRY SKI GEAR



The Salomon SR 90 boot ($90) and the SR Automatic binding ($20) paired with a Fischer Racing SL ski ($145). Note wedge plate and (in detail) quick-release feature of the binding; note too the unique toe configuration.

Bravos for a boot/binding system, but mixed reviews for the latest attempts at the ultimate waxless ski base.

BOB WOODWARD

Photography by Steve Fukada and Ed Caldwell

DURING THE PAST SEVERAL ski seasons, most of the new cross-country ski "breakthroughs" advertised have turned out to be mere refinements of a previous year's products. Not since the mid-1970s have there been revolutionary innovations in equipment . . . innovations that caused virtually every cross-country skier, in-track tourer, and off-track daytripper to take notice.

This season, things are different. There have been significant changes in boots and bindings and waxless ski bases. Touring boots and bindings in particular are undergoing their most radical redesign in decades, while designers of waxless ski bases are taking their first tentative steps toward developing the "dream base" of the future.

"What's exciting about the changes coming in boots and bindings and waxless skis," offers Whitney Johnson of ski-maker Karhu, "is that they affect the average skier. Too often in the past, equipment innovations have been directed at racers and mountaineering skiers, who represent only about 10 percent of the total cross-country skiing population."

Johnson is correct in saying that some of the more recent equipment developments have been aimed at a limited audience. But during the decade of the 1970s there were significant equipment innovations that affected the majority of skiers:

- In 1971, Trak introduced the first waxless skis;
- In 1974, fiberglass replaced wood in ski construction. Skiers were now assured of more durable skis offering a higher level of performance;
- In 1975, sturdy fiberglass poles started to roll off production lines. This was a time when the supply of good bamboo (tonkin cane) was beginning to decline, due in part to the effects of Agent Orange in Southeast Asia. This reduction in supply combined with improvements in the manufacture of fiberglass to help signal the end of bamboo as the primary material used in making pole shafts.

Apart from these innovations, Adidas entered the cross-country market in 1976 with a unique boot-and-binding system for racing skis. While not of great significance to the majority of cross-country skiers, the Adidas system came to have tremendous influence on the way the industry and consumers alike looked at boots and bindings.

Adidas's 1976 boot-and-binding system was first and foremost just that: a system. The two pieces of equipment were inseparable, and worked in harmony to give the skier better performance. The Adidas boot went with no other than the Adidas binding, and vice-versa.

This sort of exclusivity was contrary to the industrywide thinking of the time, which stressed compatibility between compo-

An Asolo Glissade 330 boot ($107) and a Troll Standard binding ($10) demonstrate the three-pin, 75mm boot-and-binding system familiar to most cross-country skiers.


FISCHER
CROWNBASE
TUNING

Grips, poles, and skis (from top): Ramer self-arrest grip ($10 each) for Ramer poles; Life Link Telemark pole with release-strap grip ($60); Fischer Racing SL ski with wax marks; Trak Omnitrack Asymmetric base on Trak Elite ($150); Liljedahl tonkin cane pole ($12); Excel Nova pole ($12); Fischer Crown base on Touring Crown ($129); Rossignol New Wave base on Chamois AR ($160); Gipron 450 pole ($35); Ramer pole with claw basket ($58); Trak Omnitrak base on Trak Glide ($90); Trak Top Competition Tuning ski ($235).

nents. Norms had been established to ensure that all boots would fit all bindings. Compatibility, so the line went among manufacturers, was the consumer's best friend.

Another startling aspect of the Adidas system was the boot sole. Instead of a rubber composition sole with a stubby toe, Adidas used a hard plastic (Hytrel) sole with an elongated narrow toepiece. Boots were attached to Adidas bindings by a pin that passed through the toepiece, not by a bail that clamped down over the toepiece and three pins that pushed up into pinholes in the boot's sole.

Critics said the Adidas sole would not work. They were wrong. The system gave performance-oriented skiers what they had always wanted: greater forward boot flex, torsional rigidity, a tight boot-to-binding link, and greater control over their skis.

Outside racing circles the Adidas system was never popular, but the fact that it worked so well for performance skiers impressed other companies not catering directly to cross-country skiers.

One of these companies was Salomon of France, a manufacturer of boots and bindings for alpine skis. Salomon put 10 years of research into a boot/binding system that would be good for racers and in-track tourers alike. While compatible norms flourished through the late 1970s, Salomon predicted that the future would belong to more-specialized systems.

In 1981, Salomon introduced its SNS (Salomon Nordic System) boot/binding combination for racers. It was an immediate success. A year later a touring version of the system was introduced. This season the preponderance of new boots on the market are SNS-compatible models from either Salomon or any one of nine companies licensed to use the Salomon sole.

The SNS Hytrel or polycarbonate sole is one key element in the boot/binding system. A groove is cut into the sole at the ball-of-the-foot area, and it fits over a wedge plate installed on the ski top. This gives skiers added control when their feet are flat on the skis.

An open metal bail is affixed to the snub-nosed front end of each SNS sole. This bail fits down over a vertical metal bar on the SNS binding and is held to the binding by a plastic closure tab. You step down to enter the SNS binding.

There's more. At the base of an SNS binding is a plastic flex plate that moves forward with each kicking motion, giving the skier extra propulsion.

Working together, the SNS sole and binding give in-track skiers in particular better control over their skis as well as a greater measure of comfort. Racers and tourers alike can enjoy more torsional stability, a more forceful kick, and an unrivaled feeling of security.

"The system is positive in every way," says Chuck Moeser, who has operated two of America's major touring centers, Waterville Valley, N.H., and Telemark, Wis. "There's increased stability, plus a freedom of movement that makes even a beginner ski better."

"The positive boot-to-binding attachment makes the SNS system outstanding for in-track skiers," attests Clark Matis, a former U.S. ski-team member and now a distributor of cross-country equipment. Mitch Mode, a writer on cross-country skiing and an equipment retailer as well, cites the system's improved control capabilities. "Most skiers are immediately impressed with the secure feeling the SNS system gives them," Mode observes.

Before you get the misconception that all the new SNS touring boots are strictly for in-track touring, consider the fact that several companies (Merrell, Alfa, Norboot) are making SNS-compatible boots for casual off-track day touring. All three companies' products feature higher-cut uppers, more rigid upper construction, steel shanks, and added lining for warmth.

There are no plans to develop SNS-compatible boots for either telemark skiing or backpack ski touring in the backcountry. These two forms of cross-country skiing require extremely rigid boots—ones made for turning and ski shuffling rather than for traditional kicking and gliding and occasional turning.

If this ski season is indeed the year of the SNS system, next year it may well be some other manufacturer's turn, as Trak, Rottefella, and perhaps Alpina will all introduce their own new designs. Caught by surprise when they do will be many cross-country devotees who skeptically view equipment innovations as mere industry ploys to increase annual sales.

Wrong. The boot/binding systems are a legitimate innovation, and as they improve further, they will make skiing still better for more people. "For the first time, general touring skiers are receiving the benefit of advanced boot/binding technology," says Rich Kohlhoff of Norski, an SNS licensee. "The new systems will help people ski better." Kohlhoff foresees an additional benefit for consumers. "The manufacturing expertise required by the SNS and the other technical systems that will come along will help get some of the amateurs out of the bootmaking business. People will be buying systems from companies that know what they're doing."

WHILE BOOT/BINDING SYSTEMS have come in for their fair share of praise, a new innovation in waxless ski bases is getting mixed reviews. "The jury is still out on the smooth waxless bases," Mitch Mode says. "The ones introduced in the past have been failures, and the new Multigrade smooth base from Karhu is still too inconsistent."

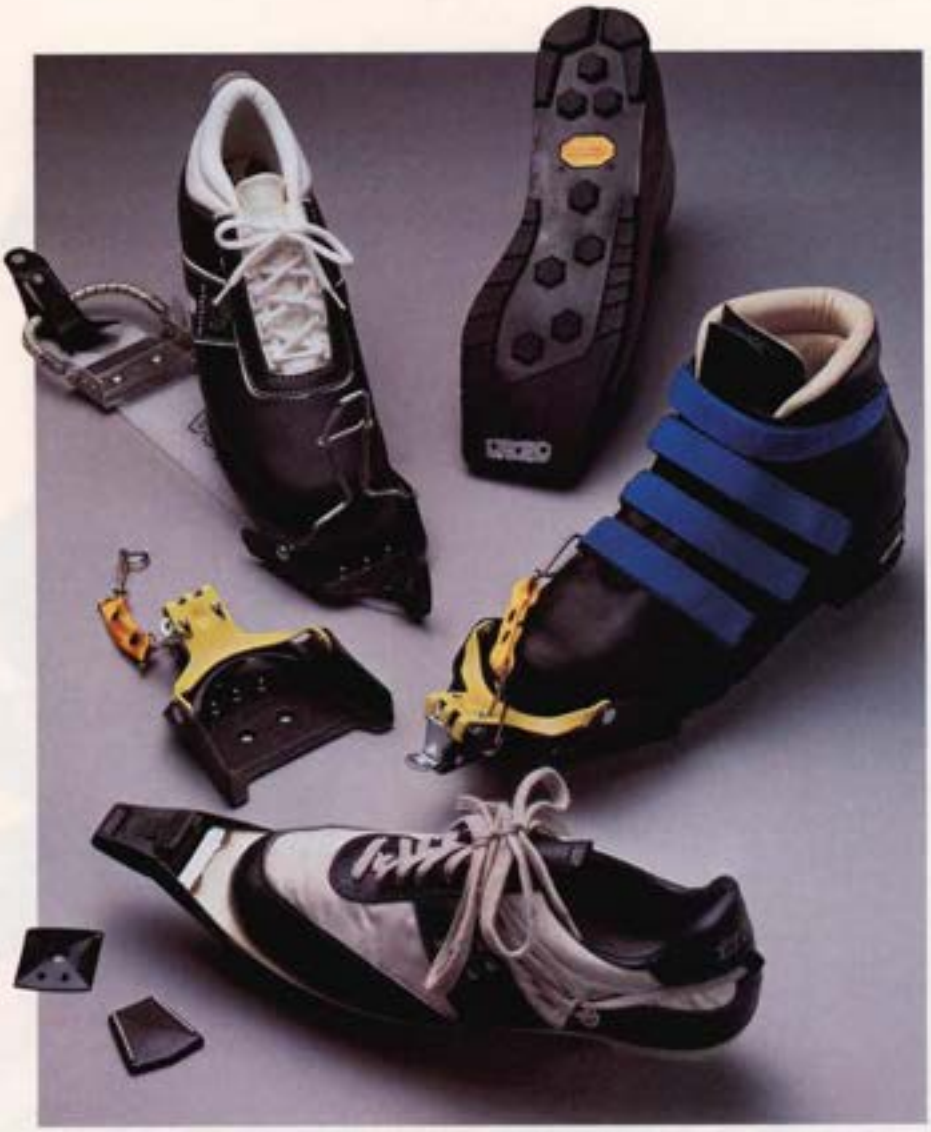
Ah, yes . . . the smooth base; the dream base; the base without patterns, without noise, with optimal grip and glide. The Holy Grail of the waxless crusaders. "All of us in the industry talk about the dream base," laughs Trak's Alan Krutsch. "It's a base that works well in all snow conditions, has great grip and smooth, noiseless glide, and is just possibly smooth to the touch."

The search for the dream base began in earnest in the late 1970s. Until then all waxless bases had been either positive-patterned or negative-patterned. Trak's original Fishscale base and the company's present-day Omnitrak base are both positive—that is, molded onto a ski's base so that the profile of the pattern stands out from the base surface. Patterns that are cut down into the base material, such as those on Fischer's Step and now its Crown models, have a negative (i.e., below the base surface) profile.

The Norwegian ski industry announced its dream base in 1978. Called Mica, this new base—smoother than the patterned bases—featured microscopic particles of mica set into normal polyethelene base material. The backward-angled mica particles would grip the snow, yet not interfere with a skier's forward glide. To make a long story short, the highly publicized Mica base failed. The base gripped adequately, but glide was extremely slow.

In 1979 a small Finnish ski company, Kuusisto, tried its luck with a base called Neverwax. A combination of several synthetic materials and Teflon, the smooth Neverwax base would project microscopic hairs of base material to grip the snow. Tested on colder Finnish snows, the Neverwax skis performed admirably. But they failed the worldwide test, and soon faded from ski-shop shelves.

A year after the failure of Kuusisto's base, another Finnish ski company, Järvinen,



Traditional boots and bindings (clockwise from upper left): Alpina Sarna boot ($40) with a Troll Standard binding and a Voilé plate binding attachment ($40); bottom detail of an Asolo Glissade 330; Merrell XCD Velcro boot ($150) with Asolo XC-T binding ($28); Trak Performance boot ($90) with Trak Trakker 50/7 binding ($24); heel friction plates are standard with all bindings.

tried a similar smooth base, a hodgepodge of synthetic materials it called Free. This base also came a cropper, and the book on smooth dream bases was temporarily closed.

"The so-called dream bases of the past have made people skeptical of smooth bases," Trak's Bill Danner contends. "The smooth-based skis are supposed to glide freely, but in order to get that glide, something had to be sacrificed—namely, grip. It's very hard to get the best of both grip and glide on a pair of waxless skis."

The people at Karhu disagree with Danner. Last season the Finnish company announced the latest in the line of smooth bases—Multigrade. Using research supplied by Finnish tiremaker Nokia, Karhu arrived at a chemical-compound base it feels gives optimal grip and glide.

Nokia's research had revealed that snow tires made of chemical compounds that interact with the snow and ice outperform traditional lug-patterned tires. Karhu reasoned that if lug tire patterns work on snow as patterned ski bases do, then smooth chemical-compound ski bases ought to outperform the patterned bases.

After extensive testing, Karhu arrived at a base that contains one chemically compounded material that interacts with colder, drier snows and another that interacts with older snow forms (crust, slush, and ice) at warmer temperatures. When the proper portion of the smooth base material interacts with the snow, it projects microscopic hairs of material that grip the snow, yet are so small that they do not interfere with glide. To many, this sounded like Mica, Neverwax, and Free all over again.

Not surprisingly, Karhu's Whitney Johnson feels otherwise. "We took five years to develop this base," he points out, "and we consider it as important to skiing as the first Fishscale skis of 10 years ago. We took time to avoid the pitfalls the other companies fell into by bringing out their smooth bases before they had been adequately tested.

"In general," Johnson goes on, "we feel all waxless skis are far superior to what was available five years ago. Waxless skis are skis you can now grow with. The modern waxless ski isn't a two-by-four for beginners. There are superb beginner's skis, light touring performance skis, and mountaineering skis, and racers will be using waxless skis in the Sarajevo Olympics. Where we think we've gone beyond the others is in giving skiers a base that acts like automatic wax, perfect in all conditions."

Not everyone agrees with Johnson about the immediate importance of the Multigrade base, but most see it having an effect on things to come. "The idea of slick bases appeals to people," says Montana ski-retailer and avid tourer Charlie Stevenson, "but the Multigrade-based skis are too technical a product for most skiers. When I say 'technical,' I mean they require more skill than most beginning and intermediate skiers have. You have to have good ski technique to make the Multigrade base work. For that reason alone, the patterned-based waxless skis with assured grip will be popular for at least the next decade, while more research goes into the smooth bases. I predict, however, that one day we'll have nothing but smooth-based waxless skis."

With one smooth-base failure (Free) behind it, Järvinen has been reluctant to bring its new smooth Laser-brand base out too soon. Although it was announced for delivery this ski season, Järvinen officials decided to hold off on the Laser—which employs fiberglass strands woven into the base material—for at least one more year.

"In the minds of most skiers, smooth bases are the next logical step in waxless technology," says Järvinen USA's Tom Finnegan. "Unfortunately, the manufacturing technology is lagging behind our inventiveness. Our Laser skis work well, but at present they're cost-prohibitive to produce. As soon as we and others perfect the manufacturing process, you'll begin to see more smooth-based waxless skis."

Production problems aside, Trak's Danner sees too many ski-industry people going after the dream base when they should be searching for the dream ski. "We are working more on how each ski performs in relation to its waxless base," says Danner. "You might have the best waxless base in the world, but if it is put on a ski that performs poorly, you won't gain a thing."

Last season Trak produced its first "tuning" skis. These can be tuned to the right

camber underfoot for any given snow condition, simply by twisting the ski top up or down. Twisting the dial down, you flatten the ski's camber so that more of the waxless pattern underfoot comes in contact with the snow. This setting is perfect for cold, new-snow conditions. Twisting the dial up allows the ski to become stiffly cambered, which is better when skiing on relatively firm and warm older snows. The dial can also be adjusted to increase camber if you're carrying a fully loaded pack, or set to compensate for those days when you're traveling light on a prepared track. It's a mix-and-match process that—Trak people hope—will allow skiers the best kick and glide on each ski outing.

So if you're a person who likes to be on the leading edge of sports technology, you can try a smooth base this winter, or even dial a ride. But a caveat is in order. Both concepts are still too new or too untested to get overly enthusiastic about. Both ideas reflect, however, the keen interest that exists in waxless bases, and they indicate how important the waxless base will be for the future of cross-country skiing. Like Whitney Johnson, many people would love automatically perfect wax. When waxless skis that can guarantee just such performance arrive on the market, the prediction that most skis sold will be waxless will come true.

Caveats are not in order when boot/binding systems are discussed. SNS is proven and a major step forward. Certainly there will be other systems next year, and you—the buyer—may be confused by all the claims for each system. But the benefits to be derived from the boot/binding systems are so good, your confusion will be dispelled the first time you try systematized skiing. □

Bob Woodward's most recent book is The Cross-Country Ski Technique Book *(Leisure Press, 1983).*

A SKI-TOURER'S REPAIR KIT

MARK JENKINS

ON ONE RECENT cross-country ski trip my total pack-weight—with camera gear, sled, and one six-day food packet—was only 34 pounds. Light, lean packs and featherweight sleds make skiing swift even in miserable conditions.

Yet while traveling ultralight can be the joy of your tour, it can easily be your nemesis as well. Cutting weight by carrying one less wool sweater or pair of socks won't endanger the success of your expedition. But your repair kit—containing that which patches and plugs, pulls and ties, knits, opens, closes, joins, and replaces—cannot be lightened without courting misfortune.

If a ski splinters, and you haven't any duct tape or a spare ski tip, you walk (or slog). If the stove dies, it *must* be dissected, refurbished, and fired back up, or you risk dehydration and frostbite. When a simple ski pole is lopped in two during mad flight through blinding powder, it must be mended. Otherwise, the clean diagonal stride essential for efficient cross-country touring will be reduced to a one-sided limp.

Hence, leave your heavy wool pants home and wear polypro. Forget gloves, and take only mittens. Brush your teeth with snow; eliminate soap and a fork; use only a versatile, lightweight cup for meals . . . but be sure to tote a complete repair kit.

Total weight for this repair kit, including stuffsack, is 962 grams—about two pounds, two ounces.

- *Bail.* Bring one for each type of binding used by your group. [25 grams]
- *Basket.* Bring one for each type of pole used by your group. [15 grams]
- *Bindings.* One spare pair per party. [162 grams]
- *Buckles (2).* Plastic models are lighter than metal, and just as durable. [15 grams each] (You will also need *sliders* to attach to each buckle. [10 grams each])
- *Cigarette lighter.* For when that reliable flashlight won't light, your matches are wet, and the stove is out of order. (No joke. A veteran mountaineer recently showed me the sardine-heating ability of a Bic lighter after our stove gave up while we were on a wet bivouac.) [20 grams]
- *30 feet of red 2mm cord.* Tie down a mangled tent fly; use as a temporary avalanche cord; fashion a makeshift "cable" binding to replace dysfunctional toe plate, boot toe, binding, or bail—some lateral movement will be inevitable, but you'll be able to ski out. [40 grams]
- *Diaper pins (5 large).* For closing broken zippers and scraping carbon from clogged stove orifices. [10 grams]
- *Duct tape.* Highly adhesive and nylon-reinforced. For splinting (ski poles, limbs, etc.). [50 grams]
- *Flashlight with spare batteries and bulbs.* Lithium cells work better and last longer in cold weather than other kinds do. [100 grams]
- *Glue.* For reaffixing toe plates, delaminated skis, ski handles, and bindings. (For bindings: Heat a 3" x ½" stick of hot glue or ferrule cement so it melts generously into the binding mounting hole. Put some more glue on the pointed end of a golf tee and stick the point into the hole. Split the head of the tee so the replacement screw can get started in it. Screw the screw in halfway, then pull it out and add more hot glue. Quickly replace the binding and screw everything down.) Test any glue for effectiveness at low temperatures before taking it on a long tour. [60 grams]
- *Pliers.* Six inches long, with wire-cutters. For repairing skis or pack. [100 grams]
- *Razor blades (3).* Single-edged. For cutting material and such when your knife won't. [5 grams]
- *Scissors.* To cut fabric when constructing bandages and splints. [40 grams]
- *Screws; clevis pins.* Three spare screws for each type in use—bindings, toe plates, etc. Two spare clevis pins for those lost from pack or sled. [25 grams]
- *Screwdrivers (2).* For alpine-style bindings, one phillips with a head that precisely fits the binding screw—otherwise the screwdriver will be stripped and useful only as an auger. For nordic bindings, a Posidrive #3 (available at better hardware and ski-supply stores). For general purposes, one standard blade-type. [30 grams each]
- *Ski tip.* For when hitting a tree is unavoidable. (Plastic models, the standard nowadays, are lighter than wood.) [80 grams]
- *Stove parts.* Filter, plugs, stove wrench, etc. [30 grams]
- *Strap.* Five feet of ½-inch flat nylon with buckle. For compressing pack, making "cable" binding, holding up pants. [30 grams]
- *Thread and needles.* Thin waxed nylon thread; one large needle, one medium, and one leather (a three-sided needle that effectively penetrates leather and nylon webbing). All needles should have large eyes. [10 grams]
- *Three feet of 2mm wire.* For repairing stove, pack bindings, etc. [30 grams]

Mark Jenkins is an outdoor-feature writer for Wyoming Horizons *magazine and cofounder of the Wyoming Alpine Club.*

The Battle for Brumley Gap

RICHARD CARTWRIGHT AUSTIN

THE PEOPLE of remote Brumley Gap in the scenic Appalachian Mountains of southwestern Virginia first read the news in their newspapers: The nation's largest electric utility was considering building a 300-foot-high dam at Brumley Gap to create reservoirs for a huge pumped-storage hydroelectric facility. Proposed by American Electric Power Company (AEP) through its subsidiary, Appalachian Power (APCO), the project would flood the valley and a neighboring wildlife-management area.

In selecting Brumley Gap in 1977, AEP could not have foreseen the intense conflict that was to follow. Determined to save their valley—and with it their heritage and their way of life—the inhabitants of Brumley Gap struggled against the giant utility. In the process they attracted national attention and drew assistance from the Sierra Club, the United Mine Workers of America, and other environmental and citizens' groups. For five years they stoutly opposed AEP, using tactics ranging from prayer meetings to sophisticated legal interventions.

Finally, on October 30, 1982, a dispirited utility announced that "for economic reasons" it would abandon its plans for a pumped-storage facility at Brumley Gap. Here was a case where rural mountain people had faced off against a multibillion-dollar corporation . . . and won!

Ironically, the threat to Brumley Gap arose out of an environmental victory on the New River in North Carolina and Virginia. When Congress voted to add the New River to the National Wild and Scenic River System, it included a portion of the river that AEP wanted to use for pumped-storage development. Despite that setback, AEP promptly decided to try again. This time it not only looked for more remote locations, but decided to undertake preliminary development at two sites simultaneously. That way, if one proposal ran into criticism, the alternate might be carried forward.

In August 1977, Appalachian Power approached the Federal Energy Regulatory Commission (FERC), seeking preliminary permits to study the feasibility of locating 3,000-megawatt pumped-storage projects at either (or possibly both) of two southwestern Virginia mountain sites: Brumley Gap and Powell Mountain. Either project would be, upon completion, the largest of its type ever constructed.

The Powell Mountain site was located within the Clinch Ranger District of the Jefferson National Forest. The proposed lower reservoir would cover an area called Devil's Fork, which was then under review for wilderness designation by the Forest Service. The upper reservoir would usurp an existing reservoir that supplied water for the town of Big Stone Gap. My neighbors and I live adjacent to the national forest. Fresh from a victory over a stripmining project planned for the Jefferson Forest, our neighborhood environmental group decided to explore the pumped-storage threat.

First we consulted with environmental leaders in Washington, D.C. We learned that pumped storage is an established technology, subject to criticism for wasting energy and for economic inefficiency. Pumped storage draws electricity from power plants during off-peak, nighttime hours to pump water from a lower reservoir up to a higher one. During hours of peak demand, that water is then used to generate supplemental electricity as it flows back down to the lower reservoir. Pumped storage is capital-intensive and expensive to operate, consuming 40 percent more electricity than it produces.

Our group also learned that more cost-effective alternatives are now available for meeting the problems of fluctuating electric demand: time-of-day variations in electric rates, improved efficiency standards for appliances, voluntary interruptible service, special rates for those who conserve energy, and other options. We would later discover that AEP's proposed facility would cost from $2 billion to $3 billion to construct, and would result in dramatic increases in electric rates throughout the AEP system.

Digesting the information we found, we asked ourselves: "What will it take to successfully oppose AEP's pumped-storage proposals?" Our answers determined the strategy we would use:

- First, we agreed resistance should begin at the preliminary-permit stage, not three years later at the licensing hearings. Once a project reaches the latter stage, the company will have developed momentum and invested heavily in the project, and the regulatory agency is less inclined to listen to objections, no matter how well-founded. The earlier a project is opposed, the easier it is for a citizens' group to stop it;
- Second, there would have to be united opposition against both the Powell Mountain and the Brumley Gap proposals;
- Third, resistance to pumped storage would have to focus on economic and energy alternatives, not simply on environmental issues. We would have to show regulatory authorities, political leaders, and the general public that a giant pumped-storage facility was unwise for the AEP system, regardless of its location;
- Fourth, resistance would require legal expertise, because key decisions would be made by a major federal agency;

Members of Brumley Gap Concerned Citizens cut and bundle a crop of burley tobacco they targeted for sale as a way of raising money for their legal defense.

Flora and Roby Taylor post a sign expressing their wish that they not be evicted from Brumley Gap.

• Fifth, resistance would have to be led by those people with the greatest stake in the outcome—most particularly those who would be pushed from their homes and farms. They should be the most visible actors in the struggle, because no one can plead the case for an environment better than those whose personal fate is tied to it;

• Finally, the struggle would need to involve interest groups in the entire seven-state area served by AEP. To be successful, organizers would have to educate the public, draw together groups with other concerns for utility reform, and build a coalition to reform AEP so its policies would contribute to energy conservation.

When I first visited the Brumley Gap valley, Mike Wise, who runs the general store, offered to call people together for a meeting. A few nights later I met with 100 residents at the Davy Crockett Coon Hunters Club, nestled in the gap directly on the site of the proposed dam. That evening they organized the Brumley Gap Concerned Citizens Association. Some of these folks also helped me contact the people in the even more remote Devil's Fork area, site of the alternative Powell Mountain proposal. They too organized a small group to fight the projects.

Townspeople learn nonviolent civil-disobedience tactics to thwart American Electric's access to their land.

A few weeks later we held a regional organizing meeting. Representatives of the Brumley Gap and Devil's Fork groups were joined by representatives of ratepayer and environmental groups from AEP areas in Virginia, West Virginia, and Tennessee. Together we formed a coalition that would come to be called the Coalition of American Electric Consumers. We would soon be joined by groups concerned about the health effects of AEP's proposed extra-high-voltage transmission lines, about the utility's proposals to develop nuclear energy, and about reform of utility rates.

James H. Cohen, an environmental attorney who at that time was organizing an office in Washington, D.C., for the Sierra Club Legal Defense Fund, agreed to take our case before the FERC without fee. By July 1978, the Coalition and the Club had jointly filed a sophisticated 200-page intervention that argued for alternatives to pumped storage. Supporting briefs were filed by United Mine Workers' districts in Virginia and West Virginia, and by the cities of Big Stone Gap, Va., and Charleston, W.Va.

During that same period, the Big Stone Gap town council refused to give AEP access to their municipal reservoir, and the Forest Service ruled that earth-disturbing testing activities would not be permitted in Devil's Fork while the area was under review for wilderness designation. The lock-out at Powell Mountain was so effective that AEP abandoned its efforts at that site early the following year.

This setback caused AEP to move aggressively at Brumley Gap, before resistance there could grow stronger. At the end of June 1978, Brumley Gap residents received registered letters from the utility asking permission to begin an elaborate series of core drillings, test pits, trenches, access-road construction, and other earth-disturbing procedures necessary to study the feasibility of damming Brumley Creek and flooding the valley. The letter included the warning that the utility would enter people's land without permission, if necessary, relying on a Virginia law that allows utilities to survey private land for new facilities without being liable for trespass.

The Brumley Gap Concerned Citizens Association was barely two months old. A few members felt their only choice was to submit. Others threatened to shoot anyone from the utility who walked on their land. United, peaceful resistance was not part of their cultural tradition, but after some discussion the group was persuaded to consider it. An emergency call to the American Friends Service Committee produced three trainers who worked with the valley people in small groups, to help them deal with their fear and anger and to plan a nonviolent strategy to oppose the tests.

When the utility's second registered letter arrived, the people summoned regional press and TV to witness a bonfire of resistance at the Davy Crockett Coon Hunters Club. As Levonda McDaniel, secretary of the group, explained after the letter-burning: "We're going to try to be nice and peaceful about the whole thing. When they come in with their earthmoving equipment, they're going to have to run over us."

Cathy Frazzina (right) speaks in her turn at a citizens' meeting outside the Davy Crockett Coon Hunters Club.

The way AEP interpreted the law, the utility could begin its tests on Monday, August 14. The weekend before that date, the people held a "Save Brumley Gap Festival," inviting others to visit their beautiful valley to learn more about the meaning of the struggle. At the same time, the people fine-tuned their citizens-band patrol system to

spread the word should utility trucks be spotted on one of the three roads leading into the remote valley.

Unexpectedly, on the opening day of the festival, deputy sheriffs circulated from home to home delivering summonses to those who had received AEP's letters, calling them to appear in court to show cause why they should not be ordered to stand aside and let the utility's work proceed.

At first we were alarmed by the summonses. Then we realized that we had won a major victory by calling AEP's bluff. The utility had not forced itself upon individual residents. It had not challenged their solidarity. Indeed, this new solidarity was now strengthened as the people of Brumley Gap

A gospel sing and prayer meeting during the "Save Brumley Gap" festival.

stood as common defendants in a lawsuit brought by AEP. As it turned out, the suit went through several hearings in the succeeding months and years, but was never finally resolved.

Funding the resistance was a challenge from the beginning. The Brumley Gap Concerned Citizens assumed financial responsibility for their legal defense in local court. The members of the group were people of low to moderate incomes. They assessed each family in the valley $100 and then began an incredible array of raffles, auctions, turkey shoots, trout fishings, baseball tournaments, beauty contests, and gospel sings that continued nonstop for four years, all of which raised more than $30,000.

The first outside assistance came, as indicated above, from the Sierra Club Legal Defense Fund, which had been approached with the help of Old Dominion Chapter leaders who were sensitive to the importance of the pumped-storage issue. The resulting legal representation was worth far in excess of $100,000.

National Roman Catholic and Presbyterian church organizations provided both financial and staff assistance as they were able. As the Coalition of American Electric Consumers developed, liberal foundations with an interest in energy policy provided additional support.

During the first year after the Brumley Gap intervention before the FERC, it became apparent that the Coalition would need to undertake a major—and expensive—economic analysis to show that there were preferable alternatives to the facility proposed by AEP. The Coalition was also seeking means to fund expert testimony on rate reform before several state public-utilities commissions. Rate reform represents a critical substitute for pumped-storage technology, and part of the Public Utility Regulatory Policies Act of 1978 mandated that state public-utilities commissions give formal consideration to several of the reforms that interested us.

To achieve both these ends we negotiated a study package with Energy Systems Research Group in Boston. The study would analyze future growth alternatives for American Electric Power, including new pumped-storage and energy-conservation options. The cost: $40,000. We solicited our friends and supporters, individuals and institutions, for loans to finance the study. The loans would be repaid from any reimbursement ordered by a public-utilities commission that found the testimony relevant to rate-reform filings. The resulting study provided a blueprint for the most efficient and cost-effective management of America's largest investor-owned utility. At modest additional cost, the study's conclusions regarding pumped storage would be highlighted to the FERC.

The report found AEP's pumped-storage proposal "unnecessary, conceptually wasteful . . . and without economic merit." Cost-effective conservation policies, it was found, could limit the growth in demand for electricity to 1 percent per year for the remainder of this century.

David Grace

Community life in Brumley Gap still centers around the S&W Grocery, run by Mike Wise.

Rees Shearer (standing, right) speaks for Brumley Gap townsfolk at Washington County Board of Supervisors meeting, as utility executive Jerry Whitehurst (left) listens.

NOTHING GALLED the people of Brumley Gap more than the knowledge that their own county board of supervisors had endorsed the pumped-storage proposal before the residents themselves had known their valley was threatened. Representatives of Appalachian Power had met with the supervisors shortly after filing for a preliminary permit, hinting at gigantic tax revenues from the completed project. The company secured county endorsement in a single meeting.

When the people organized in May 1978, they were determined that their supervisors should reverse the endorsement. They appeared at meeting after meeting to voice their complaints. By July, when the utility was pressing to force its way onto the people's land, the supervisors became nervous about the potential for violence. They appointed a citizens' advisory committee to study the issue and asked the utility to cease work until the committee could report. AEP ignored the request.

The supervisors themselves balked at adopting the committee's report, but they were finally prevailed upon to hold a public hearing of their own. A series of speakers urged them to defend the interests of the people of the county. Finally they did so, calling for a federal hearing—but stopping short of opposing the project.

The citizens of Brumley Gap also directed their newfound political skills toward southwestern Virginia's conservative Republican representatives in Washington, Rep. William Wampler and Sen. John Warner. Wampler had been AEP's spokesman in Congress for the New River project, but this time he avoided supporting the utility. The two legislators instead urged AEP to consider an alternative to Brumley Gap—buy-

ing into another utility's half-completed pumped-storage facility in central Virginia.

The turning point in the struggle came on June 25, 1980, the day the FERC was to issue a preliminary permit authorizing studies for the Brumley Gap project. The Coalition believed the permit ruling was set for this date in a deliberate attempt to avoid considering the preliminary results of our conservation study, which would be ready in July.

Certain they were going to witness a setback in their struggle, the residents of Brumley Gap nevertheless chartered a bus to take them to Washington. When they arrived—the day before the FERC hearing—they were met by an environmental lobbyist and divided into groups of three; they then spent the afternoon visiting the offices of the representatives and senators in the seven-state area served by AEP, plus all the members of those House and Senate committees that oversee the FERC.

At eight the next morning, the 45 men, women, and children bowed in prayer on a grassy knoll outside FERC headquarters. Two high-school students held a long banner upon which had been quilted: "This is our land and the land of our children." Others held wooden, hand-painted signs, some inscribed with verses of Scripture ("Remove not the ancient landmarks. . .").

Matthew Holden, Jr., the one black on the four-member commission, paused on his way into the building to listen while Sam Dickenson, a high-school teacher and president of the group, prayed that God would guide the FERC commissioners to rule with wisdom and compassion.

The FERC commissioners took up the Brumley Gap permit matter two hours later, in a hearing room packed with twice as many spectators as there were chairs to seat them, and before a television camera crew—evidence of unusual media interest in the proceedings of a low-profile government agency. Only 15 minutes had been allotted for the process, but Commissioner Holden engaged the staff and his colleagues in debate for two and a half hours, until they reluctantly agreed that the FERC would delay its ruling until the Coalition could submit the results of its professional economic analysis.

The reversal was stunning. For only the second time in FERC history, the question of need for a project was successfully introduced at the preliminary-permit stage. From that day forward the Brumley Gap people and their Coalition supporters felt that time and reason were on their side.

IT WAS 18 months later—January 1982—when the FERC finally ruled on the Brumley Gap permit. The people of the valley chartered two buses for the trip, and again gathered to pray before FERC headquarters—this time in record cold weather. But now the commission was dominated by probusiness Reagan appointees with no memory of the earlier meeting. They gave AEP largely what it wanted and granted the preliminary permit.

The long-sought victory did not stimulate AEP into action. Instead, the utility asked the commission to delay the start of the permit, arguing that anticipated court appeals by the Coalition could eat up much of the three years the permit allowed for study of the site. The FERC denied the request in May 1982, ruling that the permit "clock" was ticking.

The Brumley Gap Concerned Citizens Association now found itself facing new financial difficulties. Lawyers estimated that appealing the preliminary permit would cost at least $20,000. Free legal assistance was no longer available. Reviewing their options, a few people wanted to save money by not going to court; they would stand in front of AEP's bulldozers. Others thought they should save on legal fees and buy dynamite and ammunition. After several months of deliberation, the group resolved to continue local fundraising efforts and to fight the legal battles on both the federal and local fronts.

Sam Dickenson, president of Brumley Gap Concerned Citizens, poses with his family above their homemade sign, intended to rally neighbors to their common cause.

When the Coalition filed with the federal appeals court in Washington, D.C., American Electric Power responded with another motion requesting a delay in the three-year permit period until the litigation could be resolved. Early in October 1982 the court rejected AEP's motion.

Then, on October 30, 1982, AEP released a stunning announcement. As part of a deep cost-cutting program, the utility was abandoning its plans to pursue pumped storage at Brumley Gap. "When all the uncertainties involved are carefully studied," said John Vaughan, president of AEP's Appalachian Power subsidiary, "it becomes clear that it would not be prudent to expend large sums of money on this project in the light of the company's current financial constraints."

The reaction in Brumley Gap was tumultuous as the news spread quickly through the valley and to supporters in other

Levonda McDaniel (standing, rear), secretary of Brumley Gap Concerned Citizens, testifies at a Federal Energy Regulatory Commission hearing in Abingdon, the Washington County seat. Listening in the foreground are two representatives of Appalachian Power.

Brumley Gap residents sing "We Shall Not Be Moved" to protest the planned reservoir that would have inundated their valley (below).

places. The people and the Coalition had won a clean, decisive victory. And we had won it on our terms. As we had argued for years, the giant pumped-storage proposal was indeed "unnecessary, conceptually wasteful . . . and without economic merit."

On Saturday, November 20, 1982, Brumley Gap families and their friends formed a mile-long caravan of cars. Decorated with signs, streamers, and balloons, the late-morning procession wound down a narrow road, through five miles of beauty that would have been flooded, onto the main highway, and through Abingdon, the county seat.

By noon all were back in the valley, crowded into the white-clapboard Methodist church for a "Prayer and Testimony Service of Joy and Thanksgiving." Following the service, the crowd drove down the dirt side road that passes through the narrow gap where the dam would have towered 300 feet high. Next to Brumley Creek, at the Davy Crockett Coon Hunters Club, a homemade lunch of ham, biscuits, punch, and cakes was spread. After the feast, everyone sang a song written four years before, during the first summer of crisis, when AEP was trying to force its way onto the people's land. At that time Doris Beach, who lived nearby, had composed these words and taught them to us all. Now they rang out with assurance:

In the mountains of Virginia you'll find Brumley Gap.
You won't find it easy, just a speck on a map.
It isn't even a little town, just houses in a string,
Along a creek, on the valley floor, with rocks and trees and things.
One day the power company said they had to have some land,
And the mountains and the valley just fit what they had planned.
"We're gonna study you," they said, "and if you fit the bill,
We'll pay you off, and throw you off." It was a bitter pill.

So everybody clap for Brumley Gap!

The power company snooped around and just saw mountaineers.
"Easy pickin's for us," they said. "We'll give 'em a few skeers."
They didn't know that they was gonna have to do some provin',
'Cause the folks back in them hollers ain't fixin to do no movin'.
Them mountaineers will put a stop to a high-handed corporation.
They're showin' people everywhere just who controls this nation.
Of the people, by the people, for people just like us.
Two hundred years and going strong, and still, "In God We Trust!"

So everybody clap for Brumley Gap! □

Richard Cartwright Austin is a United Presbyterian minister with a special interest in "relating Christian faith to environmental concerns." He is the coauthor of The Strip Mining of America *(Sierra Club Books, 1971).*

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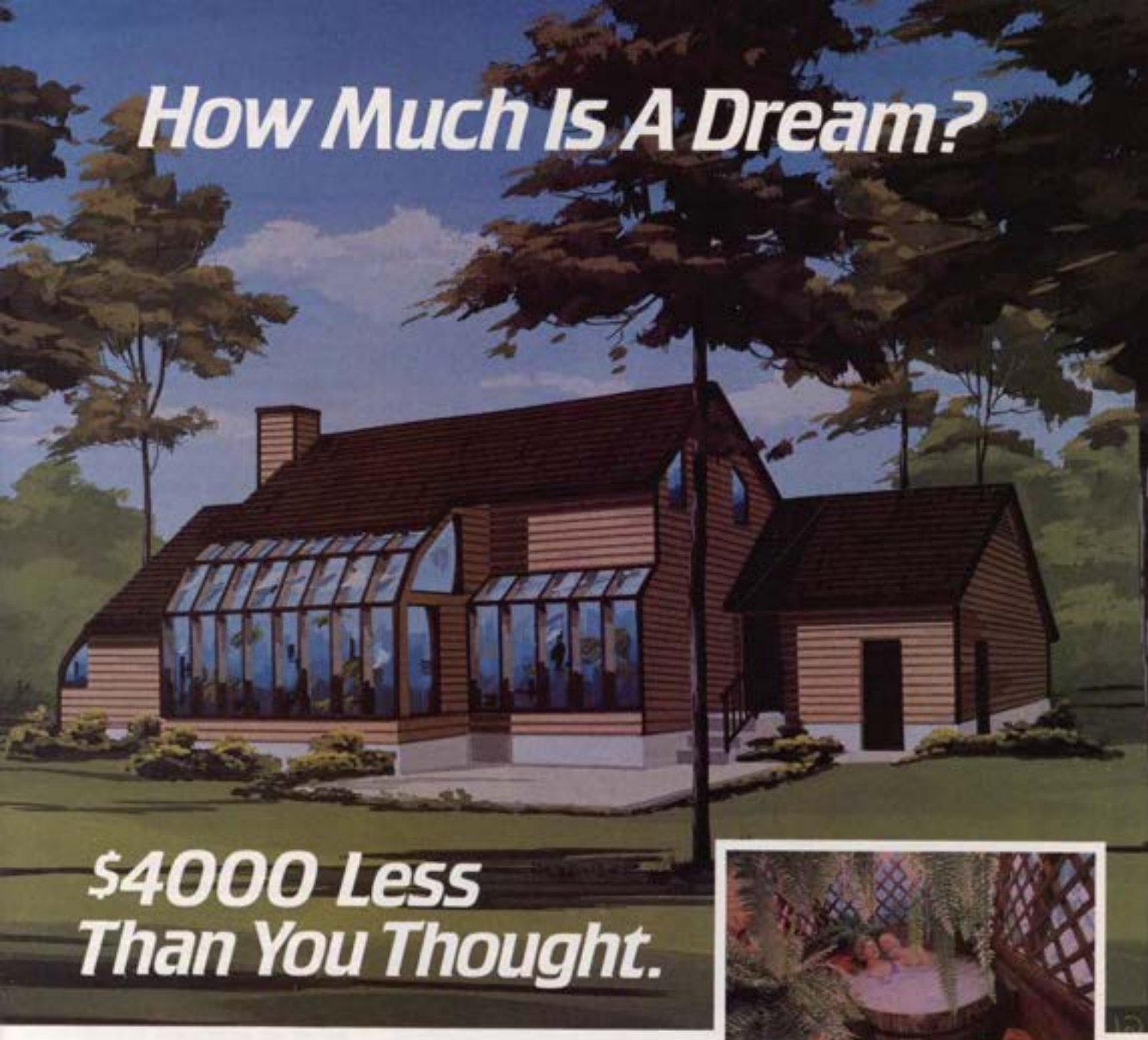

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Sue Merrow: Involved and Enjoying It

Sierra Club Council Chair Sue Merrow and other Club activists took time out from last year's International Assembly for a river-rafting trip. From left: Mary Carney, Connecticut Chapter; Sue and Arthur Merrow; and Charlie Ortez and Gloria Shone of the Rocky Mountain Chapter.

BOB IRWIN

"Get involved!" No one can be a member of the Sierra Club for long without hearing that incessant, urgent appeal. Those first to respond usually have already been primed for action because of some environmental outrage close to home—maybe the threat that a favorite wild forest area will be "developed" or a free-flowing stream dammed. Such members become instant Sierra Club activists. Most, however, join the Club chiefly to lend their support to its goals and programs; they don't look at themselves as activists.

When they became members in 1972, Susan and Arthur Merrow belonged to that majority. They were part of the post-Earth Day awakening of the early 1970s, and were responding to a general feeling that "somebody ought to be doing something." Sue recalls that an article about what the Sierra Club Legal Defense Fund was doing—"suing the bastards"—was what got them interested. Later, they picked up a "Why the Sierra Club?" leaflet in a bookmobile at a country fair, and also discovered that a good friend of theirs was a Club member. They joined, despite the fact that they weren't activists—nor were they hikers, nor had they any special skills to offer.

Or so they thought. Today, a dozen years later, Sue Merrow chairs the Sierra Club Council—the body, made up of delegates from each of the Club's 56 chapters, that is responsible for overseeing the Club's internal activities. How did this city-bred young woman without significant outdoors or environmentalist experience become one of the organization's most skilled and effective volunteer leaders?

Sue Merrow's baptism into environmental activism occurred so fast that neither she nor Arthur (nor anyone else) noticed it at the time. They were attending their first Sierra Club function, a general meeting of the Connecticut Chapter's Southeast Group, and before it broke up she volunteered to bake the cookies for the next meeting. Really no big deal. A few meetings later, however, she found herself agreeing to help out with the group's membership record-keeping. From that point on, she says, "I just got in deeper and deeper."

She began to do some lobbying at the state capitol in Hartford. She also worked to get out the chapter newsletter, the *Quinnetukut*. From 1976 until this past spring she and Arthur helped label and bundle every issue. And because she had not only majored in English in college but had taught it for three years at Bloomfield High School (outside Hartford), it was only natural that she should write, edit copy, and do layout for the newsletter as well.

Soon the Merrows began taking Sierra Club hikes and going on canoe and cross-country ski outings. Before long this erstwhile citified couple was even leading (mostly one-day) trips. The Merrows had become outdoors enthusiasts.

The shoe-manufacturing city of Brockton, in southeastern Massachusetts, had been home to Sue Merrow until she entered Tufts University, in metropolitan Boston. Even though her nurseryman father had to work with nature (in his greenhouse), neither of her parents was at all outdoors-oriented, says Sue. But she and her older brother were fortunate enough to spend all their childhood summers at their grandmother's place at Turkey Cove on the Maine coast, south of Rockland. Sue recalls the glorious "wrong-direction" sunsets over toward the town of Friendship across Muscongus Bay. "That particular spot will always be a sacred place to me—one so perfect it should never change. The sights, smells, and sounds of rural, coastal Maine have a way of getting to a person. I suppose that to love a place like that makes one ripe for plucking by the environmental movement."

Another ripening influence undoubtedly was the Merrows' 1971 decision to move to Colchester, 15 miles southeast of Hartford, in the most rural and open area of the state. In fact, the Merrows say, it's the largest such undeveloped space along the entire length

of the Boston-New York-Washington metropolitan axis. They bought an old (1813) farmhouse, one that until the 1950s had outside plumbing and no electricity. On their 26 acres they now take care of two retired horses, three farm cats, one dog, a goat, and a rabbit. Apart from the harvest from their kitchen garden, their only crop is the oak and maple firewood that fuels their huge, six-lid kitchen stove. Sierra Club involvement, however, has pushed their five-year house-restoration plan into its 12th year, and Sue reports they are still living under "somewhat primitive conditions." They were into the eighth year of their plan when she began to take on national Club work in addition to local group and chapter duties. The plan may have suffered thereby, but the Sierra Club certainly hasn't.

Sue Merrow assumed her first local leadership role in 1977, when she was elected to the Southeast Group's executive committee (ExCom). Until then—apart from leading outings and writing and editing for the newsletter—she had been content to pitch in doing the inevitable nitty-gritty jobs that had to be done, such as bulk mailings. ("Arthur and I became quite good at that," she says.) Because the group is centered in the state capital, it has always worked closely with the chapter's ExCom. Sue's growing familiarity with both chapter and group operations and problems doubled when Arthur was elected to the chapter ExCom that same year. They both took office in the midst of a bitterly fought conservation campaign for the Connecticut Bottle Bill, which passed in 1978.

When Sue became group chair in 1979, she automatically became a member of the chapter ExCom as well, which then promptly appointed her the chapter's delegate to the Sierra Club Council. Asked why some older, more-experienced hand hadn't been chosen, she replies: "When you've been around for three or four years, you *are* that hand. You're the chapter historian, the one who knows who did what when, and why." Yes, she adds, there were other, probably better-qualified activists, but they were mostly students and other free spirits without the deep roots she had put down in Connecticut.

When Council Delegate Merrow got to San Francisco for that May 1979 "circus" meeting of the Sierra Club, she was overwhelmed. "Boy," she thought, "what a great organization! What a wonderful bunch of people!" The word "circus" is applied to the twice-yearly Council meetings because there is so much else going on: meetings of the Board of Directors, the RCC Caucus, and various national task forces and committees; tours of Club facilities; conferences with staff; workshops and films; and, in May, the Annual Banquet. Yes, overwhelming.

Sue zeroed in on the meetings of the Membership Committee. It was a critical moment for the Sierra Club. For one of the few times in its long history, the Club had stopped growing. Its growth rate in fiscal 1978 was down a tenth of a percent; it would be two tenths of a percent lower than that in 1979. Sue was appointed to the Membership Committee in 1980, becoming one of its hardest-working members before leaving it in the spring of 1982 to join the newly formed Grassroots Effectiveness Task Force. (During her two years on the committee, the Club's membership soared some 70 percent. A coincidence perhaps, but she and the committee must have been doing *something* right.) Sue has continued to work with the committee, however. Last year she ran two membership-retention workshops, one for the Pennsylvania Chapter, the other for Lone Star (Texas).

On Memorial Day weekend 1983, Sue was back at her old job: teaching school (Sierra Club-style). She and eight other resource persons at a Grassroots Effectiveness Project training workshop in Suwannee, Ga., were schooling 16 volunteers—two each from the eight southeastern chapters—to become training coordinators. These people in turn would go back to their respective chapters to conduct similar workshops to enhance the leadership skills of volunteers and the effectiveness of groups and chapters in their conservation work. The project—GREP for short—was set up by the Grassroots Effectiveness Task Force, which is chaired by Board of Directors Fifth Officer Marty Fluharty. (Marty is a past chairperson of the Council and a longtime champion of volunteer activism in the Club and in her home chapter, Mackinac, in Michigan.) Five other volunteer members and three Club staff people participate in the project on an ongoing basis.

Sue's major GREP responsibility now is setting up a Sierra Club Organizer's Library, which will bring together all of the Club's scattered and diverse handbooks, manuals, and other training materials in a standard format. Five volumes are already available: *Volunteer Leadership, Grassroots Fund Raising, Conservation Action, Election Politics*, and the Membership Department's *Ideabook*. They can be ordered from Club headquarters for $5 each (free to group and chapter chairs and Council delegates).

Sue Merrow will continue to participate in training workshops—as she did last May, only three weeks after she had taken on a newer and tougher assignment: the chairmanship of the Sierra Club Council. She succeeded Carroll Tichenor in this capacity at last May's circus meeting. After two years as chair, he thought it would be unfair to other capable people if he were to stay on for another term. Carroll calls Sue Merrow a talented and imaginative natural leader who works well with others.

Sue showed those qualities (and her good-natured sense of humor) during the summer and fall as she and the four other ExCom members prepared for the November Council meeting in San Francisco. They were determined to find ways of making that four-day weekend meeting more productive—first by training delegates to focus on serving their chapters and the Club well, and next by teaching them some fundamental skills. By August, Sue and her team had devised a curriculum addressing those needs, one that by a rotation of "courses" would give new and continuing delegates all the knowledge and skills they'd need to do their jobs efficiently. Three weeks before the November meeting, she mailed out its schedule and the curriculum. To her covering letter to all delegates she added this postscript: "It's time to start your 'Pre-Circus Personal Training Program.' Start now to stay up later, get up earlier, eat twice as much as you usually do, and sit for hours in a hard chair. You'll be in top form!" The voice of circus experience from a Connecticut Yankee who refuses to slow down.

Back home, Sue Merrow chairs the state-level Environmental Political Action Committee; she is also winding up her two-year term as chair of the Connecticut Environmental Caucus. In addition, she works half-time at her bread-and-butter job as organizer/administrator for Common Cause/Connecticut. She says she was hired on the strength of her Sierra Club experience in leadership training, membership development and retention, public relations, and fundraising. Further, she shares the care of her lively six-year-old daughter, Annie, with her husband, Arthur.

"Sierra Club and other activist programs have largely taken over our social life," says Sue. "Our 1983 vacation was a trip to the International Assembly at Snowmass. We've eliminated the 'entertainment' line item from our budget. Instead, we go to fundraising events! Our friends are all activists—not a self-centered, comfort-loving introvert among them. The Sierra Club has

SIERRA NOTES

• Sierra Club Books has published several new titles. These may be ordered through the Sierra Club Catalogue, which is mailed to all Club members.

Among the new titles are: *Dead Tech: A Guide to the Archaeology of Tomorrow*, text by Rolf Steinberg, photographs by Manfred Hamm, paper, $14.95 ($11.95 for Club members); *Well Body, Well Earth: The Sierra Club Environmental Health Sourcebook*, by Mike Samuels, M.D., and Hal Zina Bennett, $22.50 ($18) cloth, $12.95 ($10.35) paper; *A Beast the Color of Winter: The Mountain Goat Observed*, by Douglas Chadwick, cloth, $15.95 ($12.75); *Speaking for Nature*, by Paul Brooks, paper, $8.95 ($7.15); and *Hiking the Southwest: Arizona, New Mexico, and West Texas*, by Dave Ganci, paper, $9.95 ($7.95).

• The Sierra Club's membership stood at 350,119 on November 1, 1983. This represents an 86-percent increase since the Reagan administration began in January 1981; membership at that time was 188,740. Another way of expressing this phenomenal burst of growth is to say that membership in January 1981 was only 54 percent of what it is now.

According to Kim Martin-Carroll, the Club's Director of Membership Development, Californians now represent 38.8 percent of total Club membership, down from 42 percent before the Reagan inauguration. Thus, a substantial number of the 161,379 new members who have joined since January 1981 come from states other than California—a positive factor in the Sierra Club's development as a national organization.

• Edward Taylor Parsons was an early Sierra Club outings organizer and photographer. Between 1901 and his death in 1914, Parsons took thousands of photographs of Club outings. Many outings photos were also taken by his wife, Marian Randall Parsons.

Now, thanks to two generous grants—one of $5,000 from the L. J. and Mary C. Skaggs Foundation of Oakland, Calif., and another of $3,000 from the Quaker Hills Foundation—the Club's William E. Colby Memorial Library has begun to convert the Parsons' silver-nitrate negatives to interpositives, from which new negatives will be made for future use. The rare silver-nitrate originals will be stored after a reference print is made from each one.

become an extended family to us, sort of a coast-to-coast collection of cousins with environmental missions."

There is no doubt that Sue Merrow enjoys her intense activism, working with other environmentalists, getting projects started—and seeing them finished (except for that 1813 house, that is!). But she is a realist. She wouldn't recommend her level of overcommitment to anyone: "It's too stressful—too many balls in the air at one time. Satisfaction from a job well done comes too rarely." Pressures from her new job of chairing the Council will intensify—more meetings, hard chairs, and travel. One measure of overcommitment is the size of a volunteer's monthly phone bill. When the Merrows' started topping $250, Sue decided to do something to lower the pressure. She is grooming a couple of candidates to be ready to step into her shoes as chapter chair. Also, she is on guard against two dread occupational hazards of Sierra Club volunteers: family alienation, and/or burnout.

With regard to the former peril, she is fortunate that her family is as firmly pro-environment as she is. Husband Arthur, in addition to his Club activities, serves as a volunteer member of the East Haddam town board's conservation commission. He also is a founder of the East Haddam Land Trust, which he now chairs. And, of course, daughter Annie is an avid supporter of the environmental movement. And as for the second hazard mentioned, this writer, an observer of the Sierra Club for the last 20 years, has noticed that burnout almost invariably afflicts not the "old pro," but the over-eager volunteer. That's the one who suddenly appears on the scene and takes one leadership post—and then another, and another, delegating nothing to others. Soon he or she is wearing so many hats that he/she collapses from the overload and quietly disappears. That is your classic burnout. Sue Merrow is in little danger of becoming such a victim—mainly because she has taken one cautious step at a time. (Her first step was impetuous, however: volunteering to bake those cookies 11 years ago!)

Sue calls herself a plodder. But that may be her strength, for she gets things done, and continues to learn from doing them. It was the Sierra Club, she says, that opened doors for her and got her started. "Anything I know about environmental issues, state and federal government, politics, citizen activism, public relations, people management, and fundraising I have learned through the Club," she explains.

Sue Merrow asked me why anyone would want to write about her. "I couldn't be that interesting," she said. "I always thought we were sort of dull—always keeping our noses to the grindstone." Only if she means that

THE DENNY AND IDA WILCHER AWARD

Nominations are now open for the Denny and Ida Wilcher Award, which offers $3,000 annually in recognition of work in either membership development or fundraising.

All volunteer entities of the Sierra Club are eligible: chapters, groups, sections, committees (including RCCs), and task forces. (The award is given to volunteer entities of the Club, *not* to individuals.) Judges will consider several criteria: success in recruitment and retention of members; efficiency in fundraising; the use of techniques that can be broadly applied to other Club activities; and original initiatives.

Nominations and applications are due by March 15, 1984; they should designate activities undertaken in 1983. Each nomination or application should include a description of the nominated entity's accomplishments and an explanation of how these meet the judges' criteria. A list of people or Club entities endorsing the nomination should also be enclosed.

Nominations and applications should be sent in *in triplicate* to: The Denny and Ida Wilcher Award Committee, J. J. Werner, Chairman, 2020 Chamberlain Ave., Madison, WI 53705.

she's not the flashy type would she be right in that assessment. And if her story proves to be uninteresting, it's the writer's fault, not hers. What she has accomplished and how she did it can demonstrate to nonactivist types (such as Sue and Arthur themselves were, back in 1973) that they too can get involved, and enjoy it.

Learning the Fine Art of Lobbying

TONY ANTICO

Sierra Club volunteers from chapters and groups across the country met in Washington, D.C., in September of last year for a week of learning, intense effort, and camaraderie at one of the Club's volunteer-training seminars—one way in which the Club works to help its members become involved in electoral politics.

Twice a year, the Conservation Department's Washington representatives and field staff lead these workshops, which are designed to help activists work effectively with their legislators on both the national and local levels. Participants are generally group and chapter leaders and members of the chapter and national staffs. The group this past fall included a sizable contingent from the Southeast, a region with steadily increasing membership and impressively expanding electoral activities. They accounted for about half of the 20 attendees.

The volunteers brought work from home in the form of issues and concerns they wanted to direct to the attention of their representatives. Issues ranged from community-oriented projects (such as small hydroelectric facilities and urban parks) to national concerns (statewide wilderness bills, acid-rain reduction, and nuclear-waste disposal). Large or small, each issue took on special significance in the setting of the seminar and the nation's capital.

The Sierra Club's volunteer-training seminar seeks to demystify the country's political process for those who have not dealt with it before. By relating their experiences, seminar leaders explain the complexity of the government's legislative and institutional mechanisms for producing laws and regulations; talks by legislators and their staffs augment the week-long discussions. During the sessions, the skills developed by the Club's fulltime lobbyists are passed along directly to representatives of the chapters and groups, which are the source of the Club's political strength.

The collective knowledge represented at September's seminar was substantial, even though the participants' prior political experience varied considerably. Some of the attendees had already developed working relationships with their representatives on a number of issues, while some were leaders of newly established groups or of groups becoming involved in political activities for the first time. This blend of novices and old hands enriched the seminar, giving participants different perspectives on each subject at hand.

For example, in discussing acid rain, everyone agreed that levels of toxic pollutants must be reduced; yet participants debated vigorously the merits of various plans for financing the installation of scrubbers to remove pollutants from smokestack emissions. Should the entire country pay for cleanup, or only the offending states? Should environmentalists concern themselves with financing plans, or confine their involvement to pollution control?

Through such discussion, participants learned that although the Sierra Club's priorities lie in environmental considerations, it is important to understand all aspects of an issue when bringing it before elected officials. There are times, for example, when an economic argument supports an environmental one.

The volunteers spent virtually the entire week together as a group, beginning with orientation on Sunday night, through 12-hour days (and sometimes longer), until the Friday night wrapup. The seminar's first two days were crammed with briefings, meetings, talks, and still more briefings, in preparation for individual lobbying appointments scheduled for later in the week. Politicians and their staffs typically have very crowded schedules, and time they make for meetings must be used to best advantage—by both the lobbyists and the representatives. Constituents who are well-prepared, to the point, and organized stand a much better chance of influencing legislators and/or their staffs. Because time spent with a representative, senator, or staff person is very short—an hour at most—each participant learned from the pace of the seminar to make the best use of his or her time.

Lynne Corne, an aide to Rep. Mike Lowry (D-Wash.), provided many insights into the hectic schedule that is routine for members of Congress. Addressing the seminar on the first day, she gave the group an impression of how the representative views his constituents, and how he and his staff determine what issues are of primary importance. In brief, here are some of Lynne's "rules of the game" for drawing a legislator's attention to your issue:

- Genuine, concise letters win out over gimmicks (e.g., preprinted postcards) and lengthy position papers;
- Sheer volume helps too. A lawmaker's staff monitors the amount of mail he or she receives on individual issues;
- Offer to send more information or set up a meeting if your issue requires further explanation;
- Offer a specific plan of action for your representative to follow if he or she appears responsive;
- Finally, if you want him or her to introduce legislation, offer to help write it. (This is not as hard as it sounds—there is a congressional office whose sole purpose is to turn written ideas into formal legislation; sometimes it is possible to adapt the language of previous legislation.)

Throughout her talk, Corne stressed that the more you can do for your representative, the greater your chances are that he or she will do something for you.

Roleplaying exercises, led by Midwest Field Representative Jane Elder, were particularly useful in teaching attendees how to make the most of their lobbying opportunities. Club lobbyists acted as senators and representatives in these rehearsal meetings, covering the different types of responses lobbyists can expect. (These mock lobbying sessions featured stellar performances by the Washington staff: Tim Mahoney as the comically indifferent, cigar-toting Sen. Sludge, an elusive Pam Brodie as the sincere but noncommittal Rep. Duckwater; and a "dream" meeting with an exceedingly supportive Sen. Goodstream, played by Jim Elder).

Practical instruction in the art of lobbying constituted only part of the seminar's value. The rest came in the form of unlocked potential for personal action and commitment, certainly among the attendees, but also among the people they will teach in turn. This potential for effective grassroots lobbying and organizing was stressed over and over by representatives and their staffs as they addressed the seminar. They spoke of the influence the environmental movement has gained by its grassroots organizing through the 1970s and 1980s. Speakers such as Sen. Howard Metzenbaum (D-Ohio) and Reps. Bob Wise (D-W.Va.) and Dale Kildee (D-Mich.) also mentioned the significance of the Club's entrance into electoral politics with the formation of SCCOPE in 1976 and that committee's continuing expansion. It became apparent that the best way to gain access to politicians and to influence their environmental-policy decisions is to help them win elections; subsequently, as a lobbyist you will be perceived as a trusted ally, not as simply another "special interest." The seminar underscored the fact that involvement in elections has broadened the Sierra Club's role in the lawmaking process while gaining environmentalists a voice in the formulation of government policy.

These points were also made by Rose Kapolcynski, a grassroots organizer for Sen.

SIGHTINGS

Elna Bakker, naturalist and author, was honored November 18 by the Trustees of the Sierra Club Foundation. Mrs. Bakker has named the Foundation sole beneficiary of her substantial estate—the largest single gift ever made to the Sierra Club "family." Here she chats with (left to right) Foundation President Alan N. Weeden, Trustee and Sierra Club President Denny Shaffer, Club Executive Director Mike McCloskey, and Trustee and Club Director Dr. Edgar Wayburn.

Gary Hart (D-Colo.), who encouraged Sierra Club members to get involved in the 1984 presidential campaign even before the Club endorses a candidate. Club members who become campaign workers or delegates to the Democratic or Republican national conventions increase the importance of environmental issues at these functions and, therefore, in the elections.

Tony Antico is a campaign assistant in the Club's Conservation Department, involved with various grassroots-outreach projects.

SIERRA CLUB ANNUAL ELECTION

The annual election of Sierra Club directors is held on the second Saturday in April, as prescribed by the bylaws. On April 14, 1984, Club members will elect five directors.

By March 1, 1984, a ballot, information procedures, and a return envelope (not postpaid) will be mailed to each eligible member. Packets for members living within the contiguous 48 states will be sent by third-class mail; packets will be sent first-class to members living in Alaska, Hawaii, Canada, and Mexico. Packets will be sent by airmail to members overseas. All Sierra Club members in good standing as of January 31 will be eligible to vote.

The brochures accompanying the ballot will contain a photo of each candidate, plus a statement from each one giving pertinent background information and his or her views on the direction the Club should take.

In November, the Nominating Committee selected eight candidates for directors: Richard Cellarius, Joe Fontaine, Robert Howard, Jerry Lieberman, Michele Perrault, Sally Reid, George Shipway, and Carroll Tichenor. Individual Club members also had the opportunity to become candidates by submitting petitions signed by 175 members to the Club's principal office by 5 p.m. on December 30.

If you do not receive a ballot by mid-March, or if you mismark it, write a note to the Inspector of Elections, Sierra Club, Department E, 530 Bush St., San Francisco, CA 94108. If your letter is addressed any other way, attention to it will be delayed. Enclose the voided or mutilated ballot, if you have it. Every effort will be made to send you a replacement ballot in time for you to vote. This procedure is under the control of the Inspector of Elections.

Ballots should be mailed to National Elections Committee, Sierra Club, P.O. Box 2178, Oakland, CA 94621. They will not be opened until the ballot-counting process begins.

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Pileated Woodpeckers, 1967, oil, 24" × 30". (Paintings shown here have been cropped slightly for design purposes.)

The Wildlife Art of Owen Gromme

ROGER TORY PETERSON

Owen Gromme did not start out as an artist. This illustrious career was literally thrust upon him as he prepared wildlife exhibits for the public museum in Milwaukee in the 1920s and 1930s. Gromme had already established himself as a jack-of-all-trades, not only collecting and skinning animal specimens but also taking photographs, filming and editing movies, and handling finances as well as many of the museum's other administrative chores. Thus, it did not faze him when the museum's director asked him to paint some of the backgrounds for the exhibits.

However, Gromme was not completely unprepared for this new responsibility. Several years earlier, at the age of 21, the young man had taken a job as a taxidermist at the Field Museum of Natural History in Chicago. There Herbert Stoddard, who was later to distinguish himself as the father of game management as we know it today, gave Gromme his first lessons in the mixing of paints. (Color notes made in the field are important in taxidermy, because the colors of eyes, beaks, and legs are transitory.)

After serving with the 33rd Division in World War I, Gromme rejoined Stoddard—this time at the Milwaukee Public Museum, where he progressed from taxidermist to curator of birds and mammals, and eventually became head of the department. He retired in 1965 as Curator Emeritus.

"A museum naturalist-preparator,"

Gromme points out, "cannot be a specialist; he has to learn half a dozen professions." Perhaps more. As a taxidermist he must know musculature and anatomy; a wildlife artist who ignores this discipline does so at his risk, since the undertaking inevitably involves modeling and sculpture. But he must also be a botanist and a geologist in order to prepare the habitat exhibits or dioramas. In effect, he must be an environmentalist. And he must even be a carpenter and an engineer of sorts before he puts brush or paint to canvas in the process of creating the eye-deceiving backgrounds.

Although Owen Gromme had been painting for years at the Milwaukee Public Museum, his canvases were not widely known until the publication of his *Birds of Wisconsin*, a tour de force that featured a galaxy of 600 bird portraits depicting 328 species. Begun in 1941, this masterwork took 20 years to bring to completion; it was finally published in 1963.

Birds of Wisconsin falls into two parts. The first is a systematic collection of portraits of all birds known to have occurred in Wisconsin, with the exception of a few accidental and hypothetical species. More than one plumage is shown when the sexes differ in coloration. These illustrations were executed in transparent watercolor, using a limited palette that was restricted mainly to alizarin crimson, pale cadmium yellow, and ultramarine blue, the primary colors from which most other colors can be mixed. A purist when handling watercolors, Gromme seldom resorts to gouache or opaque designer's colors.

The second section of *Birds of Wisconsin* is a gallery of ecological and behavioral compositions in which Gromme drew on his skills as a museum preparator. Many of these illustrations are, in a sense, miniature dioramas. Gromme executed them all in oil on canvas, a medium he handles with utmost confidence and dexterity. His waterfowl and other game birds are particularly outstanding, because he came into his profession by way of the fowling piece. As a boy in Fond du Lac he often accompanied his father on hunting trips; he knew the marshes and woodlands of Wisconsin intimately, as well as the ducks, geese, grouse, and all the other denizens of the wild that lived there.

No one else has painted the various grouse as well as Owen Gromme. The prairie chicken, I suspect, is his favorite. He holds the title of "Old Pro" in the society of *Tympanuchus cupido pinnatus*, the organization dedicated to preserving the prairie chicken in Wisconsin. As a conservationist, he has also taken an active part in the affairs of a number of other wildlife and environmental organizations. He does not hesitate to speak his mind, and has worked effective-

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ly in the legislative field toward improving laws governing our natural resources. He has been active in the Citizens Natural Resources Association of Wisconsin, and was elected president of Wetlands for Wildlife. On the scientific side, he helped to found the Wisconsin Society for Ornithology.

The environmental paintings in the second part of *Birds of Wisconsin* signaled the direction that Owen would take when he retired in 1965. At that turning point in his life, the Marshall and Ilsley Bank of Milwaukee commissioned him (at the age of 70) to paint exactly what he pleased for three years. In fulfilling this artist's dream he produced 43 canvases that were put on permanent display. An entire floor of the bank was turned into a wildlife art gallery where each painting was illuminated by a carefully engineered lighting system. No cost was spared.

When the National Audubon Society held its annual convention in Milwaukee in 1970, the Gromme exhibit at the bank was the big attraction. Inasmuch as I had not yet seen any of his original canvases, I was unprepared for what I found. As I stood before each canvas I was dumbfounded. Here was an artist, 12 years older than I, doing his very best work at a time in life when so many other painters put their brushes aside. It was a moving experience—an extraordinary affirmation of life and vitality, and an example to follow.

Owen Gromme demonstrates as convincingly as any man I know that creative growth can continue, and need not taper off or atrophy when a person reaches the traditional age of retirement. Quite the contrary. It was then that his art—painting birds—soared to new heights. His output was prodigious, and it became almost a status symbol to own a Gromme original, many of which were reproduced as limited-edition prints by Wild Wings, Inc. But his more than 40 years at the museum gave Gromme the training and discipline that made his formidable skills possible.

Like many another successful artist, Gromme has a strong competitive streak—but he is always competing with himself, striving to make each canvas his best, surpassing the preceding one. Often, those who do not draw think of painting as a passive occupation requiring only that mysterious gift that artists seem to have. Contrary to popular belief, creative work of any sort is draining, demanding not only a healthy attitude but sturdy physical health as well. Gromme attributes his own vigor to an active outdoor life as a hunter and fisherman. His brush hand is rock-steady, and his eyes, even in his 80s, are comparable to those of a much younger person. Although he has the confident air of a man who knows who he is—he can even be feisty at times—he has an

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underlying compassion for younger artists, whom he unselfishly helps. He asks only that they do the same, thereby giving continuity to their mutual commitment to wildlife and its conservation.

In recent years there has been a burgeoning, almost explosive interest in wildlife—birds especially—resulting in a breakthrough in environmental awareness on the part of the public. This has led to a greater understanding and acceptance of what the wildlife artist has been trying to say. And Gromme, whose lifetime of interpretive

Owen Gromme on one of his daily walks.

painting is celebrated in this book, takes the view that birds and other animals should be painted by those who know their subject and feel deeply about it.

Until recently, however, wildlife painting had seldom been considered Art (with a capital A) by the galleries and curators who dominate the art scene. But, I submit, those of us who paint wildlife, because of our fascination with the other creatures that share our planet, are just as true to ourselves as those who interpret the New York or Los Angeles scene as they see it in their abstract way. To us the "real" world is the natural world, and we cannot be other than realists in our interpretation of it.

But even in the old days, prior to the turn of the century, when artists painted in the academic tradition, animals were not considered worthy of canvas and paint unless they had some anthropomorphic connection with man. Anything else was considered illustration rather than art. There were, however, a few notable exceptions—Albrecht Dürer was one, John James Audubon another—who painted mammals and birds in their own right, not as members of the human community in fur and feathers.

Wisconsin, Owen Gromme's home state, has long been a focal point of wildlife art and wildlife research. It was the first state to have its own museum devoted specifically to bird

Virginia Deer with Fawns, 1968, oil, 34" × 25".

Cedar Waxwings in Summer, 1963, oil, 24" × 30".

painting and sculpture—the Leigh Yawkey Woodson Art Museum at Wausau. Each year in September, the top bird artists of the United States and Canada gather at Wausau to exhibit their most recent works and to honor one of their number with the "Master Wildlife Artist" medal. In 1976, Owen Gromme was the first to receive this prestigious award. This says a great deal about the esteem he enjoys in the fraternity of wildlife artists. ("Fraternity" is perhaps the wrong word, because more and more women are now competing successfully in this specialized category of painting.)

Owen Gromme is a fulfilled man. His habitat groups will be seen by thousands for years to come—as long as the Milwaukee Public Museum itself stands. His awards and honors have been numerous. He has exhibited in many cities, and innumerable collectors own his prints and originals. But it seems to me that the greatest satisfaction any artist can aspire to is to have his work presented in a handsome retrospective such as *The World of Owen Gromme*.

Roger Tory Peterson's books include A Field Guide to the Birds *(1934),* The Bird Watcher's Anthology *(1957), and* Penguins *(1979). This article appears as the Introduction to* The World of Owen Gromme *(Stanton & Lee, 1983).*

Reflections on Hidden Peak

FRANCES GENDLIN

A Walk in the Sky, by Nicholas Clinch. The Mountaineers (Seattle) and the American Alpine Club (New York), 1982. $18.95, cloth.

Nicholas Clinch is no stranger to the Sierra Club. Formerly executive director of the Sierra Club Foundation, he has also chaired the Mountaineering Committee of the Club itself. What may be less well-known to Club members is that Clinch is a famous and formidable mountain climber, with several major first ascents to his credit.

A Walk in the Sky is the story of the 1958 expedition Clinch led to the Karakoram, achieving the first ascent of Hidden Peak. Gasherbrum I, as Hidden Peak is technically known, is one of 14 legendary 8,000-meter mountains in the Himalaya, first climbed in the 1950s and 1960s. Most of the expeditions to these highest peaks were financed by the various governments of the climbers, and were heavily publicized. Clinch's effort, by contrast and also in character, was small and almost self-supported.

In some ways, most accounts of mountain-climbing expeditions are similar. We generally learn of the troubles with permits, funding, and supplies, the tensions among team members, and the juggling logistics of the climb itself. We worry about inclement weather along with the climbers. What makes these narratives so worth reading is the delicious suspense and the eventual denouement as we readers are carried in our chairs to the summit. Clinch's account is no exception.

What is particularly nice about this book, though, is the warmth and the whimsical humor that accompany and give perspective to the story. Even an avid armchair climber needs an occasional change of pace. Clinch, who has often provided a witty remark or two on Sierra Club occasions, turns out to be a good storyteller too. We get to know the real Nick Clinch through such statements as, "Fortunately, there were clear days when the wind reversed its direction in order to go back for more snow." Or, ". . . the primary qualification for membership in the expedition was availability."

The book begins with Clinch's musings while at basecamp, high on Hidden Peak. "I would look out across the peaks of the Karakoram," he writes, "as the glow of the sun faded from the snow and wonder how my friends and I, of all people, had managed to get halfway around the world from our homes and up the flanks of this magnificent mountain to witness these unforgettable scenes."

A Walk in the Sky tells us just how Clinch and his friends made their odyssey. From the first small, snow-driven climb in British Columbia's Coast Range—where the idea of a Himalayan ascent first occurred to him—to the triumph of finally standing on the 26,470-foot summit of Hidden Peak, Clinch has written both a spirited adventure and a story that's just plain fun to read.

I particularly liked Clinch's description of those moments on the summit. None of the "Well, I'm a better man for it" or "I had to test myself to the limits of what I could do" for him. On the contrary, he writes, "I was quite happy to be there, and I never considered just why I was there. The reason was taken for granted, and I seriously doubt that anyone who has just reached a major summit feels the need to justify his presence there."

Twenty years later, however, and in retrospect, Clinch comes up with the more usual

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rationale: "Climbing expeditions are a dramatic demonstration of man's defiance of his destiny," he explains. Not given to such dramatic defiance, I think I like his first thoughts better.

Nonetheless, the book is thought-provoking and entertaining. *Publishers Weekly*, a trade magazine that reviews books about to be published, wrote, "[T]his book was written 23 years ago and is only now seeing print, but it is well worth the wait." I agree.

Seeking Ways of Entrance

DALE JACQUETTE

The Primal Place, by Robert Finch. W. W. Norton & Company, New York, 1983. $15, cloth.

In the coastal community of West Brewster, Mass., between the ocean and the sprawling advance of shopping centers and condominiums on the narrow hook of Cape Cod, Robert Finch has confronted some of the most difficult questions about man's relationship with nature. He begins as an observer of ant battles and salamander hatchings, songbird migrations, late-night frog concertos, and a prodigious winter kill along the frozen shore. But in this role he stands outside the changing tides of life and death in the woods and water. He does not want merely to witness the unfolding of events in the natural world: He wants to be part of it. He wants entrance into the complex maze of living things. He wants to

share in what he perceives to be their free and unselfconscious movement.

The 13 original essays in this collection are divided by Finch into two parts, which he calls "Digging In" and "Going Out." In a sense these essays represent no more than the choice between spending time indoors or outdoors. But they also mark the recurrent, contrasting themes of withdrawal from nature on the one hand, and on the other the desire to merge with it again in act and spirit. Although the book's title ostensibly derives from some lines by the poet and onetime Cape Cod resident Conrad Aiken, it is Finch's belief that by coexisting with nature in this environment he may eventually return to something like a more primitive state of harmony with wildlife—a harmony that makes Cape Cod the primal place.

Finch uses everyday metaphors from his life on the Cape to sketch a picture of the human situation outside nature. He distinguishes between ways of entrance and ways of passage. He can walk among trees any time he chooses, or he can get out his chainsaw and clear a path through the thicket. But this will give him only passage—not entrance—into the natural world. In the woods he is caught and tangled. He lacks the inborn sureness he admires in native species.

The chapters "Into the Maze" and "Through the Glass Doors" depict how Finch is separated from the realm he longs to enter by the very products of the technological mentality he is trying to escape. He watches birds feeding in his yard through doors fashioned of several thicknesses of thermopane; he keeps salamander and frog eggs in jars on the piano; he sits in his car at Brewster's town landing enjoying the early spring sun, bracketed, as he says, in an artificial frame; he studies insects in the mill ponds from the side of a rowboat, or in winter through ice that is thick and cloudy like a frosted pane of glass. Always removed from nature, he looks at it from behind a window or with the aid of a tool or machine. He is never a fully integrated part in intimate contact with it. Were it not for Finch's wry humor and refined sense of irony, there would be something almost despairing in his recitation of the ways in which he is inevitably divided from the object of his desire.

In his effort to gain entrance to the natural world, Finch happens upon a number of expedients. He takes to the garden—because, he says, gardening is a first step out of a strictly human enclosure into a wider field. But here he is soon plagued by a fat woodchuck that digs up the ground and nibbles his vegetables to the nub. He consults his more experienced neighbors, and on their advice tries an ineffectual barricade of chicken wire (yet another human contrivance to keep wild animals at their distance). When this

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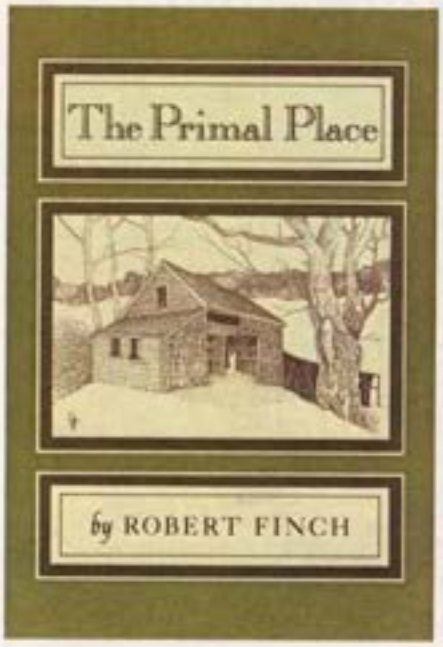


fails, he vaults over the garden fence and brains the cornered woodchuck with a baseball bat.

But the circumstances are complicated. It looks on the surface to be just another case of man's estrangement from beast, a crushing blow delivered to another creature that wandered in where man had claimed the land for his own use. It is an act that, repeated many times all over the world, has resulted in the extinction and near-extinction of so many irreplaceable species. But although he does not attempt to justify the act, Finch hints that through such violent interaction a person may in fact get closer to the exigencies of living things. (Elsewhere he maintains that "the true wilderness experience may lie in our ability to see every other creature as a potential competitor or prey.")

Historical and scientific knowledge may also provide ways of entrance. Finch spins tales he has heard from oldtimers on the Cape who tell of the fishing and shipping heydays, of local customs and family gossip. He learns about the so-called "punkhorners" who lived in rural areas away from large villages, and he dedicates the book to them. He investigates the natural history of indigenous fauna, inquires into whale and blackfish strandings, and reconstructs some of the Cape's past from the headstones in an old graveyard bordering his property.

But entrance via knowledge is not very satisfying. Finch reports that in his capacity as publications director for the Cape Cod Natural History Museum he has lectured schoolchildren about the dangers of overhandling fish, because it removes protective oils from their scales. Then he adds: "What I say goes against their deepest impulses. What the children want—what *I* want—is

not to learn about the fish but to *join* them." At an alewife run, immediately thereafter, this is precisely what he does, submerging himself in a stream with the fish, touching them so gently and gradually that in the heat of their spawn he is able to close his grip around one of them and lift it out of the water into the air.

With this collection, Finch has evidently taken an important further step since the publication of his first book, *Common Ground: A Naturalist's Cape Cod*. In that work Finch was also concerned with conservation and the productive interaction of man and nature; yet he was content to reach an intellectual kind of solution, describing limits for reasonable use of the land and its natural inhabitants that might occur to any armchair thinker with good sense and a little amateur field experience. But in *The Primal Place* Finch has tried to bridge the distance between animal and man in a more personal way. He has observed (and once again written beautifully musical descriptions of) the wildlife, the seasons, and the unique folklore of Cape Cod. But he has also mixed with fish in their own element and grabbed hold of them, he has bloodied the business end of his son's hardwood baseball bat on a hapless woodchuck, and he has wandered the footpaths of the first settlements, comparing them with game trails leading into the underbrush, into the maze.

Has any of this helped him resolve the central problem of man's relationship with nature? In the book's final chapter, "The Landing," Finch is sitting in his car, drinking in the promise of spring at the edge of the sea. He gets out and walks along the beach. Suddenly he has the answer: "*. . . any spot is a port of entry if we will only accept it for what it is, asking of me only that I bear witness and recognize myself for what I so manifestly am: a part of what I behold.*"

But is it really so easy? Do we need only say that we are one with nature to make it so? Is there some magic in the thought or words that can break through the invisible barrier between man and beast? We may feel this way sometimes, in moments of quiet epiphany alone in the woods or walking on the dunes, but the impression is surely illusory. At such times we are also inclined to believe that there are no problems of any kind anywhere in the world, until the newspapers or radio remind us of the sobering reality.

Finch has written an enjoyable book, one full of rich natural history. It is mature in its account of his own development as a naturalist on the Cape; it is vivid and memorable, absorbing, poetic, and sincere. But the unexplained turn toward such a facile resolution of the problem of man and his place in nature can be regarded only as somewhat disappointing. To suppose that we can bring

an end to millenia of estrangement merely by telling ourselves that we are part of the natural world is to offer an implausible solution to a very long-standing dilemma.

Dale Jacquette teaches philosophy at Franklin and Marshall College in Lancaster, Penn.

Staying Alive

TOM GALAZEN

Tom Brown's Field Guide to Wilderness Survival, by Tom Brown, Jr., with Brandt Morgan. Berkley Publishing Corporation, New York, 1982. $6.95, paper.

Tom Brown's previous books, *The Search* and *The Tracker*, reviewed their author's two decades of experience in tracking, stalking, and wilderness living, beginning with his boyhood tutelage under Stalking Wolf, an Apache elder.

Carrying only a knife, Brown once disappeared into the wilderness for a year to improve his survival skills. He now instructs from his considerable store of knowledge at Tom Brown Tracker, Inc., the tracking, nature, and wilderness-survival school he directs in Asbury, N.J.

This new field guide presents a clear, comprehensive, and logical approach to surviving in the wilderness. Such basic knowledge, the author tells us, "offers a kind of security that no insurance policy can buy."

The guide is meant in part to prevent those needless mishaps that may confront people lost or stranded in the wilderness. But, more generally, Brown offers information to those of us interested in self-reliance, to promote our enjoyment of the outdoors and get us back in touch with our roots. "If you can open your heart to the wisdom of the universe," he tells us, "you will come to know that man, animals, trees, rocks, rivers, and skies all speak a common tongue. Sensing this, you cannot help but care more for the earth and all its creatures."

Necessities for survival in the wilderness are dealt with in a systematic, step-by-step manner, generally in their order of importance. A positive attitude is one's primary survival tool, because the decisions influenced by one's outlook will not only affect the quality of the experience but can possibly mean the difference between life and death.

Elements of a positive attitude, Brown says, include a resolve to keep from panicking, an understanding that immediate needs can be met, a willingness to act rather than complain, an eagerness to learn, and an

ability to feel in harmony, rather than in conflict, with nature.

Of the four physical necessities for survival, Brown rates shelter the most critical, because a person stranded without adequate protection in a harsh environment might last only a few hours. Fire, while important, cannot always be obtained, and in any case might not keep a person warm and dry without other protection. A person can survive a few days without water, and perhaps as long as a month without eating.

Brown outlines construction techniques for a variety of shelters, ranging from the simple to some that are quite complex. For its warmth and its ease of fabrication, Brown favors a debris hut built with a sloping ridgepole, stick ribbing, and a roof several feet thick made of grasses, moss, bark, boughs, and other soft and airy debris. Instructions for thatched buildings, hogans, and snow shelters are also included.

Sources of water, another essential survival element, should be selected carefully, in order to avoid both chemical and bacteriological pollutants. Bacteria can generally be eliminated by filtering out particles and boiling questionable water for 20 minutes. While boiling will kill bacteria, it will not necessarily eliminate chemical contaminants. (See "Purifying Water in the Wild," July/August, 1983.) That is all the more reason, Brown says, to take special care in choosing safe water sources.

In addition to identifying lakes, streams, and other natural catchments, the guide tells how to gather water from sources usually overlooked, such as plants, dew, and a simple solar still. The solar still is easily constructed from a 6′×6′ sheet of plastic, a container, and some surgical tubing. Using such a device, Brown was able to obtain about half a gallon of drinking water a day in Death Valley.

Fire is also critical to wilderness survival—

Two to three feet of leaves, brush, moss, and bark over a latticework frame should make a debris hut impervious to wind and water.

for warmth and cheer, for cooking, and for sterilizing water. The guide discusses the four principal grades of wood fuel—tinder, kindling, "squaw wood," and bulk firewood—with particular emphasis on the tinder and kindling that are so essential in preparing a fire without matches.

Moreover, Brown gives a set of amazingly clear directions for starting a fire with a bow drill, and tells how to troubleshoot difficulties that may arise. With practice, he says, a bow-drill fire can be made from start to finish—including assembly of the apparatus—in as little as 15 minutes. The mouth drill, flint and steel, and some of the other 30-odd methods of fire-making without matches are also covered in the guide.

Brown treats food, the final essential, in a lengthy and thorough manner, considering both plant and animal sources. Detailed descriptions, including illustrations and guides for use, are presented for 100 edible plants. He also covers "the big four" categories of plants that can be eaten almost anytime and anywhere. Stems, leaves, roots, and seeds of almost all bladed grasses are edible. Many parts of the cattail plant are edible throughout the year. Needles of any pine tree can be boiled into a tea rich in vitamin C, while seeds from the mature cones and the tree's inner bark can be eaten. Finally, all acorns are edible, though most should be leached in running water for a few hours or boiled in several changes of water to remove their harsh, bitter taste.

Animals can be hunted or trapped by people in survival situations with a wide variety of weapons, deadfalls, and snares outlined in the book. Associated skills—tracking, stalking, preserving meat, tanning hides—are likewise reviewed.

This guide differs from many others in the systematic way it identifies the basic needs of someone in a survival situation, and then gives straightforward procedures and exercises designed to meet those needs. Once you have mastered the skills in this book, Brown says, "you will be able to survive indefinitely almost anywhere on this continent at any time of the year and in any weather—even if you are caught without proper clothing, food, or tools of any kind."

If his book helps to save a life, the author says, it will have fulfilled its basic purpose. But ultimately, he notes, the book has a deeper purpose—to foster "a redirection of attitude toward nature, a reversal of our present tendency to exploit the land and our fellow creatures and the beginnings of a life ethic based on wisdom, respect, and reverence for all things." □

Tom Galazen is a Wisconsin-based environmental activist and freelance writer with a special interest in energy and outdoor issues.

Ruckelshaus

(Continued from page 33)

with toxic substances. Yet even with Ruckelshaus at EPA, the administration's request fell far short of this amount.

Initially, Ruckelshaus had said he would not have time to prepare recommendations for fiscal 1984. But momentum was building in Congress to reject the administration's proposal of only $949 million for the EPA and to appropriate $1.3 billion instead. The House voted the latter amount, having rejected as too low the proposal of its own Committee on Appropriations—an unusual move.

At this point, Ruckelshaus was still saying he would not have his own budget request ready for months. Then, in the Senate, Patrick Leahy (D-Vt.) offered an amendment in the Appropriations Subcommittee on HUD and Independent Agencies to give the EPA an operating budget of $1.3 billion. Just before the vote, Ruckelshaus wrote to the subcommittee chair, Jake Garn (R-Utah), promising to deliver his own funding proposal quickly. Leahy's amendment failed by a vote of 5-5. (One dissenting Republican senator claimed he wanted to give Ruckelshaus a chance to offer his own budget increase.)

Ruckelshaus finally delivered his promised budget the evening before the full committee voted, proposing to increase the operating budget to $1.1 billion. This 16-percent increase over the original Reagan request would, he said, "fund an aggressive environmental cleanup effort." The Senate went along with Ruckelshaus's request, as did the House.

The final operating budget puts the EPA's purchasing power back at the level of 1974, although virtually all of the agency's major responsibilities for toxic substances—including safe drinking water, hazardous-waste regulation, and portions of the Clean Air and Clean Water acts—came after 1974.

Superfund. The Burford EPA was a disaster when it came to implementing the Superfund program, and one of Ruckelshaus's highest priorities upon his return to the agency was cleaning up the nation's worst hazardous-waste sites. The EPA is now investigating many more sites, is moving ahead more quickly with remedial actions, and has eased financial requirements for states—all good steps.

The EPA has started cleanups even before beginning negotiations with potentially liable companies and individuals—a procedure intended by the Superfund law itself but rejected by Burford.

The Burford EPA had carried out lengthy negotiations with polluters and had reached some out-of-court financial settlements that environmentalists and many in Congress

regarded as scandalously low. Under Ruckelshaus, the EPA has proposed new guidelines to ensure that companies offer to pay at least 80 percent of the cleanup costs—or be taken to court. Yet, under these proposals, the 80 percent applies to only *surface* pollution, which ignores the much more difficult and expensive work of removing toxic pollutants from groundwater.

Ruckelshaus has announced a nationwide effort to clean up as many as 200 sites contaminated by the dangerous dioxin 2,3,7,8-TCDD, including sites that would not previously have qualified for Superfund attention. Under the "dioxin strategy" for which the EPA is receiving favorable publicity, the agency will look for ongoing sources of dioxin. But the strategy still lacks a plan for regulating sources once they are located.

Finally, although many positive changes have been made in the Superfund program, no changes have been made in the official National Contingency Plan that guides operation of the program.

Other Issues. In the regulation of other toxic chemicals, including pesticides, the EPA has made some good decisions and some bad ones.

After a 10-year fight, the EPA in October 1983 banned most agricultural uses of ethylene dibromide (EDB), a pesticide known to cause cancer. The agency ordered an immediate end to use of the compound on soil in citrus groves and a "phase-out" of other major uses of the pesticide, such as fumigation of citrus crops and of other fruits and grain. But the terms of this phase-out do permit use of the chemical during the expected long period while industry appeals the ban.

Two weeks after its ban on EDB, the agency announced it was not going to proceed with efforts to prohibit most uses of Lindane (hexachlorobenzene), a cancer-causing chemical that is also an insecticide

"More coffee, dear?"

often used in shampoos prescribed for children infested with lice. In 1980 the Carter administration had proposed a virtual ban of the substance, citing evidence that it causes cancer and birth defects and is acutely toxic to aquatic wildlife.

The EPA recently formally announced its intention to cancel all still-permitted uses of the herbicides 2,4,5-T and silvex. Both contain dioxin as an impurity. But the agency admitted that its action "was prompted by the recent decision by the Dow Chemical Company to withdraw from the 2,4,5-T/silvex cancellation hearing which began in 1980 and to request cancellation." Dow had been the most vigorous advocate of continued use of the substances.

Roughly two weeks after the 2,4,5-T announcement, and just after the EPA had issued good water-quality regulations, the agency made public its decision to reregister sodium fluoroacetate (Compound 1080), a controversial poison used by sheep ranchers to kill coyotes (and any other animal that happens to take the poisoned bait). In 1972, the first Ruckelshaus EPA and President Nixon had banned Compound 1080 from use on federal lands and in federally funded predator-control programs. The recent EPA decision enables ranchers once again to make widespread use of Compound 1080, which poses a great danger both to coyotes that do not kill sheep and to other wildlife. Ruckelshaus declined (for no stated reason) to personally participate in making the recent 1080 decision.

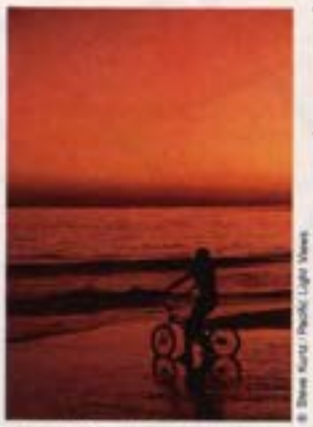
William Ruckelshaus has restored peace to the EPA, at least as measured by staff morale and press coverage. Yet, as Sierra Club Executive Director Mike McCloskey put it: "Looking at Ruckelshaus's actions so far, we have to say that, as EPA administrator, his best years lie behind him." Outsiders will probably never know whether to attribute the lack of consistent progress in many key environmental areas to Ruckelshaus's unwillingness to tackle these problems or to ideological opposition to environmental protection on the part of the rest of the Reagan administration.

What is certain is that environmentalists have succeeded in making Reagan's environmental policies a major political concern, one that Reagan wants to defuse as a campaign issue. Bill Ruckelshaus's record so far has been disappointing. It's up to environmentalists to keep a spotlight on the EPA to convince Reagan and Ruckelshaus that tough, well-enforced environmental protection is the only way to satisfy the public in 1984. □

Judith Kunofsky is national conservation representative on the staff of the Sierra Club. Her responsibilities include EPA issues, population growth, and congressional-district organizing.

THE COLORS OF LIFE

Transparent cells on the surface of this peacock feather reflect light at different angles. The resulting colors are called iridescent.



When the sun is on the horizon, short wavelengths of blue light are scattered out. The red light remaining is responsible for brilliant sunsets like this one.

Special chemicals in the iguana's cells make it look green. These pigments often help animals and plants attract friends or avoid foes.

WHY IS THE SKY BLUE and the sunset so often red? Why do a peacock's feathers sometimes boast beautiful, glimmering shades of blue and green, while at other times they can appear a dull gray? How can there be so many different colors of flowers? Scientists learned the answers to these and many other questions as they discovered more about light.

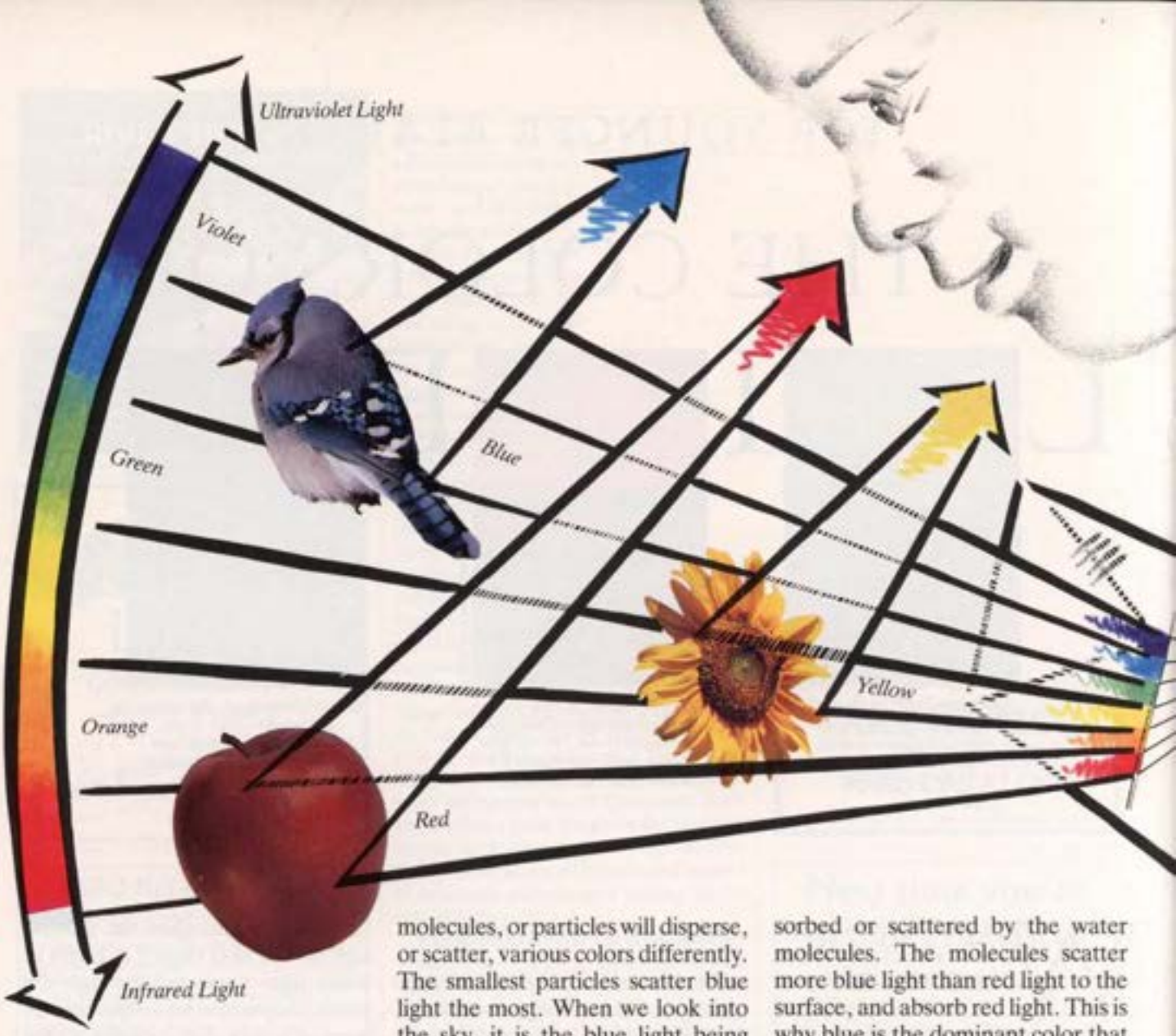
Three hundred years ago, one of the greatest scientists of all time, Sir Isaac Newton, discovered that red, yellow, green, blue, and all other colors are contained in every sunbeam. He used a specially cut and shaped block of glass called a *prism* to prove that there is a rainbow in every ray of white light, which is one of the kinds of visible light produced by the sun. White light is actually a combination of many different colors, or *frequencies*, of light.

GEORGE OXFORD MILLER

We can use a prism to help us understand how sunlight causes the colorful arch we call a rainbow to display itself across the sky during a rain. To do so, we first need to see how light behaves when it travels through some material other than the air.

Light travels more slowly through water or glass than it does through a vacuum or the atmosphere. In fact, through water it travels only three fourths as fast as it does through a vacuum, and through glass two thirds as fast. This is because the air is not nearly as dense as these substances are. When a ray of light enters a raindrop at an angle to the drop's surface, it bends as it slows down. The different colors do not all bend at the same angle because each is traveling at a different frequency.

This effect is easy to see if we use a triangular prism. (See the illustration on the next page.) A beam of white light projected through the prism is separated into a *spectrum*, a band of colors that contains all the hues of the rainbow: red, orange, yellow, green, blue, indigo and violet. These spectral colors are the visible impressions we receive of the different *wavelengths* that make up white light. Although light waves are almost unbelievably short, the subtle differences among their lengths are interpreted by our eyes in such a way that we perceive them as being of different colors. Wavelengths of light are either shorter or longer than one another; they travel through the prism at different speeds, and so enter and depart the prism at slightly different times and angles. This is why a prism "breaks up" visible light into its spectral colors the way it does. Short wavelengths, which appear to us as blue or violet, are



refracted (bent) the most; these are the ones that travel most slowly through a prism. Longer, reddish wavelengths, which travel most rapidly, are refracted the least.

Once people understood that white light contains all of the colors of the spectrum, they began to study the causes of the many beautiful shades and hues in nature.

Some things in nature reflect light, just as mirrors do, while others may either *scatter* (that is, disperse) or absorb it. Atoms or molecules of gas and particles in the atmosphere will scatter light. Their electrons may first absorb energy from the light and later begin themselves to disperse light as though they were tiny flashlights. Different kinds of atoms, molecules, or particles will disperse, or scatter, various colors differently. The smallest particles scatter blue light the most. When we look into the sky, it is the blue light being scattered that we see. If there were no atmosphere to scatter the light, the sky would appear black!

Larger particles in the air, such as dust, scatter more red light than blue/violet light. At sunset the sunlight follows a longer path through the atmosphere because it is on the horizon, not overhead. Blue light is scattered out, and red light remains to cause a colorful sunset by illuminating local clouds. If there is much dust, or pollution, in the air, this effect is seen much more dramatically. This is probably the only pleasant effect of air pollution that anyone could imagine.

The ocean, and some very deep lakes, seem blue for a similar reason. Light shining in water can be absorbed or scattered by the water molecules. The molecules scatter more blue light than red light to the surface, and absorb red light. This is why blue is the dominant color that reaches our eyes. Like a mirror, water also reflects the blue color of the sky.

Most of the colors we see in nature are caused by *pigments*. Pigments are chemicals that absorb certain colors (as a sponge absorbs water) and disperse others. The color that is dispersed by a pigment is the color we see. Pigments in certain plant and animal cells are what give these organisms their colors. Let's look at a few plant and animal species to better understand how this happens.

Plants produce green, red, yellow, orange, blue, and purple pigments. If a plant appears to us to be a certain color, it means that even though it is absorbing all the colors contained in visible light, it is absorbing *less* of the

Illustration by Bill Prochnow; bird photo by Stephen J. Krasemann - DRK Photo; apple and sunflower photos by Walter Chandoha

The various colors contained in a ray of white light from the sun are "broken up" so we can see them when the light passes through a glass prism. This is because each visible color (red, orange, yellow, green, blue, indigo, and violet) is made up of waves of light, and lightwaves of different colors are of different lengths from one another. Some colors, such as blue and violet, have shorter wavelengths than other colors (such as orange or red) have, and so travel through the prism at different speeds. In this drawing, you can see how a prism distributes the different wavelengths contained in a ray of visible light into a band of colors called a spectrum. Another way of seeing these colors is in a rainbow, a kind of giant spectrum caused when sunlight passes through raindrops, which act just like a lot of small prisms under the right conditions.

color that we see. (Red for an apple, as an example.)

Chlorophylls, which make plants green, are the most important of all pigments. They trap the energy in light so that the plant can produce food and grow. The process is called *photosynthesis*. Animals cannot make their own food, and must get all their food from plants or other animals.

Carrots get their orange color from the pigment carotene. Carotenoid pigments give color to oranges, tomatoes, and other fruits as well. Beets and red cabbage get their deep red color from another group of pigments, called *anthocyanins*.

Pigments make sunflowers yellow, roses red, and violets blue. Although some pigments help absorb the sun's energy, as we have seen, these colorful pigments have a totally different function. The brilliant colors attract insects that will then pollinate the flowers and enable them to produce seeds.

A tree leaf has many pigments that are hidden by the green chlorophyll. In the fall, when the weather turns cold, a special set of cells around the leaf stem squeezes shut. The leaf begins to die, and its cellular "food factories" stop producing. As the green chlorophyll decomposes and fades, brilliant reds, yellows, and oranges are revealed, because these pigments do not decompose as fast. These anthocyanin pigments do eventually fade, however, leaving only brown. (Tannic acid, which breaks down very slowly in nature, is what makes the leaves brown; it is also what gives tea its rich color.)

Animals, as well as flowers, come in almost every color of the rainbow. Their colors are caused by granules of pigment in skin and hair cells, and by reflected light.

The blue and green in some bird feathers or insect wings are caused by the way the light is dispersed. Transparent cells in the feathers or scales are positioned so that light reflects off their front and back surfaces. Different colors are seen, depending on the angle at which light strikes these cell surfaces. A peacock, butterfly, or dragonfly appears brilliantly colored in bright light, but fades to gray in the shade. These variations, called *iridescent* colors, are caused by reflected light, not by pigments.

Special cells in the feathers of parrots and blue jays scatter blue light in the same way that air or water does. The blue light seen against a background of dark pigments makes the feathers blue. If you hold a blue feather up to a light and look through it, it appears gray, because you are not seeing the scattered blue light.

Some animals, such as frogs and lizards, have a background pigment of yellow along with specialized cells that scatter blue light. The blue light mixed with the yellow background makes the animal appear green. The anole lizard has cells that can open and close over the pigment. In just a few seconds the lizard can change from bright green to brown. As if the anole had pulled down a shade, the cells close and cover up the color. Fear, hunger, and changes in temperature are three factors that cause anoles to change colors.

The beautiful colors of plants and animals all have a purpose. A little while ago we saw that many flowers have colorful, sweet-smelling blossoms to attract insects that will pollinate them. Flowers that bloom at night, when colors are not visible, are usually white, to reflect moonlight; it's their way of attracting nocturnal insects. The colors of animals often help them blend in with their surroundings and hide from their enemies or prey. Brightly colored animals, like male peacocks, use colors both to attract females and to warn rivals to stay away.

Sometimes, even if we know how a color is formed, it is a real challenge to understand why a plant or animal has its particular coloration. With sunlight as a brush, Nature has painted a beautiful world and used colors in the most imaginative ways. □

George Oxford Miller is a writer and nature photographer based in Austin, Texas. His Texas Parks and Campgrounds: A Vacation Guide *will be published this spring by Texas Monthly Press.*

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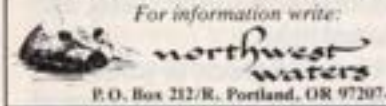

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We do not bill for AdVenture ads. Payment for space and production charges *must* be received, *in advance*, before space is guaranteed in an issue.

Deadline for each issue is the 1st of the month before the date of issue; e.g., December 1st for the January/February issue. Payment and art are due at that time.

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Announcing *Sierra*'s Fifth Annual Photography Contest

This photo of a columbine, taken near Colorado's Grizzly Reservoir, took first-prize honors in the Wildflowers category in last year's contest. Photographer: Doug Lee, Woody Creek, Colo.

GOING INTO ITS FIFTH YEAR, *Sierra*'s annual photo contest has established itself as one of the liveliest competitions of its kind. Our readers seem inspired to compose evermore-beautiful images of natural phenomena, people, the elements, flora and fauna . . . except, of course, when some magic moment is caught by luck rather than by design—and even then the results can be every bit as spectacular.

This year the categories have been changed slightly, to allow last year's contestants to enter different selections from their collections and to provide a change of pace in the contest overall. We will again charge a small fee to pay for the extra help we need to process the thousands of entries we receive. Photos not selected for the final competition will be returned after the contest closes.

The judges urge entrants to submit only their best work, to follow the guidelines under "Submissions" for packaging their entries, to include enough postage and packaging to guarantee the safe return of their materials, and to make sure they communicate clearly which pictures are entered in which categories.

Categories

Color

- *Wildlife:* animals, excluding humans, photographed in their natural habitats.
- *International:* photos taken outside the United States and its possessions. (The judges will be looking for photos that communicate the exotic flavor of foreign places through depiction of the landscapes, people, flora, and fauna found there.)
- *People in nature:* photographs of people enjoying themselves while in the out-of-doors anywhere in the world. We'd especially like to see photos taken on Sierra Club outings.
- *Abstracts in nature:* The focus should be on the forms, symmetry, or asymmetry of natural objects, not on their function or place in the biosphere.

Black-and-white

- *Landscapes:* Capture the mood of the land through its lines and contours. Structures may be included in the shot, but ought not to be the focus of it.
- *Urban beauty:* It's important to see and remember the beautiful places in the environment close to home as well as in the wilderness. Photos may include buildings and people. (The emphasis here is on urban *beauty*—please, no auto graveyards or tenement hallways this time!)
- *Abstracts in nature:* As with color photos in this category, the focus should be on the forms, symmetry, or asymmetry of natural objects, not on their function or place in the biosphere.

Submissions

Only original color transparencies and black-and-white glossy prints are eligible. No color prints or duplicates will be considered. No more than two color transparencies or black-and-white prints may be submitted in any one category. Each entrant's envelope must contain a self-addressed, stamped envelope for returning material *and* a check or money order for $2 made out to the Sierra Club. (This fee covers all submissions by an individual entrant received in one package.) Every slide, transparency, and print must be marked clearly with the contestant's name and address, and should state the category in which the photo is being entered. On a separate piece of paper, explain where each photograph was taken, and describe the subject briefly; tell us also, if you can, the camera, lens, and film you used and what the shutter speed and aperture opening were. In the Wildlife category (color), please remember to identify the animal photographed.

Careful packaging is important. The judges will not consider color entries that are not placed in 8" × 10" plastic sleeves (available in any camera shop) and packaged securely. Cardboard packaging may be bound securely with rubber bands. (Please do not wrap each slide first in tissue, then in aluminum foil, and then tape. This causes anguish, gnashing of teeth, and ill humor among the judges.) Individual glassine sleeves also protect slides easily, and judges love them.

Black-and-white photos should be *unmounted* prints no larger than 11" × 14", packaged between two pieces of stiff cardboard in a simple manila envelope.

Send submissions to: *Sierra* Photo Contest, 530 Bush Street, San Francisco, CA 94108.

Eligibility

This contest is open to all amateur and professional photographers. Sierra Club staff, their immediate families, and suppliers to *Sierra* are not eligible. Photos must be taken and owned by the entrant. Previously published work, photographs pending publication, or photos that have won other contests are not eligible. Void where prohibited by law.

Deadline

All submissions must be postmarked by midnight, April 1, 1984. This year, the winning photos will be published in the September/October issue of *Sierra*.

Judging

The photographs will be judged by a panel of experts that includes volunteers and Sierra Club staff.

Prizes

First and second prizes will be awarded according to merit in each category. In addition, a grand prize will be chosen that will not be, as it has in years past, one of the first-prize winners in a regular category. It may be either a color or a black-and-white photo. The judges reserve the right not to award a prize in a category if no photograph meets their standards.

Prizes will be donated by major manufacturers. Grand prize: a Nikon FG 35mm SLR camera with a 50mm f/1.8 Nikon lens *and* a sleeping-bag/liner combination (rated to −45 degrees) from Because It's There. First prize in each category: a pair of 9 × 25CF Nikon binoculars. Second prize in each category: a pair of high-quality sunglasses from Vuarnet-France. In addition, prizewinning submissions will be enlarged, printed, mounted, and exhibited in the Sierra Club's national headquarters.

Liability

Sierra's responsibility for loss of or damage to any material shall not exceed the amount payable to the magazine under any insurance carried to cover its liability for such loss or damage. Information about the amount of coverage is available on request. We are not responsible for material lost or damaged in the mail.

QUESTIONS ? ANSWERS

Sierra encourages its readers to take this opportunity to learn more about the Sierra Club and its activities. If you have a question you'd like answered, send it along with your chapter affiliation and address to *Sierra Q & A*, 530 Bush St., San Francisco, CA 94108. We will respond to as many questions as space allows.

Illustration by Kirk Caldwell

Q: Sierra gets better and better with every issue, but I wish it came out more frequently. I think it would be even more effective as a monthly. Why weren't we readers polled before it became bimonthly? I'd even be willing to pay a little extra to get the magazine more often. (Steve Onysko, Oakland, Calif.)

A: As part of a 1982 readership survey, *Sierra* did ask a random sample of 1,000 members about frequency: "Do you think the Sierra Club would be more effective if *Sierra* were published monthly?" Their response? Twenty-one percent thought it would be more effective; 33 percent felt it would *not* be more effective; 22 percent anticipated no difference; and 24 percent didn't know. At times the *Sierra* Advisory Committee and the editor have considered issuing *Sierra* more frequently, but they have concluded that the cost would be prohibitive. Furthermore, a smaller, 32-page magazine issued eight or nine times a year, such as was published until five years ago, would no longer serve the needs of our doubled-in-size membership and broadened programs. Nor would it attract the advertising that currently pays 55 percent of *Sierra*'s costs. The magazine has considered publishing occasional special issues as a more realistic and cautious way to increase *Sierra*'s frequency; again, however, financial concerns predominate.

The Sierra Club publishes the *National News Report* for those members who wish to receive conservation information more frequently (35 times a year). Subscriptions cost $15; make checks payable to Sierra Club National News Report and send to 530 Bush St., San Francisco, CA 94108.

Q: I went on a Sierra Club outing this past summer and heard snippets of what was called "the Sierra Club Song." Nobody knew all the words or much of the melody. Could you supply both? (Carlton Wainwright, Rochester, N.Y.)

A: The words to the song were written in Tuolumne Meadows by Albert H. Allen in 1915. The first verse and refrain are printed below. (With a bow to Yalies everywhere, Allen intended that the refrain be sung to the melody of *The Wiffenpoof Song*.)

While the sun's behind the mountain, and the frost is in the air,
We're up and off and hiking on our way;
We don't know where we're going and we don't supremely care,
But we'll be there when the evening ends the day.
Up the rocky slopes we clamber and then down the other side,
Through forests and across the roaring streams.
Through a land of bright enchantment where vision opens wide,
And we find the large horizon of our dreams.

REFRAIN

Up in the mountains, free as air,
High, high, high!
Finding new life and ideals there,
High, high, high!
Sierra campers out for the fun
Of hiking from dawn to the set of the sun,
With a song in our hearts when the day is done—
High, high, high!

Q: You say "Sierra," I say "Sierras." Before we call the whole thing off, can a learned judgment be rendered on this question? Or am I just being pedantic? (Danny Tannenbaum, Los Angeles, Calif.)

A: The word *sierra* in Spanish does not mean "mountain," as many suspect it does, but "range of mountains." Thus, by 1776, Spanish explorers of the West began to make references to *una sierra nevada* that were meant to denote "a snow-covered range of mountains."

According to an historical note from Sierra place-name authority Francis Farquhar that was published in the *Sierra Club Bulletin* in 1928, "It was in this way that our own Sierra Nevada was first designated. . . . [A]fter a while it became a specific name and took its place on all maps. The Sierra Nevada is distinctly a unit, both geographically and topographically, and is well described as 'una sierra nevada.' Strictly speaking, therefore, we should never say 'Sierras,' or 'High Sierras,' or 'Sierra Nevadas' in referring to it."

Perhaps anticipating the second part of your question, Farquhar continued: "Nevertheless, these [incorrect plural] forms are so frequently found in the very best works of literature and science that it would perhaps be pedantic to deny their admissibility. It becomes, therefore, a matter of preference, and for our part we rather like to keep in mind the unity of our great range by calling it simply 'The Sierra' or 'The Sierra Nevada.'"

Q: Is it possible for Club members to obtain prints of some of the beautiful photos that appear in Sierra*? (Joseph P. Ryan, Jr., Birmingham, Mich.)*

A: We receive many inquiries about the photographs we publish, not only from our readers but from other publications. Because we purchase only one-time rights from the photographers whose shots appear in *Sierra*, however, all original photos are returned to them once production of an issue is completed. Therefore, you must contact a photographer directly if you are interested in purchasing prints. Drop us a letter, and we'll be happy to forward it to the photographer(s) whose pictures you most admire.

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16 day trips depart Jun 12, Jun 26, Aug 28.

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Hiking tour led by a Basque mountaineer, exploring out-of-the-way places from the Spanish Pyrenees to the beaches of Tarragona.

16 day trips depart Jun 5, Nov 3.

TREKKING IN THE ITALIAN ALPS

11-day hike in the Dolomites, Italy's famed climbing center, with its "fairy-tale" spires, limestone buttresses and red-rock pinnacles. Accommodations in mountain refuges.

17 day trips depart Jun 17, Aug 26, Sep 16.

U.S.S.R. THE CAUCASUS & MT. ELBRUS

Seven-day trek across the passes of the Caucasus to Svaneti, Georgia, a mountain region with a history dating back to the Crusades. Plus optional ascent of Mt. Elbrus (18,481').

24-day trip departs Sep 1.

TREKKING IN GREECE & CRETE

Mountain walking along Spartan warrior paths in the Peloponnese and through the Gorge of Samaria to the coast of Crete, plus visits to Sparta and Knossos.

16-day trip departs Sep 10.

IRELAND AND BRITAIN

A walk through Ireland's Yeats country and County Wicklow, onward to the Pembroke Coast of Wales, then to England's Wye Valley and Pennine Way, ending in the glens of Scotland.

21-day trip departs Jul 22.

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